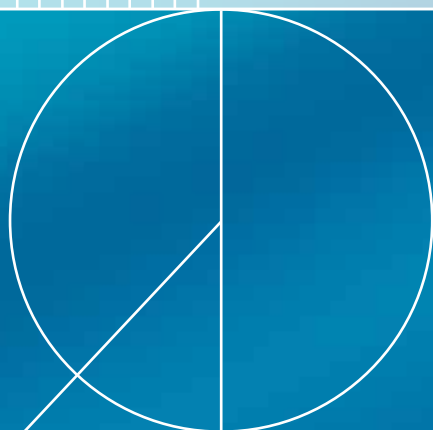




Your partner for  
**Innovative connections**



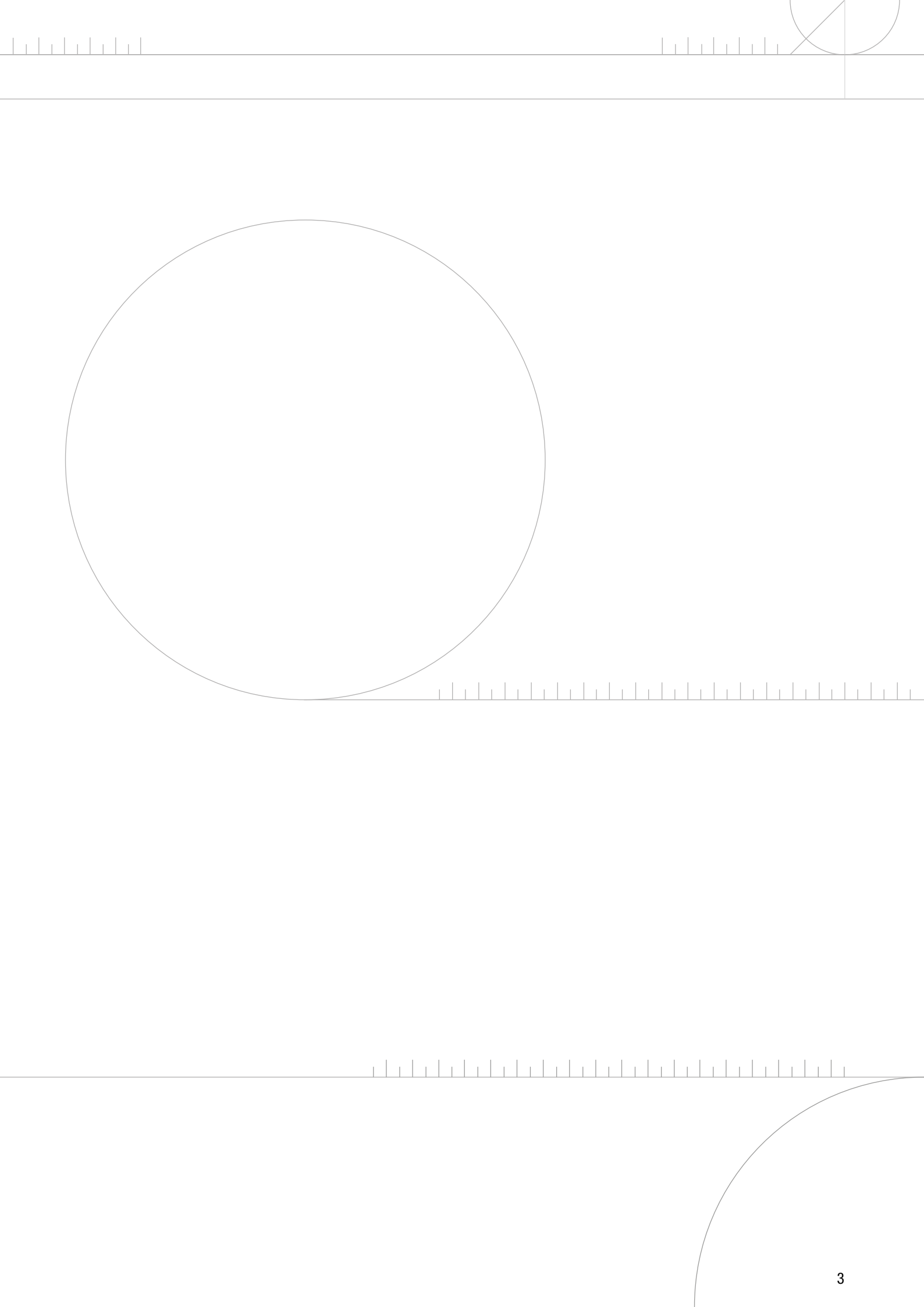
**NORMA®** DISTRIBUTION SERVICES



[www.normagroup.com](http://www.normagroup.com)

NORMA - a NORMA Group brand





# NORMA® – Your partner for innovative connections



## Naturally – **you demand the best**

Wherever in the world you are, and whenever you need superior clamping products, there is always one of our products for your first choice.

For over sixty years we have been dedicated to working closely with suppliers and customers to develop products that boast outstanding functional performance. We enjoy support from dedicated employees, all of whom have the goal of exceeding the expectations that customers bring us on a daily basis.

Hose clamps, pipe connections, retaining products or plastic products. Regardless of its use, every NORMA brand product is designed, produced and delivered within the framework of a certified quality-management system. This development procedure is essential for achieving the innovative yet robust designs demanded by end-users.

Our distribution partners rely on both the quality we offer and our cooperation and support. Quality has always been and remains our hallmark.

# About **NORMA** Group

NORMA Group is a global market and technology leader with strong growth prospects in attractive niche markets for engineered joining technologies.

The company manufactures and sells a wide range of high-quality engineered joining technology solutions in three product categories: clamp, connect and fluid. These are often mission-critical for the performance, reliability and quality of the respective customer end products.

Headquartered in Maintal, Germany, NORMA Group has a global network, which includes 19 manufacturing and distribution facilities as well as ten sales and distribution sites across Europe, the Americas and Asia Pacific. The company offers more than 30,000 high-quality products and solutions to approximately 10,000 customers in a wide range of industries, including agricultural machinery, commercial vehicles, construction equipment, engines, aviation, infrastructure/construction/water management, passenger vehicles, railway, white goods, wholesalers and technical distributors.



NORMA Group distributes its products in more than 100 countries using two distinct ways-to-market: Engineered Joining Technology (“EJT”) and Distribution Services (“DS”). In the EJT way-to-market, NORMA Group delivers customized, engineered solutions meeting the specific application requirements of original equipment manufacturers. In the DS way-to-market, the company sells a wide range of high-quality standardized engineered joining technology products for a broad range of applications through various distribution channels under its well known brands ABA®, BREEZE®, NORMA®, R.G. RAY®, Serflex®, Serratub®, TERRY® and Torca®.



## NORMA® Quality



**For NORMA Group quality is an all-embracing value, ranging from product design to delivery and beyond, to cover all aspects of the group's activity including its service to customers.**

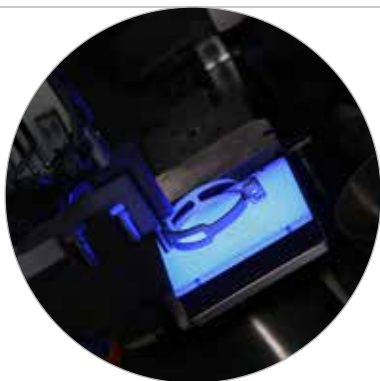
Regardless of the sector in which a NORMA product is to be used, that product will be designed, produced and delivered within the framework of a TS 16949 certified quality-management system developed for the critical demands of the automotive industry. An impeccable development procedure is essential to achieving robust designs and delivering optimal product quality.

Within this context, Advanced Product Quality Planning (APQP) and associated quality tools such as Failure Mode and Effect Analysis (FMEA) are all fundamental to the development of reliable parts and error-proof production processes. Checks carried out during production are in accordance with control plans and best performed automatically, removing operator influence. NORMA's production lines are mostly automated, as befits a Group in the forefront of its industrial sector.

# Teamwork and **Superior products**

**“The high quality of our products, solutions and services relies on the close collaboration with our customers.”**

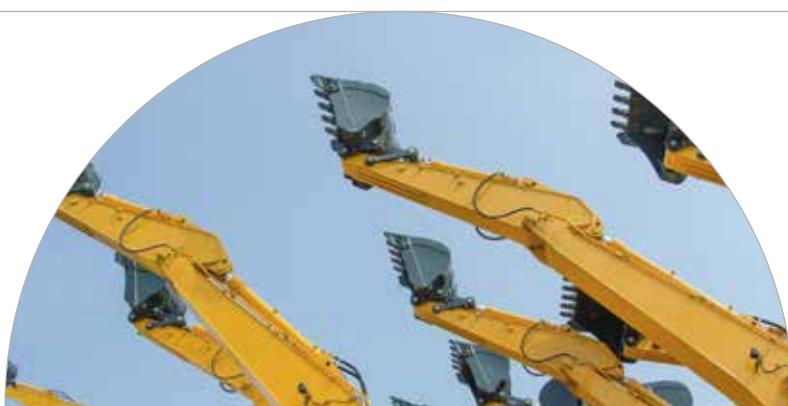
At NORMA, teamwork is a decisive watchword, ensuring, for example, that workshop operators and engineers combine their very specific experience and work together on product design and production practicalities. In order to meet customer delivery schedules, Production and Logistics work in close collaboration, ensuring on-time delivery of materials from sub-suppliers. NORMA's careful attention to these factors – and indeed to all aspects of quality – contributes to the all-round excellence for which the Group is known. In addition, NORMA's products are nothing less than remarkable, from a performance and reliability point of view, offering technical solutions that are among the leaders of the industry.



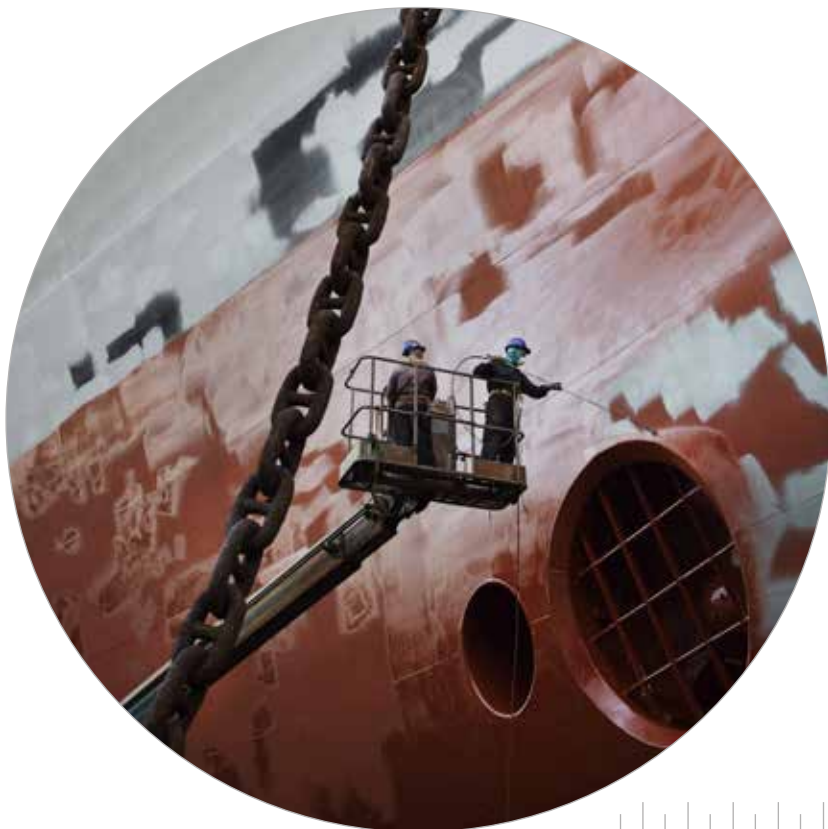
## A spirit of **partnership**

Just as product development requires good dialogue between NORMA and its customer, so quality performance during production and delivery involves the closest communication. Besides the internal tracking system with which NORMA monitors and analyzes its own performance, the Group applies so-called “8D” methodology to production-phase problem solving, liaising closely with the customer in a spirit of transparency.

Continually striving to improve quality, delivery and service performance, NORMA aims to remain a market leader through its solutions, maintaining a benchmark level that customers can rely on.



## Product development – a creative partnership with customers



**As the leading solution provider in its sector, the NORMA Group's aim is to always stay a step ahead in innovation and the development of new products. NORMA's strengths as a solution provider are considerable.**

To start with, the unrivaled breadth of its product range – itself the result of continual striving to develop new solutions for its customers' needs – puts the Group in a class of its own. Offering both plastic fluid systems and a vast range of metal clamps and couplings, NORMA can often propose different solutions for a single application. New product development benefits from extensive lifetime-testing and validation facilities that allow NORMA to carry out virtually all necessary tests in-house, analyzing any solution and application particularly effectively.

## Foresight and anticipation

Developing the right products and ensuring they are ready for customers at the right time requires thinking ahead – often as much as five years – keeping abreast of legislation that will impact future technical specifications. In the automotive sector, for example, NORMA continually strives to enhance its complete solutions for exhaust after-treatment, help customers improve the efficiency of their engines and develop systems that perform optimally at higher mechanical and thermal stresses. Technical requirements in all NORMA's markets are becoming more challenging. The Group works closely with its customers' pre-development departments to discuss their plans and initiate and prioritize development projects related to future applications.

**“By closely following worldwide statistics concerning market growth and future markets, we attempt to discern mega-trends and further anticipate tomorrow's product requirements.”**



## A resourceful partner

Not merely responding to solution requests coming from the customer, NORMA is proactive in proposing new solutions that it has developed as a result of studying current and future market needs. The Group's business model is based on succeeding through creative technical leadership rather than being a “follower” in the market. NORMA will thus always strive to push further ahead in innovating for its customers.



## Materials explanation

| MATERIALS EXPLANATION |                                                                          |
|-----------------------|--------------------------------------------------------------------------|
| <b>W1</b>             | All parts entirely made from galvanized steel                            |
| <b>W2</b>             | Band and housing: stainless steel AISI 430<br>Bolt: galvanized steel     |
| <b>W2B</b>            | Band: stainless steel AISI 430 Ti<br>Screw and housing: galvanized steel |
| <b>W3</b>             | All parts entirely made from stainless steel AISI 430                    |
| <b>W4</b>             | All parts entirely made from stainless steel AISI 304                    |
| <b>W5</b>             | All parts entirely made from stainless steel AISI 316                    |

| Materials<br>International standard designations |                           |         |          |                |      |     |
|--------------------------------------------------|---------------------------|---------|----------|----------------|------|-----|
|                                                  | DIN                       | AISI/AS | BS       | AFNOR NF       | SS   | SUS |
| <b>W1</b>                                        | Entirely galvanized steel |         |          |                |      |     |
| <b>Band and housing</b>                          |                           |         |          |                |      |     |
| <b>W2</b>                                        | 1.4016                    | 430     | 430 S 17 | Z8 C17         | 2320 | 430 |
| <b>Bolt</b>                                      | Galvanized steel          |         |          |                |      |     |
| <b>W3</b>                                        | 1.4016                    | 430     | 430 S 17 | Z8 C17         | 2320 | 430 |
| <b>W4</b>                                        | 1.4301                    | 304     | 304 S 15 | Z6 CN 18-09    | 2332 | 304 |
| <b>W5</b>                                        | 1.4401                    | 316     | 316 S 31 | Z3 CND 17-11-1 | 2347 | 316 |
| <b>Spring insert</b>                             | 1.4310                    | 301     | 301 S 22 | Z12 CN 18-09   | 2331 | 301 |

## Bolts

| BOLTS                                                                                         |                            |
|-----------------------------------------------------------------------------------------------|----------------------------|
| Bolt type                                                                                     | Meaning                    |
| <b>M</b>                                                                                      | Bolt thread diameter in mm |
| <b>Sk</b>  | Hexagon-head bolt          |
| <b>Sz</b>  | Slotted hexagon-head bolt  |
| <b>Zy</b>  | Cylinder-head bolt         |

## Pictogram explanation

NORMA® offers different tools, kits, assortments and displays to fit the needs of its customers. The drawings below will help you to know, in a quick glance, if the product is available in another packaging type or/and if it has a special tool.

| PICTOGRAM                                                                           |                                                                                       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Pictogram                                                                           | Meaning                                                                               |
|  | A tool exists for this product, please refer to the Assortment chapter                |
|  | This product is available in a kit, please refer to the Assortment chapter            |
|  | This product is available in an assortment box please refer to the Assortment chapter |
|  | This product is available in display please refer to the Assortment chapter           |

| PRODUCT FAMILY            | PRODUCT CATEGORY       | PRODUCT NAME               | PAGE |
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|                           |                        | TORRO PREFIX CLIP          | 30   |
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|                           |                        | EARCLIP SAFE               | 65   |
|                           | TWO EAR CLIPS          | EARCLIP DOUBLE             | 66   |
|                           |                        |                            |      |

PLAIN BAND



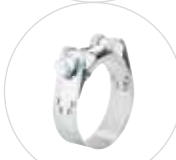
PERFORATED BAND



QUICK LOCK



TRUNNION CLAMPS



QUICK RELEASE



RETAINING CLAMPS



SCREWLESS CLAMP



SPRING BAND  
HOSE CLIPS



ONE EAR CLIPS



TWO EAR CLIPS



|                                                                                     |                                | PRODUCT FAMILY            | PRODUCT CATERGORY            | PRODUCT NAME                                | PAGE |  |
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| EXHAUST PIPE CLAMP M8                                                               | EXHAUST PIPE CLAMP M8          |                           |                              |                                             |      |  |
|                                                                                     |                                |                           |                              |                                             |      |  |
|                                                                                     |                                |                           |                              |                                             |      |  |
|                                                                                     |                                |                           |                              |                                             |      |  |
|                                                                                     |                                |                           |                              |                                             |      |  |
|                                                                                     |                                |                           |                              |                                             |      |  |
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|                                                                                     |                                |                           |                              |                                             |      |  |
| EXHAUST PIPE CLAMP M8                                                               | EXHAUST PIPE CLAMP M8          |                           |                              |                                             |      |  |
|                                                                                     |                                |                           |                              |                                             |      |  |
|                                                                                     |                                |                           |                              |                                             |      |  |
|                                                                                     |                                |                           |                              |                                             |      |  |
|                                                                                     |                                |                           |                              |                                             |      |  |
|                                                                                     |                                |                           |                              |                                             |      |  |
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HOSE CONNECTORS TES

HOSE CONNECTORS WES

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KITS



ASSORTMENTS



DISPLAYS



MOUNTING TOOLS



MOUNTING TOOLS



SCREWDRIVERS



PLIERS



SCREWDRIVERS



ACCESSORIES



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INSTALLATION NOTICES



|                  |                                                                                     |                                                                                                                                        | Machine<br>building                                                                      | White<br>goods                                                                           | Chemical<br>industry                                                                     | Irrigation<br>systems                                                                    | Ship<br>manufacturing                                                                    |  |
|------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--|
| NORMACLAMP®      |    | NORMACLAMP® TORRO®<br>NORMACLAMP® HD<br>NORMACLAMP® S/SP<br>NORMACLAMP® GBS<br>NORMACLAMP® SVS<br>NORMACLAMP® COBRA<br>NORMACLAMP® FBS | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> | <div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |  |
| NORMACONNECT®    |    | NORMACONNECT® FGR<br>NORMACONNECT® BRS<br>NORMACONNECT® ARS<br>NORMACONNECT® RS/DIN<br>NORMACONNECT® SEC<br>NORMACONNECT® V            | <div><div></div><div></div><div></div><div></div><div></div><div></div></div>            | <div><div></div><div></div><div></div><div></div><div></div><div></div></div>            | <div><div></div><div></div><div></div><div></div><div></div><div></div></div>            | <div><div></div><div></div><div></div><div></div><div></div><div></div></div>            | <div><div></div><div></div><div></div><div></div><div></div><div></div></div>            |  |
| NORMAFIX®        |    | NORMAFIX® RS/RSGU<br>NORMAFIX® HMK/K<br>NORMAFIX® NORMETTA®<br>NORMAFIX® CABLE TIE                                                     | <div><div></div><div></div><div></div><div></div></div>                                  | <div><div></div><div></div><div></div><div></div></div>                                  | <div><div></div><div></div><div></div><div></div></div>                                  | <div><div></div><div></div><div></div><div></div></div>                                  | <div><div></div><div></div><div></div><div></div></div>                                  |  |
| NORMAPLAST®      |  | NORMAPLAST® SV                                                                                                                         | <div><div></div><div></div><div></div><div></div></div>                                  | <div><div></div><div></div><div></div><div></div></div>                                  | <div><div></div><div></div><div></div><div></div></div>                                  | <div><div></div><div></div><div></div><div></div></div>                                  | <div><div></div><div></div><div></div><div></div></div>                                  |  |
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| User Information |                                                                                     |                                                                                                                                        |                                                                                          |                                                                                          |                                                                                          |                                                                                          |                                                                                          |  |

## Products and Applications

|  | Food and<br>beverage industry | Railway<br>industry   | Agricultural<br>machines | Building<br>machines  | Engine<br>manufacturing | Pump<br>and filter    | Mining<br>industry | Building and<br>site drainage |                  |
|--|-------------------------------|-----------------------|--------------------------|-----------------------|-------------------------|-----------------------|--------------------|-------------------------------|------------------|
|  | •<br><br>•                    | •<br>•<br>•<br>•<br>• | •<br>•<br>•<br>•<br>•    | •<br>•<br>•<br>•<br>• | •<br>•<br>•<br>•<br>•   | •<br>•<br>•<br>•<br>• | •<br>•<br>•        | •                             | NORMACLAMP®      |
|  | •<br><br>•                    | •<br><br>•            | •<br>•<br>•<br>•         | •<br>•<br>•<br>•      | •<br>•<br>•<br>•<br>•   | •<br><br>•            | •                  | •                             | NORMACONNECT®    |
|  | •<br>•<br>•                   | •<br>•<br>•<br>•      | •<br>•<br>•<br>•         | •<br>•<br>•<br>•      | •<br>•<br>•<br>•        | •<br>•<br>•<br>•      | •<br>•<br>•        | •                             | NORMAFIX®        |
|  | •                             | •                     | •                        | •                     | •                       | •                     |                    |                               | NORMAPLAST®      |
|  |                               |                       |                          |                       |                         |                       |                    |                               | NORMAEXTRA       |
|  |                               |                       |                          |                       |                         |                       |                    |                               | User Information |

# Products and Applications

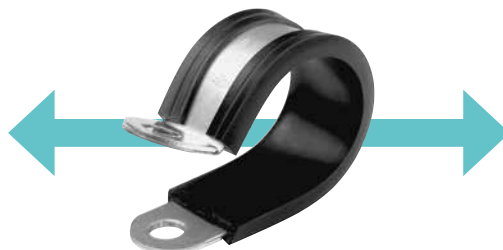
**NORMACLAMP® – Hose Clamps**



**NORMACONNECT® – Pipe Connections**



**NORMAFIX® – Retaining Products**



**NORMAPLAST® – Hose Connectors\*\***



\* Can be designed into a complete system in conjunction with NORMAFLEX® smooth and/or corrugated tube.  
 \*\* Several of the NORMACLAMP products can be used.

# NORMACLAMP® – Hose Clamps

## **A reliable system thanks to optimized components**

Whether you're looking for static hose clamps without springs or dynamic ones with springs, single-range or multi-range clamps, with NORMACLAMP® you'll find the perfect solution for any application.





- 1 Improved asymmetric housing**  
– even distribution of forces and safe assembly
- 2 Screw support**  
– ease of assembly due to the safe guidance of the emerging band end
- 3 Material and clamping range stamped on the band**  
– prevention of errors
- 4 Asymmetric extension**  
– prevents the housing from tilting over when the clamp is tightened
- 5 Short housing saddle**  
– even contact pressure  
– improved efficiency
- 6 Smooth or stamped inside of band**  
– optimal hose protection

## Worm drive hose clamps in accordance with DIN 3017

NORMACLAMP® TORRO® multi-range hose clamps are ideally suited to applications with high mechanical loads. Thanks to the continuous developments these products have undergone, they remain the benchmark within modern clamp construction. The key feature of a NORMACLAMP® TORRO® product is its asymmetrical construction - an instant sign that it is a genuine TORRO®.

Asymmetric housing provides high clamping force and superior torque strength. Even distribution of clamping pressure. Clamp aligns perfectly on the hose and ensures the optimal sealing of the connection.



### Advantages at a glance

- Multi-range hose clamp
- No chromium(VI) used for coating purposes
- Clamping ranges in acc. with DIN 3017: 8-16 mm to 140-160 mm
- Larger diameters available on request

### Applications

- Joining cooling water lines
- Depressurized and pressurized fuel lines and ventilation systems
- Oil lines
- Joining lines in sanitary applications
- Joining lines in machine building applications
- Lines in the household appliance industry
- Hose lines in the commercial vehicle industries

### Materials

| W1* | W2 | W3 | W4 | W5 |
|-----|----|----|----|----|
| x   | x  | x  | x  | x  |

\* No chromium(VI) used for the coating on the closure components

| Material | Corrosion resistance in salt spray testing |
|----------|--------------------------------------------|
| W1       | Min. 144 h                                 |
| W2       | Min. 72 h                                  |
| W3       | Min. 200 h*                                |
| W4       | Min. 400 h                                 |
| W5       | Min. 1000 h                                |

\*Max 10% base metal corrosion permissible

### Types of clamp band and screw

|                     | W1 | W2 | W3 | W4 | W5 |
|---------------------|----|----|----|----|----|
| Phillips head SW 7* | •  | •  |    |    |    |
| Slotted head SW 7   |    |    | •  | •  | •  |

\* Band width 7.5 mm = SW 6

#### Band width 7.5 mm

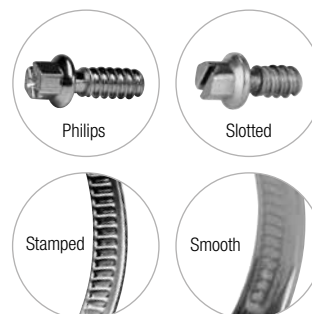
- W2, W3 with smooth inside

#### Band width 9 mm

- W1 with smooth inside
- W2, W3, W4, W5 with stamped inside

#### Band width 12 mm

- W1, W2, W3 with smooth inside
- W4, W5 with stamped inside



## Table of torques

## TORRO 7.5 W2-W3

| Diameter | 8-12    | 10-16   | 12-18   | 12-22   | 16-27   | 20-32 | 25-40 | 30-45 | 35-50 | 40-60 |
|----------|---------|---------|---------|---------|---------|-------|-------|-------|-------|-------|
| TT       | max 1.5 | max 1.5 | max 1.5 | max 1.5 | max 1.5 |       |       |       |       |       |
| FRT max  |         |         |         |         |         |       |       |       |       |       |
| TT       | 2       | 2       | 2       | 2       | 2       |       |       |       |       |       |
| BD min   | 2.25    | 2.25    | 2.25    | 2.25    | 2.25    |       |       |       |       |       |

## TORRO 9 W1

| Diameter | 8-12     | 10-16  | 12-18  | 12-22  | 16-27  | 20-32  | 25-40  | 30-45  | 35-50  | 40-60  |
|----------|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| TT       | 2.5 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 |
| FRT max  | 1.2      | 1.2    | 1.2    | 1.2    | 1.2    | 1.2    | 1.2    | 1.2    | 1.2    | 1.2    |
| TT       | 3.3      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      | 4      |
| BD min   | 4        | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 6      | 6      | 6      | 6      |

| Diameter | 50-70  | 60-80  | 70-90  | 80-100 | 90-110 | 100-120 | 110-130 | 120-140 | 130-150 | 140-160 |
|----------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| TT       | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5  | 3 +0.5  | 3 +0.5  | 3 +0.5  | 3 +0.5  |
| FRT max  | 1.2    | 1.2    | 1.2    | 1.2    | 1.2    | 1.2     | 1.2     | 1.2     | 1.2     | 1.2     |
| TT       | 4      | 4      | 4      | 4      | 4      | 4       | 4       | 4       | 4       | 4       |
| BD min   | 6      | 6      | 6      | 6      | 6      | 6       | 6       | 6       | 6       | 6       |

## TORRO 9 W2

| Diameter | 8-12 | 8-16   | 12-18 | 12-22  | 16-27  | 20-32  | 25-40  | 30-45  | 35-50  | 40-60  |
|----------|------|--------|-------|--------|--------|--------|--------|--------|--------|--------|
| TT       |      | 2 +0.5 |       | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 |
| FRT max  |      | 0.7    |       | 0.7    | 0.7    | 0.7    | 0.7    | 0.7    | 0.7    | 0.7    |
| TT       |      | 2.6    |       | 4      | 4      | 4      | 4      | 4      | 4      | 4      |
| BD min   |      | 4      |       | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    |

| Diameter | 50-70  | 60-80  | 70-90  | 80-100 | 90-110 | 100-120 | 110-130 | 120-140 | 130-150 | 140-160 |
|----------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| TT       | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5  | 3 +0.5  | 3 +0.5  | 3 +0.5  | 3 +0.5  |
| FRT max  | 0.7    | 0.7    | 0.7    | 0.7    | 0.7    | 0.7     | 0.7     | 0.7     | 0.7     | 0.7     |
| TT       | 4      | 4      | 4      | 4      | 4      | 4       | 4       | 4       | 4       | 4       |
| BD min   | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5     | 4.5     | 4.5     | 4.5     | 4.5     |

## TORRO 9 W3-W5

| Diameter | 8-12 | 8-16   | 12-18 | 12-22  | 16-27  | 20-32  | 25-40  | 30-45  | 35-50  | 40-60  |
|----------|------|--------|-------|--------|--------|--------|--------|--------|--------|--------|
| TT       |      | 2 +0.5 |       | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 |
| FRT max  |      | 0.7    |       | 0.7    | 0.7    | 0.7    | 0.7    | 0.7    | 0.7    | 0.7    |
| TT       |      | 2.6    |       | 4      | 4      | 4      | 4      | 4      | 4      | 4      |
| BD min   |      | 4      |       | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    |

| Diameter | 50-70  | 60-80  | 70-90  | 80-100 | 90-110 | 100-120 | 110-130 | 120-140 | 130-150 | 140-160 |
|----------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| TT       | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5 | 3 +0.5  | 3 +0.5  | 3 +0.5  | 3 +0.5  | 3 +0.5  |
| FRT max  | 0.7    | 0.7    | 0.7    | 0.7    | 0.7    | 0.7     | 0.7     | 0.7     | 0.7     | 0.7     |
| TT       | 4      | 4      | 4      | 4      | 4      | 4       | 4       | 4       | 4       | 4       |
| BD min   | 4.5    | 4.5    | 4.5    | 4.5    | 4.5    | 4.5     | 4.5     | 4.5     | 4.5     | 4.5     |

TT = Tightening Torque

FRT = Free Running Torque

TT = Testing Torque

BD = Break Torque

## Table of torques

## TORRO 12 W1

| Diameter | 8-12   | 10-16  | 12-18  | 12-22  | 16-27  | 20-32   | 25-40   | 30-45   | 35-50   | 40-60   |
|----------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| TT       |        |        |        |        | 5 +0.5 | 5 +0.5  | 5 +0.5  | 5 +0.5  | 5 +0.5  | 5 +0.5  |
| FRT max  |        |        |        |        | 1.2    | 1.2     | 1.2     | 1.2     | 1.2     | 1.2     |
| TT       |        |        |        |        | 6.5    | 6.5     | 6.5     | 6.5     | 6.5     | 6.5     |
| BD min   |        |        |        |        | 10     | 10      | 10      | 10      | 10      | 10      |
| Diameter | 50-70  | 60-80  | 70-90  | 80-100 | 90-110 | 100-120 | 110-130 | 120-140 | 130-150 | 140-160 |
| TT       | 5 +0.5 | 5 +0.5 | 5 +0.5 | 5 +0.5 | 5 +0.5 | 5 +0.5  | 5 +0.5  | 5 +0.5  | 5 +0.5  | 5 +0.5  |
| FRT max  | 1.2    | 1.2    | 1.2    | 1.2    | 1.2    | 1.2     | 1.2     | 1.2     | 1.2     | 1.2     |
| TT       | 6.5    | 6.5    | 6.5    | 6.5    | 6.5    | 6.5     | 6.5     | 6.5     | 6.5     | 6.5     |
| BD min   | 10     | 10     | 10     | 10     | 10     | 10      | 10      | 10      | 10      | 10      |

## TORRO 12 W2/W3

| Diameter | 8-12   | 10-16  | 12-18  | 12-22  | 16-27  | 20-32   | 25-40   | 30-45   | 35-50   | 40-60   |
|----------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| TT       |        |        |        |        | 5 +0.5 | 5 +0.5  | 5 +0.5  | 5 +0.5  | 5 +0.5  | 5 +0.5  |
| LD max   |        |        |        |        | 1      | 1       | 1       | 1       | 1       | 1       |
| TT       |        |        |        |        | 6.5    | 6.5     | 6.5     | 6.5     | 6.5     | 6.5     |
| BD min   |        |        |        |        | 8.0    | 8.0     | 8.5     | 8.5     | 8.5     | 8.5     |
| Diameter | 50-70  | 60-80  | 70-90  | 80-100 | 90-110 | 100-120 | 110-130 | 120-140 | 130-150 | 140-160 |
| TT       | 5 +0.5 | 5 +0.5 | 5 +0.5 | 5 +0.5 | 5 +0.5 | 5 +0.5  | 5 +0.5  | 5 +0.5  | 5 +0.5  | 5 +0.5  |
| FRT max  | 1      | 1      | 1      | 1      | 1      | 1       | 1       | 1       | 1       | 1       |
| TT       | 6.5    | 6.5    | 6.5    | 6.5    | 6.5    | 6.5     | 6.5     | 6.5     | 6.5     | 6.5     |
| BD min   | 8.5    | 8.5    | 8.5    | 8.5    | 8.5    | 8.5     | 8.5     | 8.5     | 8.5     | 8.5     |

## TORRO 12 W4/W5

| Diameter | 8-12   | 10-16  | 12-18  | 12-22  | 16-27  | 20-32   | 25-40   | 30-45   | 35-50   | 40-60   |
|----------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| TT       |        |        |        |        | 5 +0.5 | 5 +0.5  | 5 +0.5  | 5 +0.5  | 5 +0.5  | 5 +0.5  |
| FRT max  |        |        |        |        | 1      | 1       | 1       | 1       | 1       | 1       |
| TT       |        |        |        |        | 6.5    | 6.5     | 6.5     | 6.5     | 6.5     | 6.5     |
| BD min   |        |        |        |        | 8      | 8       | 8.5     | 8.5     | 8.5     | 8.5     |
| Diameter | 50-70  | 60-80  | 70-90  | 80-100 | 90-110 | 100-120 | 110-130 | 120-140 | 130-150 | 140-160 |
| TT       | 5 +0.5 | 5 +0.5 | 5 +0.5 | 5 +0.5 | 5 +0.5 | 5 +0.5  | 5 +0.5  | 5 +0.5  | 5 +0.5  | 5 +0.5  |
| FRT max  | 1      | 1      | 1      | 1      | 1      | 1       | 1       | 1       | 1       | 1       |
| TT       | 6.5    | 6.5    | 6.5    | 6.5    | 6.5    | 6.5     | 6.5     | 6.5     | 6.5     | 6.5     |
| BD min   | 8.5    | 8.5    | 8.5    | 8.5    | 8.5    | 8.5     | 8.5     | 8.5     | 8.5     | 8.5     |

TT = Tightening Torque

FRT = Free Running Torque

TT = Testing Torque

BD = Break Torque

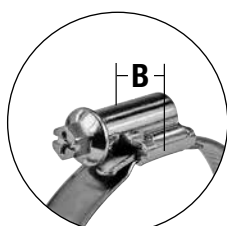
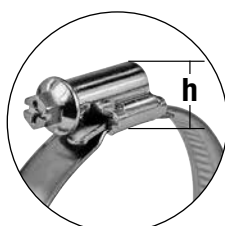
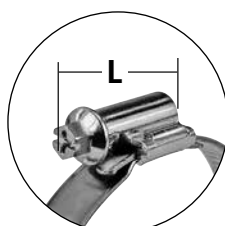
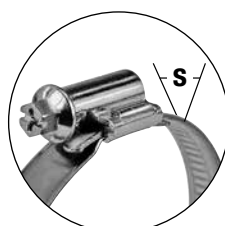
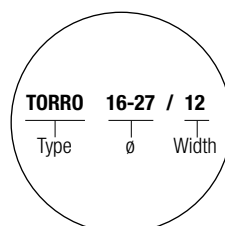
## Technical data &amp; Ordering information

| NORMACLAMP® TORRO® |                       |                 |               |      |      |      |      |                |                   |                   |                   |                   |                   |
|--------------------|-----------------------|-----------------|---------------|------|------|------|------|----------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Width              | Designation           | Clamping ranges |               | B    | h    | L    | s    | S<br>(W1 only) | W1<br>Product No. | W2<br>Product No. | W3<br>Product No. | W4<br>Product No. | W5<br>Product No. |
|                    |                       | in mm           | in inches     |      |      |      |      |                |                   |                   |                   |                   |                   |
| 7.5                | TORRO 8-12/7.5        | 8-12            | 5/16-1/2      | 11.5 | 9    | 17   | 0.6  |                |                   | 0116 7602 010     | 0116 7603 010     |                   |                   |
|                    | TORRO 10-16/7.5       | 10-16           | 3/8-5/8       | 11.5 | 9    | 17   | 0.6  |                |                   | 0116 7602 013     | 0116 7603 013     |                   |                   |
|                    | TORRO 12-18/7.5       | 12-18           | 1/2-11/16     | 11.5 | 9    | 17   | 0.6  |                |                   | 0116 7602 015     | 0116 7603 015     |                   |                   |
|                    | TORRO 12-22/7.5       | 12-22           | 1/2-7/8       | 11.5 | 9    | 17   | 0.6  |                |                   | 0116 7602 017     | 0116 7603 017     |                   |                   |
|                    | TORRO 16-27/7.5       | 16-27           | 5/8-1 1/16    | 11.5 | 9    | 17   | 0.6  |                |                   | 0116 7602 021     | 0116 7603 021     |                   |                   |
| 9                  | TORRO 8-12/9          | 8-12            | 5/16-1/2      | 13.0 | 11.0 | 21.0 | 0.65 | 0.8            | 0126 7565 010     | 0126 7702 010     | 0126 7703 010     | 0126 7704 010     |                   |
|                    | TORRO 8-16/9 (10-16)  | 8-16            | 5/16-5/8      | 13.0 | 11.0 | 21.0 | 0.65 | 0.8            | 0126 7565 013     | 0126 7702 013     | 0126 7703 013     | 0126 7704 013     | 0126 7705 013     |
|                    | TORRO 12-22/9         | 12-22           | 1/2-7/8       | 13.0 | 11.0 | 24.0 | 0.65 | 0.8            | 0126 7565 017     | 0126 7702 017     | 0126 7703 017     | 0126 7704 017     | 0126 7705 017     |
|                    | TORRO 16-27/9         | 16-27           | 5/8-1 1/16    | 13.0 | 11.0 | 24.0 | 0.65 | 0.8            | 0126 7565 021     | 0126 7702 021     | 0126 7703 021     | 0126 7704 021     | 0126 7705 021     |
|                    | TORRO 20-32/9         | 20-32           | 13/16-1 1/4   | 13.0 | 11.0 | 24.0 | 0.65 | 0.8            | 0126 7565 026     | 0126 7702 026     | 0126 7703 026     | 0126 7704 026     | 0126 7705 026     |
|                    | TORRO 23-35/9         | 23-35           | 15/16-1 3/8   | 13.0 | 11.0 | 24.0 | 0.65 | 0.8            | 0126 7565 029     | 0126 7702 029     | 0126 7703 029     | 0126 7704 029     | 0126 7705 029     |
|                    | TORRO 25-40/9         | 25-40           | 1-1 9/16      | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 7565 032     | 0126 7702 032     | 0126 7703 032     | 0126 7704 032     | 0126 7705 032     |
|                    | TORRO 30-45/9         | 30-45           | 1 3/16-1 3/4  | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 7565 037     | 0126 7702 037     | 0126 7703 037     | 0126 7704 037     | 0126 7705 037     |
|                    | TORRO 35-50/9 (32-50) | 35-50           | 1 3/8-2       | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 7565 043     | 0126 7702 041     | 0126 7703 041     | 0126 7704 041     | 0126 7705 041     |
|                    | TORRO 40-60/9         | 40-60           | 1 9/16-2 3/8  | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 7565 050     | 0126 7702 050     | 0126 7703 050     | 0126 7704 050     | 0126 7705 050     |
|                    | TORRO 50-70/9         | 50-70           | 2-2 3/4       | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 7565 060     | 0126 7702 060     | 0126 7703 060     | 0126 7704 060     | 0126 7705 060     |
|                    | TORRO 60-80/9         | 60-80           | 2 3/8-3 1/8   | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 7565 070     | 0126 7702 070     | 0126 7703 070     | 0126 7704 070     | 0126 7705 070     |
|                    | TORRO 70-90/9         | 70-90           | 2 3/4-3 9/16  | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 7565 080     | 0126 7702 080     | 0126 7703 080     | 0126 7704 080     | 0126 7705 080     |
|                    | TORRO 80-100/9        | 80-100          | 3 1/8-3 15/16 | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 7565 090     | 0126 7702 090     | 0126 7703 090     | 0126 7704 090     | 0126 7705 090     |
|                    | TORRO 90-110/9        | 90-110          | 3 9/16-4 5/16 | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 7565 100     | 0126 7702 100     | 0126 7703 100     | 0126 7704 100     | 0126 7705 100     |
|                    | TORRO 100-120/9       | 100-120         | 3 15/16-4 3/4 | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 6565 110     | 0126 6702 110     | 0126 6703 110     | 0126 6704 110     | 0126 6705 110     |
|                    | TORRO 110-130/9       | 110-130         | 4 5/16-5 1/8  | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 6565 120     | 0126 6702 120     | 0126 6703 120     | 0126 6704 120     | 0126 6705 120     |
|                    | TORRO 120-140/9       | 120-140         | 4 3/4-5 1/2   | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 6565 130     | 0126 6702 130     | 0126 6703 130     | 0126 6704 130     | 0126 6705 130     |
|                    | TORRO 130-150/9       | 130-150         | 5 1/8-5 15/16 | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 6565 140     | 0126 6702 140     | 0126 6703 140     | 0126 6704 140     | 0126 6705 140     |
|                    | TORRO 140-160/9       | 140-160         | 5 1/2-6 5/16  | 13.0 | 11.0 | 26.0 | 0.65 | 0.8            | 0126 6565 150     | 0126 6702 150     | 0126 6703 150     | 0126 6704 150     | 0126 6705 150     |
| 12                 | TORRO 16-27/12        | 16-27           | 5/8-1 1/16    | 14.6 | 12.5 | 30.0 | 0.8  | 0.8            | 0136 7352 021     | 0136 7702 021     | 0136 7703 021     | 0136 7704 021     | 0136 7705 021     |
|                    | TORRO 20-32/12        | 20-32           | 13/16-1 1/4   | 14.6 | 12.5 | 30.0 | 0.8  | 0.8            | 0136 7352 026     | 0136 7702 026     | 0136 7703 026     | 0136 7704 026     | 0136 7705 026     |
|                    | TORRO 23-35/12        | 23-35           | 15/16-1 3/8   | 14.6 | 12.5 | 30.0 | 0.8  | 0.8            | 0136 7352 029     | 0136 7702 029     | 0136 7703 029     | 0136 7704 029     | 0136 7705 029     |
|                    | TORRO 25-40/12        | 25-40           | 1-1 9/16      | 14.6 | 12.5 | 30.0 | 0.8  | 1.0            | 0136 7352 032     | 0136 7702 032     | 0136 7703 032     | 0136 7704 032     | 0136 7705 032     |
|                    | TORRO 30-45/12        | 30-45           | 1 3/16-1 3/4  | 14.6 | 12.5 | 30.0 | 0.8  | 1.0            | 0136 7352 037     | 0136 7702 037     | 0136 7703 037     | 0136 7704 037     | 0136 7705 037     |
|                    | TORRO 35-50/12        | 35-50           | 1 3/8-2       | 14.6 | 12.5 | 30.0 | 0.8  | 1.0            | 0136 7352 043     | 0136 7702 043     | 0136 7703 043     | 0136 7704 043     | 0136 7705 043     |
|                    | TORRO 40-60/12        | 40-60           | 1 9/16-2 3/8  | 14.6 | 12.5 | 30.0 | 0.8  | 1.0            | 0136 7352 050     | 0136 7702 050     | 0136 7703 050     | 0136 7704 050     | 0136 7705 050     |
|                    | TORRO 50-70/12        | 50-70           | 2-2 3/4       | 14.6 | 12.5 | 30.0 | 0.8  | 1.0            | 0136 7352 060     | 0136 7702 060     | 0136 7703 060     | 0136 7704 060     | 0136 7705 060     |
|                    | TORRO 60-80/12        | 60-80           | 2 3/8-3 1/8   | 14.6 | 12.5 | 30.0 | 0.8  | 1.0            | 0136 7352 070     | 0136 7702 070     | 0136 7703 070     | 0136 7704 070     | 0136 7705 070     |
|                    | TORRO 70-90/12        | 70-90           | 2 3/4-3 9/16  | 14.6 | 12.5 | 36.0 | 0.8  | 1.0            | 0136 7352 080     | 0136 7702 080     | 0136 7703 080     | 0136 7704 080     | 0136 7705 080     |
|                    | TORRO 80-100/12       | 80-100          | 3 1/8-3 15/16 | 14.6 | 12.5 | 36.0 | 0.8  | 1.0            | 0136 7352 090     | 0136 7702 090     | 0136 7703 090     | 0136 7704 090     | 0136 7705 090     |
|                    | TORRO 90-110/12       | 90-110          | 3 9/16-4 5/16 | 14.6 | 12.5 | 36.0 | 0.8  | 1.0            | 0136 7352 100     | 0136 7702 100     | 0136 7703 100     | 0136 7704 100     | 0136 7705 100     |
|                    | TORRO 100-120/12      | 100-120         | 3 15/16-4 3/4 | 14.6 | 12.5 | 36.0 | 0.8  | 1.0            | 0136 6352 110     | 0136 6702 110     | 0136 6703 110     | 0136 6704 110     | 0136 6705 110     |
|                    | TORRO 110-130/12      | 110-130         | 4 5/16-5 1/8  | 14.6 | 12.5 | 36.0 | 0.8  | 1.0            | 0136 6352 120     | 0136 6702 120     | 0136 6703 120     | 0136 6704 120     | 0136 6705 120     |
|                    | TORRO 120-140/12      | 120-140         | 4 3/4-5 1/2   | 14.6 | 12.5 | 36.0 | 0.8  | 1.0            | 0136 6352 130     | 0136 6702 130     | 0136 6703 130     | 0136 6704 130     | 0136 6705 130     |
|                    | TORRO 130-150/12      | 130-150         | 5 1/8-5 15/16 | 14.6 | 12.5 | 36.0 | 0.8  | 1.0            | 0136 6352 140     | 0136 6702 140     | 0136 6703 140     | 0136 6704 140     | 0136 6705 140     |
|                    | TORRO 140-160/12      | 140-160         | 5 1/2-6 5/16  | 14.6 | 12.5 | 36.0 | 0.8  | 1.0            | 0136 6352 150     | 0136 6702 150     | 0136 6703 150     | 0136 6704 150     | 0136 6705 150     |

Additional diameters on request (up to 700 mm)



Refer to pages 181, 183, 184, 185, 188 and 191.

**B = overall width**  
housing**h = overall height**  
bolt and housing**L = overall length**  
bolt and housing**s = band thickness**  
clamp band**Name structure**  
clamp band

## WF



For this version of the NORMACLAMP® TORRO® the standard hose clamp is equipped with a spring insert on the inside of the clamp band. When tightening the screw the spring is loaded and stores sufficient clamping force to ensure a long-lasting automatic re-tensioning effect. Thus the radial clamping force achieved will be sufficient even under extremely low temperatures. Therefore, the TORRO® is an optimal solution for applications under extreme temperature changes (e.g., charged air) or for the retention of hoses with a tendency of 'creeping' (hose relaxation).

### Advantages at a glance

- Automatic re-tensioning effect in the event of hose relaxation
- Increased sealing reliability across a wide temperature range

### Materials

- W3, W4



### NORMACLAMP® WF

| Width | Designation        | Clamping ranges |               | B    | h    | L    | s    | W3<br>Product No. | W4<br>Product No. |
|-------|--------------------|-----------------|---------------|------|------|------|------|-------------------|-------------------|
|       |                    | in mm           | in inches     |      |      |      |      |                   |                   |
| 9     | TORRO WF 8-16/9    | 8-16            | 5/16-5/8      | 13.0 | 11.0 | 21.0 | 0.65 | 0127 7708 013     | 0127 7711 013     |
|       | TORRO WF 12-18/9   | 12-18           | 1/2-11/16     | 13.0 | 11.0 | 24.0 | 0.65 | 0127 7708 018     | 0127 7711 015     |
|       | TORRO WF 12-20/9   | 12-20           | 1/2-13/16     | 13.0 | 11.0 | 24.0 | 0.65 | 0127 7708 016     | 0127 7711 016     |
|       | TORRO WF 12-22/9   | 12-22           | 1/2-7/8       | 13.0 | 11.0 | 24.0 | 0.65 | 0127 7708 017     | 0127 7711 017     |
|       | TORRO WF 16-25/9   | 16-25           | 5/8-1         | 13.0 | 11.0 | 24.0 | 0.65 | 0127 7708 020     | 0127 7711 020     |
|       | TORRO WF 16-27/9   | 16-27           | 5/8-1 1/16    | 13.0 | 11.0 | 24.0 | 0.65 | 0127 7708 021     | 0127 7711 021     |
|       | TORRO WF 20-32/9   | 20-32           | 13/16-1 1/4   | 13.0 | 11.0 | 24.0 | 0.65 | 0127 7708 026     | 0127 7711 026     |
|       | TORRO WF 23-35/9   | 23-35           | 15/16-1 3/8   | 13.0 | 11.0 | 24.0 | 0.65 | 0127 7708 029     | 0127 7711 029     |
|       | TORRO WF 25-40/9   | 25-40           | 1-1 9/16      | 13.0 | 11.0 | 26.0 | 0.65 | 0127 7708 032     | 0127 7711 032     |
|       | TORRO WF 30-45/9   | 30-45           | 1 3/16-1 3/4  | 13.0 | 11.0 | 26.0 | 0.65 | 0127 7708 037     | 0127 7711 037     |
|       | TORRO WF 32-50/9   | 32-50           | 1 3/8-2       | 13.0 | 11.0 | 26.0 | 0.65 | 0127 7708 041     | 0127 7711 041     |
|       | TORRO WF 40-60/9   | 40-60           | 1 9/16-2 3/8  | 13.0 | 11.0 | 26.0 | 0.65 | 0127 7708 050     | 0127 7711 050     |
|       | TORRO WF 45-65/9   | 45-65           | 1 3/4-2 9/16  | 13.0 | 11.0 | 26.0 | 0.65 | 0127 7708 055     | 0127 7711 055     |
|       | TORRO WF 50-70/9   | 50-70           | 2-2 3/4       | 13.0 | 11.0 | 26.0 | 0.65 | 0127 7708 060     | 0127 7711 060     |
|       | TORRO WF 60-80/9   | 60-80           | 2 3/8-3 1/8   | 13.0 | 11.0 | 26.0 | 0.65 | 0127 7708 070     | 0127 7711 070     |
|       | TORRO WF 70-90/9   | 70-90           | 2 3/4-3 9/16  | 13.0 | 11.0 | 26.0 | 0.65 | 0127 7708 080     | 0127 7711 080     |
|       | TORRO WF 80-100/9  | 80-100          | 3 1/8-3 15/16 | 13.0 | 11.0 | 26.0 | 0.65 | 0127 7708 090     | 0127 7711 090     |
|       | TORRO WF 90-110/9  | 90-110          | 3 9/16-4 5/16 | 13.0 | 11.0 | 26.0 | 0.65 | 0127 7708 100     | 0127 7711 100     |
|       | TORRO WF 100-120/9 | 100-120         | 3 15/16-4 3/4 | 13.0 | 11.0 | 26.0 | 0.65 | 0127 7708 110     | 0127 7711 110     |
|       | TORRO WF 110-130/9 | 110-130         | 4 3/8-5 1/8   | 13.0 | 11.0 | 26.0 | 0.65 | 0127 7708 120     | 0127 7711 120     |
| 12    | TORRO WF 16-27/12  | 16-27           | 5/8-1 1/16    | 14.6 | 12.5 | 30.0 | 0.8  | 0137 7708 021     | 0137 7711 021     |
|       | TORRO WF 20-32/12  | 20-32           | 13/16-1 1/4   | 14.6 | 12.5 | 30.0 | 0.8  | 0137 7708 026     | 0137 7711 026     |
|       | TORRO WF 25-40/12  | 25-40           | 1-1 9/16      | 14.6 | 12.5 | 30.0 | 0.8  | 0137 7708 032     | 0137 7711 032     |
|       | TORRO WF 30-45/12  | 30-45           | 1 3/16-1 3/4  | 14.6 | 12.5 | 30.0 | 0.8  | 0137 7708 037     | 0137 7711 037     |
|       | TORRO WF 35-50/12  | 35-50           | 1 3/8-2       | 14.6 | 12.5 | 30.0 | 0.8  | 0137 7708 043     | 0137 7711 043     |
|       | TORRO WF 40-60/12  | 40-60           | 1 9/16-2 3/8  | 14.6 | 12.5 | 30.0 | 0.8  | 0137 7708 050     | 0137 7711 050     |
|       | TORRO WF 50-70/12  | 50-70           | 2-2 3/4       | 14.6 | 12.5 | 30.0 | 0.8  | 0137 7708 060     | 0137 7711 060     |
|       | TORRO WF 60-80/12  | 60-80           | 2 3/8-3 1/8   | 14.6 | 12.5 | 30.0 | 0.8  | 0137 7708 070     | 0137 7711 070     |
|       | TORRO WF 70-90/12  | 70-90           | 2 3/4-3 9/16  | 14.6 | 12.5 | 36.0 | 0.8  | 0137 7708 080     | 0137 7711 080     |
|       | TORRO WF 80-100/12 | 80-100          | 3 1/8-3 15/16 | 14.6 | 12.5 | 36.0 | 0.8  | 0137 7708 090     | 0137 7711 090     |
|       | TORRO WF 90-110/12 | 90-110          | 3 9/16-4 5/16 | 14.6 | 12.5 | 36.0 | 0.8  | 0137 7708 100     | 0137 7711 100     |



Refer to page 191.

## Torque cap



The torque cap shares off when the permissible tightening torque is reached, thus saving the need to use a torque wrench. The bolt slot can still be accessed even after the break-off point, meaning that the clamp can be removed and/or re-tensioned if necessary.

### Advantages at a glance

- Defined tightening torque without the need for special tools
- Installation can be checked visually

### Materials

- W1, W2, W3, W4

| NORMACLAMP® TORRO® WITH TORQUE CAP |                                    |                 |                |      |      |      |      |                   |                   |                   |                   |                   |
|------------------------------------|------------------------------------|-----------------|----------------|------|------|------|------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Width                              | Designation                        | Clamping ranges |                | B    | h    | L    | s    | S<br>(W1<br>only) | W1<br>Product No. | W2<br>Product No. | W3<br>Product No. | W4<br>Product No. |
|                                    |                                    | in mm           | in inches      |      |      |      |      |                   |                   |                   |                   |                   |
| 9                                  | TORRO TORQUE CAP 8-12/9            | 8-12            | 5/16-1/2       | 13.0 | 11.0 | 27.0 | 0.65 | 0.8               | 0126 7562 010     | 0126 7516 010     | 0126 7432 010     | 0126 7490 010     |
|                                    | TORRO TORQUE CAP 8-16/9 (10 - 16)  | 8-16            | 5/16-5/8       | 13.0 | 11.0 | 27.0 | 0.65 | 0.8               | 0126 7562 013     | 0126 7516 013     | 0126 7432 013     | 0126 7490 013     |
|                                    | TORRO TORQUE CAP 12-22/9           | 12-22           | 1/2-7/8        | 13.0 | 11.0 | 30.0 | 0.65 | 0.8               | 0126 7562 017     | 0126 7516 017     | 0126 7432 017     | 0126 7490 017     |
|                                    | TORRO TORQUE CAP 16-27/9           | 16-27           | 5/8-1 1/16     | 13.0 | 11.0 | 30.0 | 0.65 | 0.8               | 0126 7562 021     | 0126 7516 021     | 0126 7432 021     | 0126 7490 021     |
|                                    | TORRO TORQUE CAP 20-32/9           | 20-32           | 13/16-1 1/4    | 13.0 | 11.0 | 30.0 | 0.65 | 0.8               | 0126 7562 026     | 0126 7516 026     | 0126 7432 026     | 0126 7490 026     |
|                                    | TORRO TORQUE CAP 23-35/9           | 23-35           | 15/16-1 3/8    | 13.0 | 11.0 | 30.0 | 0.65 | 0.8               | 0126 7562 029     | 0126 7516 029     | 0126 7432 029     | 0126 7490 029     |
|                                    | TORRO TORQUE CAP 25-40/9           | 25-40           | 1-1 9/16       | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 7562 032     | 0126 7516 032     | 0126 7432 032     | 0126 7490 032     |
|                                    | TORRO TORQUE CAP 30-45/9           | 30-45           | 1 3/16-1 3/4   | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 7562 037     | 0126 7516 037     | 0126 7432 037     | 0126 7490 037     |
|                                    | TORRO TORQUE CAP 35-50/9 (32 - 50) | 35-50           | 1 3/8-2        | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 7562 043     | 0126 7516 041     | 0126 7432 041     | 0126 7490 041     |
|                                    | TORRO TORQUE CAP 40-60/9           | 40-60           | 1 9/16-2 3/8   | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 7562 050     | 0126 7516 050     | 0126 7432 050     | 0126 7490 050     |
|                                    | TORRO TORQUE CAP 50-70/9           | 50-70           | 2-2 3/4        | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 7562 060     | 0126 7516 060     | 0126 7432 060     | 0126 7490 060     |
|                                    | TORRO TORQUE CAP 60-80/9           | 60-80           | 2 3/8-3 1/8    | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 7562 070     | 0126 7516 070     | 0126 7432 070     | 0126 7490 070     |
|                                    | TORRO TORQUE CAP 70-90/9           | 70-90           | 2 3/4-3 9/16   | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 7562 080     | 0126 7516 080     | 0126 7432 080     | 0126 7490 080     |
|                                    | TORRO TORQUE CAP 80-100/9          | 80-100          | 3 1/8-3 15/16  | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 7562 090     | 0126 7516 090     | 0126 7432 090     | 0126 7490 090     |
|                                    | TORRO TORQUE CAP 90-110/9          | 90-110          | 3 9/16-4 5/16  | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 7562 100     | 0126 7516 100     | 0126 7432 100     | 0126 7490 100     |
|                                    | TORRO TORQUE CAP 100-120/9         | 100-120         | 3 15/16-4 5/16 | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 6562 110     | 0126 6516 110     | 0126 6432 110     | 0126 6490 110     |
|                                    | TORRO TORQUE CAP 110-130/9         | 110-130         | 4 5/16-5 1/8   | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 6562 120     | 0126 6516 120     | 0126 6432 120     | 0126 6490 120     |
|                                    | TORRO TORQUE CAP 120-140/9         | 120-140         | 4 3/4-5 1/2    | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 6562 130     | 0126 6516 130     | 0126 6432 130     | 0126 6490 130     |
| 12                                 | TORRO TORQUE CAP 130-150/9         | 130-150         | 5 1/8-5 15/16  | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 6562 140     | 0126 6516 140     | 0126 6432 140     | 0126 6490 140     |
|                                    | TORRO TORQUE CAP 140-160/9         | 140-160         | 5 1/2-6 5/16   | 13.0 | 11.0 | 32.0 | 0.65 | 0.8               | 0126 6562 150     | 0126 6516 150     | 0126 6432 150     | 0126 6490 150     |
|                                    | TORRO TORQUE CAP 16-27/12          | 16-27           | 5/8-1 1/16     | 14.6 | 12.5 | 36.0 | 0.8  | 0.8               | 0136 7135 021     |                   | 0136 7181 021     |                   |
|                                    | TORRO TORQUE CAP 20-32/12          | 20-32           | 13/16-1 1/4    | 14.6 | 12.5 | 36.0 | 0.8  | 0.8               | 0136 7135 026     |                   | 0136 7181 026     |                   |
|                                    | TORRO TORQUE CAP 23-35/12          | 23-35           | 15/16-1 3/8    | 14.6 | 12.5 | 36.0 | 0.8  | 0.8               | 0136 7135 029     |                   | 0136 7181 029     |                   |
|                                    | TORRO TORQUE CAP 25-40/12          | 25-40           | 1-1 9/16       | 14.6 | 12.5 | 36.0 | 1.0  | 1.0               | 0136 7135 032     |                   | 0136 7181 032     |                   |
|                                    | TORRO TORQUE CAP 30-45/12          | 30-45           | 1 3/16-1 3/4   | 14.6 | 12.5 | 36.0 | 1.0  | 1.0               | 0136 7135 037     |                   | 0136 7181 037     |                   |
|                                    | TORRO TORQUE CAP 35-50/12          | 35-50           | 1 3/8-2        | 14.6 | 12.5 | 36.0 | 1.0  | 1.0               | 0136 7135 043     |                   | 0136 7181 043     |                   |
|                                    | TORRO TORQUE CAP 40-60/12          | 40-60           | 1 9/16-2 3/8   | 14.6 | 12.5 | 36.0 | 1.0  | 1.0               | 0136 7135 050     |                   | 0136 7181 050     |                   |
|                                    | TORRO TORQUE CAP 50-70/12          | 50-70           | 2-2 3/4        | 14.6 | 12.5 | 36.0 | 1.0  | 1.0               | 0136 7135 060     |                   | 0136 7181 060     |                   |
|                                    | TORRO TORQUE CAP 60-80/12          | 60-80           | 2 3/8-3 1/8    | 14.6 | 12.5 | 36.0 | 1.0  | 1.0               | 0136 7135 070     |                   | 0136 7181 070     |                   |
|                                    | TORRO TORQUE CAP 70-90/12          | 70-90           | 2 3/4-3 9/16   | 14.6 | 12.5 | 42.0 | 1.0  | 1.0               | 0136 7135 080     |                   | 0136 7181 080     |                   |
|                                    | TORRO TORQUE CAP 80-100/12         | 80-100          | 3 1/8-3 15/16  | 14.6 | 12.5 | 42.0 | 1.0  | 1.0               | 0136 7135 090     |                   | 0136 7181 090     |                   |
|                                    | TORRO TORQUE CAP 90-110/12         | 90-110          | 3 9/16-4 5/16  | 14.6 | 12.5 | 42.0 | 1.0  | 1.0               | 0136 7135 100     |                   | 0136 7181 100     |                   |
|                                    | TORRO TORQUE CAP 100-120/12        | 100-120         | 3 15/16-4 3/4  | 14.6 | 12.5 | 42.0 | 1.0  | 1.0               | 0136 6135 110     |                   | 0136 6181 110     |                   |
|                                    | TORRO TORQUE CAP 110-130/12        | 110-130         | 4 5/16-5 1/8   | 14.6 | 12.5 | 42.0 | 1.0  | 1.0               | 0136 6135 120     |                   | 0136 6181 120     |                   |
|                                    | TORRO TORQUE CAP 120-140/12        | 120-140         | 4 3/4-5 1/2    | 14.6 | 12.5 | 42.0 | 1.0  | 1.0               | 0136 6135 130     |                   | 0136 6181 130     |                   |
|                                    | TORRO TORQUE CAP 130-150/12        | 130-150         | 5 1/8-5 15/16  | 14.6 | 12.5 | 42.0 | 1.0  | 1.0               | 0136 6135 140     |                   | 0136 6181 140     |                   |
|                                    | TORRO TORQUE CAP 140-160/12        | 140-160         | 5 1/2-6 5/16   | 14.6 | 12.5 | 42.0 | 1.0  | 1.0               | 0136 6135 150     |                   | 0136 6181 150     |                   |

## Notch



The notch is a clever means of prepositioning the TORRO® hose clip on the hose. In this case the oval hole in the clamp band finds its exact counterpart on the hose surface. Thus the TORRO® is safely and accurately kept in place prior to the final assembly.

### Advantages at a glance

- Safe pre-assembly on rubber sleeves and molded pipes

### Materials

- W3

### NORMACLAMP® TORRO® NOTCH

| Width | Designation           | Clamping ranges |                | B    | h    | L    | s    | W3<br>Product No. |
|-------|-----------------------|-----------------|----------------|------|------|------|------|-------------------|
|       |                       | in mm           | in inches      |      |      |      |      |                   |
| 9     | TORRO NOTCH 16-27/9   | 16-27           | 5/8-1 1/16     | 13.0 | 11.0 | 24.0 | 0.65 | 0126 6266 021     |
|       | TORRO NOTCH 20-32/9   | 20-32           | 13/16-1 1/4    | 13.0 | 11.0 | 24.0 | 0.65 | 0126 6266 026     |
|       | TORRO NOTCH 23-35/9   | 23-35           | 15/16-1 3/8    | 13.0 | 11.0 | 24.0 | 0.65 | 0126 6266 029     |
|       | TORRO NOTCH 25-40/9   | 25-40           | 1-1 9/16       | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 032     |
|       | TORRO NOTCH 30-45/9   | 30-45           | 1 3/16-1 3/4   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 037     |
|       | TORRO NOTCH 32-50/9   | 32-50           | 1 1/4-2        | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 041     |
|       | TORRO NOTCH 35-55/9   | 35-55           | 1 3/8-2 3/16   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 045     |
|       | TORRO NOTCH 40-60/9   | 40-60           | 1 5/8-2 3/8    | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 050     |
|       | TORRO NOTCH 45-65/9   | 45-65           | 1 9/16-2 9/16  | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 055     |
|       | TORRO NOTCH 50-70/9   | 50-70           | 2-2 3/4        | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 060     |
|       | TORRO NOTCH 55-75/9   | 55-75           | 2 3/16-2 15/16 | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 065     |
|       | TORRO NOTCH 60-80/9   | 60-80           | 2 3/8-3 1/8    | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 070     |
|       | TORRO NOTCH 65-85/9   | 65-85           | 2 9/16-3 3/8   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 075     |
|       | TORRO NOTCH 70-90/9   | 70-90           | 2 3/4-3 9/16   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 080     |
|       | TORRO NOTCH 75-95/10  | 75-95           | 2 15/16-3 3/4  | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 085     |
|       | TORRO NOTCH 80-100/9  | 80-100          | 3 1/8-3 15/16  | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 090     |
|       | TORRO NOTCH 85-105/9  | 85-105          | 3 3/8-4 1/8    | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 095     |
|       | TORRO NOTCH 90-110/9  | 90-110          | 3 1/2-4 3/8    | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 100     |
|       | TORRO NOTCH 100-120/9 | 100-120         | 3 9/16-4 3/4   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 110     |
|       | TORRO NOTCH 110-130/9 | 110-130         | 4 3/8-5 1/8    | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 120     |
|       | TORRO NOTCH 120-140/9 | 120-140         | 4 3/4-5 1/2    | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 130     |
| 12    | TORRO NOTCH 130-150/9 | 130-150         | 5 1/8-5 15/16  | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 140     |
|       | TORRO NOTCH 140-160/9 | 140-160         | 5 1/2-6 5/16   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6266 150     |
|       | TORRO NOTCH 35-50/12  | 35-50           | 1 3/8-2        | 14.6 | 12.5 | 30.0 | 1.0  | 0136 6161 043     |
|       | TORRO NOTCH 40-55/12  | 40-55           | 1 9/16-2 3/16  | 14.6 | 12.5 | 30.0 | 1.0  | 0136 6161 048     |
|       | TORRO NOTCH 40-60/12  | 40-60           | 1 9/16-2 3/8   | 14.6 | 12.5 | 30.0 | 1.0  | 0136 6161 050     |
|       | TORRO NOTCH 45-65/12  | 45-65           | 1 3/4-2 9/16   | 14.6 | 12.5 | 30.0 | 1.0  | 0136 6161 055     |
|       | TORRO NOTCH 50-70/12  | 50-70           | 2-2 3/4        | 14.6 | 12.5 | 30.0 | 1.0  | 0136 6161 060     |
|       | TORRO NOTCH 60-80/12  | 60-80           | 2 3/8-3 1/8    | 14.6 | 12.5 | 30.0 | 1.0  | 0136 6161 070     |
|       | TORRO NOTCH 70-90/12  | 70-90           | 2 3/4-3 9/16   | 14.6 | 12.5 | 36.0 | 1.0  | 0136 6161 080     |
|       | TORRO NOTCH 80-100/12 | 80-100          | 3 1/8-3 15/16  | 14.6 | 12.5 | 36.0 | 1.0  | 0136 6161 090     |



Refer to page 191.

## Thumb screw



The NORMACLAMP® TORRO® thumbscrew. You can twist this product to tighten bolts.

### Advantages at a glance

- The clamp can be tightened or opened manually

### Materials

- W1, W2, W3, W4, W5

| NORMACLAMP® TORRO® THUMB SCREW |                                   |                 |                 |      |      |      |      |                   |                   |                   |                   |                   |                   |  |
|--------------------------------|-----------------------------------|-----------------|-----------------|------|------|------|------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|
| Width                          | Designation                       | Clamping ranges |                 | B    | h    | L    | s    | S<br>(W1<br>only) | W1<br>Product No. | W2<br>Product No. | W3<br>Product No. | W4<br>Product No. | W5<br>Product No. |  |
|                                |                                   | in mm           | in inches       |      |      |      |      |                   |                   |                   |                   |                   |                   |  |
| 9                              | TORRO THUMB SCREW 8-12/9          | 8-12            | 5/16-1/2        | 13.0 | 11.0 | 21.0 | 0.65 | 0.8               | 0126 7269 010     | 0126 7270 010     | 0126 7271 010     | 0126 7272 010     |                   |  |
|                                | TORRO THUMB SCREW 8-16/9 (10-16)  | 8-16            | 5/16-5/8        | 13.0 | 11.0 | 21.0 | 0.65 | 0.8               | 0126 7269 013     | 0126 7270 013     | 0126 7271 013     | 0126 7272 013     |                   |  |
|                                | TORRO THUMB SCREW 12-22/9         | 12-22           | 1/2-7/8         | 13.0 | 11.0 | 24.0 | 0.65 | 0.8               | 0126 7269 017     | 0126 7270 017     | 0126 7271 017     | 0126 7272 017     |                   |  |
|                                | TORRO THUMB SCREW 16-27/9         | 16-27           | 5/8-1 1/16      | 13.0 | 11.0 | 24.0 | 0.65 | 0.8               | 0126 7269 021     | 0126 7270 021     | 0126 7271 021     | 0126 7272 021     |                   |  |
|                                | TORRO THUMB SCREW 20-32/9         | 20-32           | 13/16-1 1/4     | 13.0 | 11.0 | 24.0 | 0.65 | 0.8               | 0126 7269 026     | 0126 7270 026     | 0126 7271 026     | 0126 7272 026     |                   |  |
|                                | TORRO THUMB SCREW 23-35/9         | 23-35           | 15/16-1 3/8     | 13.0 | 11.0 | 24.0 | 0.65 | 0.8               | 0126 7269 029     | 0126 7270 029     | 0126 7271 029     | 0126 7272 029     |                   |  |
|                                | TORRO THUMB SCREW 25-40/9         | 25-40           | 1-1 9/16        | 13.0 | 11.0 | 26.0 | 0.65 | 0.8               | 0126 7269 032     | 0126 7270 032     | 0126 7271 032     | 0126 7272 032     |                   |  |
|                                | TORRO THUMB SCREW 30-45/9         | 30-45           | 1 3/16-1 3/4    | 13.0 | 11.0 | 26.0 | 0.65 | 0.8               | 0126 7269 037     | 0126 7270 037     | 0126 7271 037     | 0126 7272 037     |                   |  |
|                                | TORRO THUMB SCREW 35-50/9 (32-50) | 35-50           | 1 3/8-2         | 13.0 | 11.0 | 26.0 | 0.65 | 0.8               | 0126 7269 043     | 0126 7270 041     | 0126 7271 041     | 0126 7272 041     |                   |  |
|                                | TORRO THUMB SCREW 40-60/9         | 40-60           | 1 9/16-2 3/8    | 13.0 | 11.0 | 26.0 | 0.65 | 0.8               | 0126 7269 050     | 0126 7270 050     | 0126 7271 050     | 0126 7272 050     |                   |  |
|                                | TORRO THUMB SCREW 50-70/9         | 50-70           | 2-2 3/4         | 13.0 | 11.0 | 26.0 | 0.65 | 0.8               | 0126 7269 060     | 0126 7270 060     | 0126 7271 060     | 0126 7272 060     |                   |  |
|                                | TORRO THUMB SCREW 60-80/9         | 60-80           | 2 3/8-3 1/8     | 13.0 | 11.0 | 26.0 | 0.65 | 0.8               | 0126 7269 070     | 0126 7270 070     | 0126 7271 070     | 0126 7272 070     |                   |  |
|                                | TORRO THUMB SCREW 70-90/9         | 70-90           | 2 3/4-3 9/16    | 13.0 | 11.0 | 26.0 | 0.65 | 0.8               | 0126 7269 080     | 0126 7270 080     | 0126 7271 080     | 0126 7272 080     |                   |  |
| TORRO THUMB SCREW 80-100/9     | 80-100                            | 3 1/8-3 15/16   | 13.0            | 11.0 | 26.0 | 0.65 | 0.8  | 0126 7269 090     | 0126 7270 090     | 0126 7271 090     | 0126 7272 090     |                   |                   |  |
| TORRO THUMB SCREW 90-110/9     | 90-110                            | 3 9/16-4 5/16   | 13.0            | 11.0 | 26.0 | 0.65 | 0.8  | 0126 7269 100     | 0126 7270 100     | 0126 7271 100     | 0126 7272 100     |                   |                   |  |
| 12                             | TORRO THUMB SCREW 16-27/12        | 16-27           | 5/8-1 1/16      | 14.6 | 12.5 | 30.0 | 0.8  | 0.8               | 0136 7308 021     | 0136 7309 021     | 0136 7310 021     | 0136 7311 021     | 0136 7312 021     |  |
|                                | TORRO THUMB SCREW 20-32/12        | 20-32           | 13/16-1 1/4     | 14.6 | 12.5 | 30.0 | 0.8  | 0.8               | 0136 7308 026     | 0136 7309 026     | 0136 7310 026     | 0136 7311 026     | 0136 7312 026     |  |
|                                | TORRO THUMB SCREW 23-35/12        | 23-35           | 15/16-1 3/8     | 14.6 | 12.5 | 30.0 | 0.8  | 0.8               | 0136 7308 029     | 0136 7309 029     | 0136 7310 029     | 0136 7311 029     | 0136 7312 029     |  |
|                                | TORRO THUMB SCREW 25-40/12        | 25-40           | 1-1 9/16        | 14.6 | 12.5 | 30.0 | 0.8  | 1.0               | 0136 7308 032     | 0136 7309 032     | 0136 7310 032     | 0136 7311 032     | 0136 7312 032     |  |
|                                | TORRO THUMB SCREW 30-45/12        | 30-45           | 1 3/16-1 3/4    | 14.6 | 12.5 | 30.0 | 0.8  | 1.0               | 0136 7308 037     | 0136 7309 037     | 0136 7310 037     | 0136 7311 037     | 0136 7312 037     |  |
|                                | TORRO THUMB SCREW 35-50/12        | 35-50           | 1 3/8-2         | 14.6 | 12.5 | 30.0 | 0.8  | 1.0               | 0136 7308 043     | 0136 7309 043     | 0136 7310 043     | 0136 7311 043     | 0136 7312 043     |  |
|                                | TORRO THUMB SCREW 45-55/12        | 45-55           | 1 3/4-2 3/16    | 14.6 | 12.5 | 30.0 | 0.8  | 1.0               | 0136 7308 048     | 0136 7309 048     | 0136 7310 048     | 0136 7311 048     | 0136 7312 048     |  |
|                                | TORRO THUMB SCREW 40-60/12        | 40-60           | 1 9/16-2 3/8    | 14.6 | 12.5 | 30.0 | 0.8  | 1.0               | 0136 7308 050     | 0136 7309 050     | 0136 7310 050     | 0136 7311 050     | 0136 7312 050     |  |
|                                | TORRO THUMB SCREW 45-65/12        | 45-65           | 1 3/4-2 9/16    | 14.6 | 12.5 | 30.0 | 0.8  | 1.0               | 0136 7308 055     | 0136 7309 055     | 0136 7310 055     | 0136 7311 055     | 0136 7312 055     |  |
|                                | TORRO THUMB SCREW 50-70/12        | 50-70           | 2-2 3/4         | 14.6 | 12.5 | 30.0 | 0.8  | 1.0               | 0136 7308 060     | 0136 7309 060     | 0136 7310 060     | 0136 7311 060     | 0136 7312 060     |  |
|                                | TORRO THUMB SCREW 55-75/12        | 55-75           | 2 3/16-2 15/16  | 14.6 | 12.5 | 30.0 | 0.8  | 1.0               | 0136 7308 065     | 0136 7309 065     | 0136 7310 065     | 0136 7311 065     | 0136 7312 065     |  |
|                                | TORRO THUMB SCREW 60-80/12        | 60-80           | 2 3/8-3 1/8     | 14.6 | 12.5 | 30.0 | 0.8  | 1.0               | 0136 7308 070     | 0136 7309 070     | 0136 7310 070     | 0136 7311 070     | 0136 7312 070     |  |
|                                | TORRO THUMB SCREW 65-85/12        | 65-85           | 2 9/16-3 3/8    | 14.6 | 12.5 | 30.0 | 0.8  | 1.0               | 0136 7308 075     | 0136 7309 075     | 0136 7310 075     | 0136 7311 075     | 0136 7312 075     |  |
|                                | TORRO THUMB SCREW 70-90/12        | 70-90           | 2 3/4-3 9/16    | 14.6 | 12.5 | 36.0 | 0.8  | 1.0               | 0136 7308 080     | 0136 7309 080     | 0136 7310 080     | 0136 7311 080     | 0136 7312 080     |  |
|                                | TORRO THUMB SCREW 75-95/12        | 75-95           | 2 15/16-3 3/4   | 14.6 | 12.5 | 36.0 | 0.8  | 1.0               | 0136 7308 085     | 0136 7309 085     | 0136 7310 085     | 0136 7311 085     | 0136 7312 085     |  |
|                                | TORRO THUMB SCREW 80-100/12       | 80-100          | 3 1/8-3 15/16   | 14.6 | 12.5 | 36.0 | 0.8  | 1.0               | 0136 7308 090     | 0136 7309 090     | 0136 7310 090     | 0136 7311 090     | 0136 7312 090     |  |
|                                | TORRO THUMB SCREW 90-110/12       | 90-110          | 3 9/16-4 5/16   | 14.6 | 12.5 | 36.0 | 0.8  | 1.0               | 0136 7308 100     | 0136 7309 100     | 0136 7310 100     | 0136 7311 100     | 0136 7312 100     |  |
|                                | TORRO THUMB SCREW 100-120/12      | 100-120         | 3 15/16-4 3/4   | 14.6 | 12.5 | 36.0 | 0.8  | 1.0               | 0136 7308 110     | 0136 7309 110     | 0136 7310 110     | 0136 7311 110     | 0136 7312 110     |  |
|                                | TORRO THUMB SCREW 110-130/12      | 110-130         | 4 5/16-5 1/8    | 14.6 | 12.5 | 36.0 | 0.8  | 1.0               | 0136 7308 120     | 0136 7309 120     | 0136 7310 120     | 0136 7311 120     | 0136 7312 120     |  |
|                                | TORRO THUMB SCREW 120-140/12      | 120-140         | 4 3/4-5 1/2     | 14.6 | 12.5 | 36.0 | 0.8  | 1.0               | 0136 7308 130     | 0136 7309 130     | 0136 7310 130     | 0136 7311 130     | 0136 7312 130     |  |
|                                | TORRO THUMB SCREW 130-150/12      | 130-150         | 5 1/8-5 15/16   | 14.6 | 12.5 | 36.0 | 0.8  | 1.0               | 0136 7308 140     | 0136 7309 140     | 0136 7310 140     | 0136 7311 140     | 0136 7312 140     |  |
|                                | TORRO THUMB SCREW 140-160/12      | 140-160         | 5 1/2-6 5/16    | 14.6 | 12.5 | 36.0 | 0.8  | 1.0               | 0136 7308 150     | 0136 7309 150     | 0136 7310 150     | 0136 7311 150     | 0136 7312 150     |  |
|                                | TORRO THUMB SCREW 150-170/12      | 150-170         | 5 15/16-6 11/16 | 14.6 | 12.5 | 36.0 | 0.8  | 1.0               | 0136 7308 160     | 0136 7309 160     | 0136 7310 160     | 0136 7311 160     | 0136 7312 160     |  |
|                                | TORRO THUMB SCREW 160-180/12      | 160-180         | 6 5/16-7 1/16   | 14.6 | 12.5 | 36.0 | 0.8  | 1.0               | 0136 7308 170     | 0136 7309 170     | 0136 7310 170     | 0136 7311 170     | 0136 7312 170     |  |

## Prefix system



The NORMACLAMP® Prefix system is a concept for integrated clamps and clips on hoses and pipes. The demand for complete systems that include the appropriate sealing function is increasing. This system can only be fixed by using a special tool.

### Advantages at a glance

- Safe pre-assembly on hoses and molded pipes
- Two versions, left- and right-handed

### Materials

- W3, W4

### NORMACLAMP® TORRO® PREFIX SYSTEM

| Width | Designation                    | Clamping ranges |                | B    | h    | L    | s    | W3<br>Product No. |               | W4<br>Product No. |               |
|-------|--------------------------------|-----------------|----------------|------|------|------|------|-------------------|---------------|-------------------|---------------|
|       |                                | in mm           | in inches      |      |      |      |      | Right version     | Left version  | Right version     | Left version  |
| 9     | TORRO PREFIX SYSTEM 32-50/9    | 32-50           | 1 1/4-2        | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6358 041     | 0126 6359 041 | 0126 6360 041     | 0126 6361 041 |
|       | TORRO PREFIX SYSTEM 35-55/9    | 35-50           | 1 3/8-2        | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6358 045     | 0126 6359 045 | 0126 6360 045     | 0126 6361 045 |
|       | TORRO PREFIX SYSTEM 40-60/9    | 40-60           | 1 9/16-2 3/8   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6358 050     | 0126 6359 050 | 0126 6360 050     | 0126 6361 050 |
|       | TORRO PREFIX SYSTEM 45-65/9    | 45-65           | 1 3/4-2 9/16   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6358 055     | 0126 6359 055 | 0126 6360 055     | 0126 6361 055 |
|       | TORRO PREFIX SYSTEM 50-70/9    | 50-70           | 2-2 3/4        | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6358 060     | 0126 6359 060 | 0126 6360 060     | 0126 6361 060 |
|       | TORRO PREFIX SYSTEM 55-75/9    | 55-75           | 2 3/16-2 15/16 | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6358 065     | 0126 6359 065 | 0126 6360 065     | 0126 6361 065 |
|       | TORRO PREFIX SYSTEM 60-80/9    | 60-80           | 2 3/8-3 1/8    | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6358 070     | 0126 6359 070 | 0126 6360 070     | 0126 6361 070 |
|       | TORRO PREFIX SYSTEM 65-85/9    | 65-85           | 2 9/16-3 3/8   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6358 075     | 0126 6359 075 | 0126 6360 075     | 0126 6361 075 |
|       | TORRO PREFIX SYSTEM 70-90/9    | 70-90           | 2 3/4-3 9/16   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6358 080     | 0126 6359 080 | 0126 6360 080     | 0126 6361 080 |
|       | TORRO PREFIX SYSTEM 75-95/9    | 75-95           | 2 15/16-3 3/4  | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6358 085     | 0126 6359 085 | 0126 6360 085     | 0126 6361 085 |
| 12    | TORRO PREFIX SYSTEM 80-100/9   | 80-100          | 3 1/8-3 15/16  | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6358 090     | 0126 6359 090 | 0126 6360 090     | 0126 6361 090 |
|       | TORRO PREFIX SYSTEM 35-50/12   | 35-50           | 1 3/8-2        | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6212 043     | 0136 6213 043 | 0136 6214 043     | 0136 6215 043 |
|       | TORRO PREFIX SYSTEM 40-55/12   | 40-55           | 1 9/16-2 3/16  | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6212 048     | 0136 6213 048 | 0136 6214 048     | 0136 6215 048 |
|       | TORRO PREFIX SYSTEM 40-60/12   | 40-60           | 1 9/16-2 3/8   | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6212 050     | 0136 6213 050 | 0136 6214 050     | 0136 6215 050 |
|       | TORRO PREFIX SYSTEM 45-65/12   | 45-65           | 1 3/4-2 9/16   | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6212 055     | 0136 6213 055 | 0136 6214 055     | 0136 6215 055 |
|       | TORRO PREFIX SYSTEM 50-70/12   | 50-70           | 2-2 3/4        | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6212 060     | 0136 6213 060 | 0136 6214 060     | 0136 6215 060 |
|       | TORRO PREFIX SYSTEM 55-75/12   | 55-75           | 2 3/16-2 15/16 | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6212 065     | 0136 6213 065 | 0136 6214 065     | 0136 6215 065 |
|       | TORRO PREFIX SYSTEM 60-80/12   | 60-80           | 2 3/8-3 1/8    | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6212 070     | 0136 6213 070 | 0136 6214 070     | 0136 6215 070 |
|       | TORRO PREFIX SYSTEM 65-85/12   | 65-85           | 2 9/16-3 3/8   | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6212 075     | 0136 6213 075 | 0136 6214 075     | 0136 6215 075 |
|       | TORRO PREFIX SYSTEM 70-90/12   | 70-90           | 2 3/4-3 9/16   | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6212 080     | 0136 6213 080 | 0136 6214 080     | 0136 6215 080 |
|       | TORRO PREFIX SYSTEM 75-95/12   | 75-95           | 2 15/16-3 3/4  | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6212 085     | 0136 6213 085 | 0136 6214 085     | 0136 6215 085 |
|       | TORRO PREFIX SYSTEM 80-100/12  | 80-100          | 3 1/8-3 15/16  | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6212 090     | 0136 6213 090 | 0136 6214 090     | 0136 6215 090 |
|       | TORRO PREFIX SYSTEM 90-110/12  | 90-110          | 3 9/16-4 5/16  | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6212 100     | 0136 6213 100 | 0136 6214 100     | 0136 6215 100 |
|       | TORRO PREFIX SYSTEM 100-120/12 | 100-120         | 3 15/16-4 3/4  | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6212 110     | 0136 6213 110 | 0136 6214 110     | 0136 6215 110 |



Refer to page 191.

## WF Prefix system



The NORMACLAMP TORRO WF Prefix system is the combination of the NORMACLAMP TORRO WF and the NORMACLAMP Prefix system.

### Advantages at a glance

- Axial adjustment of the clamp
- Radial adjustment of the clamp
- Angle adjustment
- Possible for multilayer hoses and blow molded pipes
- Already available in series for different hose thickness and TORRO 9/12
- Clinch design
- No corrosion issues
- Two versions, left- and right-handed
- No corrosion issues

### Materials

- W3, W4

| NORMACLAMP® TORRO® WF WITH PREFIX SYSTEM |                                   |                 |                |      |      |      |      |                   |               |                   |               |
|------------------------------------------|-----------------------------------|-----------------|----------------|------|------|------|------|-------------------|---------------|-------------------|---------------|
| Width                                    | Designation                       | Clamping ranges |                | B    | h    | L    | s    | W3<br>Product No. |               | W4<br>Product No. |               |
|                                          |                                   | in mm           | in inches      |      |      |      |      | Right version     | Left version  | Right version     | Left version  |
| 9                                        | TORRO WF PREFIX SYSTEM 32-50/9    | 32-50           | 1 1/4-2        | 13.0 | 11.0 | 26.0 | 0.65 | 0127 6254 041     | 0127 6255 041 | 0127 6256 041     | 0127 6257 041 |
|                                          | TORRO WF PREFIX SYSTEM 35-55/9    | 35-50           | 1 3/8-2        | 13.0 | 11.0 | 26.0 | 0.65 | 0127 6254 045     | 0127 6255 045 | 0127 6256 045     | 0127 6257 045 |
|                                          | TORRO WF PREFIX SYSTEM 40-60/9    | 40-60           | 1 9/16-2 3/8   | 13.0 | 11.0 | 26.0 | 0.65 | 0127 6254 050     | 0127 6255 050 | 0127 6256 050     | 0127 6257 050 |
|                                          | TORRO WF PREFIX SYSTEM 45-65/9    | 45-65           | 1 3/4-2 9/16   | 13.0 | 11.0 | 26.0 | 0.65 | 0127 6254 055     | 0127 6255 055 | 0127 6256 055     | 0127 6257 055 |
|                                          | TORRO WF PREFIX SYSTEM 50-70/9    | 50-70           | 2-2 3/4        | 13.0 | 11.0 | 26.0 | 0.65 | 0127 6254 060     | 0127 6255 060 | 0127 6256 060     | 0127 6257 060 |
|                                          | TORRO WF PREFIX SYSTEM 55-75/9    | 55-75           | 2 3/16-2 15/16 | 13.0 | 11.0 | 26.0 | 0.65 | 0127 6254 065     | 0127 6255 065 | 0127 6256 065     | 0127 6257 065 |
|                                          | TORRO WF PREFIX SYSTEM 60-80/9    | 60-80           | 2 3/8-3 1/8    | 13.0 | 11.0 | 26.0 | 0.65 | 0127 6254 070     | 0127 6255 070 | 0127 6256 070     | 0127 6257 070 |
|                                          | TORRO WF PREFIX SYSTEM 65-85/9    | 65-85           | 2 9/16-3 3/8   | 13.0 | 11.0 | 26.0 | 0.65 | 0127 6254 075     | 0127 6255 075 | 0127 6256 075     | 0127 6257 075 |
|                                          | TORRO WF PREFIX SYSTEM 70-90/9    | 70-90           | 2 3/4-3 9/16   | 13.0 | 11.0 | 26.0 | 0.65 | 0127 6254 080     | 0127 6255 080 | 0127 6256 080     | 0127 6257 080 |
|                                          | TORRO WF PREFIX SYSTEM 75-95/9    | 75-95           | 2 15/16-3 3/4  | 13.0 | 11.0 | 26.0 | 0.65 | 0127 6254 085     | 0127 6255 085 | 0127 6256 085     | 0127 6257 085 |
| 12                                       | TORRO WF PREFIX SYSTEM 80-100/9   | 80-100          | 3 1/8-3 15/16  | 13.0 | 11.0 | 26.0 | 0.65 | 0127 6254 090     | 0127 6255 090 | 0127 6256 090     | 0127 6257 090 |
|                                          | TORRO WF PREFIX SYSTEM 35-50/12   | 35-50           | 1 3/8-2        | 14.6 | 12.5 | 30.0 | 0.8  | 0137 6212 043     | 0137 6213 043 | 0137 6214 043     | 0137 6215 043 |
|                                          | TORRO WF PREFIX SYSTEM 40-55/12   | 40-55           | 1 9/16-2 3/16  | 14.6 | 12.5 | 30.0 | 0.8  | 0137 6212 048     | 0137 6213 048 | 0137 6214 048     | 0137 6215 048 |
|                                          | TORRO WF PREFIX SYSTEM 40-60/12   | 40-60           | 1 9/16-2 3/8   | 14.6 | 12.5 | 30.0 | 0.8  | 0137 6212 050     | 0137 6213 050 | 0137 6214 050     | 0137 6215 050 |
|                                          | TORRO WF PREFIX SYSTEM 45-65/12   | 45-65           | 1 3/4-2 9/16   | 14.6 | 12.5 | 30.0 | 0.8  | 0137 6212 055     | 0137 6213 055 | 0137 6214 055     | 0137 6215 055 |
|                                          | TORRO WF PREFIX SYSTEM 50-70/12   | 50-70           | 2-2 3/4        | 14.6 | 12.5 | 30.0 | 0.8  | 0137 6212 060     | 0137 6213 060 | 0137 6214 060     | 0137 6215 060 |
|                                          | TORRO WF PREFIX SYSTEM 55-75/12   | 55-75           | 2 3/16-2 15/16 | 14.6 | 12.5 | 30.0 | 0.8  | 0137 6212 065     | 0137 6213 065 | 0137 6214 065     | 0137 6215 065 |
|                                          | TORRO WF PREFIX SYSTEM 60-80/12   | 60-80           | 2 3/8-3 1/8    | 14.6 | 12.5 | 30.0 | 0.8  | 0137 6212 070     | 0137 6213 070 | 0137 6214 070     | 0137 6215 070 |
|                                          | TORRO WF PREFIX SYSTEM 65-85/12   | 65-85           | 2 9/16-3 3/8   | 14.6 | 12.5 | 30.0 | 0.8  | 0137 6212 075     | 0137 6213 075 | 0137 6214 075     | 0137 6215 075 |
|                                          | TORRO WF PREFIX SYSTEM 70-90/12   | 70-90           | 2 3/4-3 9/16   | 14.6 | 12.5 | 36.0 | 0.8  | 0137 6212 080     | 0137 6213 080 | 0137 6214 080     | 0137 6215 080 |
|                                          | TORRO WF PREFIX SYSTEM 75-95/12   | 75-95           | 2 15/16-3 3/4  | 14.6 | 12.5 | 36.0 | 0.8  | 0137 6212 085     | 0137 6213 085 | 0137 6214 085     | 0137 6215 085 |
|                                          | TORRO WF PREFIX SYSTEM 80-100/12  | 80-100          | 3 1/8-3 15/16  | 14.6 | 12.5 | 36.0 | 0.8  | 0137 6212 090     | 0137 6213 090 | 0137 6214 090     | 0137 6215 090 |
|                                          | TORRO WF PREFIX SYSTEM 90-110/12  | 90-110          | 3 9/16-4 3/8   | 14.6 | 12.5 | 36.0 | 0.8  | 0137 6212 100     | 0137 6213 100 | 0137 6214 100     | 0137 6215 100 |
|                                          | TORRO WF PREFIX SYSTEM 100-120/12 | 100-120         | 3 9/16-4 3/4   | 14.6 | 12.5 | 36.0 | 0.8  | 0137 6212 110     | 0137 6213 110 | 0137 6214 110     | 0137 6215 110 |



Refer to page 191.

## Prefix clip



With this accessory the TORRO® can also be prepositioned on the hose. The two 'teeth' of this device keep the TORRO® hose clip safely in place if it needs to be stocked or transported prior to its final assembly.

### Advantages at a glance

- Safe pre-assembly on the hose
- Two versions, left- and right-handed

### Materials

- W3, W4

#### NORMACLAMP® TORRO® PREFIX CLIP

| Width | Designation                 | Clamping ranges |                | B    | h    | L    | s    | W3<br>Product No. |               | W4<br>Product No. |               |
|-------|-----------------------------|-----------------|----------------|------|------|------|------|-------------------|---------------|-------------------|---------------|
|       |                             | in mm           | in inches      |      |      |      |      | Right version     | Left version  | Right version     | Left version  |
| 9     | TORRO PREFIX CLIP 16-27/9   | 16-27           | 5/8-1 1/16     | 13.0 | 11.0 | 24.0 | 0.65 | 0126 6318 021     | 0126 6319 021 |                   |               |
|       | TORRO PREFIX CLIP 20-32/9   | 20-32           | 13/16-1 1/4    | 13.0 | 11.0 | 24.0 | 0.65 | 0126 6318 026     | 0126 6319 026 |                   |               |
|       | TORRO PREFIX CLIP 23-35/9   | 23-35           | 15/16-1 3/8    | 13.0 | 11.0 | 24.0 | 0.65 | 0126 6318 029     | 0126 6319 029 |                   |               |
|       | TORRO PREFIX CLIP 25-40/9   | 25-40           | 1-1 9/16       | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6318 032     | 0126 6319 032 |                   |               |
|       | TORRO PREFIX CLIP 30-45/9   | 30-45           | 1 3/16-1 3/4   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6318 037     | 0126 6319 037 |                   |               |
|       | TORRO PREFIX CLIP 32-50/9   | 32-50           | 1 1/4-2        | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6318 041     | 0126 6319 041 |                   |               |
|       | TORRO PREFIX CLIP 35-55/9   | 35-50           | 1 3/8-2        | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6318 045     | 0126 6319 045 |                   |               |
|       | TORRO PREFIX CLIP 40-60/9   | 40-60           | 1 9/16-2 3/8   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6318 050     | 0126 6319 050 |                   |               |
|       | TORRO PREFIX CLIP 45-65/9   | 45-65           | 1 3/4-2 9/16   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6318 055     | 0126 6319 055 |                   |               |
|       | TORRO PREFIX CLIP 50-70/9   | 50-70           | 2-2 3/4        | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6318 060     | 0126 6319 060 |                   |               |
|       | TORRO PREFIX CLIP 55-75/9   | 55-75           | 2 3/16-2 15/16 | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6318 065     | 0126 6319 065 |                   |               |
|       | TORRO PREFIX CLIP 60-80/9   | 60-80           | 2 3/8-3 1/8    | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6318 070     | 0126 6319 070 |                   |               |
|       | TORRO PREFIX CLIP 65-85/9   | 65-85           | 2 9/16-3 3/8   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6318 075     | 0126 6319 075 |                   |               |
|       | TORRO PREFIX CLIP 70-90/9   | 70-90           | 2 3/4-3 9/16   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6318 080     | 0126 6319 080 |                   |               |
| 12    | TORRO PREFIX CLIP 16-27/12  | 16-27           | 5/8-1 1/16     | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6210 021     | 0136 6211 021 |                   |               |
|       | TORRO PREFIX CLIP 20-32/12  | 20-32           | 13/16-1 1/4    | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6210 026     | 0136 6211 026 |                   |               |
|       | TORRO PREFIX CLIP 23-35/12  | 23-35           | 15/16-1 3/8    | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6210 029     | 0136 6211 029 |                   |               |
|       | TORRO PREFIX CLIP 25-40/12  | 25-40           | 1-1 9/16       | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6210 032     | 0136 6211 032 |                   |               |
|       | TORRO PREFIX CLIP 30-45/12  | 30-45           | 1 3/16-1 3/4   | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6210 037     | 0136 6211 037 |                   |               |
|       | TORRO PREFIX CLIP 35-50/12  | 32-50           | 1 1/4-2        | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6210 043     | 0136 6211 043 | 0136 0322 043     | 0136 0323 043 |
|       | TORRO PREFIX CLIP 40-55/12  | 35-55           | 1 3/8-2 3/16   | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6210 048     | 0136 6211 048 | 0136 0322 048     | 0136 0323 048 |
|       | TORRO PREFIX CLIP 40-60/12  | 40-60           | 1 9/16-2 3/8   | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6210 050     | 0136 6211 050 | 0136 0322 050     | 0136 0323 050 |
|       | TORRO PREFIX CLIP 45-65/12  | 45-65           | 1 3/4-2 9/16   | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6210 055     | 0136 6211 055 | 0136 0322 055     | 0136 0323 055 |
|       | TORRO PREFIX CLIP 50-70/12  | 50-70           | 2-2 3/4        | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6210 060     | 0136 6211 060 | 0136 0322 060     | 0136 0323 060 |
|       | TORRO PREFIX CLIP 55-75/12  | 55-75           | 2 3/16-2 15/16 | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6210 065     | 0136 6211 065 | 0136 0322 065     | 0136 0323 065 |
|       | TORRO PREFIX CLIP 60-80/12  | 60-80           | 2 3/8-3 1/8    | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6210 070     | 0136 6211 070 | 0136 0322 070     | 0136 0323 070 |
|       | TORRO PREFIX CLIP 65-85/12  | 65-85           | 2 9/16-3 3/8   | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6210 075     | 0136 6211 075 | 0136 0322 075     | 0136 0323 075 |
|       | TORRO PREFIX CLIP 70-90/12  | 70-90           | 2 3/4-3 9/16   | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6210 080     | 0136 6211 080 | 0136 0322 080     | 0136 0323 080 |
|       | TORRO PREFIX CLIP 75-95/12  | 75-95           | 2 15/16-3 3/4  | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6210 085     | 0136 6211 085 | 0136 0322 085     | 0136 0323 085 |
|       | TORRO PREFIX CLIP 80-100/12 | 80-100          | 3 1/8-3 15/16  | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6210 090     | 0136 6211 090 | 0136 0322 090     | 0136 0323 090 |



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## Tamperproof



The NORMACLAMP® TORRO® Tamperproof can only be mounted and dismounted by using a special tool. The specially designed screw head has three radial grooves, which means it cannot be adjusted with any commercially available tools. Automated assembly using a torque gun is particularly effective, as the special shape of the screw head allows for minimal misalignment or offset.

### Advantages at a glance

- Non-dismountable clamps protects against manipulation

### Materials

- W3, W4

| NORMACLAMP® TORRO® TAMPERPROOF |                              |                 |                |      |      |      |      |                   |                   |
|--------------------------------|------------------------------|-----------------|----------------|------|------|------|------|-------------------|-------------------|
| Width                          | Designation                  | Clamping ranges |                | B    | h    | L    | s    | W3<br>Product No. | W4<br>Product No. |
|                                |                              | mm              | inches         |      |      |      |      |                   |                   |
| 9                              | TORRO TAMPERPROOF 8-12/9     | 8-12            | 5/16-1/2       | 13.0 | 11.0 | 21.0 | 0.65 | 0126 6468 010     | 0126 6469 010     |
|                                | TORRO TAMPERPROOF 8-16/9     | 8-16            | 5/16-5/8       | 13.0 | 11.0 | 21.0 | 0.65 | 0126 6468 013     | 0126 6469 013     |
|                                | TORRO TAMPERPROOF 12-20/9    | 12-20           | 1/2-13/16      | 13.0 | 11.0 | 24.0 | 0.65 | 0126 6468 016     | 0126 6469 016     |
|                                | TORRO TAMPERPROOF 12-22/9    | 12-22           | 1/2-7/8        | 13.0 | 11.0 | 24.0 | 0.65 | 0126 6468 017     | 0126 6469 017     |
|                                | TORRO TAMPERPROOF 16-25/9    | 16-25           | 5/8-1          | 13.0 | 11.0 | 24.0 | 0.65 | 0126 6468 020     | 0126 6469 020     |
|                                | TORRO TAMPERPROOF 16-27/9    | 16-27           | 5/8-1 1/16     | 13.0 | 11.0 | 24.0 | 0.65 | 0126 6468 021     | 0126 6469 021     |
|                                | TORRO TAMPERPROOF 20-32/9    | 20-32           | 13/16-1 1/4    | 13.0 | 11.0 | 24.0 | 0.65 | 0126 6468 026     | 0126 6469 026     |
|                                | TORRO TAMPERPROOF 23-35/9    | 23-35           | 15/16-1 3/8    | 13.0 | 11.0 | 24.0 | 0.65 | 0126 6468 029     | 0126 6469 029     |
|                                | TORRO TAMPERPROOF 25-40/9    | 25-40           | 1-1 9/16       | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 032     | 0126 6469 032     |
|                                | TORRO TAMPERPROOF 30-45/9    | 30-45           | 1 3/16-1 3/4   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 037     | 0126 6469 037     |
|                                | TORRO TAMPERPROOF 32-50/9    | 32-50           | 1 1/4-2        | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 041     | 0126 6469 041     |
|                                | TORRO TAMPERPROOF 35-55/9    | 35-55           | 1 3/8-2 3/16   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 045     | 0126 6469 045     |
|                                | TORRO TAMPERPROOF 40-60/9    | 40-60           | 1 9/16-2 3/8   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 050     | 0126 6469 050     |
|                                | TORRO TAMPERPROOF 45-65/9    | 45-65           | 1 3/4-2 9/16   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 055     | 0126 6469 055     |
|                                | TORRO TAMPERPROOF 50-70/9    | 50-70           | 2-2 3/4        | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 060     | 0126 6469 060     |
|                                | TORRO TAMPERPROOF 55-75/9    | 55-75           | 2 3/16-2 15/16 | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 065     | 0126 6469 065     |
|                                | TORRO TAMPERPROOF 60-80/9    | 60-80           | 2 3/8-3 1/8    | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 070     | 0126 6469 070     |
|                                | TORRO TAMPERPROOF 65-85/9    | 65-85           | 2 9/16-3 3/8   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 075     | 0126 6469 075     |
|                                | TORRO TAMPER PROOF 70-90/9   | 70-90           | 2 3/4-3 9/16   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 080     | 0126 6469 080     |
|                                | TORRO TAMPERPROOF 75-95/9    | 75-95           | 2 15/16-3 3/4  | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 085     | 0126 6469 085     |
|                                | TORRO TAMPERPROOF 80-100/9   | 80-100          | 3 1/8-3 15/16  | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 090     | 0126 6469 090     |
|                                | TORRO TAMPERPROOF 90-110/9   | 90-110          | 3 9/16-4 5/16  | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 100     | 0126 6469 100     |
|                                | TORRO TAMPERPROOF 100-120/9  | 100-120         | 3 15/16-4 3/4  | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 110     | 0126 6469 110     |
|                                | TORRO TAMPERPROOF 110-130/9  | 110-130         | 4 5/16-5 1/8   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 120     | 0126 6469 120     |
|                                | TORRO TAMPERPROOF 120-140/9  | 120-140         | 4 3/4-5 1/2    | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 130     | 0126 6469 130     |
|                                | TORRO TAMPERPROOF 130-150/9  | 130-150         | 5 1/8-5 15/16  | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 140     | 0126 6469 140     |
|                                | TORRO TAMPERPROOF 140-160/9  | 140-160         | 5 1/2-6 5/16   | 13.0 | 11.0 | 26.0 | 0.65 | 0126 6468 150     | 0126 6469 150     |
| 12                             | TORRO TAMPERPROOF 16-27/12   | 16-27           | 5/8-1 1/16     | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6358 021     | 0136 6359 021     |
|                                | TORRO TAMPERPROOF 20-32/12   | 20-32           | 13/16-1 1/4    | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6358 026     | 0136 6359 026     |
|                                | TORRO TAMPERPROOF 23-35/12   | 23-35           | 15/16-1 3/8    | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6358 029     | 0136 6359 029     |
|                                | TORRO TAMPERPROOF 25-40/12   | 25-40           | 1-1 9/16       | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6358 032     | 0136 6359 032     |
|                                | TORRO TAMPERPROOF 30-45/12   | 30-45           | 1 3/16-1 3/4   | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6358 037     | 0136 6359 037     |
|                                | TORRO TAMPERPROOF 35-50/12   | 35-50           | 1 3/8-2        | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6358 043     | 0136 6359 043     |
|                                | TORRO TAMPERPROOF 40-55/12   | 40-55           | 1 9/16-2 3/16  | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6358 048     | 0136 6359 048     |
|                                | TORRO TAMPERPROOF 40-60/12   | 40-60           | 1 9/16-2 3/8   | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6358 050     | 0136 6359 050     |
|                                | TORRO TAMPERPROOF 45-65/12   | 45-65           | 1 3/4-2 9/16   | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6358 055     | 0136 6359 055     |
|                                | TORRO TAMPERPROOF 50-70/12   | 50-70           | 2-2 3/4        | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6358 060     | 0136 6359 060     |
|                                | TORRO TAMPERPROOF 55-75/12   | 55-75           | 2 3/16-2 15/16 | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6358 065     | 0136 6359 065     |
|                                | TORRO TAMPERPROOF 60-80/12   | 60-80           | 2 3/8-3 1/8    | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6358 070     | 0136 6359 070     |
|                                | TORRO TAMPERPROOF 65-85/12   | 65-85           | 2 9/16-3 3/8   | 14.6 | 12.5 | 30.0 | 0.8  | 0136 6358 075     | 0136 6359 075     |
|                                | TORRO TAMPERPROOF 70-90/12   | 70-90           | 2 3/4-3 9/16   | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6358 080     | 0136 6359 080     |
|                                | TORRO TAMPERPROOF 75-95/12   | 75-95           | 2 15/16-3 3/4  | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6358 085     | 0136 6359 085     |
|                                | TORRO TAMPERPROOF 80-100/12  | 80-100          | 3 1/8-3 15/16  | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6358 090     | 0136 6359 090     |
|                                | TORRO TAMPERPROOF 90-110/12  | 90-110          | 3 9/16-4 5/16  | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6358 100     | 0136 6359 100     |
|                                | TORRO TAMPERPROOF 100-120/12 | 100-120         | 3 15/16-4 3/4  | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6358 110     | 0136 6359 110     |
|                                | TORRO TAMPERPROOF 110-130/12 | 110-130         | 4 5/16-5 1/8   | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6358 120     | 0136 6359 120     |
|                                | TORRO TAMPERPROOF 120-140/12 | 120-140         | 4 3/4-5 1/2    | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6358 130     | 0136 6359 130     |
|                                | TORRO TAMPERPROOF 130-150/12 | 130-150         | 5 1/8-5 15/16  | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6358 140     | 0136 6359 140     |
|                                | TORRO TAMPERPROOF 140-160/12 | 140-160         | 5 1/2-6 5/16   | 14.6 | 12.5 | 36.0 | 0.8  | 0136 6358 150     | 0136 6359 150     |

## Safety cap



The NORMACLAMP® TORRO® safety cap is a small plastic cap which covers the end of the clamp band, thus stopping injuries from occurring and making a significant contribution to accident prevention measures.

### Advantages at a glance

- Available for band widths 7.5 mm, 9 mm and 12 mm

### Materials

- Plastic

#### NORMACLAMP® TORRO® SAFETY CAP

| Width | Designation        | For all Materials Product No. |
|-------|--------------------|-------------------------------|
| 7.5   | THE SAFETY CAP 7.5 | 0045 8000 021                 |
| 9     | THE SAFETY CAP 9   | 0045 8000 022                 |
| 12    | THE SAFETY CAP 12  | 0045 8000 023                 |

## Radial insert



The Radial® Spring Clamp consists of a Standard riveted clamp with a stainless steel liner. This insert in the Radial acts as a spring. Inward radial pressure on the hose is made possible as the material between the cut-outs and the longitudinal beads acts as leaf springs.

### Advantages at a glance

- Radial integrated element located on the inside of the clamp band
- High contact pressure due to the radially corrugated design
- There are also dynamic properties

### Materials

- W1

#### NORMACLAMP® TORRO® RADIAL INSERT

| Width | Designation                  | Clamping ranges |                | B    | h    | L    | s   | W1 Product No. |
|-------|------------------------------|-----------------|----------------|------|------|------|-----|----------------|
|       |                              | in mm           | in inches      |      |      |      |     |                |
| 9     | TORRO RADIAL INSERT 16-25/9  | 16-25           | 5/8-1          | 13.0 | 11.0 | 24.0 | 0.8 | 0127 6262 020  |
|       | TORRO RADIAL INSERT 16-27/9  | 16-27           | 5/8-1 1/16     | 13.0 | 11.0 | 24.0 | 0.8 | 0127 6262 021  |
|       | TORRO RADIAL INSERT 20-32/9  | 20-32           | 13/16-1 1/4    | 13.0 | 11.0 | 24.0 | 0.8 | 0127 6262 026  |
|       | TORRO RADIAL INSERT 23-35/9  | 23-35           | 1-1 3/8        | 13.0 | 11.0 | 24.0 | 0.8 | 0127 6262 029  |
|       | TORRO RADIAL INSERT 25-40/9  | 25-40           | 1-1 9/16       | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 032  |
|       | TORRO RADIAL INSERT 30-45/9  | 30-45           | 1 3/16-1 3/4   | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 037  |
|       | TORRO RADIAL INSERT 35-50/9  | 32-50           | 1 1/4-2        | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 043  |
|       | TORRO RADIAL INSERT 35-55/9  | 35-50           | 1 3/8-2        | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 045  |
|       | TORRO RADIAL INSERT 40-60/9  | 40-60           | 1 9/16-2 3/8   | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 050  |
|       | TORRO RADIAL INSERT 45-65/9  | 45-65           | 1 3/4-2 9/16   | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 055  |
|       | TORRO RADIAL INSERT 50-70/9  | 50-70           | 2-2 3/4        | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 060  |
|       | TORRO RADIAL INSERT 55-75/9  | 55-75           | 2 3/16-2 15/16 | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 065  |
|       | TORRO RADIAL INSERT 60-80/9  | 60-80           | 2 3/8-3 1/8    | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 070  |
|       | TORRO RADIAL INSERT 65-85/9  | 65-85           | 2 9/16-3 3/8   | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 075  |
|       | TORRO RADIAL INSERT 70-90/9  | 70-90           | 2 3/4-3 9/16   | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 080  |
|       | TORRO RADIAL INSERT 75-95/9  | 75-95           | 2 15/16-3 3/4  | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 085  |
|       | TORRO RADIAL INSERT 80-100/9 | 80-100          | 3 1/8-3 15/16  | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 090  |
|       | TORRO RADIAL INSERT 90-110/9 | 90-110          | 3 9/16-4 5/16  | 13.0 | 11.0 | 26.0 | 0.8 | 0127 6262 100  |



Refer to page 191.

## Spiro



The NORMACLAMP® TORRO® Spiro is the ideal clamp for industrial spiral hoses made of plastic material.

### Advantages at a glance

- Band divided in two parts linked with a bridge for asymmetrical connection
- Two versions, left- and right-handed

### Materials

- W1, W2, W4



| NORMACLAMP® TORRO® SPIRO |                        |                 |               |                   |               |                   |               |                   |               |
|--------------------------|------------------------|-----------------|---------------|-------------------|---------------|-------------------|---------------|-------------------|---------------|
| Width                    | Designation            | Clamping ranges |               | W1<br>Product No. |               | W2<br>Product No. |               | W4<br>Product No. |               |
|                          |                        | in mm           | in inches     | Right version     | Left version  | Right version     | Left version  | Right version     | Left version  |
| 9                        | TORRO SPIRO 40-60/9    | 40-60           | 1 9/16-2 3/8  | 0126 7644 050     | 0126 7645 050 | 0126 7646 050     | 0126 7647 050 | 0126 7648 050     | 0126 7649 050 |
|                          | TORRO SPIRO 50-70/9    | 50-70           | 2-2 3/4       | 0126 7644 060     | 0126 7645 060 | 0126 7646 060     | 0126 7647 060 | 0126 7648 060     | 0126 7649 060 |
|                          | TORRO SPIRO 60-80/9    | 60-80           | 2 3/8-3 1/8   | 0126 7644 070     | 0126 7645 070 | 0126 7646 070     | 0126 7647 070 | 0126 7648 070     | 0126 7649 070 |
|                          | TORRO SPIRO 70-90/9    | 70-90           | 2 3/4-3 9/16  | 0126 7644 080     | 0126 7645 080 | 0126 7646 080     | 0126 7647 080 | 0126 7648 080     | 0126 7649 080 |
|                          | TORRO SPIRO 80-100/9   | 80-100          | 3 1/8-3 15/16 | 0126 7644 090     | 0126 7645 090 | 0126 7646 090     | 0126 7647 090 | 0126 7648 090     | 0126 7649 090 |
|                          | TORRO SPIRO 90-110/9   | 90-110          | 3 9/16-4 5/16 | 0126 7644 100     | 0126 7645 100 | 0126 7646 100     | 0126 7647 100 | 0126 7648 100     | 0126 7649 100 |
|                          | TORRO SPIRO 100-120/9  | 100-120         | 3 15/16-4 3/4 | 0126 7644 110     | 0126 7645 110 |                   |               |                   |               |
|                          | TORRO SPIRO 110-130/9  | 110-130         | 4 5/16-5 1/8  | 0126 7644 120     | 0126 7645 120 |                   |               |                   |               |
|                          | TORRO SPIRO 120-140/9  | 120-140         | 4 3/4-5 1/2   | 0126 7644 130     | 0126 7645 130 |                   |               |                   |               |
|                          | TORRO SPIRO 130-150/9  | 130-150         | 5 1/8-5 15/16 | 0126 7644 140     | 0126 7645 140 |                   |               |                   |               |
|                          | TORRO SPIRO 140-160/9  | 140-160         | 5 1/2-6 5/16  | 0126 7644 150     | 0126 7645 150 |                   |               |                   |               |
| 12                       | TORRO SPIRO 40-60/12   | 40-60           | 1 9/16-2 3/8  | 0136 7662 050     | 0136 7663 050 | 0136 7664 050     | 0136 7665 050 | 0136 7666 050     | 0136 7667 050 |
|                          | TORRO SPIRO 50-70/12   | 50-70           | 2-2 3/4       | 0136 7662 060     | 0136 7663 060 | 0136 7664 060     | 0136 7665 060 | 0136 7666 060     | 0136 7667 060 |
|                          | TORRO SPIRO 60-80/12   | 60-80           | 2 3/8-3 1/8   | 0136 7662 070     | 0136 7663 070 | 0136 7664 070     | 0136 7665 070 | 0136 7666 070     | 0136 7667 070 |
|                          | TORRO SPIRO 70-90/12   | 70-90           | 2 3/4-3 9/16  | 0136 7662 080     | 0136 7663 080 | 0136 7664 080     | 0136 7665 080 | 0136 7666 080     | 0136 7667 080 |
|                          | TORRO SPIRO 80-100/12  | 80-100          | 3 1/8-3 15/16 | 0136 7662 090     | 0136 7663 090 | 0136 7664 090     | 0136 7665 090 | 0136 7666 090     | 0136 7667 090 |
|                          | TORRO SPIRO 90-110/12  | 90-110          | 3 9/16-4 5/16 | 0136 7662 100     | 0136 7663 100 | 0136 7664 100     | 0136 7665 100 | 0136 7666 100     | 0136 7667 100 |
|                          | TORRO SPIRO 100-120/12 | 100-120         | 3 15/16-4 3/4 | 0136 7662 110     | 0136 7663 110 | 0136 7664 110     | 0136 7665 110 | 0136 7666 110     | 0136 7667 110 |
|                          | TORRO SPIRO 110-130/12 | 110-130         | 4 5/16-5 1/8  | 0136 7662 120     | 0136 7663 120 | 0136 7664 120     | 0136 7665 120 | 0136 7666 120     | 0136 7667 120 |
|                          | TORRO SPIRO 120-140/12 | 120-140         | 4 3/4-5 1/2   | 0136 7662 130     | 0136 7663 130 | 0136 7664 130     | 0136 7665 130 | 0136 7666 130     | 0136 7667 130 |
|                          | TORRO SPIRO 130-150/12 | 130-150         | 5 1/8-5 15/16 | 0136 7662 140     | 0136 7663 140 | 0136 7664 140     | 0136 7665 140 | 0136 7666 140     | 0136 7667 140 |
|                          | TORRO SPIRO 140-160/12 | 140-160         | 5 1/2-6 5/16  | 0136 7662 150     | 0136 7663 150 | 0136 7664 150     | 0136 7665 150 | 0136 7666 150     | 0136 7667 150 |



Refer to page 191.

## Safety collar



The NORMACLAMP® TORRO® safety collar is a plastic ring that can be attached easily to the bolt head of the clamp. By preventing the screwdriver from slipping off the head, it makes the installation process considerably easier. The safety collar is available for bolts that correspond to wrench opening 7.

### Advantages at a glance

- Screwdriver prevented from slipping during installation

### Materials

- For all materials

| NORMACLAMP® TORRO® SAFETY COLLAR |                        |                                  |
|----------------------------------|------------------------|----------------------------------|
| Width                            | Designation            | For all Materials<br>Product No. |
| 9/12                             | THE SAFETY COLLAR 9/12 | 0043 0000 364                    |

**Gas clamp**

The NORMACLAMP® TORRO® Gas clamp has been designed for securing domestic gas and propane hoses. The screw of this clamp cuts itself at a predetermined torque level in order to comply exactly with the values of the standard. The break occurs at a torque of 1.2 Nm.

**Advantages at a glance**

- Designed in accordance with the standard NF XP D 36-110
- The screw cuts itself when the clamp is fixed on the tube so the tube is secured

**Materials**

- W3

**NORMACLAMP® TORRO® GAS CLAMP**

| Width | Designation             | Clamping ranges |            | W3<br>Product No. |
|-------|-------------------------|-----------------|------------|-------------------|
|       |                         | in mm           | in inches  |                   |
| 9     | TORRO GAS CLAMP 8-16/9  | 8-16            | 5/16-5/8   | 0126 6221 013     |
|       | TORRO GAS CLAMP 16-27/9 | 16-27           | 5/8-1 1/16 | 0126 6221 021     |



Refer to page 191.



- 1 **Extended bridge**
- 2 **16 mm band width**  
– for applications where harsh torques and contact pressures are required
- 3 **Clamping range stamped on the band**  
– prevention of errors

## Worm drive hose clamps

NORMACLAMP HD is suitable for special applications where harsh torques and contact pressures are required. This clamp is an add-on type to our range of worm drive hose clips and therefore only available in 16 mm band width and W4 material quality.

### Advantages at a glance

- The extended bridge prevents leaks and hose being damaged

### Applications

- Mounting of silicone, plastic and rubber tubing with steel inserts

### Materials

| Material | Corrosion resistance in salt spray testing |
|----------|--------------------------------------------|
| W4       | Min. 240 h*                                |

\* Max 5% corrosion of the base material allowed

### Torques

| Band width | Failure torque (min. value) | Recommended tightening torque |
|------------|-----------------------------|-------------------------------|
| 16         | 17 Nm                       | max. 10 Nm*                   |

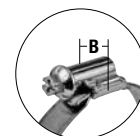
\* Depending on the type of application

## Technical data & Ordering information

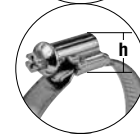
| NORMACLAMP® HD |                  |                 |             |      |      |      |     |                |
|----------------|------------------|-----------------|-------------|------|------|------|-----|----------------|
| Width          | Designation      | Clamping ranges |             | B    | h    | L    | s   | W4 Product No. |
|                |                  | in mm           | in inches   |      |      |      |     |                |
| 16             | HD 25-45/16 C8   | 25-45           | 1-1 3/4     | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 035  |
|                | HD 32-54/16 C8   | 32-54           | 1 1/4-2 1/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 043  |
|                | HD 45-67/16 C8   | 45-67           | 1 3/4-2 5/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 056  |
|                | HD 57-79/16 C8   | 57-79           | 2 1/4-3 1/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 068  |
|                | HD 70-92/16 C8   | 70-92           | 2 3/4-3 5/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 081  |
|                | HD 83-105/16 C8  | 83-105          | 3 1/4-4 1/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 094  |
|                | HD 95-118/16 C8  | 95-118          | 3 3/4-4 5/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 106  |
|                | HD 108-130/16 C8 | 108-130         | 4 1/4-5 1/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 119  |
|                | HD 121-143/16 C8 | 121-143         | 4 3/4-5 5/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 132  |
|                | HD 133-156/16 C8 | 133-156         | 5 1/4-6 1/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 144  |
|                | HD 146-168/16 C8 | 146-168         | 5 3/4-6 5/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 157  |
|                | HD 159-181/16 C8 | 159-181         | 6 1/4-7 1/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 170  |
|                | HD 172-194/16 C8 | 172-194         | 6 3/4-7 5/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 183  |
|                | HD 184-206/16 C8 | 184-206         | 7 1/4-8 1/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 195  |
|                | HD 197-219/16 C8 | 197-219         | 7 3/4-8 5/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 208  |
|                | HD 210-232/16 C8 | 210-232         | 8 1/4-9 1/8 | 23.0 | 13.0 | 37.0 | 0.7 | 0156 7804 221  |

Other sizes available on request

Refer to page 191.



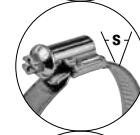
**B = overall width**  
housing



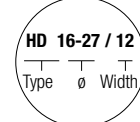
**h = overall height**  
bolt and housing



**L = overall length**  
bolt and housing



**s = band thickness**  
clamp band



**Name structure**  
clamp band

## HI-TORQUE CLAMP

## Worm Drive Hose Clamps - Perforated band

NORMACLAMP®



- 1 Screw housing for easy tightening
- 2 'In-line' housing, which enables every thread on the worm to engage with the band
- 3 Perforated band

## Signage clamp

The Hi-Torque Signage Clamp is produced using components entirely manufactured from stainless steel. The construction of the worm-drive housing on the band facilitates installation of a wide range of signs. Hi-Torque clamps are reusable and easy to retighten after expansion

caused by temperature fluctuations, and their construction ensures that during installation there are no sharp edges which might cause injury to the installer. The recommended tightening torque for secure and reliable installation is 16 Nm and the breaking torque is more than 20 Nm.

### Advantages at a glance

- Reusable
- Secure and reliable installation
- Easy to retighten in cases of expansion (due to temperature fluctuations)
- No loss of material when installing
- Easy installation of two signs on one pole

### Applications

- Traffic signs, street signs, billboards and illuminated signs installation
- Heavy duty sealing applications
- Agricultural
- Chemical Industry
- Food Processing
- Fluid Transfer
- Marine Industry
- Petrochemical Industry
- Shipyards

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    |    |    | x  |    |

### Technical data & Ordering information

| NORMACLAMP® HI-TORQUE |                      |                 |             |                |
|-----------------------|----------------------|-----------------|-------------|----------------|
| Width                 | Designation          | Clamping ranges |             | W4 Product No. |
|                       |                      | in mm           | in inches   |                |
| 16                    | HI-TORQUE 32-67/16   | 32-67           | 1 1/4-2 5/8 | 0560 6610 050  |
|                       | HI-TORQUE 54-105/16  | 54-105          | 2 1/8-4 1/8 | 0560 6610 080  |
|                       | HI-TORQUE 102-156/16 | 102-156         | 4-6 1/8     | 0560 6610 129  |
|                       | HI-TORQUE 156-232/16 | 156-232         | 6 1/8-9 1/8 | 0560 6610 194  |
|                       | HI-TORQUE 229-384/16 | 229-384         | 9-15 1/8    | 0560 6610 307  |

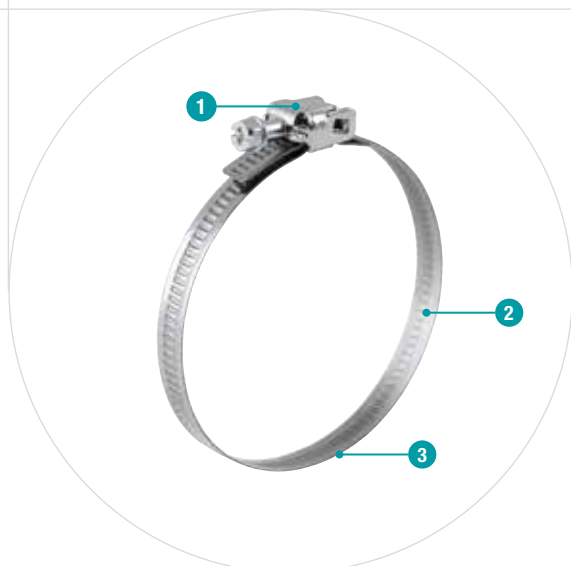


Refer to page 191.

## QUICK LOCK 9 MM

## Worm Drive Hose Clamps - Quick Lock

NORMACLAMP®



- 1 Tilting housing with screw
- 2 Smooth inner band
- 3 Round edges to prevent damages to the pipe

## Automatic locking clamp

NORMACLAMP® Quick lock 9 mm is manufactured from a continuously threaded band with flat edges and a smooth inside to prevent damages to the pipe. The system of the tilting housing with the screw allows easy

and quick application due to the automatic locking that forms the right diameter for the pipe. Band thickness 0.6 mm for band width 9 mm.

### Advantages at a glance

- Easy and quick application
- Safe joint with the hose
- Flexibility
- Clamping range from 25-40 up to 60-1300 mm

### Applications

- Water industry
- Air conditioning
- Construction
- Sanitary

### Materials

| W1 | W2 (B) * | W3 | W4 | W5 |
|----|----------|----|----|----|
|    | x        |    | x  |    |

\*W2 (B): Band in stainless steel (W3)  
Screw and housing in galvanized steel (W1)  
W2 (B) is a combination of W1 and W3 materials

### Torques

| Band width | Tightening torque | Tightening speed |
|------------|-------------------|------------------|
| 9          | 2.5 +0.5 Nm       | Max. 50 RPM      |

## Technical data & Ordering information

| NORMACLAMP® QUICK LOCK 9 MM |                      |                 |                 |                       |                   |
|-----------------------------|----------------------|-----------------|-----------------|-----------------------|-------------------|
| Width                       | Designation          | Clamping ranges |                 | W2 (B)<br>Product No. | W4<br>Product No. |
|                             |                      | in mm           | in inches       |                       |                   |
| 9                           | QUICK LOCK 25-40/9   | 25-40           | 1-1 9/16        | 0815 6120 040         |                   |
|                             | QUICK LOCK 25-45/9   | 25-45           | 1-1 3/4         | 0815 6120 045         |                   |
|                             | QUICK LOCK 32-50/9   | 32-50           | 1 1/4-2         | 0815 6120 050         |                   |
|                             | QUICK LOCK 40-60/9   | 40-60           | 1 9/16-2 3/8    | 0815 6120 060         |                   |
|                             | QUICK LOCK 50-70/9   | 50-70           | 2-2 3/4         | 0815 6120 070         |                   |
|                             | QUICK LOCK 60-80/9   | 60-80           | 2 3/8-3 1/8     | 0815 6120 080         |                   |
|                             | QUICK LOCK 60-90/9   | 60-90           | 2 3/8-3 9/16    | 0815 6120 090         |                   |
|                             | QUICK LOCK 60-100/9  | 60-100          | 2 3/8-3 15/16   | 0815 6120 100         |                   |
|                             | QUICK LOCK 60-110/9  | 60-110          | 2 3/8-4 5/16    | 0815 6120 110         | 0815 6130 110     |
|                             | QUICK LOCK 60-125/9  | 60-125          | 2 3/8-4 15/16   | 0815 6120 125         |                   |
|                             | QUICK LOCK 60-135/9  | 60-135          | 2 3/8-5 5/16    | 0815 6120 135         | 0815 6130 135     |
|                             | QUICK LOCK 60-145/9  | 60-145          | 2 3/8-5 11/16   | 0815 6120 145         | 0815 6130 145     |
|                             | QUICK LOCK 60-165/9  | 60-165          | 2 3/8-6 1/2     | 0815 6120 165         |                   |
|                             | QUICK LOCK 60-170/9  | 60-170          | 2 3/8-6 11/16   |                       | 0815 6130 170     |
|                             | QUICK LOCK 60-175/9  | 60-175          | 2 3/8-6 7/8     | 0815 6120 175         |                   |
|                             | QUICK LOCK 60-215/9  | 60-215          | 2 3/8-8 7/16    | 0815 6120 215         | 0815 6130 215     |
|                             | QUICK LOCK 60-270/9  | 60-270          | 2 3/8-10 5/8    | 0815 6120 270         | 0815 6130 270     |
|                             | QUICK LOCK 60-280/9  | 60-280          | 2 3/8-11        | 0815 6120 280         |                   |
|                             | QUICK LOCK 60-290/9  | 60-290          | 2 3/8-11 7/16   | 0815 6120 290         |                   |
|                             | QUICK LOCK 60-325/9  | 60-325          | 2 3/8-12 13/16  | 0815 6120 325         | 0815 6130 325     |
|                             | QUICK LOCK 60-370/9  | 60-370          | 2 3/8-14 9/16   | 0815 6120 370         |                   |
|                             | QUICK LOCK 60-380/9  | 60-380          | 2 3/8- 14 15/16 | 0815 6120 380         | 0815 6130 380     |
|                             | QUICK LOCK 60-425/9  | 60-425          | 2 3/8-16 3/4    | 0815 6120 425         | 0815 6130 425     |
|                             | QUICK LOCK 60-525/9  | 60-525          | 2 3/8-20 11/16  | 0815 6120 525         | 0815 6130 525     |
|                             | QUICK LOCK 60-630/9  | 60-630          | 2 3/8-24 13/16  | 0815 6120 630         |                   |
|                             | QUICK LOCK 60-660/9  | 60-660          | 2 3/8-26        | 0815 6120 660         | 0815 6130 660     |
|                             | QUICK LOCK 60-1050/9 | 60-1050         | 2 3/8-41 5/16   | 0815 6121 050         |                   |
|                             | QUICK LOCK 60-1300/9 | 60-1300         | 2 3/8-51 3/16   | 0815 6121 300         |                   |

Additional diameters on request



Refer to page 191.

## QUICK LOCK 12 MM

## Worm Drive Hose Clamps - Quick Lock

NORMACLAMP®



- 1 Tilting housing with screw – Quick lock system
- 2 Perforated band to provide an ideal contact surface for the hose

## The clamp for large hoses

NORMACLAMP® Quick lock 12 mm is designed for quick-lock tightening and releasing of large diameter hoses and supplied in a perforated band, to provide an ideal contact surface for the hose. This clamp is the ideal solution for larger hose diameters over 100 mm. Band thickness 0.7 mm for band width 12 mm assures a very flexible clamp.

### Advantages at a glance

- The quick lock housing eases the assembly of the clamp
- Safe joint with the hose
- Flexibility
- Wide clamping range

### Applications

- Water industry
- Air conditioning
- Construction
- Sanitary

### Materials

| W1 | W2 (B) * | W3 | W4 | W5 |
|----|----------|----|----|----|
|    | x        |    |    |    |

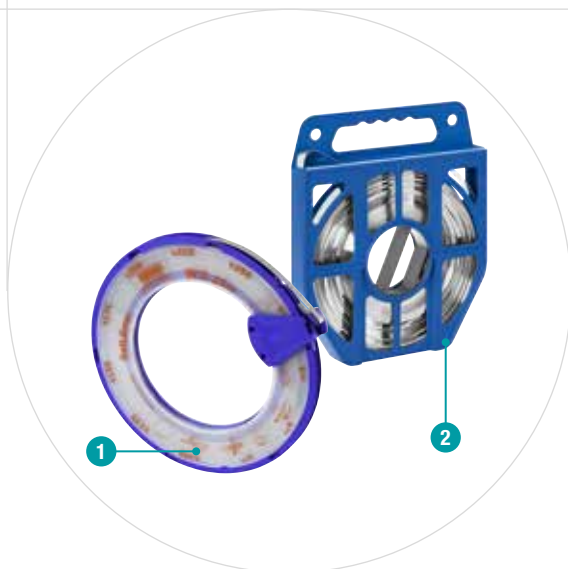
\*W2 (B): Band in stainless steel (W3)  
Screw and housing in galvanized steel (W1)  
W2 (B) is a combination of W1 and W3 materials

### Technical data & Ordering information

| NORMACLAMP® QUICK LOCK 12 MM |                      |                 |            |                       |
|------------------------------|----------------------|-----------------|------------|-----------------------|
| Width                        | Designation          | Clamping ranges |            | W2 (B)<br>Product No. |
|                              |                      | in mm           | in inches  |                       |
| 12                           | QUICK LOCK 50-110/12 | 50-110          | 2-4 5/16   | 0815 6020 080         |
|                              | QUICK LOCK 50-130/12 | 50-130          | 2-5 1/8    | 0815 6020 090         |
|                              | QUICK LOCK 50-145/12 | 50-145          | 2-5 11/16  | 0815 6020 098         |
|                              | QUICK LOCK 50-165/12 | 50-165          | 2-6 1/2    | 0815 6020 108         |
|                              | QUICK LOCK 50-175/12 | 50-175          | 2-6 7/8    | 0815 6020 113         |
|                              | QUICK LOCK 50-215/12 | 50-215          | 2-8 7/16   | 0815 6020 133         |
|                              | QUICK LOCK 50-280/12 | 50-280          | 2-11       | 0815 6020 165         |
|                              | QUICK LOCK 50-325/12 | 50-325          | 2-12 13/16 | 0815 6020 188         |
|                              | QUICK LOCK 50-370/12 | 50-370          | 2-14 9/16  | 0815 6020 210         |
|                              | QUICK LOCK 50-425/12 | 50-425          | 2-16 3/4   | 0815 6020 238         |
|                              | QUICK LOCK 60-525/12 | 60-525          | 2-20 11/16 | 0815 6020 293         |
|                              | QUICK LOCK 70-625/12 | 70-625          | 2-24 5/8   | 0815 6020 348         |



Refer to pages 180, 187 and 191.



- 1 Dispenser for 9 mm band width (stamped band)
- 2 Dispenser for 12 mm band width (perforated band)

## Continuous band for multiple clamp diameters

The NORMACLAMP® Strip steel is a perfect solution for creating clamps with different diameters depending on a user's needs. Strip steel is a long continuous band available in 9 or 12 mm band width. For closing the clamp use the NORMACLAMP® Quick lock housing 9 or 12 mm.

### Advantages at a glance

- Variability
- Flexibility
- Storage and inventory benefit
- Allows making up to 44 clamps

### Applications

- Water industry
- Air conditioning
- Construction
- Sanitary

### Materials

| W1 | W2 (B) * | W3 | W4 | W5 |
|----|----------|----|----|----|
|    | x        |    | x  |    |

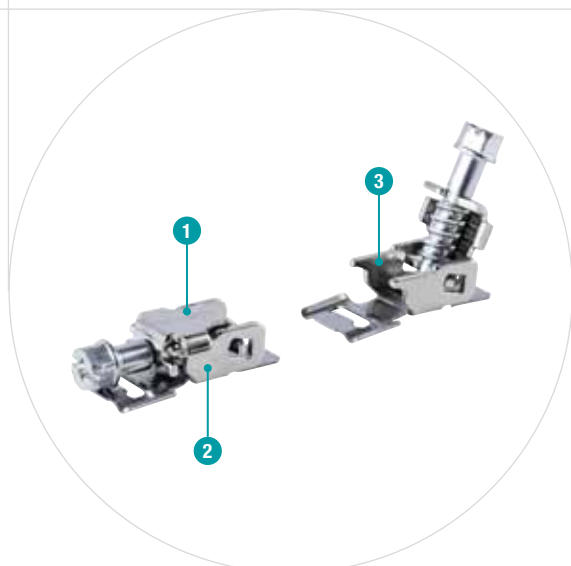
\*W2 (B): Band in stainless steel (W3)  
Screw and housing in galvanized steel (W1)  
W2 (B) is a combination of W1 and W3 materials

### Technical data & Ordering information

| NORMACLAMP® STRIP STEEL |                       |         |            |                       |                   |
|-------------------------|-----------------------|---------|------------|-----------------------|-------------------|
| Width                   | Designation           | Length  |            | W2 (B)<br>Product No. | W4<br>Product No. |
|                         |                       | in<br>m | in<br>inch |                       |                   |
| 9                       | STRIP STEEL 9 25 MTS  | 25      | 98 7/16    | 0815 7121 005         | 0815 7131 005     |
|                         | STRIP STEEL 9 30 MTS  | 30      | 118 1/8    | 0815 7121 008         | 0815 7131 008     |
| 12                      | STRIP STEEL 12 25 MTS | 25      | 98 7/16    | 0815 0007 006         |                   |



Refer to page 191.



1 Tilting housing with screw

2 Closed position

3 Opened position

## Locking system for continuous band

THE NORMACLAMP® Quick lock housing 9 and 12 mm are used to close the NORMACLAMP® Strip steel.

### Advantages at a glance

- Fast, simple and safe assembly
- Enables the closing of clamps of many diameters

### Applications

- Water industry
- Air conditioning
- Construction
- Sanitary

### Materials

| W1 | W2 (B) * | W3 | W4 | W5 |
|----|----------|----|----|----|
|    | x        |    | x  |    |

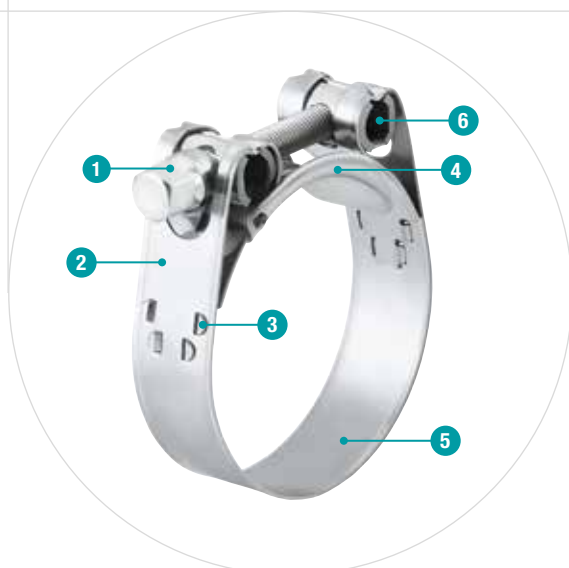
\*W2 (B): Band in stainless steel (W3)  
Screw and housing in galvanized steel (W1)  
W2 (B) is a combination of W1 and W3 materials

### Technical data & Ordering information

| NORMACLAMP® QUICK LOCK HOUSING |                       |                       |                   |
|--------------------------------|-----------------------|-----------------------|-------------------|
| Width                          | Designation           | W2 (B)<br>Product No. | W4<br>Product No. |
| 9                              | QUICK LOCK HOUSING 9  | 0815 7121 007         | 0815 7131 007     |
| 12                             | QUICK LOCK HOUSING 12 | 0815 6007 008         |                   |



Refer to page 191.



- 1 Bolt**  
– New specially designed bolt with integrated spacer and improved performance. The W5 version has a socket head cap bolt
- 2 Reinforced band loops**  
– ability to withstand much higher torques
- 3 Mechanically locked closure**  
– no welding spots and no contact corrosion
- 4 Bridge**  
– hose protection
- 5 Robust band with rounded edges**  
– prevents injuries and damage to hoses
- 6 Hollow trunnions**  
– reduces the tensile forces on the bolt and the mechanical lock

## Heavy-duty clamps for multiple applications

NORMACLAMP® GBS is designed primarily for use in applications where hose clamps must meet stringent requirements. In particular if suction and pressure hoses - complete with plastic or steel inserts and high shore hardness values - are to be connected and attached. They are therefore particularly suitable for use on commercial and special vehicles. Their standout feature is the exceptionally high levels of band tensile force they demonstrate. NORMACLAMP® GBS clamps are also extremely easy to install, whether you're using manual, pneumatic or electrical standard tools.



### Advantages at a glance

- Failure torques improved by a factor of two
- Band tensile force levels improved by a factor of three

### Applications

- Machine building
- Chemical industry
- Irrigation systems
- Ship manufacturing
- Railway industry
- Agricultural machines
- Building machines
- Engine manufacturing
- Pump and filter
- Mining Industry

### Materials

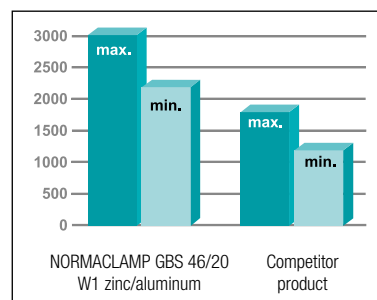
| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  | x  |    | x  | x  |

| Material | Corrosion resistance in salt spray testing |
|----------|--------------------------------------------|
| W1       | Min. 72 h                                  |
| W2       | Min. 72 h                                  |
| W4       | Min. 240 h                                 |
| W5       | Min. 400 h                                 |

| NORMACLAMP® GBS |                          |     |     |     |    |    |
|-----------------|--------------------------|-----|-----|-----|----|----|
| Band width      | Material thickness in mm |     |     |     |    |    |
|                 | W1                       | W2  | W4  | W5  | M  | SW |
| 18              | 0.8                      | 0.6 | 0.6 | 0.6 | 6  | 8  |
| 20              | 1.0                      | 0.8 | 0.8 | 0.8 | 7  | 10 |
| 25              | 1.0                      | 1.0 | 1.0 | 1.0 | 8  | 13 |
| 30              | 1.3                      | 1.0 | 1.0 | 1.0 | 10 | 17 |

### Band tensile force

The results of numerous series of tests have underlined the technical superiority of NORMACLAMP® GBS products over their competitors:



## Table of torques

| NORMACLAMP® GBS |                             |    |    |    |                                  |
|-----------------|-----------------------------|----|----|----|----------------------------------|
| Band width      | Failure torque (minimum) Nm |    |    |    | Recommended tightening torque Nm |
|                 | W1                          | W2 | W4 | W5 |                                  |
| 18              | 15                          | 15 | 15 | 15 | 8                                |
| 20              | 25                          | 20 | 20 | 20 | 10                               |
| 25              | 35                          | 30 | 30 | 30 | 20                               |
| 30              | 50                          | 45 | 45 | 45 | 25                               |

| NORMACLAMP® GBS RUBBER INSERT |                             |    |                                  |
|-------------------------------|-----------------------------|----|----------------------------------|
| Band width                    | Failure torque (minimum) Nm |    | Recommended tightening torque Nm |
|                               | W1                          | W2 |                                  |
| 18                            | 10                          | 10 | 6                                |
| 20                            | 15                          | 15 | 8                                |
| 25                            | 25                          | 25 | 18                               |
| 30                            | 40                          | 40 | 22                               |

## Technical data &amp; Ordering information

| NORMACLAMP® GBS HOLLOW TRUNNION |                    |                 |                  |                   |                   |                   |                   |
|---------------------------------|--------------------|-----------------|------------------|-------------------|-------------------|-------------------|-------------------|
| Width                           | Designation        | Clamping ranges |                  | W1<br>Product No. | W2<br>Product No. | W4<br>Product No. | W5<br>Product No. |
|                                 |                    | in mm           | in inches        |                   |                   |                   |                   |
| 18                              | GBS M17-19/18 Sk*  | 17-19           | 11/16-3/4        | 0591 7181 018     | 0591 7182 018     | 0591 7184 018     | 0591 7185 018     |
|                                 | GBS M19-21/18 Sk*  | 19-21           | 3/4-13/16        | 0591 7181 020     | 0591 7182 020     | 0591 7184 020     | 0591 7185 020     |
|                                 | GBS M21-23/18 Sk*  | 21-23           | 13/16-15/16      | 0591 7181 022     | 0591 7182 022     | 0591 7184 022     | 0591 7185 022     |
|                                 | GBS M23-25/18 Sk*  | 23-25           | 15/16-1          | 0591 7181 024     | 0591 7182 024     | 0591 7184 024     | 0591 7185 024     |
|                                 | GBS M25-27/18 Sk   | 25-27           | 1-1 1/16         | 0591 7181 026     | 0591 7182 026     | 0591 7184 026     | 0591 7185 026     |
|                                 | GBS M27-29/18 Sk   | 27-29           | 1 1/16-1 1/8     | 0591 7181 028     | 0591 7182 028     | 0591 7184 028     | 0591 7185 028     |
|                                 | GBS M29-31/18 Sk   | 29-31           | 1 1/8-1 1/4      | 0591 7181 030     | 0591 7182 030     | 0591 7184 030     | 0591 7185 030     |
|                                 | GBS M31-34/18 Sk   | 31-34           | 1 1/4-1 5/16     | 0591 7181 033     | 0591 7182 033     | 0591 7184 033     | 0591 7185 033     |
|                                 | GBS M34-37/18 Sk   | 34-37           | 1 5/16-1 7/16    | 0591 7181 036     | 0591 7182 036     | 0591 7184 036     | 0591 7185 036     |
|                                 | GBS M37-40/18 Sk   | 37-40           | 1 7/16-1 9/16    | 0591 7181 039     | 0591 7182 039     | 0591 7184 039     | 0591 7185 039     |
| 20                              | GBS M40-43/18 Sk   | 40-43           | 1 9/16-1 11/16   | 0591 7181 042     | 0591 7182 042     | 0591 7184 042     | 0591 7185 042     |
|                                 | GBS M43-47/20 Sk   | 43-47           | 1 11/16-1 7/8    | 0591 7201 045     | 0591 7202 045     | 0591 7204 045     | 0591 7205 045     |
|                                 | GBS M47-51/20 Sk   | 47-51           | 1 7/8-2          | 0591 7201 049     | 0591 7202 049     | 0591 7204 049     | 0591 7205 049     |
|                                 | GBS M51-55/20 Sk   | 51-55           | 2-2 3/16         | 0591 7201 053     | 0591 7202 053     | 0591 7204 053     | 0591 7205 053     |
|                                 | GBS M55-59/20 Sk   | 55-59           | 2 3/16-2 5/16    | 0591 7201 057     | 0591 7202 057     | 0591 7204 057     | 0591 7205 057     |
|                                 | GBS M59-63/20 Sk   | 59-63           | 2 5/16-2 1/2     | 0591 7201 061     | 0591 7202 061     | 0591 7204 061     | 0591 7205 061     |
|                                 | GBS M63-68/20 Sk   | 63-68           | 2 1/2-2 11/16    | 0591 7201 066     | 0591 7202 066     | 0591 7204 066     | 0591 7205 066     |
| 25                              | GBS M68-73/25 Sk   | 68-73           | 2 11/16-2 7/8    | 0591 7251 071     | 0591 7252 071     | 0591 7254 071     | 0591 7255 071     |
|                                 | GBS M73-79/25 Sk   | 73-79           | 2 7/8-3 1/8      | 0591 7251 076     | 0591 7252 076     | 0591 7254 076     | 0591 7255 076     |
|                                 | GBS M79-85/25 Sk   | 79-85           | 3 1/8-3 3/8      | 0591 7251 082     | 0591 7252 082     | 0591 7254 082     | 0591 7255 082     |
|                                 | GBS M85-91/25 Sk   | 85-91           | 3 3/8-3 9/16     | 0591 7251 088     | 0591 7252 088     | 0591 7254 088     | 0591 7255 088     |
|                                 | GBS M91-97/25 Sk   | 91-97           | 3 9/16-3 13/16   | 0591 7251 094     | 0591 7252 094     | 0591 7254 094     | 0591 7255 094     |
|                                 | GBS M97-104/25 Sk  | 97-104          | 3 13/16-4 1/6    | 0591 7251 101     | 0591 7252 101     | 0591 7254 101     | 0591 7255 101     |
|                                 | GBS M104-112/25 Sk | 104-112         | 4 1/16-4 7/16    | 0591 7251 108     | 0591 7252 108     | 0591 7254 108     | 0591 7255 108     |
|                                 | GBS M112-121/25 Sk | 112-121         | 4 7/16-4 3/4     | 0591 7251 117     | 0591 7252 117     | 0591 7254 117     | 0591 7255 117     |
|                                 | GBS M121-130/25 Sk | 121-130         | 4 3/4-5 1/8      | 0591 7251 126     | 0591 7252 126     | 0591 7254 126     | 0591 7255 126     |
| 30                              | GBS M130-140/30 Sk | 130-140         | 5 1/8-5 1/2      | 0591 7301 135     | 0591 7302 135     | 0591 7304 135     | 0591 7305 135     |
|                                 | GBS M140-150/30 Sk | 140-150         | 5 1/2-5 15/16    | 0591 7301 145     | 0591 7302 145     | 0591 7304 145     | 0591 7305 145     |
|                                 | GBS M150-162/30 Sk | 150-162         | 5 15/16-6 3/8    | 0591 7301 156     | 0591 7302 156     | 0591 7304 156     | 0591 7305 156     |
|                                 | GBS M162-174/30 Sk | 162-174         | 6 3/8-6 7/8      | 0591 7301 168     | 0591 7302 168     | 0591 7304 168     | 0591 7305 168     |
|                                 | GBS M174-187/30 Sk | 174-187         | 6 7/8-7 3/8      | 0591 7301 181     | 0591 7302 181     | 0591 7304 181     | 0591 7305 181     |
|                                 | GBS M187-200/30 Sk | 187-200         | 7 3/8-7 7/8      | 0591 7301 194     | 0591 7302 194     | 0591 7304 194     | 0591 7305 194     |
|                                 | GBS M200-213/30 Sk | 200-213         | 7 7/8-8 3/8      | 0591 7301 207     | 0591 7302 207     | 0591 7304 207     | 0591 7305 207     |
|                                 | GBS M213-226/30 Sk | 213-226         | 8 3/8-8 7/8      | 0591 7301 220     | 0591 7302 220     | 0591 7304 220     | 0591 7305 220     |
|                                 | GBS M226-239/30 Sk | 226-239         | 8 7/8-9 7/16     | 0591 7301 233     | 0591 7302 233     | 0591 7304 233     | 0591 7305 233     |
|                                 | GBS M239-252/30 Sk | 239-252         | 9 7/16-9 15/16   | 0591 7301 246     | 0591 7302 246     | 0591 7304 246     | 0591 7305 246     |
|                                 | GBS M252-265/30 Sk | 252-265         | 9 15/16-10 7/16  | 0591 7301 259     | 0591 7302 259     | 0591 7304 259     | 0591 7305 259     |
|                                 | GBS M265-278/30 Sk | 265-278         | 10 7/16-10 15/16 | 0591 7301 272     | 0591 7302 272     | 0591 7304 272     | 0591 7305 272     |
|                                 | GBS M279-291/30 Sk | 279-291         | 11-11 7/16       | 0591 7301 285     | 0591 7302 285     | 0591 7304 285     | 0591 7305 285     |
|                                 | GBS M292-304/30 Sk | 292-304         | 11 1/2-12        | 0591 7301 298     | 0591 7302 298     | 0591 7304 298     | 0591 7305 298     |

These diameters are full trunnions and do not feature a mechanically locked closure, but are instead spot-welded.



Refer to page 187.

## Solid trunnions – STC



To suit the requirements of all markets, NORMACLAMP® GBS is also available with solid trunnions.

### Advantages at a glance

- Strong robustness

### Materials

- W1, W4

### NORMACLAMP® GBS STC

| Width | Description         | Clamping range |                  | W1<br>Product No. | W4<br>Product No. |
|-------|---------------------|----------------|------------------|-------------------|-------------------|
|       |                     | in mm          | in inches        |                   |                   |
| 18    | GBS M17-19/18 STC   | 17 - 19        | 11/16-3/4        | 0591 7001 018     | 0591 7009 018     |
|       | GBS M19-21/18 STC   | 19 - 21        | 3/4-13/16        | 0591 7001 020     | 0591 7009 020     |
|       | GBS M21-23/18 STC   | 21 - 23        | 13/16-15/16      | 0591 7001 022     | 0591 7009 022     |
|       | GBS M23-25/18 STC   | 23 - 25        | 15/16-1          | 0591 7001 024     | 0591 7009 024     |
|       | GBS M25-27/18 STC   | 25 - 27        | 1-1 1/16         | 0591 7001 026     | 0591 7009 026     |
|       | GBS M27-29/18 STC   | 27 - 29        | 1 1/16-1 1/8     | 0591 7001 028     | 0591 7009 028     |
|       | GBS M29-31/18 STC   | 29 - 31        | 1 1/8-1 1/4      | 0591 7001 030     | 0591 7009 030     |
|       | GBS M31-34/18 STC   | 31 - 34        | 1 1/4-1 5/16     | 0591 7001 033     | 0591 7009 033     |
|       | GBS M34-37/18 STC   | 34 - 37        | 1 5/16-1 7/16    | 0591 7001 036     | 0591 7009 036     |
|       | GBS M37-40/18 STC   | 37 - 40        | 1 7/16-1 9/16    | 0591 7001 039     | 0591 7009 039     |
| 20    | GBS M40-43/18 STC   | 40 - 43        | 1 9/16-1 11/16   | 0591 7001 042     | 0591 7009 042     |
|       | GBS M43-47/20 STC   | 43 - 47        | 1 11/16-1 7/8    | 0591 7002 045     | 0591 7010 045     |
|       | GBS M47-51/20 STC   | 47 - 51        | 1 7/8-2          | 0591 7002 049     | 0591 7010 049     |
|       | GBS M51-55/20 STC   | 51 - 55        | 2-2 3/16         | 0591 7002 053     | 0591 7010 053     |
|       | GBS M55-59/20 STC   | 55 - 59        | 2 3/16-2 5/16    | 0591 7002 057     | 0591 7010 057     |
|       | GBS M59-63/20 STC   | 59 - 63        | 2 5/16-2 1/2     | 0591 7002 061     | 0591 7010 061     |
|       | GBS M63-68/20 STC   | 63 - 68        | 2 1/2-2 11/16    | 0591 7002 066     | 0591 7010 066     |
|       | GBS M68-73/25 STC   | 68 - 63        | 2 11/16-2 7/8    | 0591 7003 071     | 0591 7011 071     |
|       | GBS M73-79/25 STC   | 73 - 79        | 2 7/8-3 1/8      | 0591 7003 076     | 0591 7011 076     |
|       | GBS M79-85/25 STC   | 79 - 85        | 3 1/8-3 3/8      | 0591 7003 082     | 0591 7011 082     |
| 25    | GBS M85-91/25 STC   | 85 - 91        | 3 3/8-3 9/16     | 0591 7003 088     | 0591 7011 088     |
|       | GBS M91-97/25 STC   | 91 - 97        | 3 9/16-3 13/16   | 0591 7003 094     | 0591 7011 094     |
|       | GBS M97-104/25 STC  | 97 - 104       | 3 13/16-4 1/6    | 0591 7003 101     | 0591 7011 101     |
|       | GBS M104-112/25 STC | 104 - 112      | 4 1/16-4 7/16    | 0591 7003 108     | 0591 7011 108     |
|       | GBS M112-121/25 STC | 112 - 121      | 4 7/16-4 3/4     | 0591 7003 117     | 0591 7011 117     |
|       | GBS M121-130/25 STC | 121 - 130      | 4 3/4-5 1/8      | 0591 7003 126     | 0591 7011 126     |
|       | GBS M130-140/30 STC | 130 - 140      | 5 1/8-5 1/2      | 0591 7004 135     | 0591 7012 135     |
|       | GBS M140-150/30 STC | 140 - 150      | 5 1/2-5 15/16    | 0591 7004 145     | 0591 7012 145     |
|       | GBS M150-162/30 STC | 150 - 162      | 5 15/16-6 3/8    | 0591 7004 156     | 0591 7012 156     |
|       | GBS M162-174/30 STC | 162 - 174      | 6 3/8-6 7/8      | 0591 7004 168     | 0591 7012 168     |
| 30    | GBS M174-187/30 STC | 174 - 187      | 6 7/8-7 3/8      | 0591 7004 181     | 0591 7012 181     |
|       | GBS M187-200/30 STC | 187 - 200      | 7 3/8-7 7/8      | 0591 7004 194     | 0591 7012 194     |
|       | GBS M200-213/30 STC | 200 - 213      | 7 7/8-8 3/8      | 0591 7004 207     | 0591 7012 207     |
|       | GBS M213-226/30 STC | 213 - 226      | 8 3/8-8 7/8      | 0591 7004 220     | 0591 7012 220     |
|       | GBS M226-239/30 STC | 226 - 239      | 8 7/8-9 7/16     | 0591 7004 233     | 0591 7012 233     |
|       | GBS M239-252/30 STC | 239 - 252      | 9 7/16-9 15/16   | 0591 7004 246     | 0591 7012 246     |
|       | GBS M252-265/30 STC | 252 - 265      | 9 15/16-10 7/16  | 0591 7004 259     | 0591 7012 259     |
|       | GBS M265-278/30 STC | 265 - 278      | 10 7/16-10 15/16 | 0591 7004 272     | 0591 7012 272     |
|       | GBS M278-291/30 STC | 278 - 291      | 10 15/16-11 7/16 | 0591 7004 285     | 0591 7012 285     |
|       | GBS M291-304/30 STC | 291 - 304      | 11 7/16-12       | 0591 7004 298     | 0591 7012 298     |
|       | GBS M304-317/30 STC | 304 - 317      | 12-12 1/2        | 0591 7004 311     | 0591 7012 311     |
|       | GBS M317-330/30 STC | 317 - 330      | 12 1/2-13        | 0591 7004 324     | 0591 7012 324     |

## QRC closure



NORMACLAMP® GBS is also available with a Quick Release Closure. The bolt on the closure is easy to release, ensuring straightforward installation and removal.

### Advantages at a glance

- Easy to install

### Materials

- W1, W2

| NORMACLAMP® GBS QRC |                        |                |                |                   |                   |
|---------------------|------------------------|----------------|----------------|-------------------|-------------------|
| Width               | Description            | Clamping range |                | W1<br>Product No. | W2<br>Product No. |
|                     |                        | in mm          | in inches      |                   |                   |
| 18                  | GBS M17-19/18 Zy QRC*  | 17 - 19        | 11/16-3/4      | 0592 7181 018     | 0592 7182 018     |
|                     | GBS M19-21/18 Zy QRC*  | 19 - 21        | 3/4-13/16      | 0592 7181 020     | 0592 7182 020     |
|                     | GBS M21-23/18 Zy QRC*  | 21 - 23        | 13/16-15/16    | 0592 7181 022     | 0592 7182 022     |
|                     | GBS M23-25/18 Zy QRC*  | 23 - 25        | 15/16-1        | 0592 7181 024     | 0592 7182 024     |
|                     | GBS M25-27/18 Zy QRC   | 25 - 27        | 1-1 1/16       | 0592 7181 026     | 0592 7182 026     |
|                     | GBS M27-29/18 Zy QRC   | 27 - 29        | 1 1/16-1 1/8   | 0592 7181 028     | 0592 7182 028     |
|                     | GBS M29-31/18 Zy QRC   | 29 - 31        | 1 1/8-1 1/4    | 0592 7181 030     | 0592 7182 030     |
|                     | GBS M31-34/18 Zy QRC   | 31 - 34        | 1 1/4-1 5/16   | 0592 7181 033     | 0592 7182 033     |
|                     | GBS M34-37/18 Zy QRC   | 34 - 37        | 1 5/16-1 7/16  | 0592 7181 036     | 0592 7182 036     |
|                     | GBS M37-40/18 Zy QRC   | 37 - 40        | 1 7/16-1 9/16  | 0592 7181 039     | 0592 7182 039     |
| 20                  | GBS M40-43/18 Zy QRC   | 40 - 43        | 1 9/16-1 11/16 | 0592 7181 042     | 0592 7182 042     |
|                     | GBS M43-47/20 Zy QRC   | 43 - 47        | 1 11/16-1 7/8  | 0592 7201 045     | 0592 7202 045     |
|                     | GBS M47-51/20 Zy QRC   | 47 - 51        | 1 7/8-2        | 0592 7201 049     | 0592 7202 049     |
|                     | GBS M51-55/20 Zy QRC   | 51 - 55        | 2-2 3/16       | 0592 7201 053     | 0592 7202 053     |
|                     | GBS M55-59/20 Zy QRC   | 55 - 59        | 2 3/16-2 5/16  | 0592 7201 057     | 0592 7202 057     |
|                     | GBS M59-63/20 Zy QRC   | 59 - 63        | 2 5/16-2 1/2   | 0592 7201 061     | 0592 7202 061     |
|                     | GBS M63-68/20 Zy QRC   | 63 - 68        | 2 1/2-2 11/16  | 0592 7201 066     | 0592 7202 066     |
| 25                  | GBS M68-73/25 Zy QRC   | 68 - 73        | 2 11/16-2 7/8  | 0592 7251 071     | 0592 7252 071     |
|                     | GBS M73-79/25 Zy QRC   | 73 - 79        | 2 7/8-3 1/8    | 0592 7251 076     | 0592 7252 076     |
|                     | GBS M79-85/25 Zy QRC   | 79 - 85        | 3 1/8-3 3/8    | 0592 7251 082     | 0592 7252 082     |
|                     | GBS M85-91/25 Zy QRC   | 85 - 91        | 3 3/8-3 9/16   | 0592 7251 088     | 0592 7252 088     |
|                     | GBS M91-97/25 Zy QRC   | 91 - 97        | 3 9/16-3 13/16 | 0592 7251 094     | 0592 7252 094     |
|                     | GBS M97-104/25 Zy QRC  | 97 - 104       | 3 13/16-4 1/6  | 0592 7251 101     | 0592 7252 101     |
|                     | GBS M104-112/25 Zy QRC | 104 - 112      | 4 1/16-4 7/16  | 0592 7251 108     | 0592 7252 108     |
|                     | GBS M112-121/25 Zy QRC | 112 - 121      | 4 7/16-4 3/4   | 0592 7251 117     | 0592 7252 117     |
|                     | GBS M121-130/25 Zy QRC | 121 - 130      | 4 3/4-5 1/8    | 0592 7251 126     | 0592 7252 126     |
| 30                  | GBS M130-140/30 Zy QRC | 130 - 140      | 5 1/8-5 1/2    | 0592 7301 135     | 0592 7302 135     |
|                     | GBS M140-150/30 Zy QRC | 140 - 150      | 5 1/2-5 15/16  | 0592 7301 145     | 0592 7302 145     |
|                     | GBS M150-162/30 Zy QRC | 150 - 162      | 5 15/16-6 3/8  | 0592 7301 156     | 0592 7302 156     |
|                     | GBS M162-174/30 Zy QRC | 162 - 174      | 6 3/8-6 7/8    | 0592 7301 168     | 0592 7302 168     |
|                     | GBS M174-187/30 Zy QRC | 174 - 187      | 6 7/8-7 3/8    | 0592 7301 181     | 0592 7302 181     |
|                     | GBS M187-200/30 Zy QRC | 187 - 200      | 7 3/8-7 7/8    | 0592 7301 194     | 0592 7302 194     |
|                     | GBS M200-213/30 Zy QRC | 200 - 213      | 7 7/8-8 3/8    | 0592 7301 207     | 0592 7302 207     |
|                     | GBS M213-226/30 Zy QRC | 213 - 226      | 8 3/8-8 7/8    | 0592 7301 220     | 0592 7302 220     |
|                     | GBS M226-239/30 Zy QRC | 226 - 239      | 8 7/8-9 7/16   | 0592 7301 233     | 0592 7302 233     |
|                     | GBS M239-252/30 Zy QRC | 239 - 252      | 9 7/16-9 15/16 | 0592 7301 246     | 0592 7302 246     |

These diameters do not feature a mechanically locked closure, but are instead spot-welded.

## Multi-parts



NORMACLAMP® GBS is also available in a multi-part version for bigger diameters.

### Advantages at a glance

- Suitable for big diameter hoses

### Materials

- W1, W2, W4, W5

### NORMACLAMP® GBS MULTI-PARTS

| Width | Description           | Clamping range |                 | W1<br>Product No. | W2<br>Product No. | W4<br>Product No. | W5<br>Product No. |
|-------|-----------------------|----------------|-----------------|-------------------|-------------------|-------------------|-------------------|
|       |                       | in mm          | in inches       |                   |                   |                   |                   |
| 18    | GBS M59-67/18 SK 2T   | 59-67          | 2 5/16-2 5/8    | 0591 7191 063     | 0591 7192 063     | 0591 7194 063     | 0591 7195 063     |
|       | GBS M67-75/18 SK 2T   | 67-75          | 2 5/8-2 15/16   | 0591 7191 071     | 0591 7192 071     | 0591 7194 071     | 0591 7195 071     |
| 20    | GBS M67-75/20 SK 2T   | 67-75          | 2 5/8-2 15/16   | 0591 7221 071     | 0591 7222 071     | 0591 7224 071     | 0591 7225 071     |
|       | GBS M75-83/20 SK 2T   | 75-83          | 2 15/16-3 1/4   | 0591 7221 079     | 0591 7222 079     | 0591 7224 079     | 0591 7225 079     |
|       | GBS M83-91/20 SK 2T   | 83-91          | 3 1/4-3 9/16    | 0591 7221 087     | 0591 7222 087     | 0591 7224 087     | 0591 7225 087     |
| 25    | GBS M88-100/25 SK 2T  | 88-100         | 3 9/16-4        | 0591 7271 094     | 0591 7272 094     | 0591 7274 094     | 0591 7275 094     |
|       | GBS M100-116/25 SK 2T | 100-116        | 3 7/16-4 9/16   | 0591 7271 108     | 0591 7272 108     | 0591 7274 108     | 0591 7275 108     |
|       | GBS M116-136/25 SK 2T | 116-136        | 4 9/16-5 3/8    | 0591 7271 126     | 0591 7272 126     | 0591 7274 126     | 0591 7275 126     |
|       | GBS M136-156/25 SK 2T | 136-156        | 5 3/8-6 1/8     | 0591 7271 146     | 0591 7272 146     | 0591 7274 146     | 0591 7275 146     |
|       | GBS M156-176/25 SK 2T | 156-176        | 6 1/8-6 15/16   | 0591 7271 168     | 0591 7272 168     | 0591 7274 168     | 0591 7275 168     |
| 30    | GBS M125-145/30 SK 2T | 125-145        | 4 15/16-5 11/16 | 0591 7321 135     | 0591 7322 135     | 0591 7324 135     | 0591 7325 135     |
|       | GBS M145-168/30 SK 2T | 145-168        | 5 11/16-6 5/8   | 0591 7321 156     | 0591 7322 156     | 0591 7324 156     | 0591 7325 156     |
|       | GBS M168-193/30 SK 2T | 168-193        | 6 5/8-7 5/8     | 0591 7321 181     | 0591 7322 181     | 0591 7324 181     | 0591 7325 181     |
|       | GBS M193-220/30 SK 2T | 193-220        | 7 5/8-8 11/16   | 0591 7321 207     | 0591 7322 207     | 0591 7324 207     | 0591 7325 207     |
|       | GBS M220-245/30 SK 2T | 220-245        | 8 11/16-9 5/8   | 0591 7321 233     | 0591 7322 233     | 0591 7324 233     | 0591 7325 233     |
|       | GBS M245-270/30 SK 2T | 245-270        | 9 5/8-10 5/8    | 0591 7321 258     | 0591 7322 258     | 0591 7324 258     | 0591 7325 258     |
|       | GBS M270-295/30 SK 2T | 270-295        | 10 5/8-11 5/8   | 0591 7321 283     | 0591 7322 283     | 0591 7324 283     | 0591 7325 283     |
|       | GBS M295-320/30 SK 2T | 295-320        | 11 5/8-12 5/8   | 0591 7321 308     | 0591 7322 308     | 0591 7324 308     | 0591 7325 308     |
|       | GBS M320-345/30 SK 2T | 320-345        | 12 5/8-13 9/16  | 0591 7321 333     | 0591 7322 333     | 0591 7324 333     | 0591 7325 333     |

## Rubber insert

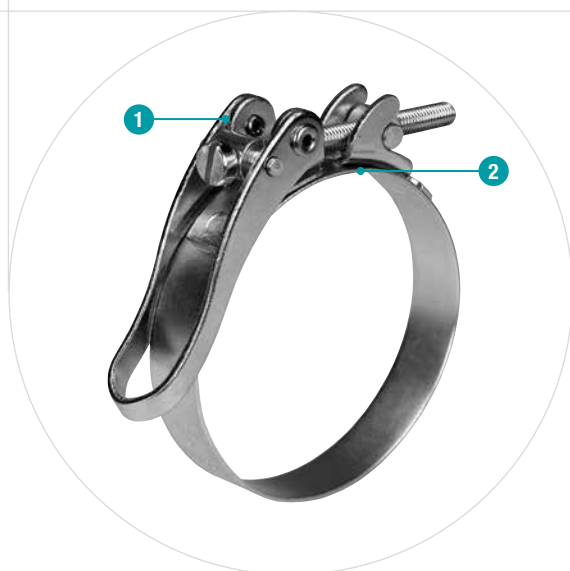


NORMACLAMP® GBS clamps can be delivered with a rubber insert for protecting against vibrations and creeping water, but also for sound absorption. For more information, please contact us.

## Ordering information

When submitting requests and orders, please specify the data in the following manner:

|         | 1. Type           | 2. Clamping range | 3. Band width | 4. Material | 5. Parts |
|---------|-------------------|-------------------|---------------|-------------|----------|
| Example | GBS RUBBER-INSERT | 43-47             | 20            | W1          | 1-part   |



- 1 Quick close and release**  
– Secure over-center lever for manual opening and closing without the need for installation tools
- 2 Bridge**  
– Optimum hose protection

## Quick-release clamps

NORMACLAMP® SVS and NORMACLAMP® SVSP clamps are secure, flexible joining elements designed for applications where joints need to be closed and released frequently and quickly, such as filtering and filling systems or food industry pipeline systems that are continually being cleaned.

### Advantages at a glance

- Closure can be opened and closed easily by hand
- No installation tools required

### Applications

- Machine building
- Chemical industry
- Food and beverage industry
- Railway industry
- Building machines
- Pump and filter

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    |    |    | x  |    |

| Material | Corrosion resistance in salt spray testing |
|----------|--------------------------------------------|
| W4       | Min. 240 h                                 |

### Technical data

| Quick-release hose clamps (SVS) |           |           |          |       |      |    |                 |
|---------------------------------|-----------|-----------|----------|-------|------|----|-----------------|
| Band width                      | Minimum Ø | Maximum Ø | Material | Bolts |      |    |                 |
|                                 |           |           |          | W4    | (0e) | Zy | Closing force N |
| 15                              | 80        | 500       | 0.6      | (•)   | •    | 6  | 80              |
| 20                              | 80        | 500       | 0.8      | (•)   | •    | 6  | 80              |
| 25                              | 80        | 500       | 1.0      | (•)   | •    | 6  | 80              |

## Technical data &amp; Ordering information

| NORMACLAMP® SVS |                            |               |               |
|-----------------|----------------------------|---------------|---------------|
| Diameter in mm  | Material W4<br>Product No. |               |               |
|                 | Band width                 |               |               |
|                 | 15 mm                      | 20 mm         | 25 mm         |
| 80 - 90         | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 100       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 110       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 120       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 130       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 140       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 150       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 160       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 170       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 180       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 190       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 200       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 210       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 220       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 230       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 240       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 250       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 260       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 270       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 280       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 290       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 300       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 310       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 320       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 330       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 340       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 350       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 360       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 370       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 380       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 390       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 400       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 410       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 420       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 430       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 440       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 450       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 460       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 470       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 480       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 490       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |
| up to 500       | 0565 0154 ...              | 0565 0204 ... | 0565 0254 ... |

... = Ø without decimals in mm

## SVS P



NORMACLAMP SVS clamps feature a bridge, which is ideal for clamping a hose type connection. The SVS P clamp has no bridge.

**Advantages at a glance**

- As it has no bridge, there is a possibility of having a profile welded onto it

**Materials**

- W4

| NORMACLAMP® SVS P |                            |               |               |
|-------------------|----------------------------|---------------|---------------|
| Diameter in mm    | Material W4<br>Product No. |               |               |
|                   | Band width                 |               |               |
|                   | 15 mm                      | 20 mm         | 25 mm         |
| 80 - 90           | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 100         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 110         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 120         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 130         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 140         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 150         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 160         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 170         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 180         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 190         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 200         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 210         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 220         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 230         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 240         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 250         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 260         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 270         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 280         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 290         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 300         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 310         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 320         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 330         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 340         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 350         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 360         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 370         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 380         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 390         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 400         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 410         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 420         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 430         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 440         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 450         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 460         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 470         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 480         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 490         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |
| up to 500         | 0566 0154 ...              | 0566 0204 ... | 0566 0254 ... |

... = Ø without decimals in mm

**Eyelet bolt**

If requested in the order, and assuming that an appropriate quantity is ordered, the closure can be fitted with an eyelet bolt as an alternative.

**Advantages at a glance**

- Eyelet bolt suitable for light duty series

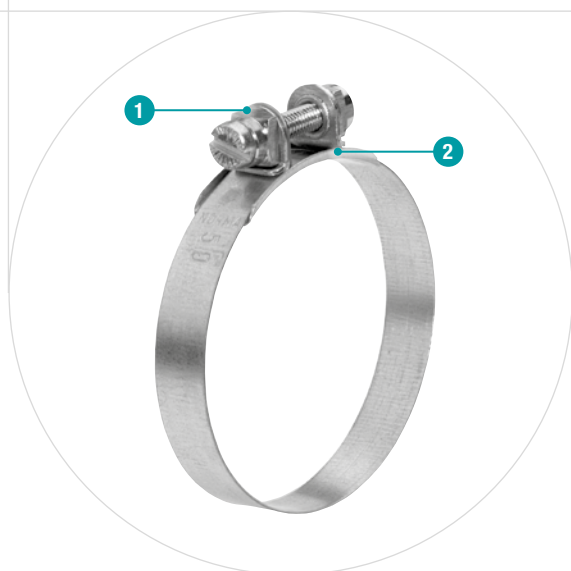
**Materials**

- W4

**NORMACLAMP® SVS EYELET BOLT**

| Diameter in mm | Material W4<br>Product No. |               |               |
|----------------|----------------------------|---------------|---------------|
|                | Band width                 |               |               |
|                | 15 mm                      | 20 mm         | 25 mm         |
| 80 - 90        | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 100      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 110      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 120      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 130      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 140      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 150      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 160      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 170      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 180      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 190      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 200      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 210      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 220      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 230      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 240      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 250      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 260      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 270      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 280      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 290      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 300      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 310      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 320      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 330      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 340      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 350      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 360      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 370      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 380      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 390      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 400      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 410      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 420      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 430      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 440      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 450      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 460      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 470      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 480      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 490      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |
| up to 500      | 0565 1154 ...              | 0565 1204 ... | 0565 1254 ... |

... = Ø without decimals in mm



### 1 Powerful clamping brackets structure

- high level of clamping force
- excellent sealing properties

### 2 Bridge

- optimum hose protection

## DIN 3016, DIN 3017

Thanks to their robust clamping brackets structure featuring metric bolts, NORMACLAMP® S/SP clamps provide a high level of clamping force. The two-part version is recommended for exceptionally high pressure and tensile loads.



### Advantages at a glance

- High level of clamping force
- Even contact pressure
- Elbow fittings, brackets or lugs can be attached
- Clamps can be fitted with a rubber profile in order to absorb vibrations and protect against the ingress of creeping water

### Applications

- Machine building
- Chemical industry
- Irrigation systems
- Ship manufacturing
- Railway industry
- Agricultural machines
- Building machines
- Engine manufacturing
- Pump and filter

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    | x* | x  |

\*Only for the 30 mm band width

| Material | Corrosion resistance in salt spray testing |
|----------|--------------------------------------------|
| W1       | Min. 72 h                                  |
| W5       | Min. 400 h                                 |

| NORMACLAMP® S/SP             |                    |                          |     |                                      |     |
|------------------------------|--------------------|--------------------------|-----|--------------------------------------|-----|
| Band width<br>b <sub>1</sub> | Minimum Ø<br>in mm | Material thickness in mm |     |                                      |     |
|                              |                    | S                        |     | SP                                   |     |
|                              |                    | W1                       | W5  | W1                                   | W5  |
| 5                            | 5                  | 0.2                      | –   | 0.2                                  | –   |
| 7                            | 6                  | 0.3/0.4                  | 0.4 | 0.4                                  | 0.4 |
| 9                            | 9                  | 0.4                      | 0.4 | 0.6                                  | 0.4 |
| 12                           | 12                 | 0.5                      | 0.5 | 0.7                                  | 0.5 |
| 15                           | 20                 | 0.6                      | 0.6 | 0.8                                  | 0.6 |
| 20                           | 25                 | 1.0                      | 0.8 | (up to ø 47) 1.0<br>(from ø 48) 1.25 | 0.8 |
| 25                           | 50**               | 1.25                     | 1.0 | 1.25/1.5                             | 1   |

## Bolts

| NORMACLAMP® S/SP |        |          |         |
|------------------|--------|----------|---------|
| Band width<br>mm | Zy     | Sz       | Sk      |
| 5                | M 2x12 |          |         |
| 7                | M 3x16 |          |         |
| 9                | M 4x22 | M 4 x 20 |         |
| 12               |        | M 5x25   |         |
| 15               |        | M 6x30   |         |
| 20               |        | M 8x40   |         |
| 25               |        |          | M 10x45 |

## Static torques

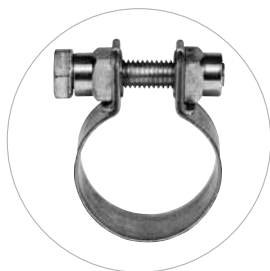
| NORMACLAMP® S/SP                   |                                   |                          |
|------------------------------------|-----------------------------------|--------------------------|
| Band width<br>b <sub>1</sub><br>mm | Static tightening<br>torque<br>Nm | Static test torque<br>Nm |
|                                    | max.                              |                          |
| 7                                  | 0.5                               | 0.6                      |
| 9                                  | 1.2                               | 1.5                      |
| 12                                 | 1.5                               | 1.8                      |
| 15                                 | 4                                 | 4.8                      |
| 20                                 | 12                                | 14.5                     |
| 25                                 | 30                                | 36                       |

Static torques according to DIN 3017-2

## Technical data &amp; Ordering information

| NORMACLAMP® S               |                   |               |               |               |               |               |               |               |                   |                   |               |               |               |               |               |
|-----------------------------|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------------|-------------------|---------------|---------------|---------------|---------------|---------------|
| Clamping<br>diameter,<br>mm | W1<br>Product No. |               |               |               |               |               |               |               | W4<br>Product No. | W5<br>Product No. |               |               |               |               |               |
|                             | Band width        |               |               |               |               |               |               |               | Band width        | Band width        |               |               |               |               |               |
|                             | 5 mm<br>Zy        | 7 mm<br>Zy    | 9 mm<br>Zy    | 12 mm<br>Sz   | 15 mm<br>Sz   | 20 mm<br>Sz   | 25 mm<br>Sz   | 30 mm<br>Sz   | 30 mm<br>Sz       | 7 mm<br>Zy        | 9 mm<br>Zy    | 12 mm<br>Sz   | 15 mm<br>Sz   | 20 mm<br>Sz   | 25 mm<br>Sz   |
| up to 9                     | 0100 8980 ...     |               |               |               |               |               |               |               |                   |                   |               |               |               |               |               |
| up to 10                    |                   | 0110 8980 ... | 0120 8980 ... |               |               |               |               |               |                   | 0110 0700 ...     | 0120 0700 ... |               |               |               |               |
| from 15                     |                   |               | 0120 8980 ... | 0130 0005 ... | 0140 0000 ... |               |               |               |                   |                   | 0120 0700 ... | 0130 0705 ... | 0140 0700 ... |               |               |
| up to 20                    |                   |               | 0120 8980 ... | 0130 0005 ... | 0140 0000 ... |               |               |               |                   |                   | 0120 0700 ... | 0130 0705 ... | 0140 0700 ... |               |               |
| up to 28                    |                   |               | 0120 8980 ... | 0130 0005 ... | 0140 0000 ... |               |               |               |                   |                   | 0120 0700 ... | 0130 0705 ... | 0140 0700 ... |               |               |
| up to 30                    |                   |               | 0120 8980 ... |               | 0140 0000 ... |               |               |               |                   |                   | 0120 0700 ... |               | 0140 0700 ... |               |               |
| from 36                     |                   |               | 0120 8980 ... |               | 0140 0000 ... | 0150 0000 ... |               |               |                   |                   | 0120 0700 ... |               | 0140 0700 ... | 0150 0700 ... |               |
| up to 40                    |                   |               | 0120 8980 ... |               | 0140 0000 ... | 0150 0000 ... |               |               |                   |                   | 0120 0700 ... |               | 0140 0700 ... | 0150 0700 ... |               |
| up to 50                    |                   |               | 0120 8980 ... |               | 0140 0000 ... | 0150 0000 ... | 0160 0000 ... |               |                   |                   | 0120 0700 ... |               | 0140 0700 ... | 0150 0700 ... | 0160 0700 ... |
| up to 60                    |                   |               | 0120 8980 ... |               | 0140 0000 ... | 0150 0000 ... | 0160 0000 ... |               |                   |                   | 0120 0700 ... |               | 0140 0700 ... | 0150 0700 ... | 0160 0700 ... |
| up to 70                    |                   |               | 0120 8980 ... |               | 0140 0000 ... | 0150 0000 ... | 0160 0000 ... |               |                   |                   | 0120 0700 ... |               | 0140 0700 ... | 0150 0700 ... | 0160 0700 ... |
| up to 75                    |                   |               | 0120 8980 ... |               | 0140 0000 ... | 0150 0000 ... | 0160 0000 ... | 0180 0000 ... | 0180 0700 ...     |                   | 0120 0700 ... |               | 0140 0700 ... | 0150 0700 ... | 0160 0700 ... |
| up to 80                    |                   |               |               |               | 0140 0000 ... | 0150 0000 ... | 0160 0000 ... | 0180 0000 ... | 0180 0700 ...     |                   |               |               | 0140 0700 ... | 0150 0700 ... | 0160 0700 ... |
| up to 90                    |                   |               |               |               | 0140 0000 ... | 0150 0000 ... | 0160 0000 ... | 0180 0000 ... | 0180 0700 ...     |                   |               |               | 0140 0700 ... | 0150 0700 ... | 0160 0700 ... |
| up to 100                   |                   |               |               |               | 0140 0000 ... | 0150 0000 ... | 0160 0000 ... | 0180 0000 ... | 0180 0700 ...     |                   |               |               | 0140 0700 ... | 0150 0700 ... | 0160 0700 ... |
| up to 110                   |                   |               |               |               |               | 0150 0000 ... | 0160 0000 ... | 0180 0000 ... | 0180 0700 ...     |                   |               |               |               | 0150 0700 ... | 0160 0700 ... |
| up to 120                   |                   |               |               |               |               | 0150 0000 ... | 0160 0000 ... | 0180 0000 ... | 0180 0700 ...     |                   |               |               |               | 0150 0700 ... | 0160 0700 ... |
| up to 130                   |                   |               |               |               |               | 0150 0000 ... |               | 0180 0000 ... | 0180 0700 ...     |                   |               |               |               | 0150 0700 ... |               |
| up to 140                   |                   |               |               |               |               | 0150 0000 ... |               | 0180 0000 ... | 0180 0700 ...     |                   |               |               |               | 0150 0700 ... |               |
| up to 150                   |                   |               |               |               |               | 0150 0000 ... |               | 0180 0000 ... | 0180 0700 ...     |                   |               |               |               | 0150 0700 ... |               |
| up to 160                   |                   |               |               |               |               | 0150 0000 ... |               | 0180 0000 ... | 0180 0700 ...     |                   |               |               |               | 0150 0700 ... |               |
| up to 170                   |                   |               |               |               |               | 0150 0000 ... |               | 0180 0000 ... | 0180 0700 ...     |                   |               |               |               | 0150 0700 ... |               |
| up to 180                   |                   |               |               |               |               | 0150 0000 ... |               | 0180 0000 ... | 0180 0700 ...     |                   |               |               |               | 0150 0700 ... |               |
| up to 190                   |                   |               |               |               |               | 0150 0000 ... |               | 0180 0000 ... | 0180 0700 ...     |                   |               |               |               | 0150 0700 ... |               |
| up to 200                   |                   |               |               |               |               | 0150 0000 ... |               | 0180 0000 ... | 0180 0700 ...     |                   |               |               |               | 0150 0700 ... |               |

... = 0 without decimals in mm

**SP Simple**

NORMACLAMP® SP Simple is suitable for attaching rubber and plastic hoses as well as rubber sleeves to pipe ends or hose spigots. This clamp can be used for clamping containers, pipes and cables.

**Materials**

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    |    | x* |

\*On request

**SP Double**

NORMACLAMP® SP Double enables larger diameters to be clamped easily thanks to its multi-part design.

**Materials**

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    |    | x* |

\*On request

**SPGU**

NORMACLAMP® SPGU has a rubber profile that protects against vibrations and creeping water. It is also sound-absorbent and protects against contact corrosion.

**Materials**

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    |    | x* |

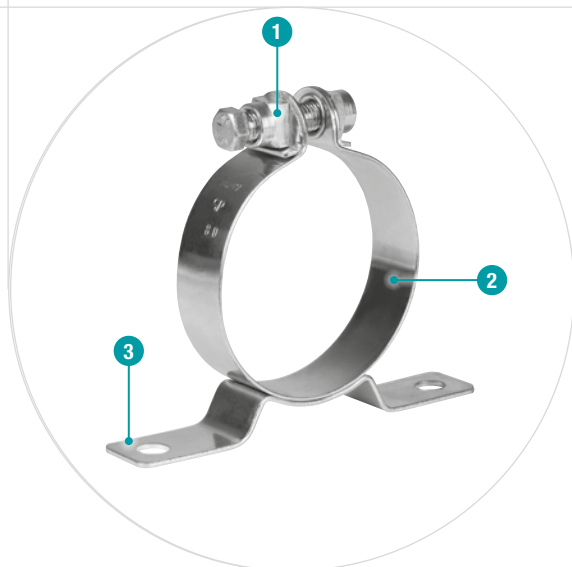
\*On request

**Ordering information**

| NORMACLAMP® SP SFGU |               |               |
|---------------------|---------------|---------------|
| Material            | SP            | SPGU          |
| W1                  | 0181 0000 ... | 0181 9000 ... |
| W4                  | 0181 0700 ... | 0181 9700 ... |

... = Ø without decimals in mm





- 1 Powerful clamping brackets structure**  
– secure grip
- 2 Robust band with rounded edges**  
– prevents injuries and damage to hoses
- 3 Sturdy bracket**  
– secure retention

## Retaining clamps with brackets

NORMAFIX® HMK retaining clamps with brackets are used when high mechanical force is needed for retaining containers or pipes on ceilings and walls as well as in machine building and plant construction applications.

### Standard design

This version features an “open” bracket, making it suitable for all applications in which relatively light structures are being retained and

which are subject to low mechanical loads. The standard version of the retaining clamps is available in one or two parts, and with band widths of 15, 20 and 25 mm.

These clamps can be fitted with a rubber profile for shock absorption purposes. The rubber profile simultaneously protects against the ingress of creeping water.

### Advantages at a glance

- For high mechanical force
- Stable construction
- Chrome 6 free surface

### Applications

- Machine building
- Chemical industry
- Irrigation systems
- Ship manufacturing
- Food and beverage industry
- Railway industry
- Agricultural machines
- Building machines
- Engine manufacturing
- Pump and filter
- Mining industry

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    | x  | x  |

## Rubber profiles

The rubber profiles are available in EPDM (type a) and silicone (type b) material versions.

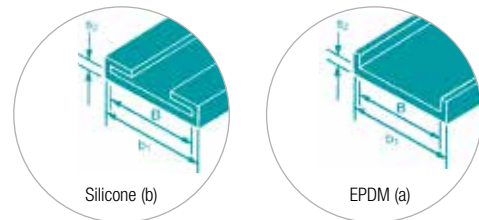
B = band width of clamp

$b_1$  = width in mm

$s_2$  = material thickness in mm

All rubber profiles are installed at the factory, i.e., the clamps concerned are supplied ready for use.

When submitting requests/orders for NORMAFIX® HMK retaining clamps with brackets, please specify which rubber profile you require.



| B  | $b_1 \approx$ | $s_2$ |
|----|---------------|-------|
| 15 | 18.5          | 1.5   |
| 20 | 25            | 2.0   |
| 25 | 31            | 3.0   |
| 30 | 36            | 3.0   |

## Technical data & Ordering information



### NORMAFIX® HMK (standard design)

| Band width in mm | Designation        | Min. $\phi$ in mm | Min. $\phi$ in in. | Bolts |    |            | d in mm | Rubber profile |      | s in mm |     | Part Group |
|------------------|--------------------|-------------------|--------------------|-------|----|------------|---------|----------------|------|---------|-----|------------|
|                  |                    |                   |                    | Sz    | Sk | Dimensions |         | Silicone       | EPDM | W1      | W5  |            |
| 15               | HMK STANDARD 25/15 | 25                | 1                  | X     |    | M6 x 30    | 6.5     | X              | X    | 0.8     | 0.6 | 1416       |
| 20               | HMK STANDARD 30/20 | 30                | 1 3/16             | X     |    | M8 x 40    | 8.5     | X              | X    | 1.0-1.5 | 0.8 | 1516       |
| 25               | HMK STANDARD 50/25 | 50                | 2                  |       | X  | M10 x 45   | 11      | X              | X    | 1.5     | 1.0 | 1616       |

## Ordering information

When submitting requests and orders, please specify the data in the following manner:

|         | 1. Type      | 2. Parts | 3. Diameter | 4. Band width | 5. Bolt | 6. Material |
|---------|--------------|----------|-------------|---------------|---------|-------------|
| Example | HMK STANDARD | 1616     | 50/         | 25            | SK      | W1          |

## Single-parts



Thanks to its structure the NORMACLAMP® HMK single-part is suitable for use with even high mechanical loads and for retaining extremely heavy pipes and connectors.

### Advantages at a glance

- Stable construction
- Chrome 6 free surface
- EPDM Rubber profile

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    | x  |    |

## Two-parts



In this version, the ends of the brackets are folded back and spot-welded onto the band. Thanks to its structure the NORMACLAMP® HMK two-parts is suitable for use with even high mechanical loads and for retaining extremely heavy pipes and connectors.

### Advantages at a glance

- Stable construction
- Chrome 6 free surface
- EPDM Rubber profile
- Two-parts clamp for bigger clamping range
- Suitable for larger hoses

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    | x  |    |

## K1



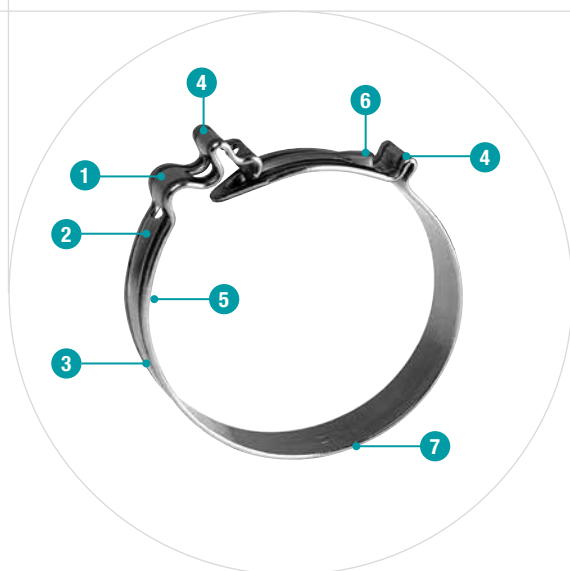
These are prefabricated brackets which you can use to transform NORMACLAMP® standard clamps (types GBS, HD, SP and TORRO) into retaining clamps with brackets in no time at all. Just open the standard clamp, guide the band through the bracket slot, and that's all there is to it.

### Advantages at a glance

- Suitable for many clamp versions
- Easy to use

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    |    |    |



- 1 Self-adjusting diameter**  
– compensation for tolerances at the outer diameter of the hose
- 2 Bead**  
– secure band guidance
- 3 Color coding**  
– a rapid way of visually distinguishing between nominal diameters
- 4 Protruding tool gripping points**  
– easy and safe installation
- 5 Date of manufacture and machine number indicated**
- 6 Single lock-in point**  
– installation indicator for easy visual checking
- 7 Band material with rounded outer edges**  
– hose protection

## One-piece hose clips

NORMACLAMP® COBRA products are bolt-free, one-piece hose clips. Their low overall height enables precise installation in even the tightest of spaces. NORMACLAMP® COBRA clamps are quick and easy to install.



### Advantages at a glance

- Bolt-free hose clip in one piece
- Quick, easy and safe installation
- Maintenance-free fit

### Applications

- Machine building
- White goods
- Chemical industry
- Irrigation systems
- Food and beverage industry
- Agricultural machines
- Engine manufacturing
- Pump and filter
- Suction lines
- Ventilation lines
- Washing machine hoses
- Pneumatic lines

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    |    |    | x  |    |

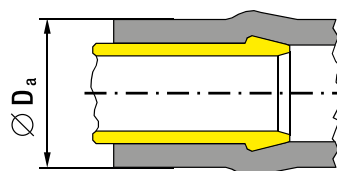
| Material | Corrosion resistance in salt spray testing |
|----------|--------------------------------------------|
| W4       | Min. 240 h                                 |

### Selecting the right nominal diameter

- Push the hose onto the spigot and measure the outer diameter  $D_a$ .
- The applicable nominal diameter  $d_n$  is then matched to this outer diameter  $D_a$ .

If required, we can send you an appropriate sample before you place your order.

If you have any additional, application-specific questions, we will be happy to advise you in more detail.

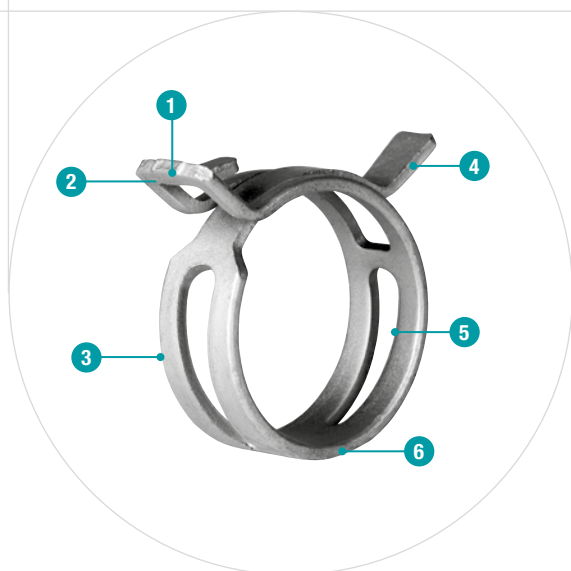


## Technical data & Ordering information

| NORMACLAMP® COBRA |              |                 |              |                  |                |        |
|-------------------|--------------|-----------------|--------------|------------------|----------------|--------|
| Width             | Designation  | Clamping ranges |              | Nominal diameter | W4 Product No. | Color  |
|                   |              | in mm           | in inches    |                  |                |        |
| 7                 | COBRA 7.5/7  | 8-9             | 5/16-3/8     | 7.5              | 0107 7000 075  | White  |
|                   | COBRA 8.0/7  | 8.5-9.5         | 5/16-3/8     | 8.0              | 0107 7000 008  | Yellow |
|                   | COBRA 8.5/7  | 9-10            | 3/8-3/8      | 8.5              | 0107 7000 085  | Green  |
|                   | COBRA 9.0/7  | 9.5-10.5        | 3/8-3/8      | 9.0              | 0107 7000 009  | Purple |
|                   | COBRA 9.5/7  | 10-11           | 3/8-7/16     | 9.5              | 0107 7000 095  | Black  |
|                   | COBRA 10.0/7 | 10.5-11.5       | 3/8-7/16     | 10               | 0107 7000 010  | White  |
|                   | COBRA 10.5/7 | 11-12           | 7/16-1/2     | 10.5             | 0107 7000 105  | Yellow |
|                   | COBRA 11.0/7 | 11.5-12.5       | 7/16-1/2     | 11               | 0107 7000 011  | Green  |
|                   | COBRA 11.5/7 | 12-13           | 1/2-1/2      | 11.5             | 0107 7000 115  | Purple |
| 8                 | COBRA 12/8   | 12.5-14         | 1/2-9/16     | 12               | 0108 7006 012  | Black  |
|                   | COBRA 13/8   | 13.5-15         | 1/2-5/8      | 13               | 0108 7006 013  | Yellow |
|                   | COBRA 14/8   | 14.5-16         | 9/16-5/8     | 14               | 0108 7006 014  | Purple |
|                   | COBRA 15/8   | 15.5-17         | 5/8-11/16    | 15               | 0108 7006 015  | White  |
|                   | COBRA 16/8   | 16.5-18         | 5/8-3/4      | 16               | 0108 7006 016  | Green  |
|                   | COBRA 17/8   | 17.5-19         | 11/16-3/4    | 17               | 0108 7006 017  | Black  |
|                   | COBRA 18/8   | 18.5-20         | 3/4-13/16    | 18               | 0108 7006 018  | Yellow |
|                   | COBRA 19/8   | 19.5-21         | 3/4-13/16    | 19               | 0108 7006 019  | Purple |
|                   | COBRA 20/8   | 20.5-22         | 13/16-7/8    | 20               | 0108 7006 020  | White  |
|                   | COBRA 21/8   | 21.5-23         | 13/16-7/8    | 21               | 0108 7006 021  | Green  |
|                   | COBRA 22/8   | 22.5-24         | 7/8-15/16    | 22               | 0108 7006 022  | Black  |
|                   | COBRA 23/8   | 23.5-25         | 7/8-1        | 23               | 0108 7006 023  | Yellow |
|                   | COBRA 24/8   | 24.5-26         | 15/16-1 1/16 | 24               | 0108 7006 024  | Purple |
|                   | COBRA 25/8   | 25.5-27         | 1-1 1/16     | 25               | 0108 7006 025  | White  |
|                   | COBRA 26/8   | 26.5-28         | 1 1/16-1 1/8 | 26               | 0108 7006 026  | Green  |
|                   | COBRA 27/8   | 27.5-29         | 1 1/16-1 1/8 | 27               | 0108 7006 027  | Black  |
|                   | COBRA 28/8   | 28.5-30         | 1 1/8-1 3/16 | 28               | 0108 7006 028  | Yellow |
|                   | COBRA 29/8   | 29.5-31         | 1 1/8-1 1/4  | 29               | 0108 7006 029  | Purple |
|                   | COBRA 30/8   | 30.5-32         | 1 3/16-1 1/4 | 30               | 0108 7006 030  | White  |



Refer to pages 181, 188 and 190.



- 1 Lot number stamped on**  
– reliable traceability
- 2 NORMA® logo**  
– a visible sign of quality
- 3 Organic/inorganic coating**  
– optimum protection against corrosion
- 4 Nominal diameter stamped on**  
– prevents mistakes
- 5 Special design**  
– even distribution of clamping force and excellent roundness
- 6 Rounded band edges**  
– optimum hose protection

## Springband hose clamps in acc. with DIN 3021

Thanks to their dynamic spring properties, NORMACLAMP® FBS springband hose clamps are the perfect choice for hose spigot systems that are exposed to significant temperature fluctuations. Once installed, NORMACLAMP® FBS clamps ensure an automatic re-tensioning effect for an extended period. Even at low temperatures, this mechanism still enables sufficiently high levels of radial clamping force to be achieved, which in turn ensure excellent sealing reliability. With NORMACLAMP® FBS clamps, even hoses that are exposed to significant temperature fluctuations or have a tendency to “creep” can be joined securely.



A springband hose clamp with dynamic spring properties which ensure an automatic re-tensioning effect. It is particularly suitable for use with hose-spigot joints which are submitted to extreme temperature changes. Manual or pneumatic tools are used for professional installation.

### Advantages at a glance

- One-piece, bolt-free hose clamp
- Even distribution of clamping force
- Optimum roundness
- Temperature resistance from –40 °C to 200 °C
- Clear traceability due to batch numbering

### Applications

- Machine building
- White goods
- Agricultural machines
- Engine manufacturing
- Cooling and heating water circuits
- Fuel vent system
- Air ducts
- Water and brine outlet lines

### Materials

| Material | Zinc/aluminum coating | Organic coating |
|----------|-----------------------|-----------------|
| C 75 S   | Base coat             | Top coat        |

#### Corrosion resistance in salt spray testing

480 h and up

### Short description

- Dynamic clamp
- Band material C 75 S
- Coating containing zinc; no chromium(VI)
- Nominal diameter of 13 mm to 80 mm in various gradations



#### At high temperatures

- Hose diameter increases
- FBS adapts to internal pressure



#### At low temperatures

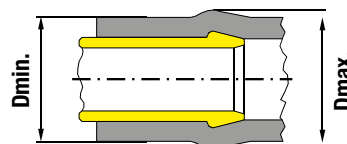
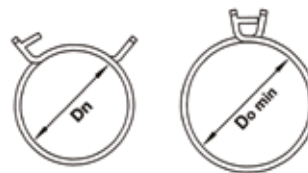
- Hose diameter decreases
- FBS re-tensions
- Clamping force is retained and clamp provides perfect seal

## Determine clamp

To determine which clamp is right for you, follow these steps:

1. Push the hose onto the spigot and measure  $D_{min.}$  and  $D_{max.}$
2. Based on the  $D_{min.}$  value, determine the nominal diameter ( $D_n$ ) of the clamp in question.  $D_n = D_{min.}$
3. Compare the  $D_{max.}$  value with the minimum diameter ( $D_{0 min.}$ ) specified for the open clamp and select the clamp that is appropriate.  
 $D_{0 min.} \geq D_{max.}$

If required, we can send you an appropriate sample before you place your order. If you have any additional, application-specific questions, we will be happy to advise you in more detail.



## Technical data & Ordering information

### NORMACLAMP® FBS STANDARD

| Width | Designation | $D_n$<br>mm | $D_n$<br>inches | $D_{0 m}$<br>in mm | $D_{0 min}$<br>in inches | Material C 75 S<br>Product No. |               |
|-------|-------------|-------------|-----------------|--------------------|--------------------------|--------------------------------|---------------|
|       |             |             |                 |                    |                          | Black                          | Silver        |
| 12    | FBS 13/12   | 13          | 1/2             | 14.5               | 9/16                     | 0112 8024 013                  | 0112 8074 013 |
|       | FBS 14/12   | 14          | 9/16            | 15.8               | 5/8                      | 0112 8024 014                  | 0112 8074 014 |
|       | FBS 15/12   | 15          | 9/16            | 16.8               | 11/16                    | 0112 8024 015                  | 0112 8074 015 |
|       | FBS 16/12   | 16          | 5/8             | 17.5               | 11/16                    | 0112 8024 016                  | 0112 8074 016 |
|       | FBS 17/12   | 17          | 11/16           | 18.5               | 3/4                      | 0112 8024 017                  | 0112 8074 017 |
|       | FBS 18/12   | 18          | 11/16           | 19                 | 3/4                      | 0112 8024 018                  | 0112 8074 018 |
|       | FBS 19/12   | 19          | 3/4             | 21                 | 13/16                    | 0112 8024 019                  | 0112 8074 019 |
|       | FBS 20/12   | 20          | 13/16           | 21.6               | 7/8                      | 0112 8024 020                  | 0112 8074 020 |
|       | FBS 21/12   | 21          | 13/16           | 22.5               | 7/8                      | 0112 8024 021                  | 0112 8074 021 |
|       | FBS 22/12   | 22          | 7/8             | 24.5               | 15/16                    | 0112 8024 022                  | 0112 8074 022 |
|       | FBS 23/12   | 23          | 15/16           | 24.7               | 1                        | 0112 8024 023                  | 0112 8074 023 |
|       | FBS 24/12   | 24          | 15/16           | 26                 | 1                        | 0112 8024 024                  | 0112 8074 024 |
|       | FBS 25/12   | 25          | 1               | 27                 | 1 1/16                   | 0112 8024 025                  | 0112 8074 025 |
|       | FBS 26/12   | 26          | 1               | 28                 | 1 1/8                    | 0112 8024 026                  | 0112 8074 026 |
|       | FBS 27/12   | 27          | 1 1/16          | 29                 | 1 1/8                    | 0112 8024 027                  | 0112 8074 027 |
|       | FBS 28/12   | 28          | 1 1/8           | 30.5               | 1 3/16                   | 0112 8024 028                  | 0112 8074 028 |
|       | FBS 29/12   | 29          | 1 1/8           | 31.5               | 1 1/4                    | 0112 8024 029                  | 0112 8074 029 |
|       | FBS 30/12   | 30          | 1 3/16          | 32.5               | 1 1/4                    | 0112 8024 030                  | 0112 8074 030 |
|       | FBS 32/12   | 32          | 1 1/4           | 34.5               | 1 3/8                    | 0112 8024 032                  | 0112 8074 032 |
|       | FBS 35/12   | 35          | 1 3/8           | 38                 | 1 1/2                    | 0112 8024 035                  | 0112 8074 035 |
|       | FBS 36/12   | 36          | 1 7/16          | 39                 | 1 9/16                   | 0112 8024 036                  | 0112 8074 036 |
|       | FBS 38/12   | 38          | 1 1/2           | 41.5               | 1 5/8                    | 0112 8024 038                  | 0112 8074 038 |
|       | FBS 40/12   | 40          | 1 9/16          | 42.5               | 1 11/16                  | 0112 8024 040                  | 0112 8074 040 |
|       | FBS 42/12   | 42          | 1 5/8           | 44.5               | 1 3/4                    | 0112 8024 042                  | 0112 8074 042 |
|       | FBS 44/12   | 44          | 1 3/4           | 46.5               | 1 13/16                  | 0112 8024 044                  | 0112 8074 044 |
|       | FBS 46/12   | 46          | 1 13/16         | 49                 | 1 15/16                  | 0112 8024 046                  | 0112 8074 046 |
|       | FBS 47/12   | 47          | 1 7/8           | 50                 | 2                        | 0112 8024 047                  | 0112 8074 047 |
|       | FBS 50/12   | 50          | 2               | 53                 | 2 1/16                   | 0112 8024 050                  | 0112 8074 050 |
|       | FBS 55/12   | 55          | 2 3/16          | 58                 | 2 1/4                    | 0112 8024 055                  | 0112 8074 055 |
|       | FBS 60/12   | 60          | 2 3/8           | 63                 | 2 1/2                    | 0112 8024 060                  | 0112 8074 060 |

Special diameters available on request



Refer to pages 188 and 190.

**R**

The NORMACLAMP® FBS R was designed with the aim of achieving the smallest overall height that was technically possible so that it could be used in difficult installation conditions.

**Advantages at a glance**

- Space-saving clamp

**Materials**

- C75S

**NORMACLAMP® FBS R**

| Width | Designation | D <sub>n</sub><br>mm | D <sub>n</sub><br>in inches | D <sub>0 min</sub><br>mm | D <sub>0 min</sub><br>in inches | Material C 75 S<br>Product No. |               |
|-------|-------------|----------------------|-----------------------------|--------------------------|---------------------------------|--------------------------------|---------------|
|       |             |                      |                             |                          |                                 | Black                          | Silver        |
| 12    | FBS R 14/12 | 14                   | 9/16                        | 15.8                     | 5/8                             | 0112 8025 014                  | 0112 8075 014 |
|       | FBS R 16/12 | 16                   | 5/8                         | 17.5                     | 11/16                           | 0112 8025 016                  | 0112 8075 016 |
|       | FBS R 19/12 | 19                   | 3/4                         | 21                       | 13/16                           | 0112 8025 019                  | 0112 8075 019 |
|       | FBS R 23/12 | 23                   | 15/16                       | 24.7                     | 1                               | 0112 8025 023                  | 0112 8075 023 |
|       | FBS R 27/12 | 27                   | 1 1/16                      | 29                       | 1 1/8                           | 0112 8025 027                  | 0112 8075 027 |
|       | FBS R 40/12 | 40                   | 1 9/16                      | 42.5                     | 1 11/16                         | 0112 8025 040                  | 0112 8075 040 |

Special diameters available on request



Refer to pages 188 and 190.

**C**

A pre-opened clamp that is prepositioned on the hose. The retaining mechanism for this version is part of the band and is integrated into the clamp.

**Advantages at a glance**

- Pre-assembled clamp
- Ready to use

**Materials**

- C75S

**NORMACLAMP® FBS C**

| Width | Designation | D <sub>n</sub><br>mm | D <sub>n</sub><br>in inches | D <sub>0 min</sub><br>mm | D <sub>0 min</sub><br>in inches | Material C 75 S<br>Product No. |
|-------|-------------|----------------------|-----------------------------|--------------------------|---------------------------------|--------------------------------|
|       |             |                      |                             |                          |                                 | Silver                         |
| 12    | FBS C 17/12 | 17                   | 11/16                       | 18.5                     | 3/4                             | 0112 8502 017                  |
|       | FBS C 21/12 | 21                   | 13/16                       | 22.5                     | 7/8                             | 0112 8502 021                  |
|       | FBS C 23/12 | 23                   | 15/16                       | 24.7                     | 1                               | 0112 8502 023                  |
|       | FBS C 25/12 | 25                   | 1                           | 27                       | 1 1/16                          | 0112 8502 025                  |
|       | FBS C 27/12 | 27                   | 1 1/16                      | 29                       | 1 1/8                           | 0112 8502 027                  |
|       | FBS C 29/12 | 29                   | 1 1/8                       | 31.5                     | 1 1/4                           | 0112 8502 029                  |
|       | FBS C 32/12 | 32                   | 1 1/4                       | 34.5                     | 1 3/8                           | 0112 8502 032                  |
|       | FBS C 36/12 | 36                   | 1 7/16                      | 39                       | 1 9/16                          | 0112 8502 036                  |
|       | FBS C 40/12 | 40                   | 1 9/16                      | 42.5                     | 1 11/16                         | 0112 8502 040                  |
|       | FBS C 44/12 | 44                   | 1 3/4                       | 46.5                     | 1 13/16                         | 0112 8502 044                  |



Refer to page 188.

## HC



A pre-opened version that is secured by a plastic clip. Once the clamp has been pushed onto the hose, this clip can be released easily by hand.

**Advantages at a glance**

- Easy to assemble

**Materials**

- C75S

NORMACLAMP® FBS HC

| Width | Designation  | D <sub>n</sub><br>mm | D <sub>n</sub><br>in inches | D <sub>0 min</sub><br>mm | D <sub>0 min</sub><br>in inches | Material C 75 S<br>Product No. | Material C 75 S<br>Product No. |
|-------|--------------|----------------------|-----------------------------|--------------------------|---------------------------------|--------------------------------|--------------------------------|
|       |              |                      |                             |                          |                                 | Black                          | Silver                         |
| 12    | FBS HC 13/12 | 13                   | 1/2                         | 14.5                     | 9/16                            | 0112 8302 013                  | 0112 8352 013                  |
|       | FBS HC 14/12 | 14                   | 9/16                        | 15.8                     | 5/8                             | 0112 8302 014                  | 0112 8352 014                  |
|       | FBS HC 15/12 | 15                   | 9/16                        | 16.8                     | 11/16                           | 0112 8302 015                  | 0112 8352 015                  |
|       | FBS HC 16/12 | 16                   | 5/8                         | 17.5                     | 11/16                           | 0112 8302 016                  | 0112 8352 016                  |
|       | FBS HC 17/12 | 17                   | 11/16                       | 18.5                     | 3/4                             | 0112 8302 017                  | 0112 8352 017                  |
|       | FBS HC 18/12 | 18                   | 11/16                       | 19                       | 3/4                             | 0112 8302 018                  | 0112 8352 018                  |
|       | FBS HC 19/12 | 19                   | 3/4                         | 21                       | 13/16                           | 0112 8302 019                  | 0112 8352 019                  |
|       | FBS HC 20/12 | 20                   | 13/16                       | 21.6                     | 7/8                             | 0112 8302 020                  | 0112 8352 020                  |
|       | FBS HC 21/12 | 21                   | 13/16                       | 22.5                     | 7/8                             | 0112 8302 021                  | 0112 8352 021                  |
|       | FBS HC 22/12 | 22                   | 7/8                         | 24.5                     | 15/16                           | 0112 8302 022                  | 0112 8352 022                  |
|       | FBS HC 23/12 | 23                   | 15/16                       | 24.7                     | 1                               | 0112 8302 023                  | 0112 8352 023                  |
|       | FBS HC 24/12 | 24                   | 15/16                       | 26                       | 1                               | 0112 8302 024                  | 0112 8352 024                  |
|       | FBS HC 25/12 | 25                   | 1                           | 27                       | 1 1/16                          | 0112 8302 025                  | 0112 8352 025                  |
|       | FBS HC 26/12 | 26                   | 1                           | 28                       | 1 1/8                           | 0112 8302 026                  | 0112 8352 026                  |
|       | FBS HC 27/12 | 27                   | 1 1/16                      | 29                       | 1 1/8                           | 0112 8302 027                  | 0112 8352 027                  |
|       | FBS HC 28/12 | 28                   | 1 1/8                       | 30.5                     | 1 3/16                          | 0112 8302 028                  | 0112 8352 028                  |
|       | FBS HC 29/12 | 29                   | 1 1/8                       | 31.5                     | 1 1/4                           | 0112 8302 029                  | 0112 8352 029                  |
|       | FBS HC 30/12 | 30                   | 1 3/16                      | 32.5                     | 1 1/4                           | 0112 8302 030                  | 0112 8352 030                  |
|       | FBS HC 32/12 | 32                   | 1 1/4                       | 34.5                     | 1 3/8                           | 0112 8302 032                  | 0112 8352 032                  |
|       | FBS HC 35/12 | 35                   | 1 3/8                       | 38                       | 1 1/2                           | 0112 8302 035                  | 0112 8352 035                  |
|       | FBS HC 36/12 | 36                   | 1 7/16                      | 39                       | 1 9/16                          | 0112 8302 036                  | 0112 8352 036                  |
|       | FBS HC 38/12 | 38                   | 1 1/2                       | 41.5                     | 1 5/8                           | 0112 8302 038                  | 0112 8352 038                  |
|       | FBS HC 40/12 | 40                   | 1 9/16                      | 42.5                     | 1 11/16                         | 0112 8302 040                  | 0112 8352 040                  |
|       | FBS HC 42/12 | 42                   | 1 5/8                       | 44.5                     | 1 3/4                           | 0112 8302 042                  | 0112 8352 042                  |
|       | FBS HC 44/12 | 44                   | 1 3/4                       | 46.5                     | 1 13/16                         | 0112 8302 044                  | 0112 8352 044                  |
|       | FBS HC 46/12 | 46                   | 1 13/16                     | 49                       | 1 15/16                         | 0112 8302 046                  | 0112 8352 046                  |
|       | FBS HC 47/12 | 47                   | 1 7/8                       | 50                       | 2                               | 0112 8302 047                  | 0112 8352 047                  |
|       | FBS HC 50/12 | 50                   | 2                           | 53                       | 2 1/16                          | 0112 8302 050                  | 0112 8352 050                  |
|       | FBS HC 55/12 | 55                   | 2 3/16                      | 58                       | 2 1/4                           | 0112 8302 055                  | 0112 8352 055                  |
|       | FBS HC 60/12 | 60                   | 2 3/8                       | 63                       | 2 1/2                           | 0112 8302 060                  | 0112 8352 060                  |

Special diameters available on request

## MC



A pre-opened (and, if required, prepositioned) clamp that is secured with a small metal clip. The retaining clip for this version is removed by using pliers.

### Advantages at a glance

- Secured clamp

### Materials

- C75S

NORMACLAMP® FBS MC

| Width | Designation  | D <sub>n</sub><br>mm | D <sub>n</sub><br>in inches | D <sub>0 min</sub><br>mm | D <sub>0 min</sub><br>in inches | Material C 75 S<br>Product No. | Material C 75 S<br>Product No. |
|-------|--------------|----------------------|-----------------------------|--------------------------|---------------------------------|--------------------------------|--------------------------------|
|       |              |                      |                             |                          |                                 | Black                          | Silver                         |
| 12    | FBS MC 13/12 | 13                   | 1/2                         | 14.5                     | 9/16                            | 0112 8019 013                  | 0112 8475 013                  |
|       | FBS MC 14/12 | 14                   | 9/16                        | 15.8                     | 5/8                             | 0112 8019 014                  | 0112 8475 014                  |
|       | FBS MC 15/12 | 15                   | 9/16                        | 16.8                     | 11/16                           | 0112 8019 015                  | 0112 8475 015                  |
|       | FBS MC 16/12 | 16                   | 5/8                         | 17.5                     | 11/16                           | 0112 8019 016                  | 0112 8475 016                  |
|       | FBS MC 17/12 | 17                   | 11/16                       | 18.5                     | 3/4                             | 0112 8019 017                  | 0112 8475 017                  |
|       | FBS MC 18/12 | 18                   | 11/16                       | 19                       | 3/4                             | 0112 8019 018                  | 0112 8475 018                  |
|       | FBS MC 19/12 | 19                   | 3/4                         | 21                       | 13/16                           | 0112 8019 019                  | 0112 8475 019                  |
|       | FBS MC 20/12 | 20                   | 13/16                       | 21.6                     | 7/8                             | 0112 8019 020                  | 0112 8475 020                  |
|       | FBS MC 21/12 | 21                   | 13/16                       | 22.5                     | 7/8                             | 0112 8019 021                  | 0112 8475 021                  |
|       | FBS MC 22/12 | 22                   | 7/8                         | 24.5                     | 15/16                           | 0112 8019 022                  | 0112 8475 022                  |
|       | FBS MC 23/12 | 23                   | 15/16                       | 24.7                     | 1                               | 0112 8019 023                  | 0112 8475 023                  |
|       | FBS MC 24/12 | 24                   | 15/16                       | 26                       | 1                               | 0112 8019 024                  | 0112 8475 024                  |
|       | FBS MC 25/12 | 25                   | 1                           | 27                       | 1 1/16                          | 0112 8019 025                  | 0112 8475 025                  |
|       | FBS MC 26/12 | 26                   | 1                           | 28                       | 1 1/8                           | 0112 8019 026                  | 0112 8475 026                  |
|       | FBS MC 27/12 | 27                   | 1 1/16                      | 29                       | 1 1/8                           | 0112 8019 027                  | 0112 8475 027                  |
|       | FBS MC 28/12 | 28                   | 1 1/8                       | 30.5                     | 1 3/16                          | 0112 8019 028                  | 0112 8475 028                  |
|       | FBS MC 29/12 | 29                   | 1 1/8                       | 31.5                     | 1 1/4                           | 0112 8019 029                  | 0112 8475 029                  |
|       | FBS MC 30/12 | 30                   | 1 3/16                      | 32.5                     | 1 1/4                           | 0112 8019 030                  | 0112 8475 030                  |
|       | FBS MC 32/12 | 32                   | 1 1/4                       | 34.5                     | 1 3/8                           | 0112 8019 032                  | 0112 8475 032                  |
|       | FBS MC 35/12 | 35                   | 1 3/8                       | 38                       | 1 1/2                           | 0112 8019 035                  | 0112 8475 035                  |
|       | FBS MC 36/12 | 36                   | 1 7/16                      | 39                       | 1 9/16                          | 0112 8019 036                  | 0112 8475 036                  |
|       | FBS MC 38/12 | 38                   | 1 1/2                       | 41.5                     | 1 5/8                           | 0112 8019 038                  | 0112 8475 038                  |
|       | FBS MC 40/12 | 40                   | 1 9/16                      | 42.5                     | 1 11/16                         | 0112 8019 040                  | 0112 8475 040                  |
|       | FBS MC 42/12 | 42                   | 1 5/8                       | 44.5                     | 1 3/4                           | 0112 8019 042                  | 0112 8475 042                  |
|       | FBS MC 44/12 | 44                   | 1 3/4                       | 46.5                     | 1 13/16                         | 0112 8019 044                  | 0112 8475 044                  |
|       | FBS MC 46/12 | 46                   | 1 13/16                     | 49                       | 1 15/16                         | 0112 8019 046                  | 0112 8475 046                  |
|       | FBS MC 47/12 | 47                   | 1 7/8                       | 50                       | 2                               | 0112 8019 047                  | 0112 8475 047                  |
|       | FBS MC 50/12 | 50                   | 2                           | 53                       | 2 1/16                          | 0112 8019 050                  | 0112 8475 050                  |
|       | FBS MC 55/12 | 55                   | 2 3/16                      | 58                       | 2 1/4                           | 0112 8019 055                  | 0112 8475 055                  |
|       | FBS MC 60/12 | 60                   | 2 3/8                       | 63                       | 2 1/2                           | 0112 8019 060                  | 0112 8475 060                  |

Special diameters available on request

## EARCLIP SINGLE

## Ear Clips - One Ear Clips

NORMACLAMP®



- 1 **Ear**  
– one tightening side
- 2 **Smooth inner band**
- 3 **Round edges to prevent damages**

### One part clamp for low and medium pressure.

The NORMACLAMP® Earclip single has no screw. The assembly is fast, simple and safe thanks to the pinching of the ear.

#### Advantages at a glance

- Cost effective, and simple alternative to worm drive hose clips
- Fast and easy to install
- Ideal in narrow spaces
- Suitable for definitive fixation of connecting pipes
- To be assembled with simple ear clip pliers

#### Applications

- For hoses that convey compressed air or fluid
- Original equipment manufacturing
- Maintenance repair and overhaul

#### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    | x  |    |

#### Technical data & Ordering information

| NORMACLAMP® EARCLIP SINGLE |                            |                 |           |                   |                   |
|----------------------------|----------------------------|-----------------|-----------|-------------------|-------------------|
| Width                      | Description                | Clamping ranges |           | W1<br>Product No. | W4<br>Product No. |
|                            |                            | in mm           | in inches |                   |                   |
| 6                          | EARCLIP SINGLE 8 - 10/6    | 8 - 10          | 5/16-3/8  | 0110 7010 010     | 0110 7011 010     |
| 6.5                        | EARCLIP SINGLE 9 - 11/6.5  | 9 - 11          | 3/8-7/16  | 0110 7010 011     | 0110 7011 011     |
|                            | EARCLIP SINGLE 10 - 12/6.5 | 10 - 12         | 3/8-1/2   | 0110 7010 012     | 0110 7011 012     |
|                            | EARCLIP SINGLE 11 - 13/6.5 | 11 - 13         | 7/16-1/2  | 0110 7010 013     | 0110 7011 013     |
| 7                          | EARCLIP SINGLE 12 - 14/7   | 12 - 14         | 1/2-9/16  | 0110 7010 014     | 0110 7011 014     |
|                            | EARCLIP SINGLE 13 - 15/7   | 13 - 15         | 1/2-9/16  |                   | 0110 7011 015     |
|                            | EARCLIP SINGLE 14 - 16/7   | 14 - 16         | 9/16-5/8  | 0110 7010 016     | 0110 7011 016     |
|                            | EARCLIP SINGLE 16 - 18/7   | 16 - 18         | 5/8-11/16 | 0110 7010 018     | 0110 7011 018     |



Refer to page 190.



- 1 **Ear**  
– one tightening side
- 2 **Smooth inner band, and inner liner for security and roundness**
- 3 **Round edges to prevent damages**
- 4 **Inner liner**  
– effective and powerful all-round seal

## One part clamp for low and medium pressure.

The NORMACLAMP® Earclip safe has no screw. The assembly is fast, simple and safe thanks to the pinching of the ear. The inner insert allows a better distribution of the clamping force.

### Advantages at a glance

- Cost effective, and simple alternative to worm drive hose clips
- Fast and easy to install
- Ideal in narrow spaces
- Suitable for definitive fixation of connecting pipes
- To be assembled with simple ear clip pliers
- Inner liner for security and better distribution of the clamping force

### Applications

- For hoses that convey compressed air or fluid
- Original equipment manufacturing
- Maintenance repair and overhaul

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    | x  |    |

### Technical data & Ordering information

| NORMACLAMP® EARCLIP SAFE |                            |                 |            |                   |                   |
|--------------------------|----------------------------|-----------------|------------|-------------------|-------------------|
| Width                    | Description                | Clamping ranges |            | W1<br>Product No. | W4<br>Product No. |
|                          |                            | in mm           | in inches  |                   |                   |
| 6                        | EARCLIP SAFE 7.5-8.5/6     | 7.5-8.5         | 5/16-5/16  | 0110 7014 008     | 0110 7015 008     |
|                          | EARCLIP SAFE 8-9.5/6       | 8-9.5           | 5/16-3/8   | 0110 7014 009     | 0110 7015 009     |
| 6.5                      | EARCLIP SAFE 9-10.5/6.5    | 9-10.5          | 3/8-7/16   | 0110 7014 010     | 0110 7015 010     |
|                          | EARCLIP SAFE 10-11.5/6.5   | 10-11.5         | 3/8-7/16   | 0110 7014 011     | 0110 7015 011     |
|                          | EARCLIP SAFE 10.5-12.5/6.5 | 10.5-12.5       | 7/16-1/2   | 0110 7014 012     | 0110 7015 012     |
| 7                        | EARCLIP SAFE 11.5-13.3/7   | 11.5-13.3       | 7/16-1/2   | 0110 7014 013     | 0110 7015 013     |
|                          | EARCLIP SAFE 12.5-14.5/7   | 12.5-14.5       | 1/2-9/16   |                   | 0110 7015 014     |
|                          | EARCLIP SAFE 13-15.3/7     | 13-15.3         | 1/2-5/8    | 0110 7014 015     | 0110 7015 015     |
|                          | EARCLIP SAFE 14-16/7       | 14-16           | 9/16-1/4   |                   | 0110 7015 016     |
|                          | EARCLIP SAFE 15-17.3/7     | 15-17.3         | 9/16-11/16 | 0110 7014 017     | 0110 7015 017     |
| 7.5                      | EARCLIP SAFE 16-18.3/7.5   | 16-18.3         | 1/4-3/4    |                   | 0110 7015 018     |
|                          | EARCLIP SAFE 17-19.3/7.5   | 17-19.3         | 11-16-3/4  |                   | 0110 7015 019     |



Refer to page 190.



- 1 Ear**  
– two ears for higher clamping range
- 2 Smooth inner band**
- 3 Round edges to prevent damages**

### One part clamp for low and medium pressure.

The NORMACLAMP® Earclip double has no screw. The assembly is fast, simple and safe thanks to the pinching of the ears. The two ears enable a better and more constant sealing force. The tightening force is improved.

#### Advantages at a glance

- Cost effective, and simple alternative to worm drive hose clips
- Fast and easy to install
- Ideal in narrow spaces
- Suitable for definitive fixation of connecting pipes
- To be assembled with simple ear clip pliers
- Extended clamping range

#### Applications

- For hoses that convey compressed air or fluid
- Original equipment manufacturing
- Maintenance repair and overhaul

#### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    | x  |    |

## Technical data & Ordering information

| NORMACLAMP® EARCLIP DOUBLE |                          |                 |                 |                   |                   |
|----------------------------|--------------------------|-----------------|-----------------|-------------------|-------------------|
| Width                      | Designation              | Clamping ranges |                 | W1<br>Product No. | W4<br>Product No. |
|                            |                          | in mm           | in inches       |                   |                   |
| 5.5                        | EARCLIP DOUBLE 3-5/5.5   | 3-5             | 1/8-3/16        |                   | 0110 7013 005     |
| 6                          | EARCLIP DOUBLE 5-7/6     | 5-7             | 3/16-1/4        | 0110 7012 007     | 0110 7013 007     |
|                            | EARCLIP DOUBLE 7-9/6     | 7-9             | 1/4-3/8         | 0110 7012 009     | 0110 7013 009     |
| 6.5                        | EARCLIP DOUBLE 9-11/6.5  | 9-11            | 3/8-7/16        | 0110 7012 011     | 0110 7013 011     |
|                            | EARCLIP DOUBLE 10-12/6.5 | 10-12           | 3/8-1/2         | 0110 7012 012     | 0110 7013 012     |
|                            | EARCLIP DOUBLE 11-13/6.5 | 11-13           | 7/16-1/2        | 0110 7012 013     | 0110 7013 013     |
| 7                          | EARCLIP DOUBLE 13-15/7   | 13-15           | 1/2-9/16        | 0110 7012 015     | 0110 7013 015     |
|                            | EARCLIP DOUBLE 14-17/7   | 14-17           | 9/16-11/16      | 0110 7012 017     | 0110 7013 017     |
| 7.5                        | EARCLIP DOUBLE 15-18/7.5 | 15-18           | 9/16-11/16      | 0110 7012 018     | 0110 7013 018     |
|                            | EARCLIP DOUBLE 17-20/7.5 | 17-20           | 11/16-13/16     | 0110 7012 020     | 0110 7013 020     |
| 8                          | EARCLIP DOUBLE 18-21/8   | 18-21           | 11/16-13/16     | 0110 7012 021     | 0110 7013 021     |
|                            | EARCLIP DOUBLE 20-23/8   | 20-23           | 13/16-15/16     | 0110 7012 023     | 0110 7013 023     |
| 9                          | EARCLIP DOUBLE 22-25/9   | 22-25           | 7/8-1           | 0110 7012 025     | 0110 7013 025     |
| 10                         | EARCLIP DOUBLE 23-27/10  | 23-27           | 15/16-1 11/16   | 0110 7012 027     |                   |
|                            | EARCLIP DOUBLE 25-28/10  | 25-28           | 1-1 1/8         | 0110 7012 028     |                   |
|                            | EARCLIP DOUBLE 28-31/10  | 28-31           | 1 1/8-1 1/4     | 0110 7012 031     |                   |
|                            | EARCLIP DOUBLE 31-34/10  | 31-34           | 1 1/4-1 5/16    | 0110 7012 034     |                   |
|                            | EARCLIP DOUBLE 34-37/10  | 34-37           | 1 5/16-1 7/16   | 0110 7012 037     |                   |
|                            | EARCLIP DOUBLE 37-40/10  | 37-40           | 1 7/16-1 9/16   | 0110 7012 040     |                   |
|                            | EARCLIP DOUBLE 40-43/10  | 40-43           | 1 9/16-1 11/16  | 0110 7012 043     |                   |
|                            | EARCLIP DOUBLE 43-46/10  | 43-46           | 1 11/16-1 13/16 | 0110 7012 046     |                   |



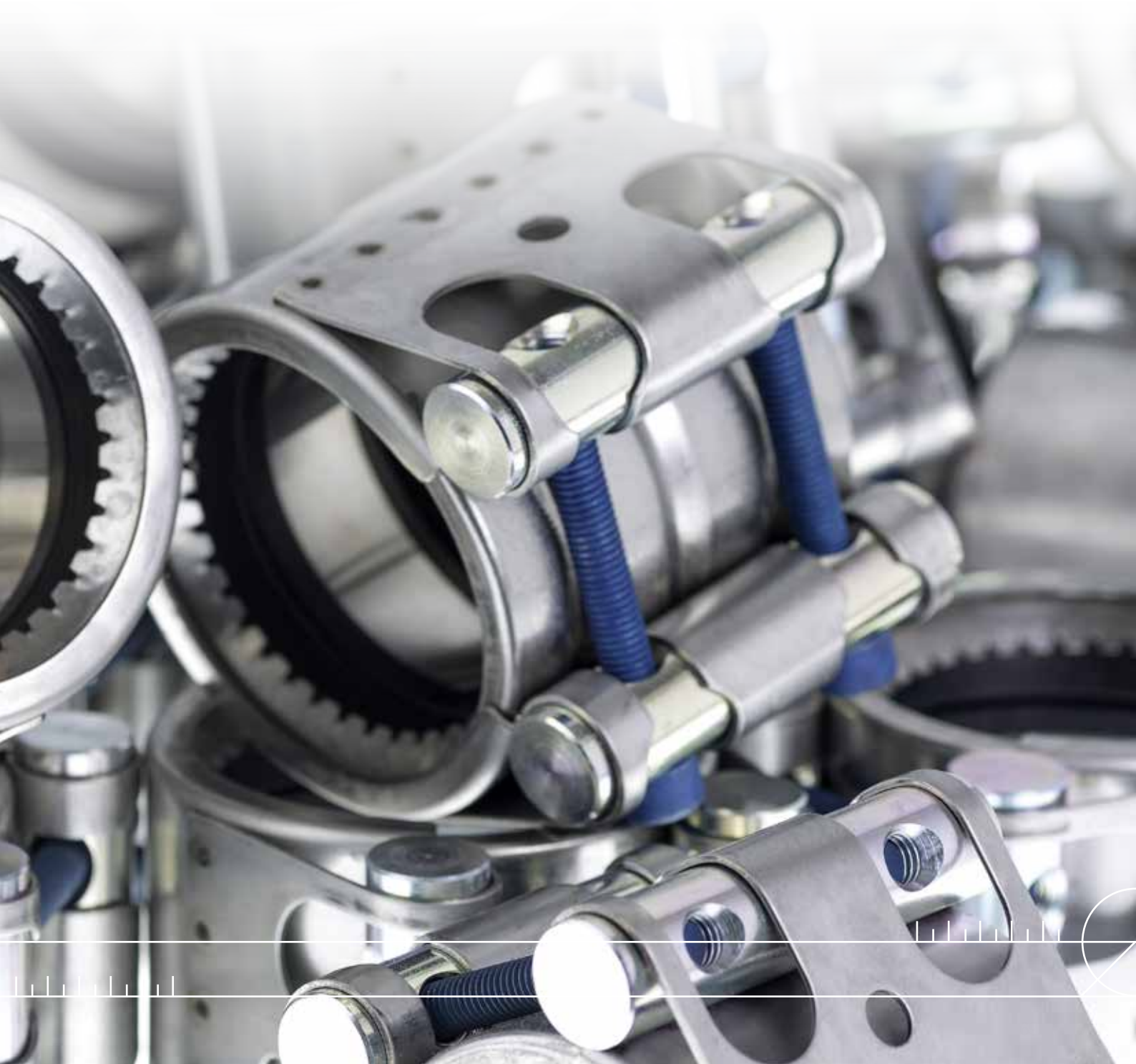
Refer to page 190.



# NORMACONNECT® – Pipe Connections

## **The perfect method of connecting pipes**

When it comes to pipe connections, the industry and OEMs rely on NORMACONNECT® – the reliable solution that can be used with all kinds of different requirements, pipe materials and outer pipe diameters.



## Our solution for connecting – FGR



FGR pipe couplings are a compact, economical and reliable means for connecting plain-ended pipes. They are suitable to join plastic and metal pipes and especially pipes made from stainless steel. They can be used in mechanical engineering and construction, shipbuilding, civil engineering and in hydro technology.

Supply pipes as well as exhaust pipes for solid, liquid or gaseous media can be joined easily and safely in a very short period of time even in narrow spaces. Thanks to the wide range of various types and sizes they are suitable for use both in standard and specialized applications.

### Product benefits

FGR pipe couplings are an economical alternative to conventional pipe joining techniques for both plastic and metal pipes. All plain-ended pipes can be joined easily by hand. The ready-to-fit coupling is pushed over the pipe ends and then aligned and rotated to any fitting position. Tightening the two bolts alternately with a torque wrench is all it takes to make a safe fitting.



### Range of applications

FGR pipe coupling is a reliable connection for thick- and thin-walled pipes which conforms to the latest DIN Standard 86128. Feed and return lines for liquids, gases and solids (for mechanical engineering and construction, civil

engineering, shipbuilding, pipeline construction, power stations, mining, filters, water technology, etc.) are joined quickly, easily and safely using FGR pipe couplings.



- No welding
- No necessity for prior pipe alignment or treatment of pipe ends
- Up to 80% time saving



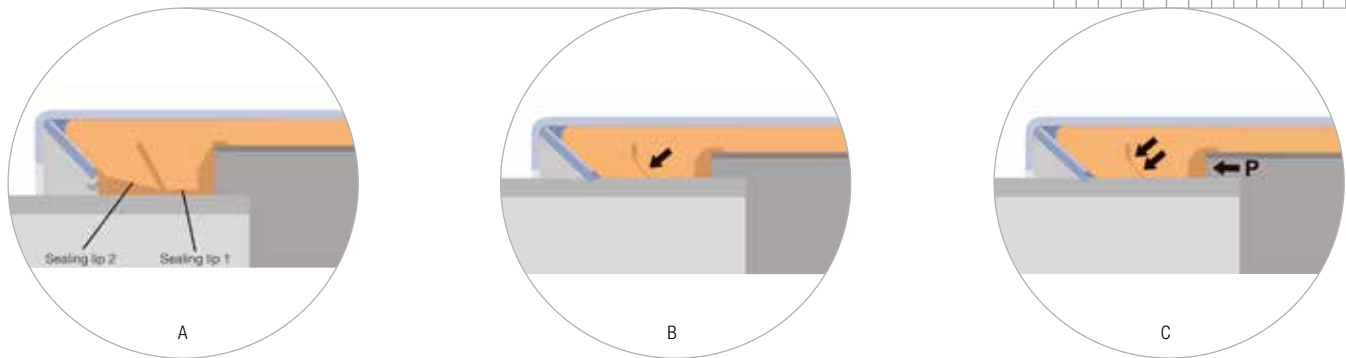
- Pipe gaps up to 35 mm possible
- Axial movements up to 7.5 mm
- Misalignment up to 3 mm



- 70% less weight



- Angular deflection up to 4° in total



### 1. Double-lip sealing system

The patented double-lip sealing system (Fig. A) of the FGR pipe couplings offers double safety. It provides maximum sealability at both low and high operating pressures.

When the bolts of the coupling are tightened, sealing lip 1 is pressed onto sealing lip 2, thus providing a highly reliable seal even under conditions of low pressure, vacuum or extreme loads acting on the joint (Fig. B).

The special sealing lip design means that when the internal pressure (P) increases, the sealing lips are pressed more firmly onto the pipe surface ensuring an even stronger seal (Fig. C).

### 2. Standard strip insert

All FGR pipe couplings are factory equipped with the standard strip insert (2). The strip insert protects the sealing sleeve from increased mechanical and chemical loads. It also prevents the sealing sleeve from moisture expansion and allows larger gaps between the pipe ends to be connected.

Furthermore, it allows larger angular deflections and misalignment. With the strip insert the couplings can also be used for both vacuum and high pressure applications without any problems. The strip inserts are made from plastic material or stainless steel.

### 3. Heavy duty lock bars

For FGR pipe couplings we use lock bars (3) with a larger diameter. Thus the rigidity of the coupling is increased and the engagement of the threaded end of the locking bolts is considerably improved.

### 4. Anchoring ring with conically stamped teeth

The anchoring ring (4) with conically stamped teeth indents into the pipe surface and provides safe and strong axial restraint. Owing to the special design the coupling is able to withstand even high vibration loads.

### 5. Protection ring

The protection ring protects the sealing sleeve from UV rays, fire, etc., and increases the flexural strength of the coupling.



## Approvals

| SHIPBUILDING                        |                                                                                     | FLEX / FLEX E / RFP |                | GRIP / GRIP E / Grip E-FP / RFP |                | CombiGrip /<br>CombiGrip E | PlastGrip /<br>PlastGrip E | Rep E |
|-------------------------------------|-------------------------------------------------------------------------------------|---------------------|----------------|---------------------------------|----------------|----------------------------|----------------------------|-------|
|                                     |                                                                                     | 26.9 - 168.3<br>mm  | > 180 mm       | 26.9 - 168.3<br>mm              | > 180 mm       |                            |                            |       |
| ABS                                 |    | •                   | •              | •                               | •              | •                          | •                          |       |
| Bureau Veritas                      |    | •                   | •              | •                               | •              | •                          | •                          |       |
| DNV                                 |    | •                   | •              | •                               | •              |                            |                            |       |
| GL                                  |    | •                   | •              | •                               | •              |                            |                            |       |
| LRS                                 |    | • <sup>1</sup>      | • <sup>1</sup> | • <sup>1</sup>                  | • <sup>1</sup> | •                          | •                          |       |
| CLASS NK                            |    | •                   | •              | •                               | •              | •                          | •                          |       |
| RINA                                |    | •                   | •              | •                               | •              |                            |                            |       |
| RMRS                                |    | •                   | •              | •                               | •              | •                          | •                          |       |
| PRS                                 |   | • <sup>1</sup>      | • <sup>1</sup> | • <sup>1</sup>                  | • <sup>1</sup> |                            |                            |       |
| KRS                                 |  | •                   | •              | •                               | •              | •                          | •                          |       |
| <b>WATER SUPPLY &amp; TREATMENT</b> |                                                                                     |                     |                |                                 |                |                            |                            |       |
| KTW                                 |                                                                                     | •                   |                | •                               |                | •                          | •                          | •     |
| DVGW                                |  |                     |                |                                 |                |                            | • <sup>2</sup>             |       |
| SVGW                                |  |                     |                |                                 |                |                            | • <sup>2</sup>             |       |
| NSF                                 |  | EPDM                |                | EPDM                            |                | EPDM                       | EPDM                       |       |
| DGS                                 |  | EPDM                | EPDM           | EPDM                            | EPDM           | EPDM                       | EPDM                       | EPDM  |
| <b>GAS</b>                          |                                                                                     |                     |                |                                 |                |                            |                            |       |
| DVGW / GWI                          |  |                     |                | •                               |                |                            | •                          |       |
| SVGW                                |  |                     |                |                                 |                |                            | •                          |       |
| <b>SPECIAL APPROVALS</b>            |                                                                                     |                     |                |                                 |                |                            |                            |       |
| VdS                                 |  |                     |                | • <sup>4</sup>                  |                |                            |                            |       |
| DiBT / TÜV south.<br>Germany        |                                                                                     |                     |                | •                               |                |                            |                            |       |
| BWB                                 |                                                                                     |                     |                | •                               | <sup>3</sup>   |                            |                            |       |
| FDA                                 |  | •                   |                | •                               |                | •                          | •                          |       |

<sup>1</sup> No approvals for RFP

<sup>2</sup> From 40.0 mm up to 160 mm

<sup>3</sup> German approval for the German marine

<sup>4</sup> For the following sizes: 33.7 - 42.4 - 48.3 - 60.3 - 76.1 - 88.9 - 114.3 - 139.7

## Coupling types and suitable applications

| Pipes to be joined | Size (mm)       | Flex         | Flex E       | Flex 3          | REP E from 35 mm |
|--------------------|-----------------|--------------|--------------|-----------------|------------------|
| Metal + Metal      | 26.9 to 168.3   | 70 to 32 bar | 70 to 32 bar | -               | 60 to 32 bar     |
|                    | 180.0 to 1219.2 | 50 to 7 bar  | 30 to 4 bar  | -               | 30 to 4 bar      |
|                    | 326.0 to 2032.0 | -            | -            | 16.5 to 1.5 bar | -                |
| Plastic + Plastic  | 26.9 to 168.3   | 16 bar       | 16 bar       | -               | 16 bar           |
|                    | 180.0 to 1219.2 | 16 to 4 bar  | 16 to 4 bar  | -               | 16 to 4 bar      |
| Metal + Plastic    | 26.9 to 168.3   | 16 bar       | 16 bar       | -               | -                |
|                    | 180.0 to 1219.2 | 16 to 7 bar  | 16 to 7 bar  | -               | -                |

| Pipes to be joined | Size (mm)                   | Grip          | Grip E       | Combi-Grip E | Combi-Grip  | Plast-Grip E | Plast-Grip  | Grip E-FP    |
|--------------------|-----------------------------|---------------|--------------|--------------|-------------|--------------|-------------|--------------|
| Metal + Metal      | 26.9 to 168.3               | 70 to 32 bar  | 70 to 32 bar | -            | -           | -            | -           | 60 to 32 bar |
|                    | 180.0 to 419.0              | -             | 20 to 2 bar  | -            | -           | -            | -           | 20 to 65 bar |
|                    | 180.0 to 711.2              | 32 to 2.5 bar | -            | -            | -           | -            | -           | -            |
| Plastic + Plastic  | 40.0 to 168.3               | -             | -            | -            | -           | 16 bar       | -           | -            |
|                    | 200.0 to 406.4              | -             | -            | -            | -           | -            | 16 to 6 bar | -            |
| Metal + Plastic    | 38/40 to 160/168.3          | 16 bar        | 16 bar       | 16 bar       | -           | -            | -           | -            |
|                    | 200.0/204.0 to 406.0 /406.4 | -             | -            | -            | 16 to 6 bar | -            | -           | -            |

## Sealing sleeves

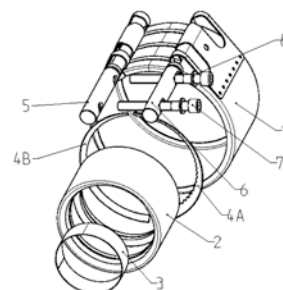
Areas of application & temperature resistance

| Material of seal  | EPDM                                                                                     | NBR                                                                    |
|-------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Temperature range | -30 °C up to +125 °C<br>OD 26.9 up to 168.3 mm<br><br>-20 °C up to +80 °C<br>OD > 180 mm | -20 °C up to +80 °C                                                    |
| Media             | Drinking water<br>Alcohols<br>Compressed air<br>Solids                                   | Water<br>Oils<br>Gases (combustible)<br>Fuels<br>Hydrocarbon solutions |

## FGR Materials

Components and materials in accordance with AISI/BS. FGR pipe couplings are available in the materials W2, W4 and W5.

| W2    |                                                |                     |                     |                             |
|-------|------------------------------------------------|---------------------|---------------------|-----------------------------|
| No.   | Component                                      | Flex/Flex E         | Grip/Grip E         | Plast Grip/<br>Plast Grip E |
| 1     | Housing with bridge                            | 304/304 S31         | 304/304 S31         | 304/304 S31                 |
| 2     | Sealing sleeve                                 | EPDM/NBR            | EPDM/NBR            | EPDM/NBR                    |
| 3     | Strip insert <sup>1)</sup>                     | 316Ti/320 S31/PA-GR | 316Ti/320 S31/PA-GR | 316Ti/320 S31/PA-GR         |
| 4 A   | Anchoring ring for metal pipes <sup>2)</sup>   | —                   | 301/301 S21         | —                           |
| 4 A   | Anchoring ring for plastic pipes <sup>2)</sup> | —                   | —                   | PA-GF-NS <sup>3)</sup>      |
| 4 B   | Protection ring                                | 316Ti/320 S31       | —                   | —                           |
| 5 + 6 | Solid locking trunnions                        | AISI 1213           | AISI 1213           | AISI 1213                   |
| 5 + 6 | Hollow locking trunnions                       | AISI 1518           | AISI 1518           | AISI 1518                   |
| 7     | Locking bolts                                  | 10.9                | 10.9                | 10.9                        |
| 8     | Washer                                         | A4-80/316           | A4-80/316           | A4-80/316                   |



| W4    |                                                |                     |                     |                             |
|-------|------------------------------------------------|---------------------|---------------------|-----------------------------|
| No.   | Component                                      | Flex/Flex E         | Grip/Grip E         | Plast Grip/<br>Plast Grip E |
| 1     | Housing with bridge                            | 304/304 S31         | 304/304 S31         | 304/304 S31                 |
| 2     | Sealing sleeve                                 | EPDM/NBR            | EPDM/NBR            | EPDM/NBR                    |
| 3     | Strip insert <sup>1)</sup>                     | 316Ti/320 S31/PA-GR | 316Ti/320 S31/PA-GR | 316Ti/320 S31/PA-GR         |
| 4 A   | Anchoring ring for metal pipes <sup>2)</sup>   | —                   | 301/301 S21         | —                           |
| 4 A   | Anchoring ring for plastic pipes <sup>2)</sup> | —                   | —                   | PA-GF-NS <sup>3)</sup>      |
| 4 B   | Protection ring                                | 316Ti/320 S31       | 316Ti/320 S31       | —                           |
| 5 + 6 | Solid locking trunnions                        | 316L                | 316L                | 1.4404                      |
| 5 + 6 | Hollow locking trunnions                       | 316Ti/320 S31       | 316Ti/320 S31       | 1.4571                      |
| 7     | Locking bolts                                  | A4-80/316           | A4-80/316           | A4-80                       |
| 8     | Washer                                         | A4-80/316           | A4-80/316           | A4-80                       |

<sup>1)</sup> PA-GF plastic strip inserts are only for pipe couplings used in shipbuilding applications.

<sup>2)</sup> COMBI GRIP couplings are equipped with two different anchoring rings (1 x for the metal end, 1 x for the plastic end).

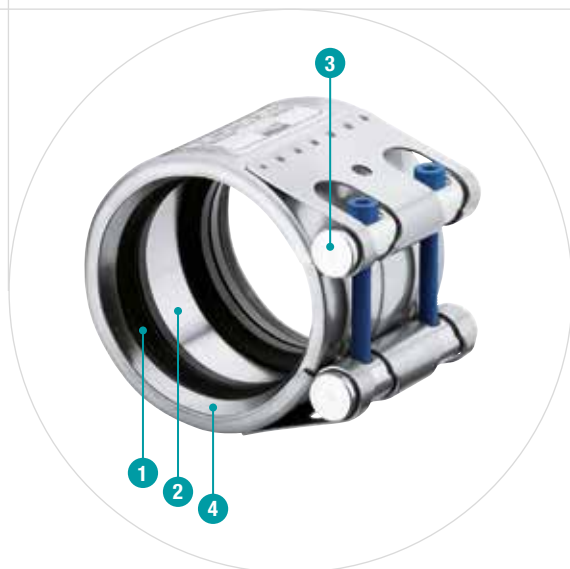
<sup>3)</sup> PA-GF: PA reinforced with fiber glass; NS: new silver.

| W5    |                                                |                     |                     |                             |                             |                     |
|-------|------------------------------------------------|---------------------|---------------------|-----------------------------|-----------------------------|---------------------|
| No.   | Component                                      | Flex/Flex E         | Grip/Grip E         | Combi Grip/<br>Combi Grip E | Plast Grip/<br>Plast Grip E | Rep E               |
| 1     | Housing                                        | 316Ti/320 S31       | 316Ti/320 S31       | 316Ti/320 S31               | 316Ti/320 S31               | 316Ti/320 S31       |
| 2     | Sealing sleeve                                 | EPDM/NBR            | EPDM/NBR            | EPDM/NBR                    | EPDM/NBR                    | EPDM/NBR            |
| 3     | Strip insert <sup>1)</sup>                     | 316Ti/320 S31/PA-GR | 316Ti/320 S31/PA-GR | 316Ti/320 S31/PA-GR         | 316Ti/320 S31/PA-GR         | 316Ti/320 S31/PA-GR |
| 4 A   | Anchoring ring for metal pipes <sup>2)</sup>   | —                   | 301/301 S21         | 301/301 S21 301/301 S21     | —                           | —                   |
| 4 A   | Anchoring ring for plastic pipes <sup>2)</sup> | —                   | —                   | PA-GF-NS <sup>3)</sup>      | PA-GF-NS <sup>3)</sup>      | —                   |
| 4 B   | Protection ring                                | 316Ti/320 S31       | —                   | —                           | —                           | —                   |
| 5 + 6 | Solid locking trunnions                        | 316L                | 316L                | 316L                        | 316L                        | 316L                |
| 5 + 6 | Hollow locking trunnions                       | 316Ti/320 S31       | 316Ti/320 S31       | 316Ti/320 S31               | 316Ti/320 S31               | 316Ti/320 S31       |
| 7     | Locking bolts                                  | A4-80/316           | A4-80/316           | A4-80/316                   | A4-80/316                   | A4-80/316           |
| 8     | Washer                                         | A4-80/316           | A4-80/316           | A4-80/316                   | A4-80/316                   | A4-80/316           |

<sup>1)</sup> PA-GF plastic strip inserts are only for pipe couplings used in shipbuilding applications.

<sup>2)</sup> COMBI GRIP couplings are equipped with two different anchoring rings (1 x for the metal end, 1 x for the plastic end).

<sup>3)</sup> PA-GF: PA reinforced with fiber glass; NS: new silver.



- 1 Double-lip sealing system
- 2 Standard strip insert
- 3 Heavy duty lock bars
- 4 Protection ring

## The protective pipe coupling

NORMACONNECT® FLEX /FLEX E pipe couplings are used for connecting restrained pipes, metal pipes, stainless pipes, as well as concrete and plastic pipes. With NORMACONNECT® FLEX/FLEX E pipe couplings, sealing reliability is also ensured when there are gaps between pipe ends which are compensated. Given outside pipe diameters of >180 mm, the FLEX type is suitable for high pressure and the FLEX E type for low pressure applications.



### Advantages at a glance

- Compensation of pipe gaps allows thermal elongation of the pipes
- Joining all kind of pipe materials is possible, e.g., for steel, plastic, cast iron, etc.

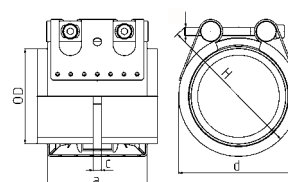
### Information

- Sizes: 26.9 mm - 1219.1 mm
- Working pressure: 70.0 - 4.0 bar
- Material: AISI 304, AISI 316 Ti
- EPDM:
  - Sizes from 26.9 mm up to 168.3 mm: - 30 °C up to + 125 °C
  - Sizes > 180.0 mm: - 20 °C up to + 80 °C
- NBR: from - 20 °C up to + 80 °C

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    | x  |    | x  | x  |

### Technical data & Ordering information



## Technical data &amp; Ordering information

| NORMACONNECT® FGR FLEX |             |                 |                                                                                           |                                                                                           |          |            |           |           |                     |                          |                           |
|------------------------|-------------|-----------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------|------------|-----------|-----------|---------------------|--------------------------|---------------------------|
| Ø<br>(O.D.)            | Designation | Clamping ranges | PN <sup>1</sup><br>(MAWP <sup>1</sup> from diameter 180)                                  | WP <sup>2</sup>                                                                           | C<br>max | Dimensions |           |           | Weight              | Hex socket locking bolts |                           |
|                        |             | Odmin - Odmax   |  [ bar ] |  [ bar ] | (mm)     | a<br>(mm)  | d<br>(mm) | H<br>(mm) | approx.<br>(kg/pc.) | Thread                   | Tightening torque<br>(Nm) |
| 26.9                   | FLEX 26.9   | 26.4 - 27.5     | 16                                                                                        | 70                                                                                        | 3        | 67         | 50        | 70        | 0.39                | M 8 SW 6                 | 5                         |
| 28.0                   | FLEX 28.0   | 27.5 - 28.5     | 16                                                                                        | 70                                                                                        | 3        | 67         | 50        | 70        | 0.39                | M 8 SW 6                 | 5                         |
| 30.0                   | FLEX 30.0   | 29.5 - 30.6     | 16                                                                                        | 70                                                                                        | 3        | 67         | 50        | 70        | 0.39                | M 8 SW 6                 | 5                         |
| 33.7                   | FLEX 33.7   | 33.0 - 34.3     | 16                                                                                        | 60                                                                                        | 3        | 67         | 55        | 75        | 0.4                 | M 8 SW 6                 | 5                         |
| 35.0                   | FLEX 35.0   | 34.5 - 35.6     | 16                                                                                        | 60                                                                                        | 8        | 63         | 55        | 75        | 0.54                | M 8 SW 6                 | 5                         |
| 38.0                   | FLEX 38.0   | 37.5 - 38.6     | 16                                                                                        | 60                                                                                        | 8        | 63         | 60        | 80        | 0.54                | M 8 SW 6                 | 5                         |
| 42.4                   | FLEX 42.4   | 41.7 - 43.0     | 16                                                                                        | 50                                                                                        | 8        | 63         | 65        | 85        | 0.56                | M 8 SW 6                 | 5                         |
| 44.5                   | FLEX 44.5   | 44.0 - 45.1     | 16                                                                                        | 50                                                                                        | 8        | 63         | 65        | 85        | 0.56                | M 8 SW 6                 | 5                         |
| 48.3                   | FLEX 48.3   | 47.6 - 50.5     | 16                                                                                        | 50                                                                                        | 8        | 63         | 70        | 90        | 0.58                | M 8 SW 6                 | 5                         |
| 54.0                   | FLEX 54.0   | 53.3 - 54.6     | 16                                                                                        | 50                                                                                        | 17       | 78         | 75        | 95        | 0.76                | M 8 SW 6                 | 10                        |
| 57.0                   | FLEX 57.0   | 56.3 - 57.7     | 16                                                                                        | 50                                                                                        | 17       | 78         | 80        | 100       | 0.76                | M 8 SW 6                 | 10                        |
| 60.3                   | FLEX 60.3   | 59.5 - 61.0     | 16                                                                                        | 40                                                                                        | 17       | 78         | 85        | 105       | 0.77                | M 8 SW 6                 | 10                        |
| 70.0                   | FLEX 70.0   | 69.0 - 71.0     | 16                                                                                        | 40                                                                                        | 25       | 98         | 90        | 110       | 1.37                | M 8 SW 6                 | 10                        |
| 73.0                   | FLEX 73.0   | 72.1 - 73.8     | 16                                                                                        | 40                                                                                        | 25       | 98         | 95        | 115       | 1.39                | M 8 SW 6                 | 10                        |
| 76.1                   | FLEX 76.1   | 75.2 - 77.0     | 16                                                                                        | 35                                                                                        | 25       | 98         | 100       | 120       | 1.39                | M 8 SW 6                 | 10                        |
| 80.0                   | FLEX 80.0   | 79.0 - 80.8     | 16                                                                                        | 35                                                                                        | 25       | 98         | 100       | 120       | 1.43                | M 8 SW 6                 | 10                        |
| 84.0                   | FLEX 84.0   | 83.0 - 85.0     | 16                                                                                        | 35                                                                                        | 25       | 98         | 105       | 125       | 1.46                | M 8 SW 6                 | 10                        |
| 88.9                   | FLEX 88.9   | 87.0 - 89.9     | 16                                                                                        | 35                                                                                        | 25       | 98         | 110       | 130       | 1.47                | M 8 SW 6                 | 10                        |
| 101.6                  | FLEX 101.6  | 100.4 - 102.8   | 16                                                                                        | 35                                                                                        | 25       | 98         | 125       | 145       | 1.61                | M 8 SW 6                 | 10                        |
| 104.0                  | FLEX 104.0  | 102.8 - 106.1   | 16                                                                                        | 35                                                                                        | 25       | 98         | 125       | 145       | 1.62                | M 8 SW 6                 | 10                        |
| 108.0                  | FLEX 108.0  | 106.8 - 109.2   | 16                                                                                        | 35                                                                                        | 25       | 98         | 130       | 150       | 1.64                | M 8 SW 6                 | 10                        |
| 110.0                  | FLEX 110.0  | 108.8 - 111.4   | 16                                                                                        | 35                                                                                        | 25       | 98         | 130       | 150       | 1.69                | M 8 SW 6                 | 10                        |
| 114.3                  | FLEX 114.3  | 113.0 - 115.5   | 16                                                                                        | 35                                                                                        | 25       | 98         | 135       | 155       | 1.69                | M 8 SW 6                 | 15                        |
| 129.0                  | FLEX 129.0  | 127.6 - 131.1   | 16                                                                                        | 32                                                                                        | 35       | 113        | 155       | 185       | 2.41                | M 10 SW 8                | 20                        |
| 133.0                  | FLEX 133.0  | 131.5 - 134.4   | 16                                                                                        | 32                                                                                        | 35       | 113        | 160       | 190       | 2.43                | M 10 SW 8                | 20                        |
| 139.7                  | FLEX 139.7  | 138.1 - 141.6   | 16                                                                                        | 32                                                                                        | 35       | 113        | 165       | 195       | 2.5                 | M 10 SW 8                | 25                        |
| 141.3                  | FLEX 141.3  | 139.6 - 142.8   | 16                                                                                        | 32                                                                                        | 35       | 113        | 170       | 200       | 2.5                 | M 10 SW 8                | 25                        |
| 154.0                  | FLEX 154.0  | 152.3 - 156.1   | 16                                                                                        | 32                                                                                        | 35       | 113        | 180       | 210       | 2.62                | M 10 SW 8                | 30                        |
| 159.0                  | FLEX 159.0  | 157.3 - 160.7   | 16                                                                                        | 32                                                                                        | 35       | 113        | 185       | 215       | 2.69                | M 10 SW 8                | 30                        |
| 168.3                  | FLEX 168.3  | 166.5 - 170.1   | 16                                                                                        | 32                                                                                        | 35       | 113        | 195       | 225       | 2.75                | M 10 SW 8                | 30                        |
| 180.0                  | FLEX 180.0  | 178.0 - 182.0   | 23.5                                                                                      | 50.0                                                                                      | 35       | 141        | 210       | 240       | 5.4                 | M 12 SW 10               | 35                        |
| 193.7                  | FLEX 193.7  | 192.0 - 196.0   | 23.5                                                                                      | 46.0                                                                                      | 35       | 141        | 225       | 255       | 5.6                 | M 12 SW 10               | 35                        |
| 206.0                  | FLEX 206.0  | 202.0 - 208.0   | 20.0                                                                                      | 43.0                                                                                      | 35       | 141        | 240       | 270       | 5.8                 | M 12 SW 10               | 35                        |
| 219.0                  | FLEX 219.0  | 216.0 - 221.0   | 18.0                                                                                      | 40.5                                                                                      | 35       | 141        | 250       | 280       | 6.0                 | M 12 SW 10               | 35                        |
| 225.0                  | FLEX 225.0  | 222.0 - 227.0   | 18.0                                                                                      | 40.0                                                                                      | 35       | 141        | 255       | 285       | 6.1                 | M 12 SW 10               | 35                        |
| 229.9                  | FLEX 229.9  | 228.0 - 232.0   | 18.0                                                                                      | 39.0                                                                                      | 35       | 141        | 260       | 290       | 6.2                 | M 12 SW 10               | 35                        |
| 244.5                  | FLEX 244.5  | 242.0 - 247.0   | 18.0                                                                                      | 37.0                                                                                      | 35       | 141        | 275       | 305       | 6.4                 | M 12 SW 10               | 35                        |
| 254.0                  | FLEX 254.0  | 250.0 - 256.0   | 18.0                                                                                      | 35.5                                                                                      | 35       | 141        | 285       | 315       | 6.5                 | M 12 SW 10               | 35                        |
| 267.0                  | FLEX 267.0  | 264.0 - 269.0   | 18.0                                                                                      | 33.5                                                                                      | 35       | 141        | 300       | 330       | 6.7                 | M 12 SW 10               | 35                        |
| 273.0                  | FLEX 273.0  | 270.0 - 275.0   | 17.0                                                                                      | 33.0                                                                                      | 35       | 141        | 305       | 335       | 6.8                 | M 12 SW 10               | 35                        |
| 306.0                  | FLEX 306.0  | 302.0 - 308.0   | 15.0                                                                                      | 29.0                                                                                      | 35       | 141        | 340       | 370       | 7.4                 | M 12 SW 10               | 35                        |
| 323.9                  | FLEX 323.9  | 320.0 - 327.0   | 15.0                                                                                      | 28.0                                                                                      | 35       | 141        | 355       | 385       | 7.6                 | M 12 SW 10               | 35                        |
| 326.0                  | FLEX 326.0  | 322.0 - 329.0   | 13.0                                                                                      | 27.5                                                                                      | 35       | 141        | 360       | 390       | 7.7                 | M 12 SW 10               | 35                        |
| 355.6                  | FLEX 355.6  | 352.0 - 359.0   | 13.0                                                                                      | 25.0                                                                                      | 35       | 141        | 390       | 420       | 8.1                 | M 12 SW 10               | 35                        |
| 406.4                  | FLEX 406.4  | 402.0 - 410.0   | 10.0                                                                                      | 22.0                                                                                      | 35       | 141        | 440       | 470       | 8.9                 | M 12 SW 10               | 35                        |
| 429.0                  | FLEX 429.0  | 426.0 - 431.0   | 7.5                                                                                       | 21.0                                                                                      | 35       | 141        | 460       | 490       | 9.3                 | M 12 SW 10               | 40                        |
| 442.0                  | FLEX 442.0  | 439.0 - 444.0   | 7.5                                                                                       | 20.0                                                                                      | 35       | 141        | 475       | 505       | 9.5                 | M 12 SW 10               | 40                        |
| 457.2                  | FLEX 457.2  | 454.0 - 459.0   | 7.5                                                                                       | 19.5                                                                                      | 35       | 141        | 490       | 520       | 9.7                 | M 12 SW 10               | 40                        |
| 508.0                  | FLEX 508.0  | 505.0 - 510.0   | 7.5                                                                                       | 17.0                                                                                      | 35       | 141        | 540       | 570       | 10.5                | M 12 SW 10               | 40                        |
| 531.0                  | FLEX 531.0  | 528.0 - 534.0   | 7.5                                                                                       | 16.0                                                                                      | 35       | 141        | 565       | 595       | 10.9                | M 12 SW 10               | 50                        |
| 558.8                  | FLEX 558.8  | 556.0 - 562.0   | 7.5                                                                                       | 15.5                                                                                      | 35       | 141        | 590       | 620       | 11.3                | M 12 SW 10               | 50                        |
| 609.6                  | FLEX 609.6  | 606.0 - 613.0   | 6.0                                                                                       | 14.0                                                                                      | 35       | 141        | 640       | 670       | 12.1                | M 12 SW 10               | 50                        |
| 634.0                  | FLEX 634.0  | 631.0 - 637.0   | 5.0                                                                                       | 13.5                                                                                      | 35       | 141        | 665       | 695       | 12.5                | M 12 SW 10               | 50                        |
| 711.2                  | FLEX 711.2  | 707.0 - 715.0   | 5.0                                                                                       | 12.0                                                                                      | 35       | 141        | 745       | 775       | 13.7                | M 12 SW 10               | 50                        |
| 762.0                  | FLEX 762.0  | 758.0 - 766.0   | 4.5                                                                                       | 11.0                                                                                      | 35       | 141        | 795       | 885       | 14.5                | M 12 SW 10               | 50                        |
| 812.8                  | FLEX 812.8  | 808.0 - 817.0   | 4.5                                                                                       | 10.5                                                                                      | 35       | 141        | 845       | 935       | 17.2                | M 12 SW 10               | 50                        |
| 914.4                  | FLEX 914.4  | 909.0 - 919.0   | 3.3                                                                                       | 9.5                                                                                       | 35       | 141        | 945       | 1035      | 18.8                | M 12 SW 10               | 60                        |
| 1016.0                 | FLEX 1016.0 | 1013.0 - 1019.0 | 3.3                                                                                       | 8.0                                                                                       | 35       | 141        | 1050      | 1140      | 20.4                | M 12 SW 10               | 60                        |
| 1117.5                 | FLEX 1117.5 | 1114.0 - 1120.0 | 3.3                                                                                       | 7.5                                                                                       | 35       | 141        | 1150      | 1240      | 22.0                | M 12 SW 10               | 60                        |
| 1219.2                 | FLEX 1219.2 | 1216.0 - 1222.0 | 3.3                                                                                       | 7.0                                                                                       | 35       | 141        | 1250      | 1340      | 23.6                | M 12 SW 10               | 60                        |

Coupling sizes &gt;800 mm are in 2-parts design! Sizes &gt; 1219.2 on request

PN<sup>1</sup> (Nominal Pressure) is the max. admissible working pressure in shipbuilding, based on a safety factor of ≥ 4.MAWP<sup>1</sup> (Maximum Allowable Working Pressure) is the max. admissible working pressure in shipbuilding, based on a safety factor of ≥ 4.WP<sup>2</sup> is the max. working pressure in industrial applications, with a safety factor as per NORMA specification.

## Technical data & Ordering information

| NORMACONNECT® FGR FLEX |             |                   |               |                        |                   |               |                        |                   |               |                        |
|------------------------|-------------|-------------------|---------------|------------------------|-------------------|---------------|------------------------|-------------------|---------------|------------------------|
| Ø<br>(O.D.)            | Designation | W2<br>Product No. |               |                        | W4<br>Product No. |               |                        | W5<br>Product No. |               |                        |
|                        |             | NBR               | EPDM          | housing<br>wall thckn. | NBR               | EPDM          | housing<br>wall thckn. | NBR               | EPDM          | housing<br>wall thckn. |
| 26.9                   | FLEX 26.9   | 0573 8400 026     | 0573 9100 026 | 1.0 mm                 | 0573 8500 026     | 0573 9200 026 | 1.0 mm                 |                   |               |                        |
| 28.0                   | FLEX 28.0   | 0573 8400 028     | 0573 9100 028 | 1.0 mm                 | 0573 8500 028     | 0573 9200 028 | 1.0 mm                 |                   |               |                        |
| 30.0                   | FLEX 30.0   | 0573 8400 030     | 0573 9100 030 | 1.0 mm                 | 0573 8500 030     | 0573 9200 030 | 1.0 mm                 |                   |               |                        |
| 33.7                   | FLEX 33.7   | 0573 8400 033     | 0573 9100 033 | 1.0 mm                 | 0573 8500 033     | 0573 9200 033 | 1.0 mm                 |                   |               |                        |
| 35.0                   | FLEX 35.0   | 0573 8400 035     | 0573 9100 035 | 1.2 mm                 | 0573 8500 035     | 0573 9200 035 | 1.2 mm                 |                   |               |                        |
| 38.0                   | FLEX 38.0   | 0573 8400 038     | 0573 9100 038 | 1.2 mm                 | 0573 8500 038     | 0573 9200 038 | 1.2 mm                 |                   |               |                        |
| 42.4                   | FLEX 42.4   | 0573 8400 042     | 0573 9100 042 | 1.2 mm                 | 0573 8500 042     | 0573 9200 042 | 1.2 mm                 |                   |               |                        |
| 44.5                   | FLEX 44.5   | 0573 8400 044     | 0573 9100 044 | 1.2 mm                 | 0573 8500 044     | 0573 9200 044 | 1.2 mm                 |                   |               |                        |
| 48.3                   | FLEX 48.3   | 0573 8400 048     | 0573 9100 048 | 1.2 mm                 | 0573 8500 048     | 0573 9200 048 | 1.2 mm                 |                   |               |                        |
| 54.0                   | FLEX 54.0   | 0573 8400 054     | 0573 9100 054 | 1.2 mm                 | 0573 8500 054     | 0573 9200 054 | 1.2 mm                 |                   |               |                        |
| 57.0                   | FLEX 57.0   | 0573 8400 057     | 0573 9100 057 | 1.2 mm                 | 0573 8500 057     | 0573 9200 057 | 1.2 mm                 |                   |               |                        |
| 60.3                   | FLEX 60.3   | 0573 8400 060     | 0573 9100 060 | 1.2 mm                 | 0573 8500 060     | 0573 9200 060 | 1.2 mm                 |                   |               |                        |
| 70.0                   | FLEX 70.0   | 0573 8400 070     | 0573 9100 070 | 1.2 mm                 | 0573 8500 070     | 0573 9200 070 | 1.2 mm                 |                   |               |                        |
| 73.0                   | FLEX 73.0   | 0573 8400 073     | 0573 9100 073 | 1.5 mm                 | 0573 8500 073     | 0573 9200 073 | 1.5 mm                 |                   |               |                        |
| 76.1                   | FLEX 76.1   | 0573 8400 076     | 0573 9100 076 | 1.5 mm                 | 0573 8500 076     | 0573 9200 076 | 1.5 mm                 |                   |               |                        |
| 80.0                   | FLEX 80.0   | 0573 8400 080     | 0573 9100 080 | 1.5 mm                 | 0573 8500 080     | 0573 9200 080 | 1.5 mm                 |                   |               |                        |
| 84.0                   | FLEX 84.0   | 0573 8400 084     | 0573 9100 084 | 1.5 mm                 | 0573 8500 084     | 0573 9200 084 | 1.5 mm                 |                   |               |                        |
| 88.9                   | FLEX 88.9   | 0573 8400 088     | 0573 9100 088 | 1.5 mm                 | 0573 8500 088     | 0573 9200 088 | 1.5 mm                 |                   |               |                        |
| 101.6                  | FLEX 101.6  | 0573 8400 101     | 0573 9100 101 | 1.5 mm                 | 0573 8500 101     | 0573 9200 101 | 1.5 mm                 |                   |               |                        |
| 104.0                  | FLEX 104.0  | 0573 8400 104     | 0573 9100 104 | 1.5 mm                 | 0573 8500 104     | 0573 9200 104 | 1.5 mm                 |                   |               |                        |
| 108.0                  | FLEX 108.0  | 0573 8400 108     | 0573 9100 108 | 1.5 mm                 | 0573 8500 108     | 0573 9200 108 | 1.5 mm                 |                   |               |                        |
| 110.0                  | FLEX 110.0  | 0573 8400 110     | 0573 9100 110 | 1.5 mm                 | 0573 8500 110     | 0573 9200 110 | 1.5 mm                 |                   |               |                        |
| 114.3                  | FLEX 114.3  | 0573 8400 114     | 0573 9100 114 | 1.5 mm                 | 0573 8500 114     | 0573 9200 114 | 1.5 mm                 |                   |               |                        |
| 129.0                  | FLEX 129.0  | 0573 8400 129     | 0573 9100 129 | 1.5 mm                 | 0573 8500 129     | 0573 9200 129 | 1.5 mm                 |                   |               |                        |
| 133.0                  | FLEX 133.0  | 0573 8400 133     | 0573 9100 133 | 1.5 mm                 | 0573 8500 133     | 0573 9200 133 | 1.5 mm                 |                   |               |                        |
| 139.7                  | FLEX 139.7  | 0573 8400 139     | 0573 9100 139 | 1.5 mm                 | 0573 8500 139     | 0573 9200 139 | 1.5 mm                 |                   |               |                        |
| 141.3                  | FLEX 141.3  | 0573 8400 141     | 0573 9100 141 | 1.5 mm                 | 0573 8500 141     | 0573 9200 141 | 1.5 mm                 |                   |               |                        |
| 154.0                  | FLEX 154.0  | 0573 8400 154     | 0573 9100 154 | 1.5 mm                 | 0573 8500 154     | 0573 9200 154 | 1.5 mm                 |                   |               |                        |
| 159.0                  | FLEX 159.0  | 0573 8400 159     | 0573 9100 159 | 1.5 mm                 | 0573 8500 159     | 0573 9200 159 | 1.5 mm                 |                   |               |                        |
| 168.3                  | FLEX 168.3  | 0573 8400 168     | 0573 9100 168 | 1.5 mm                 | 0573 8500 168     | 0573 9200 168 | 1.5 mm                 |                   |               |                        |
| 180.0                  | FLEX 180.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 193.7                  | FLEX 193.7  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 206.0                  | FLEX 206.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 219.0                  | FLEX 219.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 225.0                  | FLEX 225.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 229.9                  | FLEX 229.9  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 244.5                  | FLEX 244.5  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 254.0                  | FLEX 254.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 267.0                  | FLEX 267.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 273.0                  | FLEX 273.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 306.0                  | FLEX 306.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 323.9                  | FLEX 323.9  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 326.0                  | FLEX 326.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 355.6                  | FLEX 355.6  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 406.4                  | FLEX 406.4  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 429.0                  | FLEX 429.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 442.0                  | FLEX 442.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 457.2                  | FLEX 457.2  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 508.0                  | FLEX 508.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 531.0                  | FLEX 531.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 558.8                  | FLEX 558.8  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 609.6                  | FLEX 609.6  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 634.0                  | FLEX 634.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 711.2                  | FLEX 711.2  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 762.0                  | FLEX 762.0  | 0575 844. ...     | 0575 814 ...  | 2.5 mm                 | 0575 854. ...     | 0575 824. ... | 2.5 mm                 | 0575 864. ...     | 0575 834. ... | 2.5 mm                 |
| 812.8                  | FLEX 812.8  | 0575 8448 ...     | 0575 8148 ... | 2.5 mm                 | 0575 8548 ...     | 0575 8248 ... | 2.5 mm                 | 0575 8648 ...     | 0575 8348 ... | 2.5 mm                 |
| 914.4                  | FLEX 914.4  | 0575 8448 ...     | 0575 8148 ... | 2.5 mm                 | 0575 8548 ...     | 0575 8248 ... | 2.5 mm                 | 0575 8648 ...     | 0575 8348 ... | 2.5 mm                 |
| 1016.0                 | FLEX 1016.0 | 0575 8448 ...     | 0575 8148 ... | 2.5 mm                 | 0575 8548 ...     | 0575 8248 ... | 2.5 mm                 | 0575 8648 ...     | 0575 8348 ... | 2.5 mm                 |
| 1117.5                 | FLEX 1117.5 | 0575 8448 ...     | 0575 8148 ... | 2.5 mm                 | 0575 8548 ...     | 0575 8248 ... | 2.5 mm                 | 0575 8648 ...     | 0575 8348 ... | 2.5 mm                 |
| 1219.2                 | FLEX 1219.2 | 0575 8448 ...     | 0575 8148 ... | 2.5 mm                 | 0575 8548 ...     | 0575 8248 ... | 2.5 mm                 | 0575 8648 ...     | 0575 8348 ... | 2.5 mm                 |

... = Ø without decimals in mm

## FLEX E



NORMACONNECT® FLEX E is used for connecting restrained pipes, metal pipes, stainless pipes, as well as concrete and plastic pipes. This is a hollow trunnions version.

## Advantages at a glance

- Hollow trunnions for low pressure applications from diameter 168.3.

## Materials

- W2, W4, W5

NORMACONNECT® FGR FLEX E

| Ø<br>(O.D.) | Designation   | Clamping<br>ranges | PN¹<br>(MAWP¹ from Ø 180) | WP²     | C<br>max | Dimensions |           |           | Weight              | Hex socket locking bolts |                           |
|-------------|---------------|--------------------|---------------------------|---------|----------|------------|-----------|-----------|---------------------|--------------------------|---------------------------|
|             |               | Ømin - Ødmax       | [ bar ]                   | [ bar ] | (mm)     | a<br>(mm)  | d<br>(mm) | H<br>(mm) | approx.<br>(kg/pc.) | Thread                   | Tightening torque<br>(Nm) |
| 26.9        | FLEX E 26.9   | 26.4-27.5          | 16                        | 70      | 3        | 67         | 50        | 70        | 0.31                | M 8 SW 6                 | 5                         |
| 28.0        | FLEX E 28.0   | 27.5-28.5          | 16                        | 70      | 3        | 67         | 50        | 70        | 0.31                | M 8 SW 6                 | 5                         |
| 30.0        | FLEX E 30.0   | 29.5-30.6          | 16                        | 70      | 3        | 67         | 50        | 70        | 0.31                | M 8 SW 6                 | 5                         |
| 33.7        | FLEX E 33.7   | 33.0-34.3          | 16                        | 60      | 3        | 67         | 55        | 75        | 0.32                | M 8 SW 6                 | 5                         |
| 35.0        | FLEX E 35.0   | 34.5-35.6          | 16                        | 60      | 8        | 63         | 55        | 75        | 0.43                | M 8 SW 6                 | 5                         |
| 38.0        | FLEX E 38.0   | 37.5-38.6          | 16                        | 60      | 8        | 63         | 60        | 80        | 0.43                | M 8 SW 6                 | 5                         |
| 42.4        | FLEX E 42.4   | 41.7-43.0          | 16                        | 50      | 8        | 63         | 65        | 85        | 0.44                | M 8 SW 6                 | 5                         |
| 44.5        | FLEX E 44.5   | 44.0-45.1          | 16                        | 50      | 8        | 63         | 65        | 85        | 0.45                | M 8 SW 6                 | 5                         |
| 48.3        | FLEX E 48.3   | 47.6-50.5          | 16                        | 50      | 8        | 63         | 70        | 90        | 0.46                | M 8 SW 6                 | 5                         |
| 54.0        | FLEX E 54.0   | 53.3-54.6          | 16                        | 50      | 17       | 78         | 75        | 95        | 0.60                | M 8 SW 6                 | 10                        |
| 57.0        | FLEX E 57.0   | 56.3-57.7          | 16                        | 50      | 17       | 78         | 80        | 100       | 0.61                | M 8 SW 6                 | 10                        |
| 60.3        | FLEX E 60.3   | 59.5-61.0          | 16                        | 40      | 17       | 78         | 85        | 105       | 0.62                | M 8 SW 6                 | 10                        |
| 70.0        | FLEX E 70.0   | 69.0-71.0          | 16                        | 40      | 25       | 98         | 90        | 110       | 1.16                | M 8 SW 6                 | 10                        |
| 73.0        | FLEX E 73.0   | 72.1-73.8          | 16                        | 40      | 25       | 98         | 95        | 115       | 1.18                | M 8 SW 6                 | 10                        |
| 76.1        | FLEX E 76.1   | 75.2-77.0          | 16                        | 35      | 25       | 98         | 100       | 120       | 1.18                | M 8 SW 6                 | 10                        |
| 80.0        | FLEX E 80.0   | 79.0-80.8          | 16                        | 35      | 25       | 98         | 100       | 120       | 1.21                | M 8 SW 6                 | 10                        |
| 84.0        | FLEX E 84.0   | 83.0-85.0          | 16                        | 35      | 25       | 98         | 105       | 125       | 1.24                | M 8 SW 6                 | 10                        |
| 88.9        | FLEX E 88.9   | 87.0-89.9          | 16                        | 35      | 25       | 98         | 110       | 130       | 1.26                | M 8 SW 6                 | 10                        |
| 101.6       | FLEX E 101.6  | 100.4-102.8        | 16                        | 35      | 25       | 98         | 125       | 145       | 1.39                | M 8 SW 6                 | 10                        |
| 104.0       | FLEX E 104.0  | 102.8-106.1        | 16                        | 35      | 25       | 98         | 125       | 145       | 1.40                | M 8 SW 6                 | 10                        |
| 108.0       | FLEX E 108.0  | 106.8-109.2        | 16                        | 35      | 25       | 98         | 130       | 150       | 1.42                | M 8 SW 6                 | 10                        |
| 110.0       | FLEX E 110.0  | 108.8-111.4        | 16                        | 35      | 25       | 98         | 130       | 150       | 1.47                | M 8 SW 6                 | 10                        |
| 114.3       | FLEX E 114.3  | 113.0-115.5        | 16                        | 35      | 25       | 98         | 135       | 155       | 1.47                | M 8 SW 6                 | 15                        |
| 129.0       | FLEX E 129.0  | 127.6-131.1        | 16                        | 32      | 35       | 113        | 155       | 185       | 2.10                | M 10 SW 8                | 20                        |
| 133.0       | FLEX E 133.0  | 131.5-134.4        | 16                        | 32      | 35       | 113        | 160       | 190       | 2.13                | M 10 SW 8                | 20                        |
| 139.7       | FLEX E 139.7  | 138.1-141.6        | 16                        | 32      | 35       | 113        | 165       | 195       | 2.19                | M 10 SW 8                | 25                        |
| 141.3       | FLEX E 141.3  | 139.6-142.8        | 16                        | 32      | 35       | 113        | 170       | 200       | 2.19                | M 10 SW 8                | 25                        |
| 154.0       | FLEX E 154.0  | 152.3-156.1        | 16                        | 32      | 35       | 113        | 180       | 210       | 2.31                | M 10 SW 8                | 30                        |
| 159.0       | FLEX E 159.0  | 157.3-160.7        | 16                        | 32      | 35       | 113        | 185       | 215       | 2.38                | M 10 SW 8                | 30                        |
| 168.3       | FLEX E 168.3  | 166.5 - 170.1      | 16                        | 32      | 35       | 113        | 195       | 225       | 2.43                | M 10 SW 8                | 30                        |
| 180.0       | FLEX E 180.0  | 178.0 - 182.0      | 13.5                      | 30.0    | 35       | 139        | 210       | 240       | 4.0                 | M 12 SW 10               | 25                        |
| 193.7       | FLEX E 193.7  | 192.0 - 196.0      | 13.5                      | 28.0    | 35       | 139        | 225       | 255       | 4.1                 | M 12 SW 10               | 25                        |
| 206.0       | FLEX E 206.0  | 202.0 - 208.0      | 13.5                      | 26.5    | 35       | 139        | 240       | 270       | 4.3                 | M 12 SW 10               | 25                        |
| 219.0       | FLEX E 219.0  | 216.0 - 221.0      | 13.5                      | 23.0    | 35       | 139        | 250       | 280       | 4.4                 | M 12 SW 10               | 25                        |
| 225.0       | FLEX E 225.0  | 222.0 - 227.0      | 12.0                      | 23.0    | 35       | 139        | 255       | 285       | 4.5                 | M 12 SW 10               | 25                        |
| 229.9       | FLEX E 229.9  | 228.0 - 232.0      | 12.0                      | 23.0    | 35       | 139        | 260       | 290       | 4.5                 | M 12 SW 10               | 25                        |
| 244.5       | FLEX E 244.5  | 242.0 - 247.0      | 12.0                      | 22.0    | 35       | 139        | 275       | 305       | 4.7                 | M 12 SW 10               | 25                        |
| 254.0       | FLEX E 254.0  | 250.0 - 256.0      | 12.0                      | 21.0    | 35       | 139        | 285       | 315       | 4.8                 | M 12 SW 10               | 25                        |
| 267.0       | FLEX E 267.0  | 264.0 - 269.0      | 12.0                      | 20.0    | 35       | 139        | 300       | 330       | 5.0                 | M 12 SW 10               | 25                        |
| 273.0       | FLEX E 273.0  | 270.0 - 275.0      | 12.0                      | 20.0    | 35       | 139        | 305       | 335       | 5.1                 | M 12 SW 10               | 25                        |
| 306.0       | FLEX E 306.0  | 302.0 - 308.0      | 9.0                       | 17.5    | 35       | 139        | 340       | 370       | 5.5                 | M 12 SW 10               | 25                        |
| 323.9       | FLEX E 323.9  | 320.0 - 327.0      | 9.0                       | 17.5    | 35       | 139        | 355       | 385       | 5.7                 | M 12 SW 10               | 25                        |
| 326.0       | FLEX E 326.0  | 322.0 - 329.0      | 9.0                       | 16.5    | 35       | 139        | 360       | 390       | 5.7                 | M 12 SW 10               | 25                        |
| 355.6       | FLEX E 355.6  | 352.0 - 359.0      | 9.0                       | 15.0    | 35       | 139        | 390       | 420       | 6.0                 | M 12 SW 10               | 25                        |
| 406.4       | FLEX E 406.4  | 402.0 - 410.0      | 7.5                       | 14.0    | 35       | 139        | 440       | 470       | 6.7                 | M 12 SW 10               | 25                        |
| 429.0       | FLEX E 429.0  | 426.0 - 431.0      | 5.5                       | 13.0    | 35       | 139        | 460       | 490       | 6.9                 | M 12 SW 10               | 40                        |
| 442.0       | FLEX E 442.0  | 439.0 - 444.0      | 5.5                       | 13.0    | 35       | 139        | 475       | 505       | 7.1                 | M 12 SW 10               | 40                        |
| 457.2       | FLEX E 457.2  | 454.0 - 459.0      | 5.5                       | 12.0    | 35       | 139        | 490       | 520       | 7.3                 | M 12 SW 10               | 40                        |
| 508.0       | FLEX E 508.0  | 505.0 - 510.0      | 5.5                       | 11.0    | 35       | 139        | 540       | 570       | 7.9                 | M 12 SW 10               | 40                        |
| 531.0       | FLEX E 531.0  | 528.0 - 534.0      | 5.5                       | 10.5    | 35       | 139        | 565       | 595       | 8.1                 | M 12 SW 10               | 40                        |
| 558.8       | FLEX E 558.8  | 556.0 - 562.0      | 5.5                       | 10.0    | 35       | 139        | 590       | 620       | 8.5                 | M 12 SW 10               | 40                        |
| 609.6       | FLEX E 609.6  | 606.0 - 613.0      | 4.5                       | 9.0     | 35       | 139        | 640       | 670       | 9.1                 | M 12 SW 10               | 40                        |
| 634.0       | FLEX E 634.0  | 631.0 - 637.0      | 4.5                       | 8.0     | 35       | 139        | 665       | 695       | 9.4                 | M 12 SW 10               | 40                        |
| 711.2       | FLEX E 711.2  | 707.0 - 715.0      | 4.0                       | 7.0     | 35       | 139        | 745       | 775       | 10.3                | M 12 SW 10               | 40                        |
| 762.0       | FLEX E 762.0  | 758.0 - 766.0      | 3.2                       | 7.0     | 35       | 139        | 795       | 885       | 10.9                | M 12 SW 10               | 40                        |
| 812.8       | FLEX E 812.8  | 808.0 - 817.0      | 3.2                       | 6.5     | 35       | 139        | 845       | 935       | 12.8                | M 12 SW 10               | 40                        |
| 914.4       | FLEX E 914.4  | 909.0 - 919.0      | 2.0                       | 5.5     | 35       | 139        | 945       | 1035      | 14.0                | M 12 SW 10               | 45                        |
| 1016.0      | FLEX E 1016.0 | 1013.0 - 1019.0    | 2.0                       | 5.0     | 35       | 139        | 1050      | 1140      | 15.2                | M 12 SW 10               | 45                        |
| 1117.5      | FLEX E 1117.5 | 1114.0 - 1120.0    | 2.0                       | 4.5     | 35       | 139        | 1150      | 1240      | 16.4                | M 12 SW 10               | 50                        |
| 1219.2      | FLEX E 1219.2 | 1216.0 - 1222.0    | 2.0                       | 4.0     | 35       | 139        | 1250      | 1340      | 17.7                | M 12 SW 10               | 50                        |

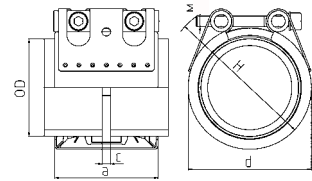
Coupling sizes >800 mm are in 2-parts design! Sizes > 1219.2 on request

PN¹ (Nominal Pressure) is the max. admissible working pressure in shipbuilding, based on a safety factor of  $\geq 4$ .

MAWP¹ (Maximum Allowable Working Pressure) is the max. admissible working pressure in shipbuilding, based on a safety factor of  $\geq 4$ .

WP² is the max. working pressure in industrial applications, with a safety factor as per NORMA specification.

## Technical data &amp; Ordering information



... = Ø without decimals in mm

| NORMACONNECT® FGR FLEX E |               |                   |               |                         |                   |               |                         |                   |               |                         |
|--------------------------|---------------|-------------------|---------------|-------------------------|-------------------|---------------|-------------------------|-------------------|---------------|-------------------------|
| Ø<br>(O.D.)              | Designation   | W2<br>Product No. |               |                         | W4<br>Product No. |               |                         | W5<br>Product No. |               |                         |
|                          |               | NBR               | EPDM          | housing<br>wall thickn. | NBR               | EPDM          | housing<br>wall thickn. | NBR               | EPDM          | housing<br>wall thickn. |
| 26.9                     | FLEX E 26.9   | 0582 8400 026     | 0582 9100 026 | 1.0 mm                  | 0582 8500 026     | 0582 9200 026 | 1.0 mm                  | 0582 8600 026     | 0582 9300 026 | 1.0 mm                  |
| 28.0                     | FLEX E 28.0   | 0582 8400 028     | 0582 9100 028 | 1.0 mm                  | 0582 8500 028     | 0582 9200 028 | 1.0 mm                  | 0582 8600 028     | 0582 9300 028 | 1.0 mm                  |
| 30.0                     | FLEX E 30.0   | 0582 8400 030     | 0582 9100 030 | 1.0 mm                  | 0582 8500 030     | 0582 9200 030 | 1.0 mm                  | 0582 8600 030     | 0582 9300 030 | 1.0 mm                  |
| 33.7                     | FLEX E 33.7   | 0582 8400 033     | 0582 9100 033 | 1.0 mm                  | 0582 8500 033     | 0582 9200 033 | 1.0 mm                  | 0582 8600 033     | 0582 9300 033 | 1.0 mm                  |
| 35.0                     | FLEX E 35.0   | 0582 8400 035     | 0582 9100 035 | 1.2 mm                  | 0582 8500 035     | 0582 9200 035 | 1.2 mm                  | 0582 8600 035     | 0582 9300 035 | 1.2 mm                  |
| 38.0                     | FLEX E 38.0   | 0582 8400 038     | 0582 9100 038 | 1.2 mm                  | 0582 8500 038     | 0582 9200 038 | 1.2 mm                  | 0582 8600 038     | 0582 9300 038 | 1.2 mm                  |
| 42.4                     | FLEX E 42.4   | 0582 8400 042     | 0582 9100 042 | 1.2 mm                  | 0582 8500 042     | 0582 9200 042 | 1.2 mm                  | 0582 8600 042     | 0582 9300 042 | 1.2 mm                  |
| 44.5                     | FLEX E 44.5   | 0582 8400 044     | 0582 9100 044 | 1.2 mm                  | 0582 8500 044     | 0582 9200 044 | 1.2 mm                  | 0582 8600 044     | 0582 9300 044 | 1.2 mm                  |
| 48.3                     | FLEX E 48.3   | 0582 8400 048     | 0582 9100 048 | 1.2 mm                  | 0582 8500 048     | 0582 9200 048 | 1.2 mm                  | 0582 8600 048     | 0582 9300 048 | 1.2 mm                  |
| 54.0                     | FLEX E 54.0   | 0582 8400 054     | 0582 9100 054 | 1.2 mm                  | 0582 8500 054     | 0582 9200 054 | 1.2 mm                  | 0582 8600 054     | 0582 9300 054 | 1.2 mm                  |
| 57.0                     | FLEX E 57.0   | 0582 8400 057     | 0582 9100 057 | 1.2 mm                  | 0582 8500 057     | 0582 9200 057 | 1.2 mm                  | 0582 8600 057     | 0582 9300 057 | 1.2 mm                  |
| 60.3                     | FLEX E 60.3   | 0582 8400 060     | 0582 9100 060 | 1.2 mm                  | 0582 8500 060     | 0582 9200 060 | 1.2 mm                  | 0582 8600 060     | 0582 9300 060 | 1.2 mm                  |
| 70.0                     | FLEX E 70.0   | 0582 8400 070     | 0582 9100 070 | 1.2 mm                  | 0582 8500 070     | 0582 9200 070 | 1.2 mm                  | 0582 8600 070     | 0582 9300 070 | 1.2 mm                  |
| 73.0                     | FLEX E 73.0   | 0582 8400 073     | 0582 9100 073 | 1.5 mm                  | 0582 8500 073     | 0582 9200 073 | 1.5 mm                  | 0582 8600 073     | 0582 9300 073 | 1.5 mm                  |
| 76.1                     | FLEX E 76.1   | 0582 8400 076     | 0582 9100 076 | 1.5 mm                  | 0582 8500 076     | 0582 9200 076 | 1.5 mm                  | 0582 8600 076     | 0582 9300 076 | 1.5 mm                  |
| 80.0                     | FLEX E 80.0   | 0582 8400 080     | 0582 9100 080 | 1.5 mm                  | 0582 8500 080     | 0582 9200 080 | 1.5 mm                  | 0582 8600 080     | 0582 9300 080 | 1.5 mm                  |
| 84.0                     | FLEX E 84.0   | 0582 8400 084     | 0582 9100 084 | 1.5 mm                  | 0582 8500 084     | 0582 9200 084 | 1.5 mm                  | 0582 8600 084     | 0582 9300 084 | 1.5 mm                  |
| 88.9                     | FLEX E 88.9   | 0582 8400 088     | 0582 9100 088 | 1.5 mm                  | 0582 8500 088     | 0582 9200 088 | 1.5 mm                  | 0582 8600 088     | 0582 9300 088 | 1.5 mm                  |
| 101.6                    | FLEX E 101.6  | 0582 8400 101     | 0582 9100 101 | 1.5 mm                  | 0582 8500 101     | 0582 9200 101 | 1.5 mm                  | 0582 8600 101     | 0582 9300 101 | 1.5 mm                  |
| 104.0                    | FLEX E 104.0  | 0582 8400 104     | 0582 9100 104 | 1.5 mm                  | 0582 8500 104     | 0582 9200 104 | 1.5 mm                  | 0582 8600 104     | 0582 9300 104 | 1.5 mm                  |
| 108.0                    | FLEX E 108.0  | 0582 8400 108     | 0582 9100 108 | 1.5 mm                  | 0582 8500 108     | 0582 9200 108 | 1.5 mm                  | 0582 8600 108     | 0582 9300 108 | 1.5 mm                  |
| 110.0                    | FLEX E 110.0  | 0582 8400 110     | 0582 9100 110 | 1.5 mm                  | 0582 8500 110     | 0582 9200 110 | 1.5 mm                  | 0582 8600 110     | 0582 9300 110 | 1.5 mm                  |
| 114.3                    | FLEX E 114.3  | 0582 8400 114     | 0582 9100 114 | 1.5 mm                  | 0582 8500 114     | 0582 9200 114 | 1.5 mm                  | 0582 8600 114     | 0582 9300 114 | 1.5 mm                  |
| 129.0                    | FLEX E 129.0  | 0582 8400 129     | 0582 9100 129 | 1.5 mm                  | 0582 8500 129     | 0582 9200 129 | 1.5 mm                  | 0582 8600 129     | 0582 9300 129 | 1.5 mm                  |
| 133.0                    | FLEX E 133.0  | 0582 8400 133     | 0582 9100 133 | 1.5 mm                  | 0582 8500 133     | 0582 9200 133 | 1.5 mm                  | 0582 8600 133     | 0582 9300 133 | 1.5 mm                  |
| 139.7                    | FLEX E 139.7  | 0582 8400 139     | 0582 9100 139 | 1.5 mm                  | 0582 8500 139     | 0582 9200 139 | 1.5 mm                  | 0582 8600 139     | 0582 9300 139 | 1.5 mm                  |
| 141.3                    | FLEX E 141.3  | 0582 8400 141     | 0582 9100 141 | 1.5 mm                  | 0582 8500 141     | 0582 9200 141 | 1.5 mm                  | 0582 8600 141     | 0582 9300 141 | 1.5 mm                  |
| 154.0                    | FLEX E 154.0  | 0582 8400 154     | 0582 9100 154 | 1.5 mm                  | 0582 8500 154     | 0582 9200 154 | 1.5 mm                  | 0582 8600 154     | 0582 9300 154 | 1.5 mm                  |
| 159.0                    | FLEX E 159.0  | 0582 8400 159     | 0582 9100 159 | 1.5 mm                  | 0582 8500 159     | 0582 9200 159 | 1.5 mm                  | 0582 8600 159     | 0582 9300 159 | 1.5 mm                  |
| 168.3                    | FLEX E 168.3  | 0582 8400 168     | 0582 9100 168 | 1.5 mm                  | 0582 8500 168     | 0582 9200 168 | 1.5 mm                  | 0582 8600 168     | 0582 9300 168 | 1.5 mm                  |
| 180.0                    | FLEX E 180.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 193.7                    | FLEX E 193.7  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 206.0                    | FLEX E 206.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 219.0                    | FLEX E 219.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 225.0                    | FLEX E 225.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 229.9                    | FLEX E 229.9  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 244.5                    | FLEX E 244.5  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 254.0                    | FLEX E 254.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 267.0                    | FLEX E 267.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 273.0                    | FLEX E 273.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 306.0                    | FLEX E 306.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 323.9                    | FLEX E 323.9  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 326.0                    | FLEX E 326.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 355.6                    | FLEX E 355.6  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 406.4                    | FLEX E 406.4  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 429.0                    | FLEX E 429.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 442.0                    | FLEX E 442.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 457.2                    | FLEX E 457.2  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 508.0                    | FLEX E 508.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 531.0                    | FLEX E 531.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 558.8                    | FLEX E 558.8  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 609.6                    | FLEX E 609.6  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 634.0                    | FLEX E 634.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 711.2                    | FLEX E 711.2  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 762.0                    | FLEX E 762.0  | 0583 842. ...     | 0583 812. ... | 1.5 mm                  | 0583 852. ...     | 0583 822. ... | 1.5 mm                  | 0583 862. ...     | 0583 832. ... | 1.5 mm                  |
| 812.8                    | FLEX E 812.8  | 0583 8428 ...     | 0583 8128 ... | 1.5 mm                  | 0583 8528 ...     | 0583 8228 ... | 1.5 mm                  | 0583 8628 ...     | 0583 8328 ... | 1.5 mm                  |
| 914.4                    | FLEX E 914.4  | 0583 8428 ...     | 0583 8128 ... | 1.5 mm                  | 0583 8528 ...     | 0583 8228 ... | 1.5 mm                  | 0583 8628 ...     | 0583 8328 ... | 1.5 mm                  |
| 1016.0                   | FLEX E 1016.0 | 0583 8428 ...     | 0583 8128 ... | 1.5 mm                  | 0583 8528 ...     | 0583 8228 ... | 1.5 mm                  | 0583 8628 ...     | 0583 8328 ... | 1.5 mm                  |
| 1117.5                   | FLEX E 1117.5 | 0583 8428 ...     | 0583 8128 ... | 1.5 mm                  | 0583 8528 ...     | 0583 8228 ... | 1.5 mm                  | 0583 8628 ...     | 0583 8328 ... | 1.5 mm                  |
| 1219.2                   | FLEX E 1219.2 | 0583 8428 ...     | 0583 8128 ... | 1.5 mm                  | 0583 8528 ...     | 0583 8228 ... | 1.5 mm                  | 0583 8628 ...     | 0583 8328 ... | 1.5 mm                  |



1 Double-lip sealing system

2 Standard strip insert

3 Heavy duty lock bars



NORMACONNECT® FLEX 3  
pipe coupling with extra wide  
band width of 211 mm

## The pipe coupling with extra wide band

NORMACONNECT® FLEX 3 featuring an extra wide band is an axial non-restraint coupling used to connect metal and/or plastic pipes quickly and safely.



### Advantages at a glance

- Easy and quick to assemble
- Pipe end distance up to 65 mm possible
- Compensation of misalignment, angular deflection up to 4° possible

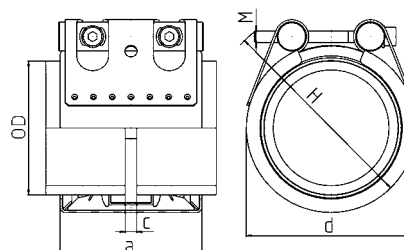
### Information

- Sizes: from 326.0 mm to 2032.0 mm
- Working pressure: 16.5 bar - 1.5 bar
- Solid trunnions
- 2 closure units from size > 800.0 mm
- Material: AISI 316 Ti
- EPDM: Sizes > 180.0 mm: - 20 °C up to + 80 °C
- NBR: from - 20 °C up to + 80 °C

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    |    |    |    | x  |

### Technical data & Ordering information



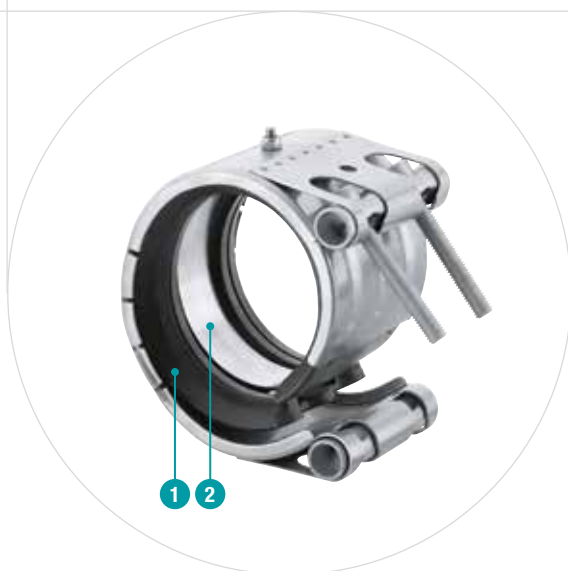
## Technical data &amp; Ordering information

| NORMACONNECT® FGR FLEX 3 |               |                                      |                                                                                         |          |            |           |           |                     |                          |                           |                   |               |                          |
|--------------------------|---------------|--------------------------------------|-----------------------------------------------------------------------------------------|----------|------------|-----------|-----------|---------------------|--------------------------|---------------------------|-------------------|---------------|--------------------------|
| Ø<br>(O.D.)              | Designation   | Clamping ranges                      | WP <sup>1</sup>                                                                         | C<br>max | Dimensions |           |           | Weight              | Hex socket locking bolts |                           | W5<br>Product No. |               |                          |
|                          |               | O <sub>min</sub> - O <sub>dmax</sub> |  [bar] | (mm)     | a<br>(mm)  | d<br>(mm) | H<br>(mm) | approx.<br>(kg/pc.) | Thread                   | Tightening<br>torque (Nm) | NBR               | EPDM          | housing<br>wall thicken. |
| 326.0                    | FLEX 3 326.0  | 322.0 - 329.0                        | 16.5                                                                                    | 65       | 211        | 365       | 405       | 11.9                | M 16 SW 14               | 30                        | 0571 8630 ...     | 0571 8330 ... | 2.0mm                    |
| 355.6                    | FLEX 3 355.6  | 352.0 - 259.0                        | 15.5                                                                                    | 65       | 211        | 395       | 435       | 12.4                | M 16 SW 14               | 35                        | 0571 8630 ...     | 0571 8330 ... | 2.0mm                    |
| 406.4                    | FLEX 3 406.4  | 402.0 - 410.0                        | 13.5                                                                                    | 65       | 211        | 445       | 485       | 13.4                | M 16 SW 14               | 35                        | 0571 8630 ...     | 0571 8330 ... | 2.0mm                    |
| 429.0                    | FLEX 3 429.0  | 426.0 - 431.0                        | 12.5                                                                                    | 65       | 211        | 465       | 505       | 13.9                | M 16 SW 14               | 35                        | 0571 8630 ...     | 0571 8330 ... | 2.0mm                    |
| 442.0                    | FLEX 3 442.0  | 439.0 - 444.0                        | 12.0                                                                                    | 65       | 211        | 480       | 520       | 14.1                | M 16 SW 14               | 35                        | 0571 8630 ...     | 0571 8330 ... | 2.0mm                    |
| 457.2                    | FLEX 3 457.2  | 454.0 - 459.0                        | 12.0                                                                                    | 65       | 211        | 495       | 535       | 14.4                | M 16 SW 14               | 35                        | 0571 8630 ...     | 0571 8330 ... | 2.0mm                    |
| 508.0                    | FLEX 3 508.0  | 505.0 - 510.0                        | 10.5                                                                                    | 65       | 211        | 545       | 585       | 15.4                | M 16 SW 14               | 35                        | 0571 8630 ...     | 0571 8330 ... | 2.0mm                    |
| 531.0                    | FLEX 3 531.0  | 528.0 - 534.0                        | 10.0                                                                                    | 65       | 211        | 570       | 610       | 15.9                | M 16 SW 14               | 35                        | 0571 8630 ...     | 0571 8330 ... | 2.0mm                    |
| 558.8                    | FLEX 3 558.8  | 556.0 - 562.0                        | 9.5                                                                                     | 65       | 211        | 595       | 635       | 16.4                | M 16 SW 14               | 35                        | 0571 8630 ...     | 0571 8330 ... | 2.0mm                    |
| 609.6                    | FLEX 3 609.6  | 606.0 - 613.0                        | 9.0                                                                                     | 65       | 211        | 645       | 685       | 17.4                | M 16 SW 14               | 40                        | 0571 8630 ...     | 0571 8330 ... | 2.0mm                    |
| 634.0                    | FLEX 3 634.0  | 631.0 - 637.0                        | 8.5                                                                                     | 65       | 211        | 670       | 710       | 17.9                | M 16 SW 14               | 40                        | 0571 8630 ...     | 0571 8330 ... | 2.0mm                    |
| 711.2                    | FLEX 3 711.2  | 707.0 - 715.0                        | 7.5                                                                                     | 65       | 211        | 750       | 790       | 19.4                | M 16 SW 14               | 40                        | 0571 8630 ...     | 0571 8330 ... | 2.0mm                    |
| 762.0                    | FLEX 3 762.0  | 758.0 - 766.0                        | 7.0                                                                                     | 65       | 211        | 800       | 840       | 20.4                | M 16 SW 14               | 40                        | 0571 8630 ...     | 0571 8330 ... | 2.0mm                    |
| 812.8                    | FLEX 3 812.8  | 808.0 - 817.0                        | 6.5                                                                                     | 65       | 211        | 850       | 890       | 21.4                | M 16 SW 14               | 45                        | 0571 8638 ...     | 0571 8338 ... | 2.0mm                    |
| 914.4                    | FLEX 3 914.4  | 909.0 - 919.0                        | 6.0                                                                                     | 65       | 211        | 950       | 990       | 23.4                | M 16 SW 14               | 45                        | 0571 8638 ...     | 0571 8338 ... | 2.0mm                    |
| 1016.0                   | FLEX 3 1016.0 | 1013.0 - 1019.0                      | 5.0                                                                                     | 65       | 211        | 1055      | 1095      | 25.4                | M 16 SW 14               | 50                        | 0571 8638 ...     | 0571 8338 ... | 2.0mm                    |
| 1117.5                   | FLEX 3 1117.5 | 114.0 - 1120.0                       | 4.5                                                                                     | 65       | 211        | 1155      | 1195      | 27.4                | M 16 SW 14               | 50                        | 0571 8638 ...     | 0571 8338 ... | 2.0mm                    |
| 1219.2                   | FLEX 3 1219.2 | 1216.0 - 1222.0                      | 4.0                                                                                     | 65       | 211        | 1255      | 1295      | 29.4                | M 16 SW 14               | 55                        | 0571 8638 ...     | 0571 8338 ... | 2.0mm                    |
| 1320.8                   | FLEX 3 1320.8 | 1314.0 - 1328.0                      | 3.0                                                                                     | 65       | 211        | 1360      | 1400      | 31.4                | M 16 SW 14               | 55                        | 0571 8638 ...     | 0571 8338 ... | 2.0mm                    |
| 1422.4                   | FLEX 3 1422.4 | 1415.0 - 1430.0                      | 3.0                                                                                     | 65       | 211        | 1460      | 1500      | 33.4                | M 16 SW 14               | 60                        | 0571 8638 ...     | 0571 8338 ... | 2.0mm                    |
| 1524.0                   | FLEX 3 1524.0 | 1516.0 - 1532.0                      | 2.5                                                                                     | 65       | 211        | 1560      | 1600      | 35.4                | M 16 SW 14               | 60                        | 0571 8638 ...     | 0571 8338 ... | 2.0mm                    |
| 1625.6                   | FLEX 3 1625.6 | 1617.0 - 1634.0                      | 2.5                                                                                     | 65       | 211        | 1665      | 1705      | 37.4                | M 16 SW 14               | 70                        | 0571 8638 ...     | 0571 8338 ... | 2.0mm                    |
| 1727.2                   | FLEX 3 1727.2 | 1718.0 - 1736.0                      | 2.0                                                                                     | 65       | 211        | 1765      | 1805      | 39.4                | M 16 SW 14               | 70                        | 0571 8638 ...     | 0571 8338 ... | 2.0mm                    |
| 1828.8                   | FLEX 3 1828.8 | 1819.0 - 1838.0                      | 2.0                                                                                     | 65       | 211        | 1865      | 1905      | 41.4                | M 16 SW 14               | 80                        | 0571 8638 ...     | 0571 8338 ... | 2.0mm                    |
| 1930.4                   | FLEX 3 1930.4 | 1320.0 - 1940.0                      | 2.0                                                                                     | 65       | 211        | 1970      | 2010      | 43.4                | M 16 SW 14               | 80                        | 0571 8638 ...     | 0571 8338 ... | 2.0mm                    |
| 2032.0                   | FLEX 3 2032.0 | 2021.0 - 2042.0                      | 1.5                                                                                     | 65       | 211        | 2070      | 2110      | 45.4                | M 16 SW 14               | 80                        | 0571 8638 ...     | 0571 8338 ... | 2.0mm                    |

Coupling sizes &gt;800 mm are in 2-parts design!

WP<sup>1</sup> is the max. working pressure in industrial applications, with a safety factor as per NORMA specification.

... = Ø without decimals in mm



1 Double-lip sealing system

2 Standard strip insert

## The repair coupling

NORMACONNECT® REP E are non-restraint repair couplings. They are used to connect and/or seal damaged metal and plastic pipes. They also enable repairs to be carried out easily, quickly and safely without the need to dismantle the pipes.

### Advantages at a glance

- Ensures a reliable, safe, leakage-free connection
- Enables easy, quick and safe repair without dismantling the pipes
- Easy to install without special tools

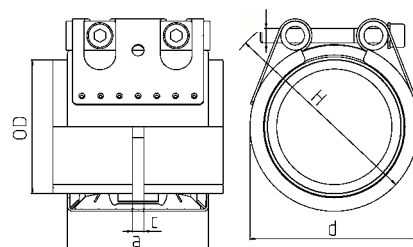
### Information

- Sizes: from 35.0 mm to 1219.1 mm
- Working pressure: from 60.0 bar to 4.0 bar
- Material: AISI 316 Ti
- EPDM:
  - Sizes from 26.9 mm up to 168.3 mm: - 30 °C up to + 125 °C
  - Sizes > 180.0 mm: - 20 °C up to + 80 °C
- NBR : from - 20 °C up to + 80 °C

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    |    |    |    | x  |

### Technical data & Ordering information



## Technical data &amp; Ordering information

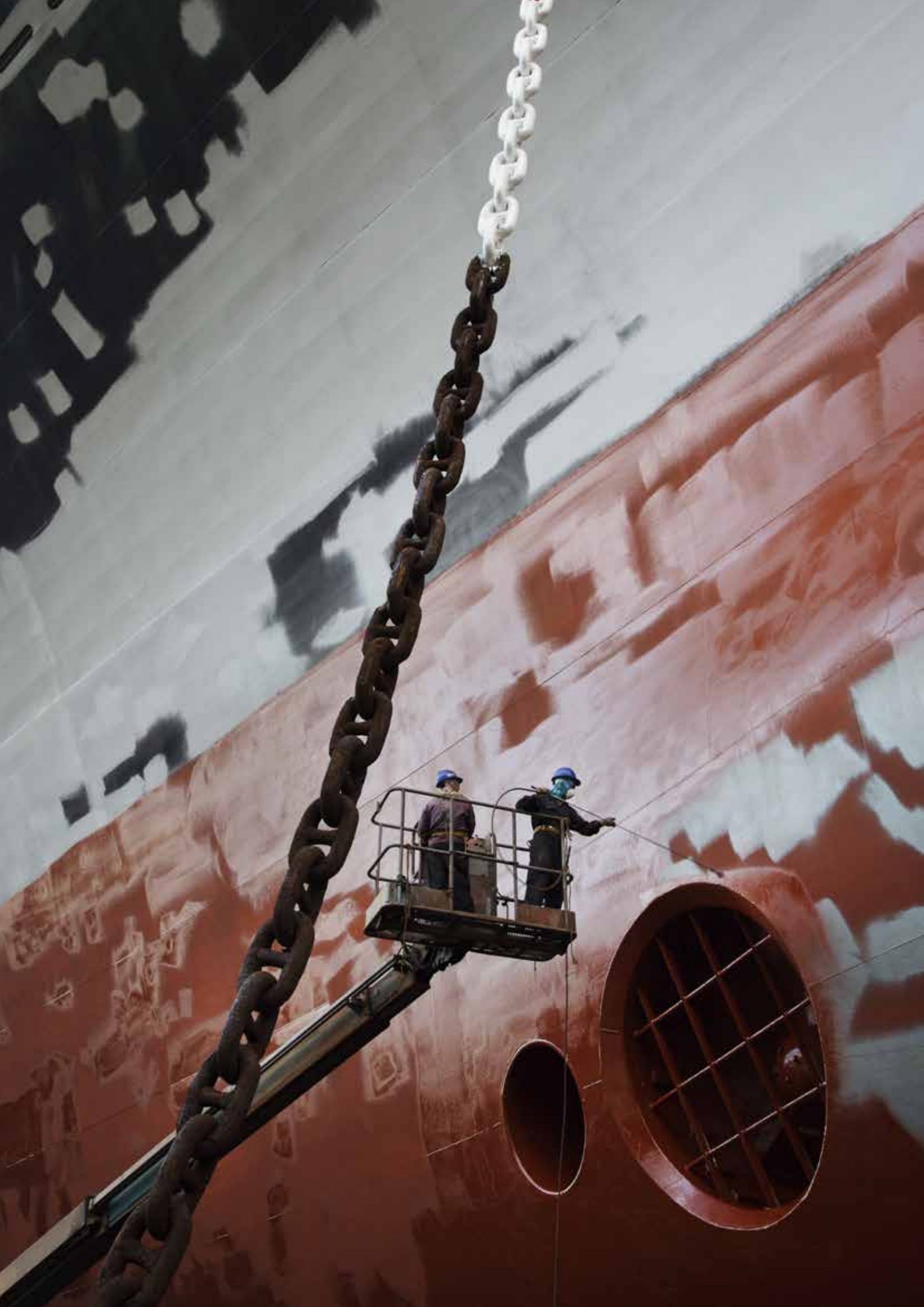
## NORMACONNECT® FGR REP E

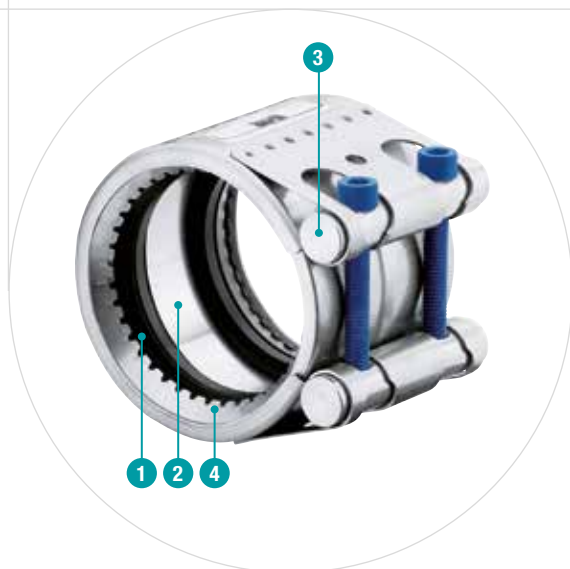
| Ø<br>(O.D.) | Designation     | Clamping<br>ranges | WP <sup>1</sup><br> | C<br>max<br>(mm) | Dimensions |           |           | Weight<br>approx.<br>(kg/pc.) | Hex socket locking bolts |                           | W5<br>Product No. |               |                          |
|-------------|-----------------|--------------------|------------------------------------------------------------------------------------------------------|------------------|------------|-----------|-----------|-------------------------------|--------------------------|---------------------------|-------------------|---------------|--------------------------|
|             |                 | Odmin - Odmax      |                                                                                                      |                  | a<br>(mm)  | d<br>(mm) | H<br>(mm) |                               | Thread                   | Tightening<br>torque (Nm) | NBR               | EPDM          | housing<br>wall thicken. |
| 35.0        | REP E W5 35.0   | 34.5 - 35.6        | 60                                                                                                   | 8                | 63         | 55        | 75        | 0.41                          | M 8 SW 6                 | 5                         | 0572 8660 035     | 0572 9360 035 | 1.2 mm                   |
| 38.0        | REP E W5 38.0   | 37.5 - 38.6        | 60                                                                                                   | 8                | 63         | 60        | 80        | 0.41                          | M 8 SW 6                 | 5                         | 0572 8660 038     | 0572 9360 038 | 1.2 mm                   |
| 42.4        | REP E W5 42.4   | 41.7 - 43.0        | 50                                                                                                   | 8                | 63         | 65        | 85        | 0.42                          | M 8 SW 6                 | 5                         | 5728 6600 042     | 0572 9360 042 | 1.2 mm                   |
| 44.5        | REP E W5 44.5   | 44.0 - 45.1        | 50                                                                                                   | 8                | 63         | 65        | 85        | 0.43                          | M 8 SW 6                 | 5                         | 0572 8660 044     | 0572 9360 044 | 1.2 mm                   |
| 48.3        | REP E W5 48.3   | 47.6 - 50.5        | 50                                                                                                   | 8                | 63         | 70        | 90        | 0.44                          | M 8 SW 6                 | 5                         | 0572 8660 048     | 0572 9360 048 | 1.2 mm                   |
| 54.0        | REP E W5 54.0   | 53.3 - 54.6        | 50                                                                                                   | 17               | 78         | 75        | 95        | 0.58                          | M 8 SW 6                 | 10                        | 0572 8660 054     | 0572 9360 054 | 1.2 mm                   |
| 57.0        | REP E W5 57.0   | 56.3 - 57.7        | 50                                                                                                   | 17               | 78         | 80        | 100       | 0.58                          | M 8 SW 6                 | 10                        | 0572 8660 057     | 0572 9360 057 | 1.2 mm                   |
| 60.3        | REP E W5 60.3   | 59.5 - 61.0        | 40                                                                                                   | 17               | 78         | 85        | 105       | 0.59                          | M 8 SW 6                 | 10                        | 0572 8660 060     | 0572 9360 060 | 1.2 mm                   |
| 70.0        | REP E W5 70.0   | 69.0 - 71.0        | 40                                                                                                   | 25               | 98         | 90        | 110       | 0.59                          | M 8 SW 6                 | 10                        | 0572 8660 070     | 0572 9360 070 | 1.2 mm                   |
| 73.0        | REP E W5 73.0   | 72.1 - 73.8        | 40                                                                                                   | 25               | 98         | 95        | 115       | 1.13                          | M 8 SW 6                 | 10                        | 0572 8660 073     | 0572 9360 073 | 1.5 mm                   |
| 76.1        | REP E W5 76.1   | 75.2 - 77.0        | 35                                                                                                   | 25               | 98         | 100       | 120       | 1.13                          | M 8 SW 6                 | 10                        | 0572 8660 076     | 0572 9360 076 | 1.5 mm                   |
| 78.0        | REP E W5 78.0   | 77.1 - 78.9        | 35                                                                                                   | 25               | 98         | 100       | 120       | 1.14                          | M 8 SW 6                 | 15                        | 0572 8660 078     | 0572 9360 078 | 1.5 mm                   |
| 80.0        | REP E W5 80.0   | 79.0 - 80.8        | 35                                                                                                   | 25               | 98         | 100       | 120       | 1.16                          | M 8 SW 6                 | 15                        | 0572 8660 080     | 0572 9360 080 | 1.5 mm                   |
| 84.0        | REP E W5 84.0   | 83.0 - 85.0        | 35                                                                                                   | 25               | 98         | 105       | 125       | 1.18                          | M 8 SW 6                 | 15                        | 0572 8660 084     | 0572 9360 084 | 1.5 mm                   |
| 88.9        | REP E W5 88.9   | 87.0 - 89.9        | 35                                                                                                   | 25               | 98         | 110       | 130       | 1.20                          | M 8 SW 6                 | 15                        | 0572 8660 088     | 0572 9360 088 | 1.5 mm                   |
| 98.0        | REP E W5 98.0   | 96.9 - 99.0        | 35                                                                                                   | 25               | 98         | 120       | 140       | 1.32                          | M 8 SW 6                 | 15                        | 0572 8660 098     | 0572 9360 098 | 1.5 mm                   |
| 101.6       | REP E W5 101.6  | 100.4 - 102.8      | 35                                                                                                   | 25               | 98         | 125       | 145       | 1.33                          | M 8 SW 6                 | 15                        | 0572 8660 101     | 0572 9360 101 | 1.5 mm                   |
| 104.0       | REP E W5 104.0  | 102.8 - 106.1      | 35                                                                                                   | 25               | 98         | 125       | 145       | 1.36                          | M 8 SW 6                 | 15                        | 0572 8660 104     | 0572 9360 104 | 1.5 mm                   |
| 108.0       | REP E W5 108.0  | 106.8 - 109.2      | 35                                                                                                   | 25               | 98         | 130       | 150       | 1.40                          | M 8 SW 6                 | 15                        | 0572 8660 108     | 0572 9360 108 | 1.5 mm                   |
| 110.0       | REP E W5 110.0  | 108.8 - 111.4      | 35                                                                                                   | 25               | 98         | 130       | 150       | 1.40                          | M 8 SW 6                 | 20                        | 0572 8660 110     | 0572 9360 110 | 1.5 mm                   |
| 114.3       | REP E W5 114.0  | 113.0 - 115.5      | 35                                                                                                   | 25               | 98         | 135       | 155       | 1.99                          | M 8 SW 6                 | 30                        | 0572 8660 114     | 0572 9360 114 | 1.5 mm                   |
| 129.0       | REP E W5 129.0  | 127.6 - 131.1      | 32                                                                                                   | 35               | 113        | 155       | 185       | 2.00                          | M 10 SW 8                | 30                        | 0572 8660 129     | 0572 9360 129 | 1.5 mm                   |
| 133.0       | REP E W5 133.0  | 131.5 - 134.4      | 32                                                                                                   | 35               | 113        | 160       | 190       | 2.03                          | M 10 SW 8                | 30                        | 0572 8660 133     | 0572 9360 133 | 1.5 mm                   |
| 139.7       | REP E W5 139.7  | 138.1 - 141.6      | 32                                                                                                   | 35               | 113        | 165       | 195       | 2.08                          | M 10 SW 8                | 30                        | 0572 8660 139     | 0572 9360 139 | 1.5 mm                   |
| 141.3       | REP E W5 141.3  | 139.6 - 142.8      | 32                                                                                                   | 35               | 113        | 170       | 200       | 2.09                          | M 10 SW 8                | 35                        | 0572 8660 141     | 0572 9360 141 | 1.5 mm                   |
| 154.0       | REP E W5 154.0  | 152.3 - 156.1      | 32                                                                                                   | 35               | 113        | 180       | 210       | 2.19                          | M 10 SW 8                | 50                        | 0572 8660 154     | 0572 9360 154 | 1.5 mm                   |
| 159.0       | REP E W5 159.0  | 157.3 - 160.7      | 32                                                                                                   | 35               | 113        | 185       | 215       | 2.26                          | M 10 SW 8                | 50                        | 0572 8660 159     | 0572 9360 159 | 1.5 mm                   |
| 168.3       | REP E W5 168.0  | 166.5 - 170.1      | 32                                                                                                   | 35               | 113        | 195       | 225       | 2.31                          | M 10 SW 8                | 50                        | 0572 8660 168     | 0572 9360 168 | 1.5 mm                   |
| 180.0       | REP E W5 180.0  | 178.0 - 182.0      | 30.0                                                                                                 | 35               | 139        | 210       | 240       | 4.0                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 193.7       | REP E W5 193.7  | 192.0 - 196.0      | 28.0                                                                                                 | 35               | 139        | 225       | 255       | 4.1                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 206.0       | REP E W5 206.0  | 202.0 - 208.0      | 26.5                                                                                                 | 35               | 139        | 240       | 270       | 4.3                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 219.0       | REP E W5 219.0  | 216.0 - 221.0      | 23.0                                                                                                 | 35               | 139        | 250       | 280       | 4.4                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 225.0       | REP E W5 225.0  | 222.0 - 227.0      | 23.0                                                                                                 | 35               | 139        | 255       | 285       | 4.5                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 229.9       | REP E W5 229.9  | 228.0 - 232.0      | 23.0                                                                                                 | 35               | 139        | 260       | 290       | 4.5                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 244.5       | REP E W5 244.5  | 242.0 - 247.0      | 22.0                                                                                                 | 35               | 139        | 275       | 305       | 4.7                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 254.0       | REP E W5 254.0  | 250.0 - 256.0      | 21.0                                                                                                 | 35               | 139        | 285       | 315       | 4.8                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 267.0       | REP E W5 267.0  | 264.0 - 269.0      | 20.0                                                                                                 | 35               | 139        | 300       | 330       | 5.0                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 273.0       | REP E W5 273.0  | 270.0 - 275.0      | 20.0                                                                                                 | 35               | 139        | 305       | 335       | 5.1                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 306.0       | REP E W5 306.0  | 302.0 - 308.0      | 17.5                                                                                                 | 35               | 139        | 340       | 370       | 5.5                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 323.9       | REP E W5 323.9  | 320.0 - 327.0      | 17.5                                                                                                 | 35               | 139        | 355       | 385       | 5.7                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 326.0       | REP E W5 326.0  | 322.0 - 329.0      | 16.5                                                                                                 | 35               | 139        | 360       | 390       | 5.7                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 355.6       | REP E W5 355.6  | 352.0 - 359.0      | 15.0                                                                                                 | 35               | 139        | 390       | 420       | 6.0                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 406.4       | REP E W5 406.4  | 402.0 - 410.0      | 14.0                                                                                                 | 35               | 139        | 440       | 470       | 6.6                           | M 12 SW 10               | 25                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 429.0       | REP E W5 429.0  | 426.0 - 431.0      | 13.0                                                                                                 | 35               | 139        | 460       | 490       | 6.9                           | M 12 SW 10               | 40                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 442.0       | REP E W5 442.0  | 439.0 - 444.0      | 13.0                                                                                                 | 35               | 139        | 475       | 505       | 7.1                           | M 12 SW 10               | 40                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 457.2       | REP E W5 457.2  | 454.0 - 459.0      | 12.0                                                                                                 | 35               | 139        | 490       | 520       | 7.3                           | M 12 SW 10               | 40                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 508.0       | REP E W5 508.0  | 505.0 - 510.0      | 11.0                                                                                                 | 35               | 139        | 540       | 570       | 7.9                           | M 12 SW 10               | 40                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 531.0       | REP E W5 531.0  | 528.0 - 534.0      | 10.5                                                                                                 | 35               | 139        | 565       | 595       | 8.1                           | M 12 SW 10               | 40                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 558.8       | REP E W5 558.8  | 556.0 - 562.0      | 10.0                                                                                                 | 35               | 139        | 590       | 620       | 8.5                           | M 12 SW 10               | 40                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 609.6       | REP E W5 609.6  | 606.0 - 613.0      | 9.0                                                                                                  | 35               | 139        | 640       | 670       | 9.1                           | M 12 SW 10               | 40                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 634.0       | REP E W5 634.0  | 631.0 - 637.0      | 8.0                                                                                                  | 35               | 139        | 665       | 695       | 9.4                           | M 12 SW 10               | 40                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 711.2       | REP E W5 711.2  | 707.0 - 715.0      | 7.0                                                                                                  | 35               | 139        | 745       | 775       | 10.3                          | M 12 SW 10               | 40                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 762.0       | REP E W5 762.0  | 758.0 - 766.0      | 7.0                                                                                                  | 35               | 139        | 795       | 825       | 10.9                          | M 12 SW 10               | 40                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 812.8       | REP E W5 812.8  | 808.0 - 817.0      | 6.5                                                                                                  | 35               | 139        | 845       | 875       | 11.5                          | M 12 SW 10               | 40                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 914.4       | REP E W5 914.4  | 909.0 - 919.0      | 5.5                                                                                                  | 35               | 139        | 945       | 975       | 12.7                          | M 12 SW 10               | 45                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 1016.0      | REP E W5 1016.0 | 1013.0 - 1019.0    | 5.0                                                                                                  | 35               | 139        | 1050      | 1080      | 13.9                          | M 12 SW 10               | 45                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 1117.5      | REP E W5 1117.5 | 1114.0 - 1120.0    | 4.5                                                                                                  | 35               | 139        | 1150      | 1180      | 15.1                          | M 12 SW 10               | 50                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |
| 1219.2      | REP E W5 1219.2 | 1216.0 - 1222.0    | 4.0                                                                                                  | 35               | 139        | 1250      | 1280      | 16.3                          | M 12 SW 10               | 50                        | 0576 866. ...     | 0576 836. ... | 1.5 mm                   |

Coupling sizes >800 mm are in 2-parts design! Sizes > 1219.2 on request  
 ... = Ø without decimals in mm



Refer to page 189.





- 1 Double-lip sealing system
- 2 Standard strip insert
- 3 Heavy duty lock bars
- 4 Anchoring ring with conically stamped teeth

## The strong pipe coupling

NORMACONNECT® GRIP/GRIP E axial restraint pipe couplings are used to connect metal pipes. The anchoring ring with conically stamped teeth indents into the pipe surface (steel, stainless steel or cast iron) and provides safe and strong axial restraint.

Owing to the special design, the coupling can withstand even high vibration loads.

### Advantages at a glance

- Progressive locking effect ensures a trouble- and maintenance-free connection
- Reusable
- Shock resistant
- Space saving connector
- Withstand high vibration loads

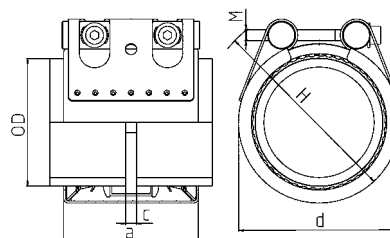
### Information

- Sizes: 26.9 mm- 711.2 mm
- Working pressure: 70.0 bar - 1.5 bar
- Material: AISI 304, AISI 316 Ti
- EPDM:
  - Sizes from 26.9 mm up to 168.3 mm: - 30 °C up to + 125 °C
  - Sizes > 180.0 mm: from - 20 °C up to + 80 °C
- NBR: from - 20 °C up to + 80 °C

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    | x  |    | x  | x  |

### Technical data & Ordering information



## Technical data &amp; Ordering information

## NORMACONNECT® FGR GRIP

| Ø<br>(O.D.) | Designation | Clamping ranges                       | PN <sup>1</sup>                                                                           | WP <sup>2</sup>                                                                           | C<br>max | Dimensions |           |           | Weight              | Hex socket locking bolts |                           |
|-------------|-------------|---------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------|------------|-----------|-----------|---------------------|--------------------------|---------------------------|
|             |             | O <sub>dmin</sub> - O <sub>dmax</sub> |  [ bar ] |  [ bar ] | (mm)     | a<br>(mm)  | d<br>(mm) | H<br>(mm) | approx.<br>(kg/pc.) | Thread                   | Tightening torque<br>(Nm) |
| 26.9        | GRIP 26.9   | 26.4 - 27.5                           | 16                                                                                        | 70                                                                                        | 3        | 67         | 50        | 70        | 0.39                | M 8 SW 6                 | 10                        |
| 28.0        | GRIP 28.0   | 27.5 - 28.5                           | 16                                                                                        | 70                                                                                        | 3        | 67         | 50        | 70        | 0.39                | M 8 SW 6                 | 10                        |
| 30.0        | GRIP 30.0   | 29.5 - 30.6                           | 16                                                                                        | 70                                                                                        | 3        | 67         | 50        | 70        | 0.39                | M 8 SW 6                 | 10                        |
| 33.7        | GRIP 33.7   | 33.0 - 34.3                           | 16                                                                                        | 60                                                                                        | 3        | 67         | 55        | 75        | 0.40                | M 8 SW 6                 | 10                        |
| 35.0        | GRIP 35.0   | 34.5 - 35.6                           | 16                                                                                        | 60                                                                                        | 8        | 63         | 55        | 75        | 0.55                | M 8 SW 6                 | 15                        |
| 38.0        | GRIP 38.0   | 37.5 - 38.6                           | 16                                                                                        | 60                                                                                        | 8        | 63         | 60        | 80        | 0.55                | M 8 SW 6                 | 15                        |
| 42.4        | GRIP 42.4   | 41.7 - 43.0                           | 16                                                                                        | 50                                                                                        | 8        | 63         | 65        | 85        | 0.56                | M 8 SW 6                 | 15                        |
| 44.5        | GRIP 44.5   | 44.0 - 45.1                           | 16                                                                                        | 50                                                                                        | 8        | 63         | 65        | 85        | 0.57                | M 8 SW 6                 | 15                        |
| 48.3        | GRIP 48.3   | 47.6 - 50.5                           | 16                                                                                        | 50                                                                                        | 8        | 63         | 70        | 90        | 0.59                | M 8 SW 6                 | 15                        |
| 54.0        | GRIP 54.0   | 53.3 - 54.6                           | 16                                                                                        | 50                                                                                        | 17       | 78         | 75        | 95        | 0.77                | M 8 SW 6                 | 15                        |
| 57.0        | GRIP 57.0   | 56.3 - 57.7                           | 16                                                                                        | 50                                                                                        | 17       | 78         | 80        | 100       | 0.77                | M 8 SW 6                 | 20                        |
| 60.3        | GRIP 60.3   | 59.5 - 61.0                           | 16                                                                                        | 40                                                                                        | 17       | 78         | 85        | 105       | 0.78                | M 8 SW 6                 | 20                        |
| 70.0        | GRIP 70.0   | 69.0 - 71.0                           | 16                                                                                        | 40                                                                                        | 25       | 98         | 90        | 110       | 1.38                | M 10 SW 8                | 30                        |
| 73.0        | GRIP 73.0   | 72.1 - 73.8                           | 16                                                                                        | 40                                                                                        | 25       | 98         | 95        | 115       | 1.40                | M 10 SW 8                | 30                        |
| 76.1        | GRIP 76.1   | 75.2 - 77.0                           | 16                                                                                        | 35                                                                                        | 25       | 98         | 100       | 120       | 1.40                | M 10 SW 8                | 30                        |
| 80.0        | GRIP 80.0   | 79.0 - 80.8                           | 16                                                                                        | 35                                                                                        | 25       | 98         | 100       | 120       | 1.44                | M 10 SW 8                | 30                        |
| 84.0        | GRIP 84.0   | 83.0 - 85.0                           | 16                                                                                        | 35                                                                                        | 25       | 98         | 105       | 125       | 1.46                | M 10 SW 8                | 30                        |
| 88.9        | GRIP 88.9   | 87.0 - 89.9                           | 16                                                                                        | 35                                                                                        | 25       | 98         | 110       | 130       | 1.48                | M 10 SW 8                | 30                        |
| 101.6       | GRIP 101.6  | 100.4 - 102.8                         | 16                                                                                        | 35                                                                                        | 25       | 98         | 125       | 145       | 1.62                | M 10 SW 8                | 30                        |
| 104.0       | GRIP 104.0  | 102.8 - 106.1                         | 16                                                                                        | 35                                                                                        | 25       | 98         | 125       | 145       | 1.63                | M 10 SW 8                | 30                        |
| 108.0       | GRIP 108.0  | 106.8 - 109.2                         | 16                                                                                        | 35                                                                                        | 25       | 98         | 130       | 150       | 1.66                | M 10 SW 8                | 30                        |
| 110.0       | GRIP 110.0  | 108.8 - 111.4                         | 16                                                                                        | 35                                                                                        | 25       | 98         | 130       | 150       | 1.71                | M 10 SW 8                | 30                        |
| 114.3       | GRIP 114.3  | 113.0 - 115.5                         | 16                                                                                        | 35                                                                                        | 25       | 98         | 135       | 155       | 1.71                | M 10 SW 8                | 50                        |
| 129.0       | GRIP 129.0  | 127.6 - 131.1                         | 16                                                                                        | 32                                                                                        | 35       | 115        | 155       | 185       | 3.06                | M 12 SW 10               | 50                        |
| 133.0       | GRIP 133.0  | 131.5 - 134.4                         | 16                                                                                        | 32                                                                                        | 35       | 115        | 160       | 190       | 3.16                | M 12 SW 10               | 50                        |
| 139.7       | GRIP 139.7  | 138.1 - 141.6                         | 16                                                                                        | 32                                                                                        | 35       | 115        | 165       | 195       | 3.27                | M 12 SW 10               | 50                        |
| 141.3       | GRIP 141.3  | 139.6 - 142.8                         | 16                                                                                        | 32                                                                                        | 35       | 115        | 170       | 200       | 3.27                | M 12 SW 10               | 50                        |
| 154.0       | GRIP 154.0  | 152.3 - 156.1                         | 16                                                                                        | 32                                                                                        | 35       | 115        | 180       | 210       | 3.39                | M 12 SW 10               | 60                        |
| 159.0       | GRIP 159.0  | 157.3 - 160.7                         | 16                                                                                        | 32                                                                                        | 35       | 115        | 185       | 215       | 3.51                | M 12 SW 10               | 60                        |
| 168.3       | GRIP 168.3  | 166.5 - 170.1                         | 16                                                                                        | 32                                                                                        | 35       | 115        | 195       | 225       | 3.57                | M 12 SW 10               | 60                        |
| 193.7       | GRIP 193.7  | 192.0 - 196.0                         | 16                                                                                        | 32                                                                                        | 35       | 142        | 225       | 255       | 6.8                 | M 16 SW 14               | 150                       |
| 206.0       | GRIP 206.0  | 202.0 - 208.0                         | 16                                                                                        | 32                                                                                        | 35       | 142        | 240       | 270       | 7.0                 | M 16 SW 14               | 150                       |
| 219.1       | GRIP 219.1  | 216.0 - 221.0                         | 16                                                                                        | 32                                                                                        | 35       | 142        | 250       | 280       | 7.3                 | M 16 SW 14               | 150                       |
| 225.0       | GRIP 225.0  | 222.0 - 227.0                         | 13                                                                                        | 26.5                                                                                      | 35       | 142        | 255       | 285       | 7.4                 | M 16 SW 14               | 180                       |
| 229.9       | GRIP 229.9  | 228.0 - 232.0                         | 13                                                                                        | 26                                                                                        | 35       | 142        | 260       | 290       | 7.5                 | M 16 SW 14               | 180                       |
| 244.5       | GRIP 244.5  | 242.0 - 247.0                         | 12                                                                                        | 24.5                                                                                      | 35       | 142        | 275       | 305       | 7.7                 | M 16 SW 14               | 180                       |
| 254.0       | GRIP 254.0  | 250.0 - 256.0                         | 11.5                                                                                      | 22.5                                                                                      | 35       | 142        | 285       | 315       | 7.9                 | M 16 SW 14               | 180                       |
| 267.0       | GRIP 267.0  | 264.0 - 269.0                         | 11                                                                                        | 22.5                                                                                      | 35       | 142        | 300       | 330       | 8.2                 | M 16 SW 14               | 180                       |
| 273.0       | GRIP 273.0  | 270.0 - 275.0                         | 11                                                                                        | 22                                                                                        | 35       | 142        | 305       | 335       | 8.3                 | M 16 SW 14               | 180                       |
| 306.0       | GRIP 306.0  | 302.0 - 308.0                         | 9.5                                                                                       | 19.5                                                                                      | 35       | 142        | 340       | 370       | 8.9                 | M 16 SW 14               | 180                       |
| 323.9       | GRIP 323.9  | 320.0 - 327.0                         | 6.5                                                                                       | 13                                                                                        | 35       | 142        | 355       | 385       | 9.2                 | M 16 SW 14               | 180                       |
| 326.0       | GRIP 326.0  | 322.0 - 329.0                         | 6.5                                                                                       | 13                                                                                        | 35       | 142        | 360       | 390       | 9.3                 | M 16 SW 14               | 180                       |
| 355.6       | GRIP 355.6  | 352.0 - 359.0                         | 6                                                                                         | 12                                                                                        | 35       | 142        | 390       | 420       | 9.8                 | M 16 SW 14               | 180                       |
| 406.4       | GRIP 406.4  | 402.0 - 410.0                         | 4.5                                                                                       | 9                                                                                         | 35       | 142        | 440       | 470       | 10.8                | M 16 SW 14               | 180                       |
| 429.0       | GRIP 429.0  | 426.0 - 431.0                         | 4                                                                                         | 8.5                                                                                       | 35       | 142        | 460       | 490       | 11.3                | M 16 SW 14               | 180                       |
| 442.0       | GRIP 442.0  | 439.0 - 444.0                         | 4                                                                                         | 8                                                                                         | 35       | 142        | 475       | 505       | 11.5                | M 16 SW 14               | 180                       |
| 457.2       | GRIP 457.2  | 454.0 - 459.0                         | 4                                                                                         | 8                                                                                         | 35       | 142        | 490       | 520       | 11.8                | M 16 SW 14               | 180                       |
| 508.0       | GRIP 508.0  | 505.0 - 510.0                         | 2.5                                                                                       | 5                                                                                         | 35       | 142        | 540       | 570       | 12.7                | M 16 SW 14               | 180                       |
| 531.0       | GRIP 531.0  | 528.0 - 534.0                         | 2.5                                                                                       | 5                                                                                         | 35       | 142        | 565       | 595       | 13.2                | M 16 SW 14               | 180                       |
| 558.8       | GRIP 558.8  | 556.0 - 562.0                         | 2                                                                                         | 4.5                                                                                       | 35       | 142        | 590       | 620       | 13.7                | M 16 SW 14               | 180                       |
| 609.6       | GRIP 609.6  | 606.0 - 613.0                         | 1.5                                                                                       | 3                                                                                         | 35       | 142        | 640       | 670       | 14.7                | M 16 SW 14               | 180                       |
| 634.0       | GRIP 634.0  | 631.0 - 637.0                         | 1.5                                                                                       | 3                                                                                         | 35       | 142        | 665       | 695       | 15.1                | M 16 SW 14               | 200                       |
| 711.2       | GRIP 711.2  | 707.0 - 715.0                         | 1.5                                                                                       | 2.5                                                                                       | 35       | 142        | 745       | 775       | 16.6                | M 16 SW 14               | 200                       |

PN<sup>1</sup> (Nominal Pressure) is the max. admissible working pressure in shipbuilding, based on a safety factor of  $\geq 4$ .

WP<sup>2</sup> is the max. working pressure in industrial applications, with a safety factor as per NORMA specification.

## Technical data &amp; Ordering information

| NORMACONNECT® FGR GRIP |             |                   |               |                        |                   |               |                        |                   |               |                        |
|------------------------|-------------|-------------------|---------------|------------------------|-------------------|---------------|------------------------|-------------------|---------------|------------------------|
| Ø<br>(O.D.)            | Designation | W2<br>Product No. |               |                        | W4<br>Product No. |               |                        | W5<br>Product No. |               |                        |
|                        |             | NBR               | EPDM          | housing<br>wall thckn. | NBR               | EPDM          | housing<br>wall thckn. | NBR               | EPDM          | housing<br>wall thckn. |
| 26.9                   | GRIP 26.9   | 0057 8400 026     | 0578 9100 026 | 1.0 mm                 | 0578 8500 026     | 0578 9200 026 | 1.0 mm                 | 0578 8600 026     | 0578 9300 026 | 1.0 mm                 |
| 28.0                   | GRIP 28.0   | 0578 8400 028     | 0578 9100 028 | 1.0 mm                 | 0578 8500 028     | 0578 9200 028 | 1.0 mm                 | 0578 8600 028     | 0578 9300 028 | 1.0 mm                 |
| 30.0                   | GRIP 30.0   | 0578 8400 030     | 0578 9100 030 | 1.0 mm                 | 0578 8500 030     | 0578 9200 030 | 1.0 mm                 | 0578 8600 030     | 0578 9300 030 | 1.0 mm                 |
| 33.7                   | GRIP 33.7   | 0578 8400 033     | 0578 9100 033 | 1.0 mm                 | 0578 8500 033     | 0578 9200 033 | 1.0 mm                 | 0578 8600 033     | 0578 9300 033 | 1.0 mm                 |
| 35.0                   | GRIP 35.0   | 0578 8400 035     | 0578 9100 035 | 1.2 mm                 | 0578 8500 035     | 0578 9200 035 | 1.2 mm                 | 0578 8600 035     | 0578 9300 035 | 1.2 mm                 |
| 38.0                   | GRIP 38.0   | 0578 8400 038     | 0578 9100 038 | 1.2 mm                 | 0578 8500 038     | 0578 9200 038 | 1.2 mm                 | 0578 8600 038     | 0578 9300 038 | 1.2 mm                 |
| 42.4                   | GRIP 42.4   | 0578 8400 042     | 0578 9100 042 | 1.2 mm                 | 0578 8500 042     | 0578 9200 042 | 1.2 mm                 | 0578 8600 042     | 0578 9300 042 | 1.2 mm                 |
| 44.5                   | GRIP 44.5   | 0578 8400 044     | 0578 9100 044 | 1.2 mm                 | 0578 8500 044     | 0578 9200 044 | 1.2 mm                 | 0578 8600 044     | 0578 9300 044 | 1.2 mm                 |
| 48.3                   | GRIP 48.3   | 0578 8400 048     | 0578 9100 048 | 1.2 mm                 | 0578 8500 048     | 0578 9200 048 | 1.2 mm                 | 0578 8600 048     | 0578 9300 048 | 1.2 mm                 |
| 54.0                   | GRIP 54.0   | 0578 8400 054     | 0578 9100 054 | 1.2 mm                 | 0578 8500 054     | 0578 9200 054 | 1.2 mm                 | 0578 8600 054     | 0578 9300 054 | 1.2 mm                 |
| 57.0                   | GRIP 57.0   | 0578 8400 057     | 0578 9100 057 | 1.2 mm                 | 0578 8500 057     | 0578 9200 057 | 1.2 mm                 | 0578 8600 057     | 0578 9300 057 | 1.2 mm                 |
| 60.3                   | GRIP 60.3   | 0578 8400 060     | 0578 9100 060 | 1.2 mm                 | 0578 8500 060     | 0578 9200 060 | 1.2 mm                 | 0578 8600 060     | 0578 9300 060 | 1.2 mm                 |
| 70.0                   | GRIP 70.0   | 0578 8400 070     | 0578 9100 070 | 1.2 mm                 | 0578 8500 070     | 0578 9200 070 | 1.5 mm                 | 0578 8600 070     | 0578 9300 070 | 1.5 mm                 |
| 73.0                   | GRIP 73.0   | 0578 8400 073     | 0578 9100 073 | 1.5 mm                 | 0578 8500 073     | 0578 9200 073 | 1.5 mm                 | 0578 8600 073     | 0578 9300 073 | 1.5 mm                 |
| 76.1                   | GRIP 76.1   | 0578 8400 076     | 0578 9100 076 | 1.5 mm                 | 0578 8500 076     | 0578 9200 076 | 1.5 mm                 | 0578 8600 076     | 0578 9300 076 | 1.5 mm                 |
| 80.0                   | GRIP 80.0   | 0578 8400 080     | 0578 9100 080 | 1.5 mm                 | 0578 8500 080     | 0578 9200 080 | 1.5 mm                 | 0578 8600 080     | 0578 9300 080 | 1.5 mm                 |
| 84.0                   | GRIP 84.0   | 0578 8400 084     | 0578 9100 084 | 1.5 mm                 | 0578 8500 084     | 0578 9200 084 | 1.5 mm                 | 0578 8600 084     | 0578 9300 084 | 1.5 mm                 |
| 88.9                   | GRIP 88.9   | 0578 8400 088     | 0578 9100 088 | 1.5 mm                 | 0578 8500 088     | 0578 9200 088 | 1.5 mm                 | 0578 8600 088     | 0578 9300 088 | 1.5 mm                 |
| 101.6                  | GRIP 101.6  | 0578 8400 101     | 0578 9100 101 | 1.5 mm                 | 0578 8500 101     | 0578 9200 101 | 1.5 mm                 | 0578 8600 101     | 0578 9300 101 | 1.5 mm                 |
| 104.0                  | GRIP 104.0  | 0578 8400 104     | 0578 9100 104 | 1.5 mm                 | 0578 8500 104     | 0578 9200 104 | 1.5 mm                 | 0578 8600 104     | 0578 9300 104 | 1.5 mm                 |
| 108.0                  | GRIP 108.0  | 0578 8400 108     | 0578 9100 108 | 1.5 mm                 | 0578 8500 108     | 0578 9200 108 | 1.5 mm                 | 0578 8600 108     | 0578 9300 108 | 1.5 mm                 |
| 110.0                  | GRIP 110.0  | 0578 8400 110     | 0578 9100 110 | 1.5 mm                 | 0578 8500 110     | 0578 9200 110 | 1.5 mm                 | 0578 8600 110     | 0578 9300 110 | 1.5 mm                 |
| 114.3                  | GRIP 114.3  | 0578 8400 114     | 0578 9100 114 | 1.5 mm                 | 0578 8500 114     | 0578 9200 114 | 1.5 mm                 | 0578 8600 114     | 0578 9300 114 | 1.5 mm                 |
| 129.0                  | GRIP 129.0  | 0578 8400 129     | 0578 9100 129 | 2.5 mm                 | 0578 8500 129     | 0578 9200 129 | 2.5 mm                 | 0578 8600 129     | 0578 9300 129 | 2.5 mm                 |
| 133.0                  | GRIP 133.0  | 0578 8400 133     | 0578 9100 133 | 2.5 mm                 | 0578 8500 133     | 0578 9200 133 | 2.5 mm                 | 0578 8600 133     | 0578 9300 133 | 2.5 mm                 |
| 139.7                  | GRIP 139.7  | 0578 8400 139     | 0578 9100 139 | 2.5 mm                 | 0578 8500 139     | 0578 9200 139 | 2.5 mm                 | 0578 8600 139     | 0578 9300 139 | 2.5 mm                 |
| 141.3                  | GRIP 141.3  | 0578 8400 141     | 0578 9100 141 | 2.5 mm                 | 0578 8500 141     | 0578 9200 141 | 2.5 mm                 | 0578 8600 141     | 0578 9300 141 | 2.5 mm                 |
| 154.0                  | GRIP 154.0  | 0578 8400 154     | 0578 9100 154 | 2.5 mm                 | 0578 8500 154     | 0578 9200 154 | 2.5 mm                 | 0578 8600 154     | 0578 9300 154 | 2.5 mm                 |
| 159.0                  | GRIP 159.0  | 0578 8400 159     | 0578 9100 159 | 2.5 mm                 | 0578 8500 159     | 0578 9200 159 | 2.5 mm                 | 0578 8600 159     | 0578 9300 159 | 2.5 mm                 |
| 168.3                  | GRIP 168.3  | 0578 8400 168     | 0578 9100 168 | 2.5 mm                 | 0578 8500 168     | 0578 9200 168 | 2.5 mm                 | 0578 8600 168     | 0578 9300 168 | 2.5 mm                 |
| 193.7                  | GRIP 193.7  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 206.0                  | GRIP 206.0  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 219.1                  | GRIP 219.1  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 225.0                  | GRIP 225.0  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 229.9                  | GRIP 229.9  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 244.5                  | GRIP 244.5  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 254.0                  | GRIP 254.0  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 267.0                  | GRIP 267.0  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 273.0                  | GRIP 273.0  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 306.0                  | GRIP 306.0  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 323.9                  | GRIP 323.9  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 326.0                  | GRIP 326.0  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 355.6                  | GRIP 355.6  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 406.4                  | GRIP 406.4  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 429.0                  | GRIP 429.0  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 442.0                  | GRIP 442.0  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 457.2                  | GRIP 457.2  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 508.0                  | GRIP 508.0  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 531.0                  | GRIP 531.0  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 558.8                  | GRIP 558.8  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 609.6                  | GRIP 609.6  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 634.0                  | GRIP 634.0  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |
| 711.2                  | GRIP 711.2  | 0577 840. ...     | 0577 810. ... | 3.0 mm                 | 0577 850. ...     | 0577 820. ... | 3.0 mm                 | 0577 860. ...     | 0577 830. ... | 3.0 mm                 |

... = Ø without decimals in mm

## GRIP E



NORMACONNECT® GRIP E axial restraint pipe couplings are used to connect metal pipes.

## Advantages at a glance

- Hollow trunnions for low pressure applications from diameter 168.3.

## Materials

- W2, W4, W5

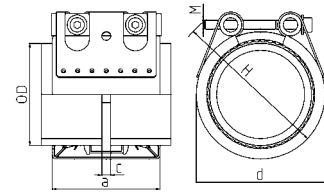
NORMACONNECT® FGR GRIP E

| Ø<br>(O.D.) | Designation  | Clamping ranges | PN <sup>1</sup>                                                                           | WP <sup>2</sup>                                                                           | C<br>max | Dimensions |           |           | Weight              | Hex socket locking bolts |                           |
|-------------|--------------|-----------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------|------------|-----------|-----------|---------------------|--------------------------|---------------------------|
|             |              | Odmin - Odmax   |  [ bar ] |  [ bar ] | (mm)     | a<br>(mm)  | d<br>(mm) | H<br>(mm) | approx.<br>(kg/pc.) | Thread                   | Tightening torque<br>(Nm) |
| 26.9        | GRIP E 26.9  | 26.4 - 27.5     | 16                                                                                        | 70                                                                                        | 3        | 67         | 50        | 70        | 0.32                | M 8 SW 6                 | 10                        |
| 28.0        | GRIP E 28.0  | 27.5 - 28.5     | 16                                                                                        | 70                                                                                        | 3        | 67         | 50        | 70        | 0.32                | M 8 SW 6                 | 10                        |
| 30.0        | GRIP E 30.0  | 29.5 - 30.6     | 16                                                                                        | 70                                                                                        | 3        | 67         | 50        | 70        | 0.32                | M 8 SW 6                 | 10                        |
| 33.7        | GRIP E 33.7  | 33.0 - 34.3     | 16                                                                                        | 60                                                                                        | 3        | 67         | 55        | 75        | 0.33                | M 8 SW 6                 | 10                        |
| 35.0        | GRIP E 35.0  | 34.5 - 35.6     | 16                                                                                        | 60                                                                                        | 8        | 63         | 55        | 75        | 0.45                | M 8 SW 6                 | 15                        |
| 38.0        | GRIP E 38.0  | 37.5 - 38.6     | 16                                                                                        | 60                                                                                        | 8        | 63         | 60        | 80        | 0.45                | M 8 SW 6                 | 15                        |
| 42.4        | GRIP E 42.4  | 41.7 - 43.0     | 16                                                                                        | 50                                                                                        | 8        | 63         | 65        | 85        | 0.46                | M 8 SW 6                 | 15                        |
| 44.5        | GRIP E 44.5  | 44.0 - 45.1     | 16                                                                                        | 50                                                                                        | 8        | 63         | 65        | 85        | 0.47                | M 8 SW 6                 | 15                        |
| 48.3        | GRIP E 48.3  | 47.6 - 50.5     | 16                                                                                        | 50                                                                                        | 8        | 63         | 70        | 90        | 0.48                | M 8 SW 6                 | 15                        |
| 54.0        | GRIP E 54.0  | 53.3 - 54.6     | 16                                                                                        | 50                                                                                        | 17       | 78         | 75        | 95        | 0.62                | M 8 SW 6                 | 15                        |
| 57.0        | GRIP E 57.0  | 56.3 - 57.7     | 16                                                                                        | 50                                                                                        | 17       | 78         | 80        | 100       | 0.63                | M 8 SW 6                 | 20                        |
| 60.3        | GRIP E 60.3  | 59.5 - 61.0     | 16                                                                                        | 40                                                                                        | 17       | 78         | 85        | 105       | 0.64                | M 8 SW 6                 | 20                        |
| 70.0        | GRIP E 70.0  | 69.0 - 71.0     | 16                                                                                        | 40                                                                                        | 25       | 98         | 90        | 110       | 1.21                | M 10 SW 8                | 30                        |
| 73.0        | GRIP E 73.0  | 72.1 - 73.8     | 16                                                                                        | 40                                                                                        | 25       | 98         | 95        | 115       | 1.23                | M 10 SW 8                | 30                        |
| 76.1        | GRIP E 76.1  | 75.2 - 77.0     | 16                                                                                        | 35                                                                                        | 25       | 98         | 100       | 120       | 1.23                | M 10 SW 8                | 30                        |
| 80.0        | GRIP E 80.0  | 79.0 - 80.8     | 16                                                                                        | 35                                                                                        | 25       | 98         | 100       | 120       | 1.27                | M 10 SW 8                | 30                        |
| 84.0        | GRIP E 84.0  | 83.0 - 85.0     | 16                                                                                        | 35                                                                                        | 25       | 98         | 105       | 125       | 1.29                | M 10 SW 8                | 30                        |
| 88.9        | GRIP E 88.9  | 87.0 - 89.9     | 16                                                                                        | 35                                                                                        | 25       | 98         | 110       | 130       | 1.31                | M 10 SW 8                | 30                        |
| 101.6       | GRIP E 101.6 | 100.4 - 102.8   | 16                                                                                        | 35                                                                                        | 25       | 98         | 125       | 145       | 1.45                | M 10 SW 8                | 30                        |
| 104.0       | GRIP E 104.0 | 102.8 - 106.1   | 16                                                                                        | 35                                                                                        | 25       | 98         | 125       | 145       | 1.46                | M 10 SW 8                | 30                        |
| 108.0       | GRIP E 108.0 | 106.8 - 109.2   | 16                                                                                        | 35                                                                                        | 25       | 98         | 130       | 150       | 1.49                | M 10 SW 8                | 30                        |
| 110.0       | GRIP E 110.0 | 108.8 - 111.4   | 16                                                                                        | 35                                                                                        | 25       | 98         | 130       | 150       | 1.54                | M 10 SW 8                | 30                        |
| 114.3       | GRIP E 114.3 | 113.0 - 115.5   | 16                                                                                        | 35                                                                                        | 25       | 98         | 135       | 155       | 1.54                | M 10 SW 8                | 50                        |
| 129.0       | GRIP E 129.0 | 127.6 - 131.1   | 16                                                                                        | 32                                                                                        | 35       | 115        | 155       | 185       | 2.83                | M 12 SW 10               | 50                        |
| 133.0       | GRIP E 133.0 | 131.5 - 134.4   | 16                                                                                        | 32                                                                                        | 35       | 115        | 160       | 190       | 2.93                | M 12 SW 10               | 50                        |
| 139.7       | GRIP E 139.7 | 138.1 - 141.6   | 16                                                                                        | 32                                                                                        | 35       | 115        | 165       | 195       | 3.04                | M 12 SW 10               | 50                        |
| 141.3       | GRIP E 141.3 | 139.6 - 142.8   | 16                                                                                        | 32                                                                                        | 35       | 115        | 170       | 200       | 3.04                | M 12 SW 10               | 50                        |
| 154.0       | GRIP E 154.0 | 152.3 - 156.1   | 16                                                                                        | 32                                                                                        | 35       | 115        | 180       | 210       | 3.17                | M 12 SW 10               | 60                        |
| 159.0       | GRIP E 159.0 | 157.3 - 160.7   | 16                                                                                        | 32                                                                                        | 35       | 115        | 185       | 215       | 3.28                | M 12 SW 10               | 60                        |
| 168.3       | GRIP E 168.3 | 166.5 - 170.1   | 16                                                                                        | 32                                                                                        | 35       | 115        | 195       | 225       | 3.35                | M 12 SW 10               | 60                        |
| 193.7       | GRIP E 193.7 | 192.0 - 196.0   | 10                                                                                        | 20                                                                                        | 35       | 141        | 225       | 255       | 6.2                 | M 16 SW 14               | 100                       |
| 206.0       | GRIP E 206.0 | 202.0 - 208.0   | 10                                                                                        | 20                                                                                        | 35       | 141        | 240       | 270       | 6.5                 | M 16 SW 14               | 100                       |
| 219.1       | GRIP E 219.1 | 216.0 - 221.0   | 10                                                                                        | 20                                                                                        | 35       | 141        | 250       | 280       | 6.7                 | M 16 SW 14               | 100                       |
| 225.0       | GRIP E 225.0 | 222.0 - 227.0   | 10                                                                                        | 16                                                                                        | 35       | 140        | 255       | 285       | 6.2                 | M 16 SW 14               | 100                       |
| 229.9       | GRIP E 229.9 | 228.0 - 232.0   | 5.5                                                                                       | 16                                                                                        | 35       | 140        | 260       | 290       | 6.3                 | M 16 SW 14               | 100                       |
| 244.5       | GRIP E 244.5 | 242.0 - 247.0   | 5.5                                                                                       | 15                                                                                        | 35       | 140        | 275       | 305       | 6.5                 | M 16 SW 14               | 100                       |
| 254.0       | GRIP E 254.0 | 250.0 - 256.0   | 5.5                                                                                       | 14                                                                                        | 35       | 140        | 285       | 315       | 6.6                 | M 16 SW 14               | 100                       |
| 267.0       | GRIP E 267.0 | 264.0 - 269.0   | 5.5                                                                                       | 13.5                                                                                      | 35       | 140        | 300       | 330       | 6.8                 | M 16 SW 14               | 100                       |
| 273.0       | GRIP E 273.0 | 270.0 - 275.0   | 5.5                                                                                       | 13                                                                                        | 35       | 140        | 305       | 335       | 6.9                 | M 16 SW 14               | 100                       |
| 306.0       | GRIP E 306.0 | 302.0 - 308.0   | 5.5                                                                                       | 10.5                                                                                      | 35       | 140        | 340       | 370       | 7.4                 | M 16 SW 14               | 120                       |
| 323.9       | GRIP E 323.9 | 320.0 - 327.0   | 3                                                                                         | 9.5                                                                                       | 35       | 140        | 355       | 385       | 7.7                 | M 16 SW 14               | 120                       |
| 326.0       | GRIP E 326.0 | 322.0 - 329.0   | 3                                                                                         | 9.5                                                                                       | 35       | 140        | 360       | 390       | 7.7                 | M 16 SW 14               | 120                       |
| 355.6       | GRIP E 355.6 | 352.0 - 359.0   | 2.7                                                                                       | 8.5                                                                                       | 35       | 140        | 390       | 420       | 8.2                 | M 16 SW 14               | 120                       |
| 406.4       | GRIP E 406.4 | 402.0 - 410.0   | 2.5                                                                                       | 7.0                                                                                       | 35       | 140        | 440       | 470       | 8.9                 | M 16 SW 14               | 120                       |
| 429.0       | GRIP E 429.0 | 426.0 - 431.0   | 2.5                                                                                       | 6.5                                                                                       | 35       | 140        | 460       | 490       | 9.3                 | M 16 SW 14               | 120                       |
| 442.0       | GRIP E 442.0 | 439.0 - 444.0   | 2.5                                                                                       | 6.5                                                                                       | 35       | 140        | 475       | 505       | 9.5                 | M 16 SW 14               | 140                       |
| 457.2       | GRIP E 457.2 | 454.0 - 459.0   | 2.5                                                                                       | 6.0                                                                                       | 35       | 140        | 490       | 520       | 9.7                 | M 16 SW 14               | 140                       |
| 508.0       | GRIP E 508.0 | 505.0 - 510.0   | 2                                                                                         | 4.0                                                                                       | 35       | 140        | 540       | 570       | 10.5                | M 16 SW 14               | 140                       |
| 531.0       | GRIP E 531.0 | 528.0 - 534.0   | 1.5                                                                                       | 4.0                                                                                       | 35       | 140        | 565       | 595       | 10.8                | M 16 SW 14               | 140                       |
| 558.8       | GRIP E 558.8 | 556.0 - 562.0   | 1.5                                                                                       | 3.5                                                                                       | 35       | 140        | 590       | 620       | 11.3                | M 16 SW 14               | 140                       |
| 609.6       | GRIP E 609.6 | 606.0 - 613.0   | 1                                                                                         | 2.0                                                                                       | 35       | 140        | 640       | 670       | 12.0                | M 16 SW 14               | 140                       |

PN<sup>1</sup> (Nominal Pressure) is the max. admissible working pressure in shipbuilding, based on a safety factor of  $\geq 4$ .

WP<sup>2</sup> is the max. working pressure in industrial applications, with a safety factor as per NORMA specification.

## Technical data &amp; Ordering information



| NORMACONNECT® FGR GRIP E |              |                   |               |                         |                   |               |                         |                   |               |                         |
|--------------------------|--------------|-------------------|---------------|-------------------------|-------------------|---------------|-------------------------|-------------------|---------------|-------------------------|
| Ø<br>(O.D.)              | Designation  | W2<br>Product No. |               |                         | W4<br>Product No. |               |                         | W5<br>Product No. |               |                         |
|                          |              | NBR               | EPDM          | housing<br>wall thickn. | NBR               | EPDM          | housing<br>wall thickn. | NBR               | EPDM          | housing<br>wall thickn. |
| 26.9                     | GRIP E 26.9  | 0579 8400 026     | 0579 9100 026 | 1.0 mm                  | 0579 8500 026     | 0579 9200 026 | 1.0 mm                  | 0579 8600 026     | 0579 9300 026 | 1.0 mm                  |
| 28.0                     | GRIP E 28.0  | 0579 8400 028     | 0579 9100 028 | 1.0 mm                  | 0579 8500 028     | 0579 9200 028 | 1.0 mm                  | 0579 8600 028     | 0579 9300 028 | 1.0 mm                  |
| 30.0                     | GRIP E 30.0  | 0579 8400 030     | 0579 9100 030 | 1.0 mm                  | 0579 8500 030     | 0579 9200 030 | 1.0 mm                  | 0579 8600 030     | 0579 9300 030 | 1.0 mm                  |
| 33.7                     | GRIP E 33.7  | 0579 8400 033     | 0579 9100 033 | 1.0 mm                  | 0579 8500 033     | 0579 9200 033 | 1.0 mm                  | 0579 8600 033     | 0579 9300 033 | 1.0 mm                  |
| 35.0                     | GRIP E 35.0  | 0579 8400 035     | 0579 9100 035 | 1.2 mm                  | 0579 8500 035     | 0579 9200 035 | 1.2 mm                  | 0579 8600 035     | 0579 9300 035 | 1.2 mm                  |
| 38.0                     | GRIP E 38.0  | 0579 8400 038     | 0579 9100 038 | 1.2 mm                  | 0579 8500 038     | 0579 9200 038 | 1.2 mm                  | 0579 8600 038     | 0579 9300 038 | 1.2 mm                  |
| 42.4                     | GRIP E 42.4  | 0579 8400 042     | 0579 9100 042 | 1.2 mm                  | 0579 8500 042     | 0579 9200 042 | 1.2 mm                  | 0579 8600 042     | 0579 9300 042 | 1.2 mm                  |
| 44.5                     | GRIP E 44.5  | 0579 8400 044     | 0579 9100 044 | 1.2 mm                  | 0579 8500 044     | 0579 9200 044 | 1.2 mm                  | 0579 8600 044     | 0579 9300 044 | 1.2 mm                  |
| 48.3                     | GRIP E 48.3  | 0579 8400 048     | 0579 9100 048 | 1.2 mm                  | 0579 8500 048     | 0579 9200 048 | 1.2 mm                  | 0579 8600 048     | 0579 9300 048 | 1.2 mm                  |
| 54.0                     | GRIP E 54.0  | 0579 8400 054     | 0579 9100 054 | 1.2 mm                  | 0579 8500 054     | 0579 9200 054 | 1.2 mm                  | 0579 8600 054     | 0579 9300 054 | 1.2 mm                  |
| 57.0                     | GRIP E 57.0  | 0579 8400 057     | 0579 9100 057 | 1.2 mm                  | 0579 8500 057     | 0579 9200 057 | 1.2 mm                  | 0579 8600 057     | 0579 9300 057 | 1.2 mm                  |
| 60.3                     | GRIP E 60.3  | 0579 8400 060     | 0579 9100 060 | 1.2 mm                  | 0579 8500 060     | 0579 9200 060 | 1.2 mm                  | 0579 8600 060     | 0579 9300 060 | 1.2 mm                  |
| 70.0                     | GRIP E 70.0  | 0579 8400 070     | 0579 9100 070 | 1.5 mm                  | 0579 8500 070     | 0579 9200 070 | 1.5 mm                  | 0579 8600 070     | 0579 9300 070 | 1.5 mm                  |
| 73.0                     | GRIP E 73.0  | 0579 8400 073     | 0579 9100 073 | 1.5 mm                  | 0579 8500 073     | 0579 9200 073 | 1.5 mm                  | 0579 8600 073     | 0579 9300 073 | 1.5 mm                  |
| 76.1                     | GRIP E 76.1  | 0579 8400 076     | 0579 9100 076 | 1.5 mm                  | 0579 8500 076     | 0579 9200 076 | 1.5 mm                  | 0579 8600 076     | 0579 9300 076 | 1.5 mm                  |
| 80.0                     | GRIP E 80.0  | 0579 8400 080     | 0579 9100 080 | 1.5 mm                  | 0579 8500 080     | 0579 9200 080 | 1.5 mm                  | 0579 8600 080     | 0579 9300 080 | 1.5 mm                  |
| 84.0                     | GRIP E 84.0  | 0579 8400 084     | 0579 9100 084 | 1.5 mm                  | 0579 8500 084     | 0579 9200 084 | 1.5 mm                  | 0579 8600 084     | 0579 9300 084 | 1.5 mm                  |
| 88.9                     | GRIP E 88.9  | 0579 8400 088     | 0579 9100 088 | 1.5 mm                  | 0579 8500 088     | 0579 9200 088 | 1.5 mm                  | 0579 8600 088     | 0579 9300 088 | 1.5 mm                  |
| 101.6                    | GRIP E 101.6 | 0579 8400 101     | 0579 9100 101 | 1.5 mm                  | 0579 8500 101     | 0579 9200 101 | 1.5 mm                  | 0579 8600 101     | 0579 9300 101 | 1.5 mm                  |
| 104.0                    | GRIP E 104.0 | 0579 8400 104     | 0579 9100 104 | 1.5 mm                  | 0579 8500 104     | 0579 9200 104 | 1.5 mm                  | 0579 8600 104     | 0579 9300 104 | 1.5 mm                  |
| 108.0                    | GRIP E 108.0 | 0579 8400 108     | 0579 9100 108 | 1.5 mm                  | 0579 8500 108     | 0579 9200 108 | 1.5 mm                  | 0579 8600 108     | 0579 9300 108 | 1.5 mm                  |
| 110.0                    | GRIP E 110.0 | 0579 8400 110     | 0579 9100 110 | 1.5 mm                  | 0579 8500 110     | 0579 9200 110 | 1.5 mm                  | 0579 8600 110     | 0579 9300 110 | 1.5 mm                  |
| 114.3                    | GRIP E 114.3 | 0579 8400 114     | 0579 9100 114 | 1.5 mm                  | 0579 8500 114     | 0579 9200 114 | 1.5 mm                  | 0579 8600 114     | 0579 9300 114 | 1.5 mm                  |
| 129.0                    | GRIP E 129.0 | 0579 8400 129     | 0579 9100 129 | 2.5 mm                  | 0579 8500 129     | 0579 9200 129 | 2.5 mm                  | 0579 8600 129     | 0579 9300 129 | 2.5 mm                  |
| 133.0                    | GRIP E 133.0 | 0579 8400 133     | 0579 9100 133 | 2.5 mm                  | 0579 8500 133     | 0579 9200 133 | 2.5 mm                  | 0579 8600 133     | 0579 9300 133 | 2.5 mm                  |
| 139.7                    | GRIP E 139.7 | 0579 8400 139     | 0579 9100 139 | 2.5 mm                  | 0579 8500 139     | 0579 9200 139 | 2.5 mm                  | 0579 8600 139     | 0579 9300 139 | 2.5 mm                  |
| 141.3                    | GRIP E 141.3 | 0579 8400 141     | 0579 9100 141 | 2.5 mm                  | 0579 8500 141     | 0579 9200 141 | 2.5 mm                  | 0579 8600 141     | 0579 9300 141 | 2.5 mm                  |
| 154.0                    | GRIP E 154.0 | 0579 8400 154     | 0579 9100 154 | 2.5 mm                  | 0579 8500 154     | 0579 9200 154 | 2.5 mm                  | 0579 8600 154     | 0579 9300 154 | 2.5 mm                  |
| 159.0                    | GRIP E 159.0 | 0579 8400 159     | 0579 9100 159 | 2.5 mm                  | 0579 8500 159     | 0579 9200 159 | 2.5 mm                  | 0579 8600 159     | 0579 9300 159 | 2.5 mm                  |
| 168.3                    | GRIP E 168.3 | 0579 8400 168     | 0579 9100 168 | 2.5 mm                  | 0579 8500 168     | 0579 9200 168 | 2.5 mm                  | 0579 8600 168     | 0579 9300 168 | 2.5 mm                  |
| 193.7                    | GRIP E 193.7 | 0574 840. ...     | 0574 810. ... | 2.5 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 206.0                    | GRIP E 206.0 | 0574 840. ...     | 0574 810. ... | 2.5 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 219.1                    | GRIP E 219.1 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 225.0                    | GRIP E 225.0 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 229.9                    | GRIP E 229.9 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 244.5                    | GRIP E 244.5 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 254.0                    | GRIP E 254.0 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 267.0                    | GRIP E 267.0 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 273.0                    | GRIP E 273.0 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 306.0                    | GRIP E 306.0 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 323.9                    | GRIP E 323.9 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 326.0                    | GRIP E 326.0 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 355.6                    | GRIP E 355.6 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 406.4                    | GRIP E 406.4 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 429.0                    | GRIP E 429.0 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 442.0                    | GRIP E 442.0 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 457.2                    | GRIP E 457.2 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 508.0                    | GRIP E 508.0 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 531.0                    | GRIP E 531.0 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 558.8                    | GRIP E 558.8 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |
| 609.6                    | GRIP E 609.6 | 0574 840. ...     | 0574 810. ... | 2.0 mm                  | 0574 850. ...     | 0574 820. ... | 2.5 mm                  | 0574 860. ...     | 0574 830. ... | 2.5 mm                  |

... = Ø without decimals in mm



- 1 Double-lip sealing system
- 2 Standard strip insert
- 3 Conically stamped anchoring ring
- 4 Flame protection housing

## The fire resistant coupling

NORMACONNECT® GRIP E-FP pipe couplings with integrated flame protection are used with applications in the marine sector (civil and military) as well as in sprinkler systems. For this purpose the GRIP E type has been equipped with an additional housing made from stainless steel

plus a fire-resistant lining which can resist temperatures of up to 850°C. The pipe coupling meets the newest VdS directives, IACS P2.11 and ISO 19921/22. Pressures and dimensions on request.

### Advantages at a glance

- Dampens absorbing vibrations, pressure surges
- Weight saving
- Tension free
- Ready to install

### Information

- Sizes: 40.0 mm - 406.0 mm
- Working pressure: 16.0 - 6.0 bar
- Material: AISI 304, AISI 316 Ti
- EPDM:
  - Sizes from 26.9 mm up to 168.3 mm: - 30 °C up to + 125 °C
  - Sizes > 180.0 mm: from - 20 °C up to + 80 °C
- NBR: from - 20 °C up to + 80 °C

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    |    |    |    | x  |

## Technical data &amp; Ordering information

## NORMACONNECT® FGR GRIP E-FP

| Ø<br>(O.D.) | Designation     | Clamping<br>ranges | PN¹<br>(MAWP¹<br>from diame-<br>ter 180)                                                | WP¹                                                                                     | C<br>max | Dimensions |           |           | Weight              | Hex socket locking bolts |                           | W5<br>Product No. |               |                        |
|-------------|-----------------|--------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------|------------|-----------|-----------|---------------------|--------------------------|---------------------------|-------------------|---------------|------------------------|
|             |                 | Odmin - Od-<br>max |  [bar] |  [bar] | (mm)     | a<br>(mm)  | d<br>(mm) | H<br>(mm) | approx.<br>(kg/pc.) | Thread                   | Tightening<br>torque (Nm) | NBR               | EPDM          | housing<br>wall thckn. |
| 26.9        | GRIP E FP 26.9  | 26.4 - 27.5        | 16                                                                                      | 70                                                                                      | 3        | 67         | 60        | 110       | 0.42                | M 8 SW 6                 | 10                        | 0579 8670 026     | 0579 9370 026 | 1.0 mm                 |
| 28.0        | GRIP E FP 28.0  | 27.5 - 28.5        | 16                                                                                      | 70                                                                                      | 3        | 67         | 60        | 110       | 0.42                | M 8 SW 6                 | 10                        | 0579 8670 028     | 0579 9370 028 | 1.0 mm                 |
| 30.0        | GRIP E FP 30.0  | 29.5 - 30.6        | 16                                                                                      | 70                                                                                      | 3        | 67         | 60        | 110       | 0.42                | M 8 SW 6                 | 10                        | 0579 8670 030     | 0579 9370 030 | 1.0 mm                 |
| 33.7*       | GRIP E FP 33.7  | 33.0 - 34.3        | 16                                                                                      | 60                                                                                      | 3        | 67         | 65        | 115       | 0.43                | M 8 SW 6                 | 10                        | 0579 8670 033     | 0579 9370 033 | 1.0 mm                 |
| 35.0        | GRIP E FP 35.0  | 34.5 - 35.6        | 16                                                                                      | 60                                                                                      | 8        | 75         | 65        | 115       | 0.58                | M 8 SW 6                 | 15                        | 0579 8670 035     | 0579 9370 035 | 1.2 mm                 |
| 38.0        | GRIP E FP 38.0  | 37.5 - 38.6        | 16                                                                                      | 60                                                                                      | 8        | 75         | 70        | 120       | 0.58                | M 8 SW 6                 | 15                        | 0579 8670 038     | 0579 9370 038 | 1.2 mm                 |
| 42.4*       | GRIP E FP 42.4  | 41.7 - 43.0        | 16                                                                                      | 50                                                                                      | 8        | 75         | 75        | 125       | 0.59                | M 8 SW 6                 | 15                        | 0579 8670 042     | 0579 9370 042 | 1.2 mm                 |
| 44.5        | GRIP E FP 44.5  | 44.0 - 45.1        | 16                                                                                      | 50                                                                                      | 8        | 75         | 75        | 125       | 0.60                | M 8 SW 6                 | 15                        | 0579 8670 044     | 0579 9370 044 | 1.2 mm                 |
| 48.3*       | GRIP E FP 48.3  | 47.6 - 50.5        | 16                                                                                      | 50                                                                                      | 8        | 75         | 80        | 130       | 0.61                | M 8 SW 6                 | 15                        | 0579 8670 048     | 0579 9370 048 | 1.2 mm                 |
| 54.0        | GRIP E FP 54.0  | 53.3 - 54.6        | 16                                                                                      | 50                                                                                      | 17       | 90         | 85        | 135       | 0.92                | M 8 SW 6                 | 15                        | 0579 8670 054     | 0579 9370 054 | 1.2 mm                 |
| 57.0        | GRIP E FP 57.0  | 56.3 - 57.7        | 16                                                                                      | 50                                                                                      | 17       | 90         | 90        | 140       | 0.93                | M 8 SW 6                 | 20                        | 0579 8670 057     | 0579 9370 057 | 1.2 mm                 |
| 60.3*       | GRIP E FP 60.3  | 59.5 - 61.0        | 16                                                                                      | 40                                                                                      | 17       | 90         | 95        | 145       | 0.94                | M 8 SW 6                 | 20                        | 0579 8670 060     | 0579 9370 060 | 1.2 mm                 |
| 73.0        | GRIP E FP 73.0  | 72.1 - 73.8        | 16                                                                                      | 40                                                                                      | 17       | 90         | 95        | 145       | 0.94                | M 10 SW 8                | 30                        | 0579 8670 073     | 0579 9370 073 | 1.5 mm                 |
| 76.1*       | GRIP E FP 76.1  | 75.2 - 77.0        | 16                                                                                      | 35                                                                                      | 25       | 110        | 105       | 155       | 1.49                | M 10 SW 8                | 30                        | 0579 8670 076     | 0579 9370 076 | 1.5 mm                 |
| 84.0        | GRIP E FP 84.0  | 83.0 - 85.0        | 16                                                                                      | 35                                                                                      | 25       | 110        | 110       | 160       | 1.49                | M 10 SW 8                | 30                        | 0579 8670 084     | 0579 9370 084 | 1.5 mm                 |
| 88.9*       | GRIP E FP 88.9  | 87.0 - 89.9        | 16                                                                                      | 35                                                                                      | 25       | 110        | 115       | 165       | 1.56                | M 10 SW 8                | 30                        | 0579 8670 088     | 0579 9370 088 | 1.5 mm                 |
| 101.6       | GRIP E FP 101.6 | 100.4 - 102.8      | 16                                                                                      | 35                                                                                      | 25       | 110        | 120       | 170       | 1.59                | M 10 SW 8                | 30                        | 0579 8670 101     | 0579 9370 101 | 1.5 mm                 |
| 104.0       | GRIP E FP 104.0 | 102.8 - 106.1      | 16                                                                                      | 35                                                                                      | 25       | 110        | 135       | 185       | 1.75                | M 10 SW 8                | 30                        | 0579 8670 104     | 0579 9370 104 | 1.5 mm                 |
| 108.0       | GRIP E FP 108.0 | 106.8 - 109.2      | 16                                                                                      | 35                                                                                      | 25       | 110        | 135       | 185       | 1.76                | M 10 SW 8                | 30                        | 0579 8670 108     | 0579 9370 108 | 1.5 mm                 |
| 110.0       | GRIP E FP 110.0 | 108.8 - 111.4      | 16                                                                                      | 35                                                                                      | 25       | 110        | 140       | 190       | 1.79                | M 10 SW 8                | 30                        | 0579 8670 110     | 0579 9370 110 | 1.5 mm                 |
| 114.3*      | GRIP E FP 114.3 | 113.0 - 115.5      | 16                                                                                      | 35                                                                                      | 25       | 110        | 145       | 195       | 1.89                | M 10 SW 8                | 40                        | 0579 8670 114     | 0579 9370 114 | 1.5 mm                 |
| 129.0       | GRIP E FP 129.0 | 127.6 - 131.1      | 16                                                                                      | 32                                                                                      | 35       | 125        | 165       | 215       | 3.25                | M 12 SW 10               | 50                        | 0579 8670 129     | 0579 9370 129 | 2.5 mm                 |
| 133.0       | GRIP E FP 133.0 | 131.5 - 134.4      | 16                                                                                      | 32                                                                                      | 35       | 125        | 170       | 220       | 3.36                | M 12 SW 10               | 50                        | 0579 8670 133     | 0579 9370 133 | 2.5 mm                 |
| 139.7*      | GRIP E FP 139.7 | 138.1 - 141.6      | 16                                                                                      | 32                                                                                      | 35       | 125        | 175       | 225       | 3.48                | M 12 SW 10               | 50                        | 0579 8670 139     | 0579 9370 139 | 2.5 mm                 |
| 141.3       | GRIP E FP 141.3 | 139.6 - 142.8      | 16                                                                                      | 32                                                                                      | 35       | 125        | 180       | 230       | 3.48                | M 12 SW 10               | 50                        | 0579 8670 141     | 0579 9370 141 | 2.5 mm                 |
| 154.0       | GRIP E FP 154.0 | 152.3 - 156.1      | 16                                                                                      | 32                                                                                      | 35       | 125        | 190       | 240       | 3.63                | M 12 SW 10               | 60                        | 0579 8670 154     | 0579 9370 154 | 2.5 mm                 |
| 159.0       | GRIP E FP 159.0 | 157.3 - 160.7      | 16                                                                                      | 32                                                                                      | 35       | 125        | 195       | 245       | 3.75                | M 12 SW 10               | 60                        | 0579 8670 159     | 0579 9370 159 | 2.5 mm                 |
| 168.3       | GRIP E FP 168.3 | 166.5 - 170.1      | 16                                                                                      | 32                                                                                      | 35       | 125        | 205       | 255       | 3.83                | M 12 SW 10               | 60                        | 0579 8670 168     | 0579 9370 168 | 2.5 mm                 |
| 193.7       | GRIP E FP 193.7 | 192.0 - 196.0      | 10                                                                                      | 20                                                                                      | 35       | 125        | 235       | 285       | 6.9                 | M 16 SW 14               | 100                       | 0579 8670 193     | 0579 9370 193 | 2.5 mm                 |
| 206.0       | GRIP E FP 206.0 | 202.0 - 208.0      | 10                                                                                      | 20                                                                                      | 35       | 125        | 250       | 300       | 7.2                 | M 16 SW 14               | 100                       | 0579 8670 206     | 0579 9370 206 | 2.5 mm                 |
| 219.1       | GRIP E FP 219.1 | 216.0 - 221.0      | 10                                                                                      | 20                                                                                      | 35       | 125        | 260       | 310       | 7.4                 | M 16 SW 14               | 100                       | 0574 8670 219     | 0574 8370 219 | 3.0 mm                 |
| 225.0       | GRIP E FP 225.0 | 222.0 - 227.0      | 10                                                                                      | 16                                                                                      | 35       | 155        | 265       | 315       | 7.0                 | M 16 SW 14               | 100                       | 0579 8670 225     | 0579 9370 225 | 3.0 mm                 |
| 229.9       | GRIP E FP 229.9 | 228.0 - 232.0      | 5.5                                                                                     | 16                                                                                      | 35       | 155        | 270       | 320       | 7.0                 | M 16 SW 14               | 100                       | 0579 8670 229     | 0579 9370 229 | 3.0 mm                 |
| 244.5       | GRIP E FP 244.5 | 242.0 - 247.0      | 5.5                                                                                     | 15                                                                                      | 35       | 155        | 285       | 335       | 7.3                 | M 16 SW 14               | 100                       | 0579 8670 244     | 0579 9370 244 | 3.0 mm                 |
| 254.5       | GRIP E FP 254.5 | 250.0 - 256.0      | 5.5                                                                                     | 14                                                                                      | 35       | 155        | 285       | 335       | 7.5                 | M 16 SW 14               | 100                       | 0579 8670 254     | 0579 9370 254 | 3.0 mm                 |
| 267.0       | GRIP E FP 267.0 | 264.0 - 269.0      | 5.5                                                                                     | 13.5                                                                                    | 35       | 155        | 310       | 360       | 7.7                 | M 16 SW 14               | 100                       | 0579 8670 267     | 0579 9370 267 | 3.0 mm                 |
| 273.0       | GRIP E FP 273.0 | 270.0 - 275.0      | 5.5                                                                                     | 13                                                                                      | 35       | 155        | 315       | 365       | 7.8                 | M 16 SW 14               | 100                       | 0579 8670 273     | 0579 9370 273 | 3.0 mm                 |
| 306.0       | GRIP E FP 306.0 | 302.0 - 308.0      | 5.5                                                                                     | 10.5                                                                                    | 35       | 155        | 350       | 400       | 8.4                 | M 16 SW 14               | 120                       | 0579 8670 306     | 0579 9370 306 | 3.0 mm                 |
| 323.9       | GRIP E FP 323.9 | 320.0 - 327.0      | 3                                                                                       | 9.5                                                                                     | 35       | 155        | 365       | 415       | 8.7                 | M 16 SW 14               | 120                       | 0579 8670 323     | 0579 9370 323 | 3.0 mm                 |
| 326.0       | GRIP E FP 326.0 | 322.0 - 329.0      | 3                                                                                       | 9.5                                                                                     | 35       | 155        | 370       | 420       | 8.8                 | M 16 SW 14               | 120                       | 0579 8670 326     | 0579 9370 326 | 3.0 mm                 |
| 355.6       | GRIP E FP 355.6 | 352.0 - 359.0      | 2.7                                                                                     | 8.5                                                                                     | 35       | 155        | 400       | 450       | 9.3                 | M 16 SW 14               | 120                       | 0579 8670 355     | 0579 9370 355 | 3.0 mm                 |
| 406.4       | GRIP E FP 406.4 | 402.0 - 410.0      | 2.5                                                                                     | 7.0                                                                                     | 35       | 155        | 450       | 500       | 10.2                | M 16 SW 14               | 120                       | 0579 8670 406     | 0579 9370 406 | 3.0 mm                 |
| 419.0       | GRIP E FP 419.0 | 415.0 - 422.0      | 2.5                                                                                     | 6.5                                                                                     | 35       | 155        | 460       | 510       | 10.4                | M 16 SW 14               | 180                       | 0579 8670 419     | 0579 9370 419 | 3.0 mm                 |

PN¹ (Nominal Pressure) is the max. admissible working pressure in shipbuilding, based on a safety factor of ≥ 4.

MAWP¹ (Maximum Allowable Working Pressure) is the max. admissible working pressure in shipbuilding, based on a safety factor of ≥ 4.

WP² is the max. working pressure in industrial applications, with a safety factor as per NORMA specification.

\*VdS approved

... = Ø without decimals in mm



- 1 **Metal housing made from AISI 316 Ti**
- 2 **Environmentally-friendly – No use of chemicals**
- 3 **Shoulders of the coupling are flame protected**



Double-locked safeguards prevent dismantling

## RFP for application at shipbuilding

The NEW NORMACONNECT® RFP is a retrofittable flame protection housing that has been specially designed for use with all NORMACONNECT® FLEX, GRIP and REP pipe couplings. Its low weight and straightforward design allows quick, easy assembly without any tools. The built-in flame resistant mineral fiber mat provides a premium level of flame protection.

The new Retrofit Flame Protection (RFP) housing has been extensively tested and is approved by Germanischer Lloyd, Bureau Veritas, American Bureau of Shipping, Det Norske Veritas, Korean Register of Shipping, Russian Maritime Register of Shipping, Polski Rejestr Statkon and Nippon Kaiji Kyokai / Class NK.

### Advantages at a glance

- Retrofittable
- Easy assembly without tooling
- Low weight
- Meets updated IACS requirements
- No chemicals in flame protection mat
- High flexibility
- Clear identification whether coupling is flame protected or not
- Mechanical stress resistant
- Less warehouse costs

### Information

- Sizes from 26.9 mm up to 273.0 mm

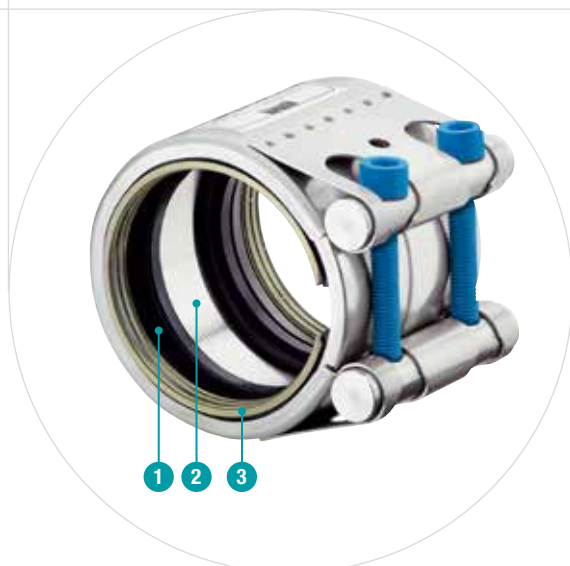
### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    |    |    |    | x  |

### Technical data & Ordering information

| NORMACONNECT® FGR RFP |                     |            |           |                     |                                           |                               |
|-----------------------|---------------------|------------|-----------|---------------------|-------------------------------------------|-------------------------------|
| Ø<br>(O.D.)           | Designation         | Dimensions |           |                     | Weight of<br>RFP<br>housing<br>(kg/piece) | W5<br>Product No.<br><br>EPDM |
|                       |                     | a<br>(mm)  | d<br>(mm) | H*<br>appr.<br>(mm) |                                           |                               |
| 26.9                  | NC RFP W5 RFP 26.9  | 69         | 60        | 110                 | 0.09                                      | 0573 0000 026                 |
| 28.0                  | NC RFP W5 RFP 28.0  | 69         | 60        | 110                 | 0.09                                      | 0573 0000 028                 |
| 30.0                  | NC RFP W5 RFP 30.0  | 69         | 60        | 110                 | 0.10                                      | 0573 0000 030                 |
| 33.7                  | NC RFP W5 RFP 33.7  | 69         | 65        | 115                 | 0.10                                      | 0573 0000 033                 |
| 38.0                  | NC RFP W5 RFP 38.0  | 75         | 70        | 120                 | 0.11                                      | 0573 0000 038                 |
| 42.4                  | NC RFP W5 RFP 42.4  | 75         | 75        | 125                 | 0.12                                      | 0573 0000 042                 |
| 44.5                  | NC RFP W5 RFP 44.5  | 75         | 75        | 125                 | 0.12                                      | 0573 0000 044                 |
| 48.3                  | NC RFP W5 RFP 48.3  | 75         | 80        | 130                 | 0.13                                      | 0573 0000 048                 |
| 54.0                  | NC RFP W5 RFP 54.0  | 90         | 90        | 135                 | 0.14                                      | 0573 0000 054                 |
| 57.0                  | NC RFP W5 RFP 57.0  | 90         | 90        | 140                 | 0.16                                      | 0573 0000 057                 |
| 60.3                  | NC RFP W5 RFP 60.3  | 90         | 95        | 145                 | 0.16                                      | 0573 0000 060                 |
| 76.1                  | NC RFP W5 RFP 76.1  | 110        | 110       | 160                 | 0.24                                      | 0573 0000 076                 |
| 88.9                  | NC RFP W5 RFP 88.9  | 110        | 120       | 170                 | 0.26                                      | 0573 0000 088                 |
| 101.6                 | NC RFP W5 RFP 101.6 | 110        | 135       | 185                 | 0.28                                      | 0573 0000 101                 |
| 104.0                 | NC RFP W5 RFP 104.0 | 110        | 135       | 185                 | 0.29                                      | 0573 0000 104                 |
| 108.0                 | NC RFP W5 RFP 108.0 | 110        | 140       | 190                 | 0.30                                      | 0573 0000 108                 |
| 114.3                 | NC RFP W5 RFP 114.3 | 110        | 145       | 195                 | 0.31                                      | 0573 0000 114                 |
| 133.0                 | NC RFP W5 RFP 133.0 | 125        | 170       | 220                 | 0.41                                      | 0573 0000 133                 |
| 139.7                 | NC RFP W5 RFP 139.7 | 125        | 175       | 225                 | 0.43                                      | 0573 0000 139                 |
| 154.0                 | NC RFP W5 RFP 154.0 | 125        | 190       | 240                 | 0.45                                      | 0573 0000 154                 |
| 159.0                 | NC RFP W5 RFP 159.0 | 125        | 195       | 245                 | 0.49                                      | 0573 0000 159                 |
| 168.3                 | NC RFP W5 RFP 168.3 | 125        | 205       | 255                 | 0.50                                      | 0573 0000 168                 |
| 219.1                 | NC RFP W5 RFP 219.1 | 155        | 260       | 310                 | 0.73                                      | 0573 0000 219                 |
| 273.0                 | NC RFP W5 RFP 273.0 | 155        | 315       | 365                 | 0.87                                      | 0573 0000 273                 |

\* Dimensions of the housing are given as assembled on a NORMACONNECT Grip/ Grip E/ Flex/ Flex E pipe coupling.  
Further sizes available on request.



- 1 Double-lip sealing system
- 2 Standard strip insert
- 3 Anchoring ring

## The coupling for plastic pipes

NORMACONNECT® PLAST GRIP /PLAST GRIP E axial restraint pipe couplings are used to connect plastic pipes.

The specially designed anchoring ring, featuring flat rows of teeth, engages into the pipe surface without damaging the plastic material. The force applied is distributed evenly across the pipe surface.

### Advantages at a glance

- No welding
- No adjustments to the pipes/connectors necessary
- Usable for weak plastic pipes, PP, PE

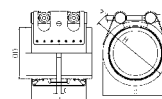
### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    | x  |    | x  | x  |

### Information

- Sizes: 40.0 mm - 406.0 mm
- Working pressure: 16.0 - 6.0 bar
- Material: AISI 304, AISI 316 Ti
- EPDM:
  - Sizes from 26.9 mm up to 168.3 mm - 30 °C up to + 125 °C
  - Sizes > 180.0 mm: - 20 °C up to + 80 °C
- NBR: - 20 °C up to + 80 °C

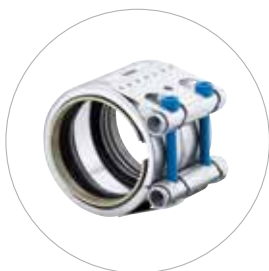
## Technical data & Ordering information



| NORMACONNECT® FGR PLAST GRIP |                     |                    |                                                                                           |                                                                                           |          |            |           |           |                     |                          |                           |                   |               |                        |
|------------------------------|---------------------|--------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------|------------|-----------|-----------|---------------------|--------------------------|---------------------------|-------------------|---------------|------------------------|
| Ø<br>(O.D.)                  | Designation         | Clamping<br>ranges | PN <sup>1</sup>                                                                           | WP <sup>2</sup>                                                                           | C<br>max | Dimensions |           |           | Weight              | Hex socket locking bolts |                           | W5<br>Product No. |               |                        |
|                              |                     | Odmin -<br>Odmax   |  [bar] |  [bar] | (mm)     | a<br>(mm)  | d<br>(mm) | H<br>(mm) | approx.<br>(kg/pc.) | Thread                   | Tightening<br>torque (Nm) | NBR               | EPDM          | housing<br>wall thckn. |
| 180.0                        | PLAST GRIP W5 180   | 178.0 - 182.0      | -                                                                                         | 16                                                                                        | 35       | 142        | 210       | 240       | 7.6                 | M 12 SW 10               | 60                        | 0581 8650 180     | 0581 8350 180 | 3.0 mm                 |
| 200.0                        | PLAST GRIP W5 200   | 198.0 - 202.0      | -                                                                                         | 16                                                                                        | 35       | 142        | 230       | 260       | 8.1                 | M 12 SW 10               | 60                        | 0581 8650 200     | 0581 8350 200 | 3.0 mm                 |
| 219.1                        | PLAST GRIP W5 219   | 217.0 - 222.0      | -                                                                                         | 16                                                                                        | 35       | 142        | 250       | 280       | 8.6                 | M 12 SW 10               | 60                        | 0581 8650 219     | 0581 8350 219 | 3.0 mm                 |
| 225.0                        | PLAST GRIP W5 225   | 222.0 - 227.0      | -                                                                                         | 10                                                                                        | 35       | 142        | 255       | 285       | 8.7                 | M 12 SW 10               | 60                        | 0581 8650 225     | 0581 8350 225 | 3.0 mm                 |
| 250.0                        | PLAST GRIP W5 250   | 247.0 - 253.0      | -                                                                                         | 10                                                                                        | 35       | 142        | 280       | 310       | 9.4                 | M 12 SW 10               | 80                        | 0581 8650 250     | 0581 8350 250 | 3.0 mm                 |
| 273.0                        | PLAST GRIP W5 273   | 271.0 - 276.0      | -                                                                                         | 10                                                                                        | 35       | 142        | 305       | 335       | 9.9                 | M 16 SW 14               | 100                       | 0581 8650 273     | 0581 8350 273 | 3.0 mm                 |
| 280.0                        | PLAST GRIP W5 280   | 277.0 - 283.0      | -                                                                                         | 10                                                                                        | 35       | 142        | 310       | 340       | 10.1                | M 16 SW 14               | 100                       | 0581 8650 280     | 0581 8350 280 | 3.0 mm                 |
| 315.0                        | PLAST GRIP W5 315   | 311.0 - 318.0      | -                                                                                         | 10                                                                                        | 35       | 142        | 345       | 375       | 11                  | M 16 SW 14               | 100                       | 0581 8650 315     | 0581 8350 315 | 3.0 mm                 |
| 323.9                        | PLAST GRIP W5 323   | 320.0 - 327.0      | -                                                                                         | 6                                                                                         | 35       | 142        | 355       | 385       | 11.2                | M 16 SW 14               | 100                       | 0581 8650 323     | 0581 8350 323 | 3.0 mm                 |
| 355.0                        | PLAST GRIP W5 355   | 352.0 - 359.0      | -                                                                                         | 6                                                                                         | 35       | 142        | 385       | 415       | 12                  | M 16 SW 14               | 120                       | 0581 8650 355     | 0581 8350 355 | 3.0 mm                 |
| 400.0                        | PLAST GRIP W5 400   | 396.0 - 404.0      | -                                                                                         | 6                                                                                         | 35       | 142        | 430       | 460       | 13.1                | M 16 SW 14               | 120                       | 0581 8650 400     | 0581 8350 400 | 3.0 mm                 |
| 406.4                        | PLAST GRIP W5 406.4 | 402.0 - 410.0      | -                                                                                         | 6                                                                                         | 35       | 142        | 440       | 470       | 13.3                | M 16 SW 14               | 120                       | 0581 8650 406     | 0581 8350 406 | 3.0 mm                 |

PN<sup>1</sup> (Nominal Pressure) is the max. admissible working pressure in shipbuilding, based on a safety factor of  $\geq 4$ .  
WP<sup>2</sup> is the max. working pressure in industrial applications, with a safety factor as per NORMA specification.

## PLAST GRIP E



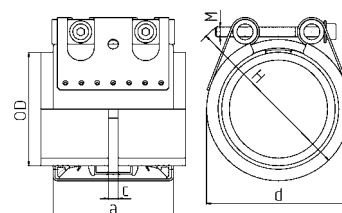
NORMACONNECT® PLAST GRIP E axial restraint pipe couplings are used to connect plastic pipes.

### Advantages at a glance

- Hollow trunnion version for smaller diameters

### Materials

- W5

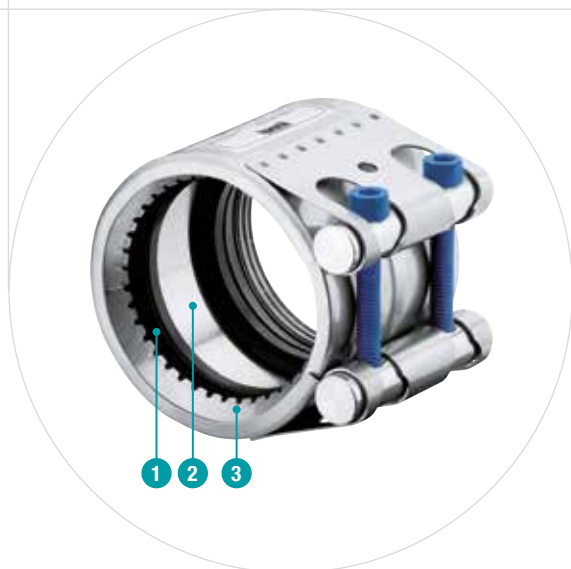


NORMACONNECT® FGR PLAST GRIP E

| Ø<br>(O.D.) | Designation         | Clamping<br>ranges | PN <sup>1</sup>                                                                         | WP <sup>2</sup>                                                                         | C<br>max | Dimensions |           |           | Weight<br>approx.<br>(kg/pc.) | Hex socket locking bolts |                           | W5<br>Product No. |               |                         |
|-------------|---------------------|--------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------|------------|-----------|-----------|-------------------------------|--------------------------|---------------------------|-------------------|---------------|-------------------------|
|             |                     | Odmin -<br>Odmax   |  [bar] |  [bar] | (mm)     | a<br>(mm)  | d<br>(mm) | H<br>(mm) |                               | Thread                   | Tightening<br>torque (Nm) | NBR               | EPDM          | housing<br>wall thickn. |
| 40.0        | PLAST GRIP E W5 40  | 39.0 - 40.5        | 10                                                                                      | 16                                                                                      | 8        | 62         | 60        | 80        | 0.48                          | M 8 SW 6                 | 15                        | 0581 8660 040     | 0581 9360 040 | 1.2 mm                  |
| 42.4        | PLAST GRIP E W5 42  | 41.7 - 43.0        | 10                                                                                      | 16                                                                                      | 8        | 62         | 65        | 85        | 0.48                          | M 8 SW 6                 | 15                        | 0581 8660 042     | 0581 9360 042 | 1.2 mm                  |
| 44.5        | PLAST GRIP E W5 44  | 42.0 - 46.0        | 10                                                                                      | 16                                                                                      | 8        | 62         | 70        | 90        | 0.5                           | M 8 SW 6                 | 15                        | 0581 8660 044     | 0581 9360 044 | 1.2 mm                  |
| 48.3        | PLAST GRIP E W5 48  | 47.6 - 49.5        | 10                                                                                      | 16                                                                                      | 8        | 62         | 70        | 90        | 0.52                          | M 8 SW 6                 | 15                        | 0581 8660 048     | 0581 9360 048 | 1.2 mm                  |
| 50.0        | PLAST GRIP E W5 50  | 49.0 - 50.5        | 10                                                                                      | 16                                                                                      | 8        | 62         | 70        | 90        | 0.52                          | M 8 SW 6                 | 15                        | 0581 8660 050     | 0581 9360 050 | 1.5 mm                  |
| 60.3        | PLAST GRIP E W5 60  | 59.5 - 61.0        | 10                                                                                      | 16                                                                                      | 17       | 78         | 85        | 105       | 0.67                          | M 8 SW 6                 | 20                        | 0581 8660 060     | 0581 9360 060 | 1.5 mm                  |
| 63.0        | PLAST GRIP E W5 63  | 62.0 - 63.5        | 10                                                                                      | 16                                                                                      | 17       | 78         | 85        | 105       | 0.67                          | M 8 SW 6                 | 20                        | 0581 8660 063     | 0581 9360 063 | 1.5 mm                  |
| 75.0        | PLAST GRIP E W5 75  | 74.0 - 76.0        | 10                                                                                      | 16                                                                                      | 25       | 98         | 100       | 120       | 1.33                          | M 10 SW 8                | 30                        | 0581 8660 075     | 0581 9360 075 | 1.5 mm                  |
| 76.1        | PLAST GRIP E W5 76  | 75.0 - 77.0        | 10                                                                                      | 16                                                                                      | 25       | 98         | 100       | 120       | 1.33                          | M 10 SW 8                | 30                        | 0581 8660 076     | 0581 9360 076 | 1.5 mm                  |
| 88.9        | PLAST GRIP E W5 88  | 88.0 - 90.0        | 10                                                                                      | 16                                                                                      | 25       | 98         | 110       | 130       | 1.42                          | M 10 SW 8                | 30                        | 0581 8660 088     | 0581 9360 088 | 1.5 mm                  |
| 90.0        | PLAST GRIP E W5 90  | 89.0 - 91.0        | 10                                                                                      | 16                                                                                      | 25       | 98         | 110       | 130       | 1.42                          | M 10 SW 8                | 30                        | 0581 8660 090     | 0581 9360 090 | 1.5 mm                  |
| 101.3       | PLAST GRIP E W5 101 | 100.4 - 102.8      | 10                                                                                      | 16                                                                                      | 25       | 98         | 125       | 145       | 1.58                          | M 10 SW 8                | 30                        | 0581 8660 101     | 0581 9360 101 | 1.5 mm                  |
| 104.0       | PLAST GRIP E W5 104 | 102.8 - 106.1      | 10                                                                                      | 16                                                                                      | 25       | 98         | 125       | 145       | 1.6                           | M 10 SW 8                | 30                        | 0581 8660 104     | 0581 9360 104 | 1.5 mm                  |
| 108.0       | PLAST GRIP E W5 108 | 108.8 - 111.4      | 10                                                                                      | 16                                                                                      | 25       | 98         | 130       | 150       | 1.62                          | M 10 SW 8                | 30                        | 0581 8660 108     | 0581 9360 108 | 1.5 mm                  |
| 110.0       | PLAST GRIP E W5 110 | 109.0 - 111.0      | 10                                                                                      | 16                                                                                      | 25       | 98         | 130       | 150       | 1.66                          | M 10 SW 8                | 30                        | 0581 8660 110     | 0581 9360 110 | 1.5 mm                  |
| 114.3       | PLAST GRIP E W5 114 | 113.0 - 115.5      | 10                                                                                      | 16                                                                                      | 25       | 98         | 135       | 155       | 1.66                          | M 12 SW 10               | 40                        | 0581 8660 114     | 0581 9360 114 | 1.5 mm                  |
| 125.0       | PLAST GRIP E W5 125 | 124.0 - 126.0      | 10                                                                                      | 16                                                                                      | 35       | 115        | 140       | 160       | 2.42                          | M 12 SW 10               | 40                        | 0581 8660 125     | 0581 9360 125 | 2.5 mm                  |
| 129.0       | PLAST GRIP E W5 129 | 127.6 - 131.1      | 10                                                                                      | 16                                                                                      | 35       | 115        | 140       | 160       | 3.06                          | M 12 SW 10               | 40                        | 0581 8660 129     | 0581 9360 129 | 2.5 mm                  |
| 133.0       | PLAST GRIP E W5 133 | 131.5 - 134.4      | 10                                                                                      | 16                                                                                      | 35       | 115        | 150       | 170       | 3.16                          | M 12 SW 10               | 40                        | 0581 8660 133     | 0581 9360 133 | 2.5 mm                  |
| 140.0       | PLAST GRIP E W5 140 | 139.0 - 141.0      | 10                                                                                      | 16                                                                                      | 35       | 115        | 160       | 180       | 3.18                          | M 12 SW 10               | 50                        | 0581 8660 140     | 0581 9360 140 | 2.5 mm                  |
| 154.0       | PLAST GRIP E W5 154 | 152.3 - 156.1      | 10                                                                                      | 16                                                                                      | 35       | 115        | 170       | 190       | 3.27                          | M 12 SW 10               | 50                        | 0581 8660 154     | 0581 9360 154 | 2.5 mm                  |
| 159.0       | PLAST GRIP E W5 159 | 157.3 - 160.7      | 10                                                                                      | 16                                                                                      | 35       | 115        | 180       | 200       | 3.39                          | M 12 SW 10               | 50                        | 0581 8660 159     | 0581 9360 159 | 2.5 mm                  |
| 160.0       | PLAST GRIP E W5 160 | 159.0 - 162.0      | 10                                                                                      | 16                                                                                      | 35       | 115        | 180       | 200       | 3.45                          | M 12 SW 10               | 60                        | 0581 8660 160     | 0581 9360 160 | 2.5 mm                  |
| 168.3       | PLAST GRIP E W5 168 | 166.5 - 170.1      | 10                                                                                      | 16                                                                                      | 35       | 115        | 190       | 200       | 3.48                          | M 12 SW 10               | 60                        | 0581 8660 168     | 0581 9360 168 | 2.5 mm                  |

PN<sup>1</sup> (Nominal Pressure) is the max. admissible working pressure in shipbuilding, based on a safety factor of  $\geq 4$ .

WP<sup>2</sup> is the max. working pressure in industrial applications, with a safety factor as per NORMA specification.



1 Double-lip sealing system

2 Standard strip insert

3 Anchoring ring

## The combining pipe coupling

NORMACONNECT® COMBI GRIP/COMBI GRIP E axial restraint pipe couplings are used to connect plastic pipes with metal pipes.

For the plastic pipe the coupling features on one side a special anchoring ring with rows of flat teeth which are pressed into the pipe surface without damaging the material. At the same time the force applied is distributed evenly across the pipe surface.

For the metal pipe the coupling features on the other side an anchoring ring with conically stamped teeth which grip into the pipe surface. Due to the special design of the anchoring ring the coupling can withstand even high vibration loads.

### Advantages at a glance

- Corrosion resistant
- No welding
- No special tools necessary
- Installation and working in every kind of weather (hot and cold)
- Reusable

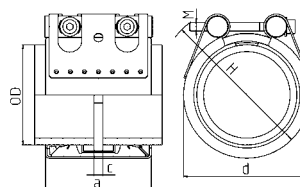
### Information

- Sizes: from 38/40.0 mm to 406.0/406.0 mm
- Working pressure: 16.0 - 6.0 bar
- Material: AISI 304, AISI 316 Ti
- EPDM:
  - Sizes from 26.9 mm up to 168.3 mm: - 30 °C up to + 125 °C
  - Sizes > 180.0 mm: - 20 °C up to + 80 °C
- NBR: from - 20 °C up to + 80 °C

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    |    |    |    | X  |

### Technical data & Ordering information



## Technical data &amp; Ordering information

| NORMACONNECT® FGR COMBI GRIP |                          |                                       |             |                                                                                         |                                                                                         |          |            |           |           |                         |                             |                              |                   |               |                            |  |
|------------------------------|--------------------------|---------------------------------------|-------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------|------------|-----------|-----------|-------------------------|-----------------------------|------------------------------|-------------------|---------------|----------------------------|--|
| Ø<br>(O.D.)                  | Designation              | Clamping ranges<br>Odmin - Odmax (mm) |             | PN¹                                                                                     | WP²                                                                                     | C<br>max | Dimensions |           |           | Weight                  | Hex socket<br>locking bolts |                              | W5<br>Product No. |               |                            |  |
|                              |                          | Plastic                               | Metal       |  [bar] |  [bar] | (mm)     | a<br>(mm)  | d<br>(mm) | H<br>(mm) | approx.<br>(kg/<br>pc.) | Thread                      | Tightening<br>torque<br>(Nm) | NBR               | EPDM          | housing<br>wall<br>thickn. |  |
| 200.0 / 204.0                | COMBI GRIP 200.0 / 204.0 | 198.0-202.0                           | 202.0-206.0 | -                                                                                       | 16                                                                                      | 35       | 142        | 235       | 265       | 7.5                     | M 12 SW 10                  | 60                           | 0584 8650 204     | 0584 8350 204 | 3.0 mm                     |  |
| 219.1 / 219.1                | COMBI GRIP 219.1 / 219.1 | 217.0-222.0                           | 216.0-221.0 | -                                                                                       | 16                                                                                      | 35       | 142        | 250       | 280       | 7.9                     | M 12 SW 10                  | 60                           | 0584 8650 219     | 0584 8350 219 | 3.0 mm                     |  |
| 219.1 / 225.0                | COMBI GRIP 219.1 / 225.0 | 222.0-227.0                           | 216.0-221.0 | -                                                                                       | 10                                                                                      | 35       | 142        | 255       | 285       | 8.1                     | M 12 SW 10                  | 60                           | 0584 8650 220     | 0584 8350 220 | 3.0 mm                     |  |
| 222.0 / 225.0                | COMBI GRIP 222.0 / 225.0 | 222.0-227.0                           | 220.0-224.0 | -                                                                                       | 10                                                                                      | 35       | 142        | 255       | 285       | 8.1                     | M 12 SW 10                  | 60                           | 0584 8650 222     | 0584 8350 222 | 3.0 mm                     |  |
| 254.0 / 250.0                | COMBI GRIP 254.0 / 250.0 | 247.0-253.0                           | 250.0-256.0 | -                                                                                       | 10                                                                                      | 35       | 142        | 285       | 315       | 8.6                     | M 12 SW 10                  | 80                           | 0584 8650 254     | 0584 8350 254 | 3.0 mm                     |  |
| 273.0 / 273.0                | COMBI GRIP 273.0 / 273.0 | 271.0-276.0                           | 270.0-275.0 | -                                                                                       | 10                                                                                      | 35       | 142        | 305       | 335       | 9.1                     | M 16 SW 14                  | 100                          | 0584 8650 272     | 0584 8350 272 | 3.0 mm                     |  |
| 273.0 / 280.0                | COMBI GRIP 273.0 / 280.0 | 277.0-283.0                           | 270.0-275.0 | -                                                                                       | 10                                                                                      | 35       | 142        | 310       | 340       | 9.3                     | M 16 SW 14                  | 100                          | 0584 8650 273     | 0584 8350 273 | 3.0 mm                     |  |
| 323.9 / 323.9                | COMBI GRIP 323.9 / 323.9 | 320.0-327.0                           | 320.0-327.0 | -                                                                                       | 6                                                                                       | 35       | 142        | 355       | 385       | 10.2                    | M 16 SW 14                  | 100                          | 0584 8650 323     | 0584 8350 323 | 3.0 mm                     |  |
| 355.0 / 355.6                | COMBI GRIP 355.0 / 355.6 | 351.0-359.0                           | 352.0-359.0 | -                                                                                       | 6                                                                                       | 35       | 142        | 390       | 420       | 10.9                    | M 16 SW 14                  | 120                          | 0584 8650 355     | 0584 8350 355 | 3.0 mm                     |  |
| 400.0 / 406.4                | COMBI GRIP 400.0 / 406.4 | 396.0-404.0                           | 402.0-410.0 | -                                                                                       | 6                                                                                       | 35       | 142        | 440       | 470       | 11.9                    | M 16 SW 14                  | 120                          | 0584 8650 400     | 0584 8350 400 | 3.0 mm                     |  |
| 406.0 / 406.4                | COMBI GRIP 406.0 / 406.4 | 396.0-404.0                           | 402.0-410.0 | -                                                                                       | 6                                                                                       | 35       | 142        | 440       | 470       | 12                      | M 16 SW 14                  | 120                          | 0584 8650 406     | 0584 8350 406 | 3.0 mm                     |  |

PN¹ (Nominal Pressure) is the max. admissible working pressure in shipbuilding, based on a safety factor of  $\geq 4$ .

WP² is the max. working pressure in industrial applications, with a safety factor as per NORMA specification.

## COMBI GRIP E



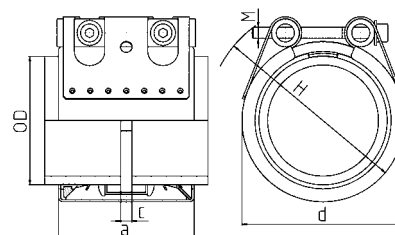
NORMACONNECT® COMBI GRIP E axial restraint pipe couplings are used to connect plastic pipes with metal pipes.

### Advantages at a glance

- Hollow trunnion version for smaller diameters

### Materials

- W5



| NORMACONNECT® FGR COMBI GRIP E |                            |                                       |             |                          |                          |                  |            |           |           |                                   |                             |                              |                   |               |                            |
|--------------------------------|----------------------------|---------------------------------------|-------------|--------------------------|--------------------------|------------------|------------|-----------|-----------|-----------------------------------|-----------------------------|------------------------------|-------------------|---------------|----------------------------|
| Ø<br>(O.D.)                    | Designation                | Clamping ranges<br>Odmin - Odmax (mm) |             | PN <sup>1</sup><br>[bar] | WP <sup>2</sup><br>[bar] | C<br>max<br>(mm) | Dimensions |           |           | Weight<br>approx.<br>(kg/<br>pc.) | Hex socket<br>locking bolts |                              | W5<br>Product No. |               |                            |
|                                |                            | Plastic                               | Metal       |                          |                          |                  | a<br>(mm)  | d<br>(mm) | H<br>(mm) |                                   | Thread                      | Tightening<br>torque<br>(Nm) | NBR               | EPDM          | housing<br>wall<br>thickn. |
| 38.0 / 40.0                    | COMBI GRIP E 38.0 / 40.0   | 39.0-40.5                             | 37.5-38.6   | 10                       | 16                       | 8                | 62         | 60        | 80        | 0.46                              | M 8 SW 6                    | 15                           | 0584 8660 038     | 0584 9360 038 | 1.2 mm                     |
| 42.4 / 40.0                    | COMBI GRIP E 42.4 / 40.0   | 39.0-40.5                             | 41.7-43.0   | 10                       | 16                       | 8                | 62         | 65        | 85        | 0.47                              | M 8 SW 6                    | 15                           | 0584 8660 042     | 0584 9360 042 | 1.2 mm                     |
| 42.4 / 42.4                    | COMBI GRIP E 42.4 / 42.4   | 41.7-43.0                             | 41.7-43.0   | 10                       | 16                       | 8                | 62         | 65        | 85        | 0.47                              | M 8 SW 6                    | 15                           | 0584 8660 043     | 0584 9360 043 | 1.2 mm                     |
| 44.5 / 44.5                    | COMBI GRIP E 44.5 / 44.5   | 43.5-45.5                             | 47.6-50.5   | 10                       | 16                       | 8                | 62         | 65        | 85        | 0.5                               | M 8 SW 6                    | 15                           | 0584 8660 044     | 0584 9360 044 | 1.2 mm                     |
| 48.3 / 50.0                    | COMBI GRIP E 48.3 / 50.0   | 47.6-51.0                             | 47.6-50.5   | 10                       | 16                       | 8                | 62         | 70        | 90        | 0.5                               | M 8 SW 6                    | 15                           | 0584 8660 048     | 0584 9360 048 | 1.2 mm                     |
| 48.3 / 48.3                    | COMBI GRIP E 48.3 / 48.3   | 47.6-50.5                             | 53.3-54.6   | 10                       | 16                       | 17               | 78         | 70        | 90        | 0.5                               | M 8 SW 6                    | 15                           | 0584 8660 046     | 0584 9360 046 | 1.2 mm                     |
| 60.3 / 60.3                    | COMBI GRIP E 60.3 / 60.3   | 59.5-61.0                             | 59.5-61.0   | 10                       | 16                       | 17               | 78         | 85        | 105       | 0.65                              | M 8 SW 6                    | 20                           | 0584 8660 061     | 0584 9360 061 | 1.2 mm                     |
| 60.3 / 63.0                    | COMBI GRIP E 60.3 / 63.0   | 62.0-63.5                             | 59.5-61.0   | 10                       | 16                       | 17               | 78         | 85        | 105       | 0.65                              | M 8 SW 6                    | 20                           | 0584 8660 060     | 0584 9360 060 | 1.2 mm                     |
| 76.1 / 75.0                    | COMBI GRIP E 76.1 / 75.0   | 74.0-76.0                             | 75.2-77.0   | 10                       | 16                       | 25               | 98         | 100       | 120       | 1.3                               | M 10 SW 8                   | 30                           | 0584 8660 076     | 0584 9360 076 | 1.5 mm                     |
| 76.1 / 76.1                    | COMBI GRIP E 76.1 / 76.1   | 75.1-77.1                             | 75.2-77.0   | 10                       | 16                       | 25               | 98         | 100       | 120       | 1.3                               | M 10 SW 8                   | 30                           | 0584 8660 077     | 0584 9360 077 | 1.5 mm                     |
| 88.9 / 88.9                    | COMBI GRIP E 88.9 / 90.0   | 88.0-90.0                             | 87.0-89.9   | 10                       | 16                       | 25               | 98         | 110       | 130       | 1.39                              | M 10 SW 8                   | 30                           | 0584 8660 086     | 0584 9360 086 | 1.5 mm                     |
| 88.9 / 90.0                    | COMBI GRIP E 88.9 / 90.0   | 89.0-91.0                             | 87.0-89.9   | 10                       | 16                       | 25               | 98         | 110       | 130       | 1.39                              | M 10 SW 8                   | 30                           | 0584 8660 088     | 0584 9360 088 | 1.5 mm                     |
| 101.6 / 101.6                  | COMBI GRIP E 101.6 / 101.6 | 100.4-102.8                           | 100.4-102.8 | 10                       | 16                       | 25               | 98         | 125       | 145       | 1.54                              | M 10 SW 8                   | 30                           | 0584 8660 101     | 0584 9360 101 | 1.5 mm                     |
| 108.0 / 110.0                  | COMBI GRIP E 108.0 / 110.0 | 109.0-111.0                           | 106.8-109.2 | 10                       | 16                       | 25               | 98         | 130       | 150       | 1.58                              | M 10 SW 8                   | 40                           | 0584 8660 108     | 0584 9360 108 | 1.5 mm                     |
| 110.0 / 110.0                  | COMBI GRIP E 110.0 / 110.0 | 109.0-111.0                           | 106.8-109.2 | 10                       | 16                       | 25               | 98         | 130       | 150       | 1.58                              | M 10 SW 8                   | 40                           | 0584 8660 109     | 0584 9360 109 | 1.5 mm                     |
| 114.3 / 110.0                  | COMBI GRIP E 114.3 / 110.0 | 109.0-111.0                           | 113.0-115.5 | 10                       | 16                       | 25               | 98         | 135       | 155       | 1.62                              | M 10 SW 8                   | 40                           | 0584 8660 110     | 0584 9360 110 | 1.5 mm                     |
| 114.3 / 114.3                  | COMBI GRIP E 114.3 / 114.3 | 113.0-115.5                           | 113.0-115.5 | 10                       | 16                       | 25               | 98         | 135       | 155       | 1.62                              | M 12 SW 10                  | 40                           | 0584 8660 114     | 0584 9360 114 | 1.5 mm                     |
| 139.7 / 140.0                  | COMBI GRIP E 139.7 / 140.0 | 139.0-141.0                           | 138.1-141.6 | 10                       | 16                       | 35               | 115        | 160       | 180       | 3.14                              | M 12 SW 10                  | 50                           | 0584 8660 139     | 0584 9360 139 | 2.5 mm                     |
| 159.0 / 160.0                  | COMBI GRIP E 159.0 / 160.0 | 159.0-162.0                           | 157.3-160.7 | 10                       | 16                       | 35               | 115        | 180       | 200       | 3.45                              | M 12 SW 10                  | 60                           | 0584 8660 159     | 0584 9360 159 | 2.5 mm                     |
| 168.3 / 168.3                  | COMBI GRIP E 168.3 / 168.3 | 166.0-170.1                           | 166.5-170.1 | 10                       | 16                       | 35               | 115        | 190       | 210       | 3.48                              | M 12 SW 10                  | 60                           | 0584 8660 168     | 0584 9360 168 | 2.5 mm                     |

PN<sup>1</sup> (Nominal Pressure) is the max. admissible working pressure in shipbuilding, based on a safety factor of  $\geq 4$ .

WP<sup>2</sup> is the max. working pressure in industrial applications, with a safety factor as per NORMA specification.



**Support sleeve to be used with NORMACONNECT PLAST GRIP/PLAST GRIP E, COMBIGRIP/COMBI GRIP E in W5 (1.4571) material.**

For copper and CuNiFe pipes an optional support sleeve made from brass is available on request.

## Optional support sleeve

When joining plastic pipes made from PE and PP a support sleeve must be used. If the pipes to be joined are made from soft thermoplastic (e.g., PE) the use of a support sleeve is mandatory. The support sleeve is inserted into the pipe end within the area to be joined and thus protects the pipe from being deformed.

## Technical data & Ordering information

**INTERNAL SUPPORT SLEEVE FOR PLAST GRIP / PLAST GRIP E IN W5 (316TI)**

| Ø OD<br>mm | S-3.2 (SDR 7,5) |             | S-4 (SDR 9)   |             | S-5 (SDR 11)  |             | S-6.3 (SDR 13.6) |             |
|------------|-----------------|-------------|---------------|-------------|---------------|-------------|------------------|-------------|
|            | Product No.     | Ø di*<br>mm | Product No.   | Ø di*<br>mm | Product No.   | Ø di*<br>mm | Product No.      | Ø di*<br>mm |
| 40         | 0581 1100 029   | 29          | 0581 1100 031 | 31          | 0581 1100 032 | 32.6        | 0581 1100 034    | 34          |
| 50         | 0581 1100 036   | 36          | 0581 1100 038 | 38.8        | 0581 1100 040 | 40.8        | 0581 1100 042    | 42.6        |
| 63         | 0581 1100 045   | 45.6        | 0581 1100 048 | 48.8        | 0581 1100 051 | 51.4        | 0581 1100 053    | 53.6        |
| 75         | 0581 1100 054   | 54.4        | 0581 1100 058 | 58.2        | 0581 1100 061 | 61.4        | 0581 1100 064    | 64          |
| 90         | 0581 1100 065   | 65.4        | 0581 1100 069 | 69.5        | 0581 1100 073 | 73.6        | 0581 1100 076    | 76.8        |
| 110        | 0581 1100 079   | 79.5        | 0581 1100 085 | 85.4        | 0581 1100 090 | 90          | 0581 1100 093    | 93.8        |
| 125        | 0581 1100 091   | 91          | 0581 1100 097 | 97          | 0581 1100 102 | 102.2       | 0581 1100 106    | 106.6       |
| 140        | 0581 1100 101   | 101.6       | 0581 1100 108 | 108.6       | 0581 1100 114 | 114.6       | 0581 1100 119    | 119.4       |
| 160        | 0581 1100 116   | 116.2       | 0581 1100 124 | 124.2       | 0581 1100 130 | 130.8       | 0581 1100 136    | 136.4       |

\* further sizes available on request

**INTERNAL SUPPORT SLEEVE FOR PLAST GRIP / PLAST GRIP E IN W5 (316TI)**

| Ø OD<br>mm | S-8 (SDR 17)  |             | S-10 (SDR 21) |             | S-12,5 (SDR 26) |             | S-16 (SDR 33) |             |
|------------|---------------|-------------|---------------|-------------|-----------------|-------------|---------------|-------------|
|            | Product No.   | Ø di*<br>mm | Product No.   | Ø di*<br>mm | Product No.     | Ø di*<br>mm | Product No.   | Ø di*<br>mm |
| 40         | 0581 1100 035 | 35.2        | -             | -           | 0581 1100 036   | 36          | -             | -           |
| 50         | 0581 1100 044 | 44          | 0581 1100 045 | 45.6        | 0581 1100 046   | 46          | -             | -           |
| 63         | 0581 1100 055 | 55.4        | 0581 1100 057 | 57          | 0581 1100 058   | 58.2        | 0581 1100 059 | 59          |
| 75         | 0581 1100 066 | 66          | 0581 1100 067 | 67.8        | 0581 1100 069   | 69.5        | 0581 1100 070 | 70.4        |
| 90         | 0581 1100 079 | 79.5        | 0581 1100 081 | 81.4        | 0581 1100 083   | 83          | 0581 1100 084 | 84.4        |
| 110        | 0581 1100 096 | 96.8        | 0581 1100 099 | 99.4        | 0581 1100 101   | 101.6       | 0581 1100 103 | 103.2       |
| 125        | 0581 1100 110 | 110.2       | 0581 1100 113 | 113         | 0581 1100 115   | 115.4       | 0581 1100 117 | 117.2       |
| 140        | 0581 1100 123 | 123.4       | 0581 1100 126 | 126.6       | 0581 1100 129   | 129.2       | 0581 1100 131 | 131.4       |
| 160        | 0581 1100 141 | 141         | 0581 1100 144 | 144.6       | 0581 1100 147   | 147.6       | 0581 1100 150 | 150.2       |

\* further sizes available on request

## Certificates, Liability, Memberships

**Certificates** Materialprüfungsamt Nordrhein-Westfalen (MPA NRW)

**Liability** Product liability: In case of bodily injury and/or material damage.

**Memberships** IZEG – Informationszentrum Entwässerungstechnik Guss  
GEG – Gütergemeinschaft Entwässerungstechnik Guss



Informationszentrum  
Entwässerungstechnik Guss e.V.



Entwässerungstechnik  
Guss

## Materials at a Glance

| MATERIALS FOR COUPLINGS AND RESTRAINT COLLARS |             |               |                          |                |
|-----------------------------------------------|-------------|---------------|--------------------------|----------------|
|                                               | COLLAR      | CLAMPING UNIT | SCREWS, NUTS, BOLTS      | SEALING SLEEVE |
| W1                                            |             |               | Steel, protected surface | –              |
| W2                                            | AISI 430 Ti | AISI 304      | Steel, protected surface | EPDM           |
| W4                                            | AISI 304    | AISI 304      | AISI 304                 | EPDM           |
| W5                                            | AISI 316 Ti | AISI 316 Ti   | AISI 316                 | EPDM           |

|    | COLLAR      | CLAMPING UNIT            | SCREWS                   | SEALING SLEEVE |
|----|-------------|--------------------------|--------------------------|----------------|
| W2 | AISI 304    | Steel, protected surface | Steel, protected surface | EPDM           |
| W5 | AISI 316 Ti | AISI 316 Ti              | AISI 316                 | EPDM           |

## Products and Application at a Glance

| TYPE                               |                                                                                     | DN AND PRESSURE [bar] |    |    |       |     |     |     |     |     |     |     |     | SEAL TYPE | MATE-RIAL | APPLICATION |           |         |      |
|------------------------------------|-------------------------------------------------------------------------------------|-----------------------|----|----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----------|-----------|-------------|-----------|---------|------|
|                                    |                                                                                     | 40                    | 50 | 70 | 70/80 | 100 | 125 | 150 | 200 | 250 | 300 | 400 | 500 | 600       | STANDARD  |             | Buildings | Bridges | Soil |
| NON-PULL-OUT RESISTANT CONNECTIONS |                                                                                     |                       |    |    |       |     |     |     |     |     |     |     |     |           |           |             |           |         |      |
| RAPID                              |  | •                     | •  | •  | •     | •   | •   | •   | •   |     |     |     |     |           | EPDM      | W 2         | •         | -       | -    |
| RAPID                              |  | •                     | •  | •  | •     | •   | •   | •   | •   | •   | •   |     |     |           | EPDM      | W 5         | •         | •       | •    |
| MSM RAPID                          |  |                       | •  | •  | •     | •   | •   | •   | •   |     |     |     |     |           | EPDM      | W 2         | •         | -       | -    |
| CV                                 |  |                       | •  | •  | •     | •   | •   | •   | •   | •   | •   |     |     |           | EPDM      | W 2         | •         | -       | -    |
| CE                                 |  |                       | •  | •  |       | •   | •   | •   | •   | •   | •   |     |     |           | EPDM      | W 4         | •         | -       | •*   |
| SVE                                |  |                       | •  |    | •     | •   | •   | •   | •   |     |     |     |     |           | NR-SBR    | PP-CO       | -         | -       | •    |
| PULL-OUT RESISTANT CONNECTIONS     |                                                                                     |                       |    |    |       |     |     |     |     |     |     |     |     |           |           |             |           |         |      |
| UNIVERSAL Restraint Collar **      |  |                       | 10 | 10 | 10    | 10  | 10  | 5   | 5   | 3   | 3   |     |     |           | -         | W 2         | •         | -       | -    |
| RECORD Restraint Collar **         |  | 10                    | 10 | 10 | 10    | 10  | 5   | 5   | 3   |     |     |     |     |           | -         | W 1         | •         | -       | -    |
| COMBI Restraint Collar **          |  |                       | 10 | 10 | 10    | 10  | 5   | 5   |     |     |     |     |     |           | -         | W 1         | •         | -       | -    |
| CHANGEOVER CONNECTORS              |                                                                                     |                       |    |    |       |     |     |     |     |     |     |     |     |           |           |             |           |         |      |
| FIX                                |  |                       | •  | •  | •     | •   | •   |     |     |     |     |     |     |           | EPDM      | -           | •         | -       | -    |

\* Additional protection against corrosion

\* NBR on request

Technical Changes reserved

\*\* The collars are only suitable for open drainage systems. It is not allowed to use it for closed pressure systems.





- 1 Hexagonal socket bolt with washer
- 2 Square nut
- 3 Closure unit
- 4 Collar
- 5 Sealing sleeve

## The original Rapid with block tightening

The DCS RAPID with block tightening for non-pull-out resistant connections enables a fast connection. The visible torque control and the single-bolt closure provide for a fast and easy installation.



### Materials

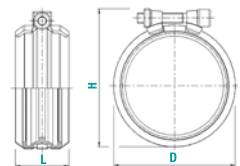
| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    | x  |    |    | x  |

- W2, W5**
- Material, Collar: AISI 430 Ti
  - Material, Clamping unit: AISI 304 / AISI 430 Ti
  - Material, Bolts/Nuts: Steel, surface protected
  - Material, Sealing sleeve: EPDM

### Information

- Resisting axial pull-out forces up to max. 0.5 bar
- DN 40 – DN 200
- Resisting axial pull-out forces up to max 0.3 bar
- DN 250 – DN 300
- Defined locking torque without using a special tool
- Meeting the fire protection requirements

### Technical data & Ordering information



| NORMACONNECT® DCS RAPID |                                  |        |        |        |             |               |           |                |                |
|-------------------------|----------------------------------|--------|--------|--------|-------------|---------------|-----------|----------------|----------------|
| Designation             | Max. Dimensions after Assembly ~ |        |        |        |             |               |           | W2 Product No. | W5 Product No. |
|                         | DN                               | D (mm) | H (mm) | L (mm) | P max (bar) | Torque (Nm)   | Bolt (mm) |                |                |
| RAPID DN 40             | 40                               | 53     | 64     | 50     | 0.5         | Tight-Locking | M 5       | 0245 8254 040  |                |
| RAPID DN 50             | 50                               | 70     | 80     | 46     | 0.5         | Tight-Locking | M 8       | 0245 8218 050  | 0245 8126 050  |
| RAPID DN 70             | 70                               | 90     | 100    | 43     | 0.5         | Tight-Locking | M 8       | 0245 8219 070  | 0245 8127 070  |
| RAPID DN 75             | 75                               | 87     | 97     | 40.5   | 0.5         | Tight-Locking | M 8       | 0245 8265 075  |                |
| RAPID DN 80             | 75/80                            | 95     | 105    | 40     | 0.5         | Tight-Locking | M 8       | 0245 8220 080  | 0245 8129 075  |
| RAPID DN 100            | 100                              | 125    | 135    | 39.0   | 0.5         | Tight-Locking | M 8       | 0245 8221 100  | 0245 8130 100  |
| RAPID DN 125            | 125                              | 147    | 162    | 37.0   | 0.5         | Tight-Locking | M 8       | 0245 8222 125  | 0245 8131 125  |
| RAPID DN 150            | 150                              | 172    | 187    | 35.5   | 0.5         | Tight-Locking | M 8       | 0245 8223 150  | 0245 8132 150  |
| RAPID DN 200            | 200                              | 227    | 244    | 33.5   | 0.5         | Tight-Locking | M 10      | 0245 8224 200  | 0245 8133 200  |
| RAPID DN 250            | 250                              | 293    | 306    | 96     | 0.3         | Tight-Locking | M 10      |                | 0245 8208 250  |
| RAPID DN 300            | 300                              | 345    | 360    | 96     | 0.3         | Tight-Locking | M 10      |                | 0245 8209 300  |



- 1 Hexagonal socket bolt with washer
- 2 Square nut
- 3 Closure unit
- 4 Collar
- 5 Sealing sleeve

## The fast connection with quick release closure

The DCS RAPID MSM connection is easy-fitting and thus especially suitable for repair purposes. It is the fast connection with quick release closure for non-pull-out resistant connections.



### Materials

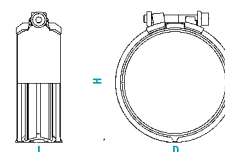
| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    | x  |    |    |    |

- W2**
- Material, Collar: AISI 430 Ti
  - Material, Clamping unit: AISI 304 / AISI 430 Ti
  - Material, Bolts/Nuts: Steel, surface protected
  - Material, Sealing sleeve: EPDM

### Information

- Resisting axial pull-out forces up to max. 0.5 bar
- Defined locking torque without using a special tool
- Meeting the fire protection requirements

### Technical data & Ordering information



| NORMACONNECT® DCS RAPID MSM |                                  |        |        |        |             |               |           |                |
|-----------------------------|----------------------------------|--------|--------|--------|-------------|---------------|-----------|----------------|
| Designation                 | Max. Dimensions after Assembly ~ |        |        |        |             |               |           | W2 Product No. |
|                             | DN                               | D (mm) | H (mm) | L (mm) | P max (bar) | Torque (Nm)   | Bolt (mm) |                |
| RAPID DN 50 MSM             | 50                               | 70     | 80     | 40     | 0.5         | Tight-Locking | M 8       | 0245 8257 050  |
| RAPID DN 70 MSM             | 70                               | 90     | 100    | 40     | 0.5         | Tight-Locking | M 8       | 0245 8258 070  |
| RAPID DN 80 MSM             | 75/80                            | 95     | 105    | 40     | 0.5         | Tight-Locking | M 8       | 0245 8260 080  |
| RAPID DN 100 MSM            | 100                              | 125    | 135    | 46     | 0.5         | Tight-Locking | M 8       | 0245 8261 100  |
| RAPID DN 125 MSM            | 125                              | 147    | 162    | 55     | 0.5         | Tight-Locking | M 8       | 0245 8262 125  |
| RAPID DN 150 MSM            | 150                              | 172    | 187    | 55     | 0.5         | Tight-Locking | M 8       | 0245 8263 150  |
| RAPID DN 200 MSM            | 200                              | 227    | 244    | 70     | 0.5         | Tight-Locking | M 10      | 0245 8264 200  |



- 1 CV: Slotted hexagonal head bolts  
DN 50 – DN 300: SW 10  
CE: Hexagonal head bolts  
DN 50, 70, 75/80: SW 10  
DN 100 – DN 300: SW 13
- 2 Guide plate
- 3 Threaded plate
- 4 Collar
- 5 Sealing sleeve

## The proven standard collar

The DCS CV/CE collar has been proven in all kinds of standard drainage applications. The proven standard collar for non-pull-out connections.

### Materials

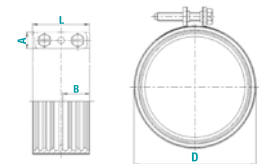
| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    | x  |    | x  |    |

- W2**
- Material, Collar: AISI 430 Ti
- Type CV**
- Material, Clamping unit: Steel, surface protected
  - Material, Sealing sleeve: EPDM
  - Material, Bolts: Steel, surface protected
- W5**
- Material, Collar: AISI 304
- Type CE**
- Material, Clamping unit: AISI 304
  - Material, Sealing sleeve: EPDM
  - Material, Bolts: Steel, surface protected

### Advantages at a glance

- Fast and easy installation
- Suitable for repair purposes

## Technical data & Ordering information



| NORMACONNECT® DCS CV |       |        |        |        |        |             |           |                |
|----------------------|-------|--------|--------|--------|--------|-------------|-----------|----------------|
| Designation          | DN    | A (mm) | B (mm) | D (mm) | L (mm) | Torque (Nm) | Bolt (mm) | W2 Product No. |
| CV DN 50             | 50    | 14     | 22.5   | 65     | 48     | 4-6         | M 6       | 0242 8091 050  |
| CV DN 70             | 70    | 14     | 22.5   | 85     | 48     | 4-6         | M 6       | 0242 8092 070  |
| CV DN 80             | 75/80 | 14     | 22.5   | 90     | 48     | 6-8         | M 6       | 0242 8093 075  |
| CV DN 100            | 100   | 18     | 22.5   | 115    | 54     | 10-12       | M 8       | 0262 8303 100  |
| CV DN 125            | 125   | 18     | 31     | 140    | 65     | 10-12       | M 8       | 0262 8304 125  |
| CV DN 150            | 150   | 18     | 31     | 170    | 65     | 10-12       | M 8       | 0262 8305 150  |
| CV DN 200            | 200   | 18     | 37     | 220    | 78     | 15-20       | M 8       | 0262 8306 200  |
| CV DN 250            | 250   | 18     | 37     | 286    | 78     | 15-20       | M 8       | 0262 8307 250  |
| CV DN 300            | 300   | 18     | 37     | 338    | 78     | 15-20       | M 8       | 0262 8308 300  |

DCS CV is also available with a round hexagonal head bolt on request.

| NORMACONNECT® DCS CE |     |        |        |        |        |             |           |                |
|----------------------|-----|--------|--------|--------|--------|-------------|-----------|----------------|
| Designation          | DN  | A (mm) | B (mm) | D (mm) | L (mm) | Torque (Nm) | Bolt (mm) | W4 Product No. |
| CE DN 50             | 50  | 14     | 22.5   | 65     | 48     | 4-6         | M 6       | 0242 8108 050  |
| CE DN 70             | 70  | 14     | 22.5   | 85     | 48     | 4-6         | M 6       | 0242 8109 070  |
| CE DN 100            | 100 | 18     | 22.5   | 115    | 54     | 10-12       | M 8       | 0262 8361 100  |
| CE DN 125            | 125 | 18     | 31     | 140    | 65     | 10-12       | M 8       | 0262 8362 125  |
| CE DN 150            | 150 | 18     | 31     | 170    | 65     | 10-12       | M 8       | 0262 8363 150  |
| CE DN 200            | 200 | 18     | 37     | 220    | 78     | 15-20       | M 8       | 0262 8364 200  |
| CE DN 250            | 250 | 18     | 37     | 286    | 78     | 15-20       | M 8       | 0262 8365 250  |
| CE DN 300            | 300 | 18     | 37     | 338    | 78     | 15-20       | M 8       | 0262 8366 300  |

DCS CE is also available with a round hexagonal head bolt on request.



- 1 Housing
- 2 Sealing lips

## The collar for buried drainage pipes

Used achieve fast and easy connection of below ground drainage pipes, while also accommodating larger gaps between pipe ends. The DCS collar for buried drainage pipes for non-pull-out connections is the universal solution for many applications.

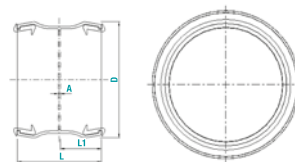
### Materials

- Material, Housing: Polypropylene-CO
- Material, Seal: NR-SBR

### Information

- Collar made from polypropylene with built-in sealing lips
- Compensates for larger gaps between pipe ends

## Technical data & Ordering information



**NORMACONNECT® DCS SVE CONNECTION, PP-CO with built-in sealing lips NR-SBR**

| Designation    | DN    | D (mm) | L (mm) | L' (mm) | A (mm) | Bolt (mm) | Polypropylene-CO Product No. |
|----------------|-------|--------|--------|---------|--------|-----------|------------------------------|
| DCS SVE DN 50  | 50    | 77     | 60     | 29      | 2      | M 6       | 0242 8108 050                |
| DCS SVE DN 80  | 75/80 | 103.5  | 65.5   | 32      | 2      | M 6       | 0242 8109 070                |
| DCS SVE DN 100 | 100   | 134    | 82     | 39.5    | 3      | M 8       | 0262 8361 100                |
| DCS SVE DN 125 | 125   | 161    | 103    | 50      | 3      | M 8       | 0262 8362 125                |
| DCS SVE DN 150 | 150   | 186    | 103    | 50      | 3      | M 8       | 0262 8363 150                |
| DCS SVE DN 200 | 200   | 238    | 114    | 55.5    | 3      | M 8       | 0262 8364 200                |



- 1 Hexagonal socket bolts
- 2 Guide bolt
- 3 Threaded bolt
- 4 Housing
- 5 Grip ring insert

## The grip-type coupling which resists high tensile loads

Combined with either DCS RAPID, DCS RAPID MSM or DCS CV/CE standards collars, our DCS Universal restraint collars ensure that the system can withstand even high tensile loads. The grip-type coupling which resists high tensile loads for non-pull-out resistant connections.



### Materials

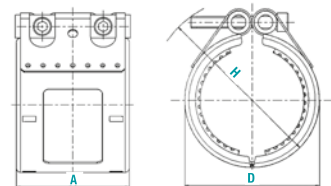
| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    | x  |    |    |    |

- W2**
- Material, Housing: AISI 430 Ti
  - Material, Closure unit: Steel, surface protected
  - Material, Grip ring: AISI 301

### Information

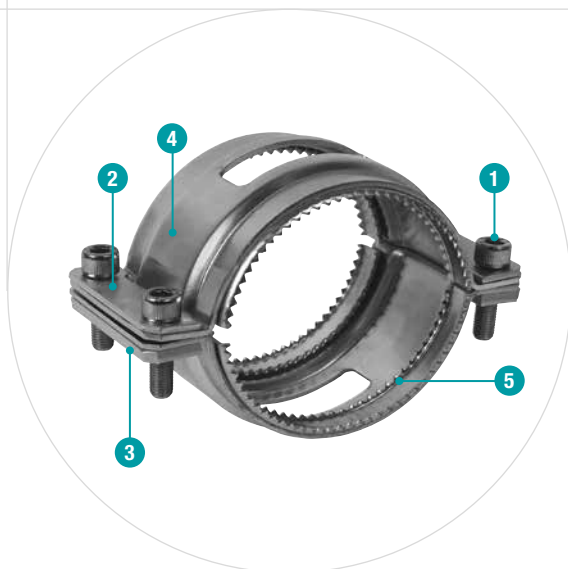
- Recommended for use in combination with types RAPID/RAPID MSM: up to max. 10 bar
- Recommended for use in combination with types CV/CE: up to max. 5 bar (DN 50 – DN 200); up to max. 3 bar (DN 250 – DN 300)

### Technical data & Ordering information



#### NORMACONNECT® DCS UNIVERSAL RESTRAINT COLLAR

| Designation                       | DN    | A (mm) | D (mm) | H (mm) | Bolt (mm) | P max (bar)       |       | Torque (Nm)   | W2 Product No. |
|-----------------------------------|-------|--------|--------|--------|-----------|-------------------|-------|---------------|----------------|
|                                   |       |        |        |        |           | RAPID / RAPID MSM | CV/CE |               |                |
| UNIVERSAL RESTRAINT COLLAR DN 50  | 50    | 77     | 85     | 105    | M 8       | 10                | 5     | Tight-Locking | 0262 8401 050  |
| UNIVERSAL RESTRAINT COLLAR DN 70  | 70    | 77     | 100    | 120    | M 8       | 10                | 5     | Tight-Locking | 0262 8402 070  |
| UNIVERSAL RESTRAINT COLLAR DN 80  | 75/80 | 77     | 105    | 125    | M 8       | 10                | 5     | Tight-Locking | 0262 8403 080  |
| UNIVERSAL RESTRAINT COLLAR DN 100 | 100   | 97     | 130    | 150    | M 10      | 10                | 5     | Tight-Locking | 0262 8405 100  |
| UNIVERSAL RESTRAINT COLLAR DN 125 | 125   | 97     | 165    | 195    | M 10      | 10                | 5     | Tight-Locking | 0262 8406 125  |
| UNIVERSAL RESTRAINT COLLAR DN 150 | 150   | 97     | 185    | 215    | M 10      | 5                 | 5     | Tight-Locking | 0262 8407 150  |
| UNIVERSAL RESTRAINT COLLAR DN 200 | 200   | 113    | 240    | 270    | M 12      | 5                 | 5     | Tight-Locking | 0262 8415 200  |
| UNIVERSAL RESTRAINT COLLAR DN 250 | 250   | 139    | 305    | 335    | M 12      | 3                 | 3     | Tight-Locking | 0262 8416 250  |
| UNIVERSAL RESTRAINT COLLAR DN 300 | 300   | 139    | 400    | 490    | M 12      | 3                 | 3     | Tight-Locking | 0262 8417 300  |



- 1 Hexagonal socket bolt with fine pitch thread
- 2 Guiding plate
- 3 Threaded plate
- 4 Housing
- 5 Grip ring insert (hardened)

## The powerful add-on collar

Axial restraint safety clamp for use with pressurized pump lines in lifting systems as well as for rainwater sewage lines that are at risk of undergoing back pressures, but only in combination with the DCS RAPID standard collar. The powerful add-on collar for non-pull-out resistant connections.

### Materials

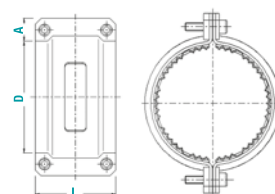
| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    |    |    |

- W1**
- Material, Housing: Steel, surface protected
  - Material, Closure unit: Steel, surface protected

### Advantages at a glance

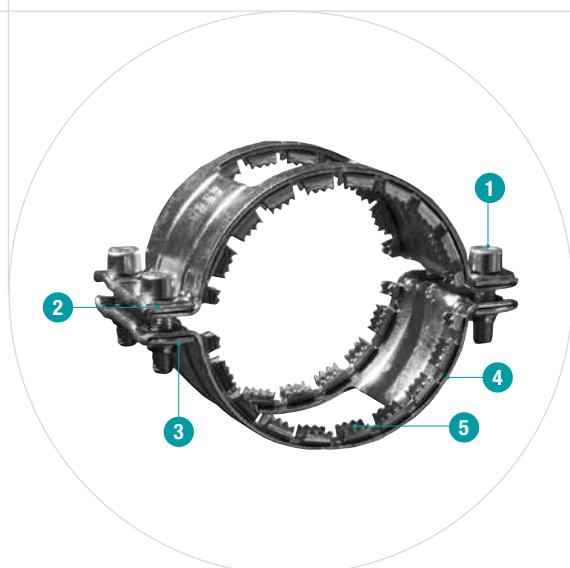
- Two parts (halves) with hardened grip ring inserts
- Strong guiding plates with threaded holes plus four hexagonal socket bolts with fine pitch thread

### Technical data & Ordering information



#### NORMACONNECT® DCS RECORD RESTRAINT COLLAR

| Designation                    | DN    | A (mm) | D (mm) | L (mm) | Torque (Nm) | Bolt (mm) | P max (bar) | W1 Product No. |
|--------------------------------|-------|--------|--------|--------|-------------|-----------|-------------|----------------|
| RECORD RESTRAINT COLLAR DN 40  | 40    | 21     | 65     | 66     | 12-15       | M 8       | up to 10    | 0262 1272 040  |
| RECORD RESTRAINT COLLAR DN 50  | 50    | 21     | 75     | 69     | 12-15       | M 8       | up to 10    | 0262 1265 050  |
| RECORD RESTRAINT COLLAR DN 70  | 70    | 21     | 95     | 69     | 12-15       | M 8       | up to 10    | 0262 1266 070  |
| RECORD RESTRAINT COLLAR DN 80  | 75/80 | 21     | 100    | 69     | 12-15       | M 8       | up to 10    | 0262 1287 080  |
| RECORD RESTRAINT COLLAR DN 100 | 100   | 25     | 135    | 87     | 25-30       | M 10      | up to 10    | 0262 1246 100  |
| RECORD RESTRAINT COLLAR DN 125 | 125   | 25     | 160    | 95     | 30-35       | M 10      | up to 5     | 0262 1267 125  |
| RECORD RESTRAINT COLLAR DN 150 | 150   | 25     | 185    | 95     | 30-35       | M 10      | up to 5     | 0262 1268 150  |
| RECORD RESTRAINT COLLAR DN 200 | 200   | 30     | 235    | 111    | 60-65       | M 12      | up to 3     | 0262 1269 200  |



- 1 Hexagonal socket bolts
- 2 Guiding side
- 3 Threaded side
- 4 Housing
- 5 Grip ring insert

## The powerful add-on collar

Axial restraint safety clamp for connecting rainwater and sewage lines that are at risk of undergoing back pressures, used in combination with RAPID/RAPID MSM and CV or CE standard collars. The powerful add-on collar for non-pull-out resistant connections.

### Materials

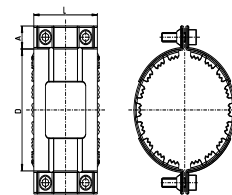
| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    |    |    |

- W1**
- Material, Housing: Steel, surface protected
  - Material, Closure unit: Steel, surface protected

### Information

- Axial restraint up to 10 bar
- Diameters DN50 up to DN 150

### Technical data & Ordering information



| NORMACONNECT® DCS COMBI RESTRAINT COLLAR |     |        |        |        |             |           |             |                |
|------------------------------------------|-----|--------|--------|--------|-------------|-----------|-------------|----------------|
| Designation                              | DN  | A (mm) | D (mm) | L (mm) | Torque (Nm) | Bolt (mm) | P max (bar) | W1 Product No. |
| COMBI RESTRAINT COLLAR DN 50             | 50  | 22     | 81     | 72     | 18-20       | M 8       | up to 10    | 2628590050     |
| COMBI RESTRAINT COLLAR DN 70             | 70  | 22     | 102    | 72     | 18-20       | M 8       | up to 10    | 2628590070     |
| COMBI RESTRAINT COLLAR DN 80             | 80  | 22     | 110    | 72     | 18-20       | M 8       | up to 10    | 2628590080     |
| COMBI RESTRAINT COLLAR DN 100            | 100 | 22     | 136    | 82     | 28-30       | M 10      | up to 10    | 2628591100     |
| COMBI RESTRAINT COLLAR DN 125            | 125 | 23.5   | 162    | 93     | 28-30       | M 10      | up to 5     | 2628592125     |
| COMBI RESTRAINT COLLAR DN 150            | 150 | 23.5   | 189    | 93     | 33-35       | M 10      | up to 5     | 2628592150     |



- 1 Easy handling
- 2 Strong worm-drive hose clip

## The changeover connector with 2 lip seals

### Materials

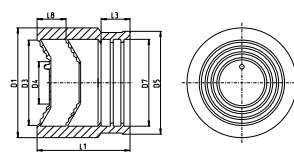
| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    | x  |    |    |    |

- Material, Connector: EPDM
- Material, Worm-drive hose clip band: AISI 430

### Advantages at a glance

- The connection of feed or suction lines to a pipe – either made of steel or plastics – is easily and safely achieved with the FIX connector.

### Technical data & Ordering information



#### NORMACONNECT® DCS FIX, EPDM with TORRO W2, Changeover Connector

| Designation     | DN  | D1<br>(mm) | D3<br>(mm) | D4<br>(mm) | D5<br>(mm) | D7<br>(mm) | L1<br>(mm) | L3<br>(mm) | L8<br>(mm) | W2<br>Product No. |
|-----------------|-----|------------|------------|------------|------------|------------|------------|------------|------------|-------------------|
| FIX DN 50       | 50  | 72         | 56         | 30         | 67.5       | 57         | 63         | 19         | 19         | 0245 9003 050     |
| FIX DN 70       | 70  | 92         | 75         | 41         | 86.5       | 77         | 77         | 19         | 24         | 0245 9003 070     |
| FIX DN 80 56-75 | 80  | 92         | 75         | 41         | 91         | 81         | 77         | 19         | 24         | 0245 9003 075     |
| FIX DN 80 75-90 | 80  | 108        | 90         | 58         | 93         | 81         | 88         | 19         | 23         | 0245 9003 080     |
| FIX DN 100      | 100 | 128        | 110        | 78         | 118        | 108        | 95         | 21         | 23         | 0245 9003 100     |
| FIX DN 125      | 125 | 145        | 126        | 90         | 145        | 132        | 103        | 21         | 27         | 0245 9003 125     |

## Dimensions of pipes and fittings to EN 877

| Dimensions of pipes and fittings to EN 877 |                       |              |                |               |
|--------------------------------------------|-----------------------|--------------|----------------|---------------|
| DN                                         | Outside Diameter (OD) |              | Wall Thickness |               |
|                                            | Nominal value         | Tolerances   | Nominal value  | Minimum value |
| 40                                         | 48                    | +2<br>-1     | 3.0            | 2.5           |
| 50                                         | 58                    | +2<br>-1     | 3.5            | 3.0           |
| 70                                         | 78                    | +2<br>-1     | 3.5            | 3.0           |
| 75/80                                      | 83                    | +2<br>-1     | 3.5            | 3.0           |
| 100                                        | 110                   | +2<br>-1     | 3.5            | 3.0           |
| 125                                        | 135                   | +2<br>-2     | 4.0            | 3.5           |
| 150                                        | 160                   | +2<br>-2     | 4.0            | 3.5           |
| 200                                        | 210                   | +2.5<br>-2.5 | 5.0            | 4.0           |
| 250                                        | 274                   | +2.5<br>-2.5 | 5.5            | 4.5           |
| 300                                        | 326                   | +2.5<br>-2.5 | 6.0            | 5.0           |
| 400                                        | 429                   | +2<br>-3     | 6.3            | 5.0           |
| 500                                        | 532                   | +2<br>-3.5   | 7.0            | 5.2           |
| 600                                        | 635                   | +2<br>-4     | 7.7            | 5.8           |

Dimensions in mm



## COMPRESSION FITTINGS

## Compression Fittings - Plastic Compression Fittings



- 1 Male threaded adaptor - MA
- 2 Straight coupler - SC
- 3 Female threaded adaptor - FA
- 4 Flange adaptor - FLA
- 5 Equal bend - EB
- 6 Male threaded elbow - MB
- 7 Female threaded elbow - FB
- 8 Male threaded tee - MT
- 9 Female threaded tee - FT

## PN 16 for non-potable water

NORMA® Compression fittings are made of polypropylene for high-and-low density polyethylene tubing, diameters 20 to 110. Maximum service pressure: PN 16 bar from diameter 20 to diameter 63 – PN 12.5 bar from diameter 75 to diameter 110. DOES NOT INCLUDE hot water application. NORMA products are made in factories certified under ISO 9001 Version 2008. NORMA® fittings are tested and approved according to these standards: ISO 14236 (Czech Republic). ITC (Poland): BS Standard 5114, AS / NZ 4129, AS 4020. These products are not certified as compliant with international sanitary regulations for transport of potable water and liquid foods.



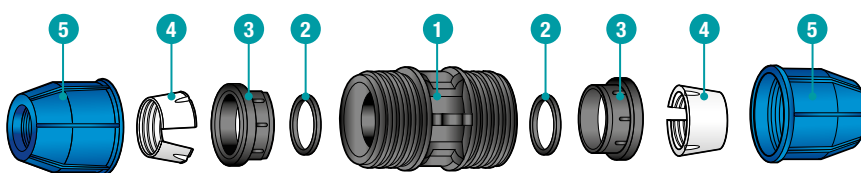
### Advantages at a glance

- Safe and durable
- Fast and easily connected
- Perfect water tightness
- Locking nut for a clinching system
- Simple insertion of the tube in the fitting
- No special workforce required
- High resistance to temperature and ultraviolet shocks

### Applications

- Watering: Residential, municipal, sport fields, golf courses.
- Irrigation: Agriculture, horticulture, vineyards.
- Industry: Compressed air.

### Information



- 1 Body of Polypropylene
- 2 O-ring of NBR
- 3 Holder of Polypropylene
- 4 Clinching Ring of POM, acetal
- 5 Locking nut of Polypropylene

### Male threaded adaptor – MA



| Size<br>mm x inch | Designation                            | Polypropylene homopolymer<br>Product No. |
|-------------------|----------------------------------------|------------------------------------------|
| 20 x 1/2"         | MALE THREADED ADAPTOR (MA) 20 x 1/2"   | 0796 2651 118                            |
| 20 x 3/4"         | MALE THREADED ADAPTOR (MA) 20 x 3/4"   | 0796 2651 120                            |
| 20 x 1"           | MALE THREADED ADAPTOR (MA) 20 x 1"     | 0796 2651 117                            |
| 25 x 1/2"         | MALE THREADED ADAPTOR (MA) 25 x 1/2"   | 0796 2651 121                            |
| 25 x 3/4"         | MALE THREADED ADAPTOR (MA) 25 x 3/4"   | 0796 2651 122                            |
| 25 x 1"           | MALE THREADED ADAPTOR (MA) 25 x 1"     | 0796 2651 124                            |
| 32 x 1/2"         | MALE THREADED ADAPTOR (MA) 32 x 1/2"   | 0796 2651 126                            |
| 32 x 3/4"         | MALE THREADED ADAPTOR (MA) 32 x 3/4"   | 0796 2651 127                            |
| 32 x 1"           | MALE THREADED ADAPTOR (MA) 32 x 1"     | 0796 2651 128                            |
| 32 x 1 1/4"       | MALE THREADED ADAPTOR (MA) 32 x 1 1/4" | 0796 2651 130                            |
| 40 x 3/4"         | MALE THREADED ADAPTOR (MA) 40 x 3/4"   | 0796 2651 131                            |
| 40 x 1"           | MALE THREADED ADAPTOR (MA) 40 x 1"     | 0796 2651 132                            |
| 40 x 1 1/4"       | MALE THREADED ADAPTOR (MA) 40 x 1 1/4" | 0796 2651 133                            |
| 40 x 1 1/2"       | MALE THREADED ADAPTOR (MA) 40 x 1 1/2" | 0796 2651 134                            |
| 50 x 1 1/4"       | MALE THREADED ADAPTOR (MA) 50 x 1 1/4" | 0796 2651 135                            |
| 50 x 1 1/2"       | MALE THREADED ADAPTOR (MA) 50 x 1 1/2" | 0796 2651 136                            |
| 50 x 2"           | MALE THREADED ADAPTOR (MA) 50 x 2"     | 0796 2651 137                            |
| 63 x 1 1/2"       | MALE THREADED ADAPTOR (MA) 63 x 1 1/2" | 0796 2651 138                            |
| 63 x 2"           | MALE THREADED ADAPTOR (MA) 63 x 2"     | 0796 2651 139                            |
| 75 x 2"           | MALE THREADED ADAPTOR (MA) 75 x 2"     | 0796 2640 310                            |
| 75 x 2 1/2"       | MALE THREADED ADAPTOR (MA) 75 x 2 1/2" | 0796 2640 311                            |
| 90 x 3"           | MALE THREADED ADAPTOR (MA) 90 x 3"     | 0796 2640 312                            |
| 110 x 4"          | MALE THREADED ADAPTOR (MA) 110 x 4"    | 0796 2640 313                            |

### Female threaded adaptor – FA



| Size<br>mm x inch | Designation                              | Polypropylene homopolymer<br>Product No. |
|-------------------|------------------------------------------|------------------------------------------|
| 20 x 1/2"         | FEMALE THREADED ADAPTOR (FA) 20 x 1/2"   | 0796 2651 018                            |
| 20 x 3/4"         | FEMALE THREADED ADAPTOR (FA) 20 x 3/4"   | 0796 2651 020                            |
| 25 x 1/2"         | FEMALE THREADED ADAPTOR (FA) 25 x 1/2"   | 0796 2651 022                            |
| 25 x 3/4"         | FEMALE THREADED ADAPTOR (FA) 25 x 3/4"   | 0796 2651 025                            |
| 25 x 1"           | FEMALE THREADED ADAPTOR (FA) 25 x 1"     | 0796 2651 028                            |
| 32 x 3/4"         | FEMALE THREADED ADAPTOR (FA) 32 x 3/4"   | 0796 2651 030                            |
| 32 x 1"           | FEMALE THREADED ADAPTOR (FA) 32 x 1"     | 0796 2651 033                            |
| 32 x 1 1/4"       | FEMALE THREADED ADAPTOR (FA) 32 x 1 1/4" | 0796 2651 035                            |
| 40 x 1"           | FEMALE THREADED ADAPTOR (FA) 40 x 1"     | 0796 2651 037                            |
| 40 x 1 1/4"       | FEMALE THREADED ADAPTOR (FA) 40 x 1 1/4" | 0796 2651 039                            |
| 40 x 1 1/2"       | FEMALE THREADED ADAPTOR (FA) 40 x 1 1/2" | 0796 2651 041                            |
| 50 x 1 1/2"       | FEMALE THREADED ADAPTOR (FA) 50 x 1 1/2" | 0796 2651 043                            |
| 50 x 2"           | FEMALE THREADED ADAPTOR (FA) 50 x 2"     | 0796 2651 045                            |
| 63 x 1 1/2"       | FEMALE THREADED ADAPTOR (FA) 63 x 1 1/2" | 0796 2651 047                            |
| 63 x 2"           | FEMALE THREADED ADAPTOR (FA) 63 x 2"     | 0796 2651 049                            |
| 75 x 2"           | FEMALE THREADED ADAPTOR (FA) 75 x 2"     | 0796 2640 291                            |
| 75 x 2 1/2"       | FEMALE THREADED ADAPTOR (FA) 75 x 2 1/2" | 0796 2640 293                            |
| 90 x 3"           | FEMALE THREADED ADAPTOR (FA) 90 x 3"     | 0796 2640 295                            |
| 110 x 4"          | FEMALE THREADED ADAPTOR (FA) 110 x 4"    | 0796 2640 297                            |

### Male threaded tee – MT



| Size<br>mm x inch | Designation                        | Polypropylene homopolymer<br>Product No. |
|-------------------|------------------------------------|------------------------------------------|
| 20 x 1/2"         | MALE THREADED TEE (MT) 20 x 1/2"   | 0796 2651 154                            |
| 20 x 3/4"         | MALE THREADED TEE (MT) 20 x 3/4"   | 0796 2651 155                            |
| 25 x 1/2"         | MALE THREADED TEE (MT) 25 x 1/2"   | 0796 2651 156                            |
| 25 x 3/4"         | MALE THREADED TEE (MT) 25 x 3/4"   | 0796 2651 157                            |
| 25 x 1"           | MALE THREADED TEE (MT) 25 x 1"     | 0796 2651 158                            |
| 32 x 3/4"         | MALE THREADED TEE (MT) 32 x 3/4"   | 0796 2651 159                            |
| 32 x 1"           | MALE THREADED TEE (MT) 32 x 1"     | 0796 2651 160                            |
| 40 x 1"           | MALE THREADED TEE (MT) 40 x 1"     | 0796 2651 161                            |
| 40 x 1 1/4"       | MALE THREADED TEE (MT) 40 x 1 1/4" | 0796 2651 162                            |
| 50 x 1 1/4"       | MALE THREADED TEE (MT) 50 x 1 1/4" | 0796 2651 163                            |
| 50 x 1 1/2"       | MALE THREADED TEE (MT) 50 x 1 1/2" | 0796 2651 164                            |
| 63 x 2"           | MALE THREADED TEE (MT) 63 x 2"     | 0796 2651 165                            |
| 75 x 2"           | MALE THREADED TEE (MT) 75 x 2"     | 0796 2640 318                            |
| 75 x 2 1/2"       | MALE THREADED TEE (MT) 75 x 2 1/2" | 0796 2640 319                            |
| 90 x 3"           | MALE THREADED TEE (MT) 90 x 3"     | 0796 2640 320                            |
| 110 x 4"          | MALE THREADED TEE (MT) 110 x 4"    | 0796 2640 321                            |

### Female threaded tee – FT



| Size<br>mm x inch | Designation                          | Polypropylene homopolymer<br>Product No. |
|-------------------|--------------------------------------|------------------------------------------|
| 20 x 1/2"         | FEMALE THREADED TEE (FT) 20 x 1/2"   | 0796 2651 088                            |
| 20 x 3/4"         | FEMALE THREADED TEE (FT) 20 x 3/4"   | 0796 2651 090                            |
| 25 x 1/2"         | FEMALE THREADED TEE (FT) 25 x 1/2"   | 0796 2651 092                            |
| 25 x 3/4"         | FEMALE THREADED TEE (FT) 25 x 3/4"   | 0796 2651 094                            |
| 25 x 1"           | FEMALE THREADED TEE (FT) 25 x 1"     | 0796 2651 096                            |
| 32 x 3/4"         | FEMALE THREADED TEE (FT) 32 x 3/4"   | 0796 2651 098                            |
| 32 x 1"           | FEMALE THREADED TEE (FT) 32 x 1"     | 0796 2651 100                            |
| 32 x 1 1/4"       | FEMALE THREADED TEE (FT) 32 x 1 1/4" | 0796 2651 102                            |
| 40 x 1"           | FEMALE THREADED TEE (FT) 40 x 1"     | 0796 2651 104                            |
| 40 x 1 1/4"       | FEMALE THREADED TEE (FT) 40 x 1 1/4" | 0796 2651 106                            |
| 40 x 1 1/2"       | FEMALE THREADED TEE (FT) 40 x 1 1/2" | 0796 2651 108                            |
| 50 x 1 1/2"       | FEMALE THREADED TEE (FT) 50 x 1 1/2" | 0796 2651 110                            |
| 50 x 2"           | FEMALE THREADED TEE (FT) 50 x 2"     | 0796 2651 112                            |
| 63 x 1 1/2"       | FEMALE THREADED TEE (FT) 63 x 1 1/2" | 0796 2651 114                            |
| 63 x 2"           | FEMALE THREADED TEE (FT) 63 x 2"     | 0796 2651 116                            |
| 75 x 2 1/2"       | FEMALE THREADED TEE (FT) 75 x 2 1/2" | 0796 2640 305                            |
| 90 x 3"           | FEMALE THREADED TEE (FT) 90 x 3"     | 0796 2640 307                            |
| 110 x 4"          | FEMALE THREADED TEE (FT) 110 x 4"    | 0796 2640 309                            |

### Male threaded elbow – MB



| Size<br>mm x inch | Designation                                         | Polypropylene homopolymer<br>Product No. |
|-------------------|-----------------------------------------------------|------------------------------------------|
| 20 x 1/2"         | MALE THREADED ELBOW - MALE BEND 90 (MB) 20 x 1/2"   | 0796 2651 140                            |
| 20 x 3/4"         | MALE THREADED ELBOW - MALE BEND 90 (MB) 20 x 3/4"   | 0796 2651 141                            |
| 25 x 1/2"         | MALE THREADED ELBOW - MALE BEND 90 (MB) 25 x 1/2"   | 0796 2651 142                            |
| 25 x 3/4"         | MALE THREADED ELBOW - MALE BEND 90 (MB) 25 x 3/4"   | 0796 2651 143                            |
| 25 x 1"           | MALE THREADED ELBOW - MALE BEND 90 (MB) 25 x 1"     | 0796 2651 144                            |
| 32 x 3/4"         | MALE THREADED ELBOW - MALE BEND 90 (MB) 32 x 3/4"   | 0796 2651 145                            |
| 32 x 1"           | MALE THREADED ELBOW - MALE BEND 90 (MB) 32 x 1"     | 0796 2651 146                            |
| 40 x 1"           | MALE THREADED ELBOW - MALE BEND 90 (MB) 40 x 1"     | 0796 2651 147                            |
| 40 x 1 1/4"       | MALE THREADED ELBOW - MALE BEND 90 (MB) 40 x 1 1/4" | 0796 2651 148                            |
| 40 x 1 1/2"       | MALE THREADED ELBOW - MALE BEND 90 (MB) 40 x 1 1/2" | 0796 2651 149                            |
| 50 x 1 1/4"       | MALE THREADED ELBOW - MALE BEND 90 (MB) 50 x 1 1/4" | 0796 2651 150                            |
| 50 x 1 1/2"       | MALE THREADED ELBOW - MALE BEND 90 (MB) 50 x 1 1/2" | 0796 2651 151                            |
| 50 x 2"           | MALE THREADED ELBOW - MALE BEND 90 (MB) 63 x 2"     | 0796 2651 152                            |
| 63 x 2"           | MALE THREADED ELBOW - MALE BEND 90 (MB) 63 x 2"     | 0796 2651 153                            |
| 75 x 2"           | MALE THREADED ELBOW - MALE BEND 90 (MB) 75 x 2"     | 0796 2640 314                            |
| 75 x 2 1/2"       | MALE THREADED ELBOW - MALE BEND 90 (MB) 75 x 2 1/2" | 0796 2640 315                            |
| 90 x 3"           | MALE THREADED ELBOW - MALE BEND 90 (MB) 90 x 3"     | 0796 2640 316                            |
| 110 x 4"          | MALE THREADED ELBOW - MALE BEND 90 (MB) 110 x 4"    | 0796 2640 317                            |

### Female threaded elbow – FB



| Size<br>mm x inch | Designation                                             | Polypropylene homopolymer<br>Product No. |
|-------------------|---------------------------------------------------------|------------------------------------------|
| 20 x 1/2"         | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 20 x 1/2"   | 0796 2651 051                            |
| 20 x 3/4"         | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 20 x 3/4"   | 0796 2651 054                            |
| 25 x 1/2"         | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 25 x 1/2"   | 0796 2651 056                            |
| 25 x 3/4"         | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 25 x 3/4"   | 0796 2651 059                            |
| 25 x 1"           | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 25 x 1"     | 0796 2651 061                            |
| 32 x 1/2"         | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 32 x 1/2"   | 0796 2651 063                            |
| 32 x 3/4"         | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 32 x 3/4"   | 0796 2651 065                            |
| 32 x 1"           | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 32 x 1"     | 0796 2651 068                            |
| 32 x 1 1/4"       | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 32 x 1 1/4" | 0796 2651 070                            |
| 40 x 1"           | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 40 x 1"     | 0796 2651 072                            |
| 40 x 1 1/4"       | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 40 x 1 1/4" | 0796 2651 074                            |
| 40 x 1 1/2"       | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 40 x 1 1/2" | 0796 2651 076                            |
| 50 x 1 1/4"       | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 50 x 1 1/4" | 0796 2651 078                            |
| 50 x 1 1/2"       | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 50 x 1 1/2" | 0796 2651 080                            |
| 50 x 2"           | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 50 x 2"     | 0796 2651 082                            |
| 63 x 1 1/2"       | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 63 x 1 1/2" | 0796 2651 084                            |
| 63 x 2"           | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 63 x 2"     | 0796 2651 086                            |
| 75 x 2 1/2"       | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 75 x 2 1/2" | 0796 2640 299                            |
| 90 x 3"           | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 90 x 3"     | 0796 2640 301                            |
| 110 x 4"          | FEMALE THREADED ELBOW - FEMALE BEND 90 (FB) 110 x 4"    | 0796 2640 303                            |

### Straight coupler – SC



| Size<br>mm x inch | Designation               | Polypropylene homopolymer<br>Product No. |
|-------------------|---------------------------|------------------------------------------|
| 20                | STRAIGHT COUPLER (SC) 20  | 0796 2651 191                            |
| 25                | STRAIGHT COUPLER (SC) 25  | 0796 2651 192                            |
| 32                | STRAIGHT COUPLER (SC) 32  | 0796 2651 193                            |
| 40                | STRAIGHT COUPLER (SC) 40  | 0796 2651 194                            |
| 50                | STRAIGHT COUPLER (SC) 50  | 0796 2651 195                            |
| 63                | STRAIGHT COUPLER (SC) 63  | 0796 2651 196                            |
| 75                | STRAIGHT COUPLER (SC) 75  | 0796 2640 334                            |
| 90                | STRAIGHT COUPLER (SC) 90  | 0796 2640 335                            |
| 110               | STRAIGHT COUPLER (SC) 110 | 0796 2640 336                            |

### Equal bend – EB



| Size<br>mm x inch | Designation         | Polypropylene homopolymer<br>Product No. |
|-------------------|---------------------|------------------------------------------|
| 20                | EQUAL BEND (EB) 20  | 0796 2650 998                            |
| 25                | EQUAL BEND (EB) 25  | 0796 2650 999                            |
| 32                | EQUAL BEND (EB) 32  | 0796 2651 000                            |
| 40                | EQUAL BEND (EB) 40  | 0796 2651 001                            |
| 50                | EQUAL BEND (EB) 50  | 0796 2651 002                            |
| 63                | EQUAL BEND (EB) 63  | 0796 2651 003                            |
| 75                | EQUAL BEND (EB) 75  | 0796 2640 281                            |
| 90                | EQUAL BEND (EB) 90  | 0796 2640 282                            |
| 110               | EQUAL BEND (EB) 110 | 0796 2640 283                            |

### Equal tee – ET



| Size<br>mm x inch | Designation        | Polypropylene homopolymer<br>Product No. |
|-------------------|--------------------|------------------------------------------|
| 20                | EQUAL TEE (ET) 20  | 0796 2651 010                            |
| 25                | EQUAL TEE (ET) 25  | 0796 2651 011                            |
| 32                | EQUAL TEE (ET) 32  | 0796 2651 012                            |
| 40                | EQUAL TEE (ET) 40  | 0796 2651 013                            |
| 50                | EQUAL TEE (ET) 50  | 0796 2651 014                            |
| 63                | EQUAL TEE (ET) 63  | 0796 2651 015                            |
| 75                | EQUAL TEE (ET) 75  | 0796 2640 287                            |
| 90                | EQUAL TEE (ET) 90  | 0796 2640 288                            |
| 110               | EQUAL TEE (ET) 110 | 0796 2640 289                            |

### End cap – EC



| Size<br>mm x inch | Designation      | Polypropylene homopolymer<br>Product No. |
|-------------------|------------------|------------------------------------------|
| 20                | END CAP (EC) 20  | 0796 2651 004                            |
| 25                | END CAP (EC) 25  | 0796 2651 005                            |
| 32                | END CAP (EC) 32  | 0796 2651 006                            |
| 40                | END CAP (EC) 40  | 0796 2651 007                            |
| 50                | END CAP (EC) 50  | 0796 2651 008                            |
| 63                | END CAP (EC) 63  | 0796 2651 009                            |
| 75                | END CAP (EC) 75  | 0796 2640 284                            |
| 90                | END CAP (EC) 90  | 0796 2640 285                            |
| 110               | END CAP (EC) 110 | 0796 2640 286                            |

### Reducing coupler – RC



| Size<br>mm x inch | Designation                    | Polypropylene homopolymer<br>Product No. |
|-------------------|--------------------------------|------------------------------------------|
| 25 x 20           | REDUCING COUPLER (RC) 25 x 20  | 0796 2651 166                            |
| 32 x 20           | REDUCING COUPLER (RC) 32 x 20  | 0796 2651 167                            |
| 32 x 25           | REDUCING COUPLER (RC) 32 x 25  | 0796 2651 168                            |
| 40 x 20           | REDUCING COUPLER (RC) 40 x 20  | 0796 2651 169                            |
| 40 x 25           | REDUCING COUPLER (RC) 40 x 25  | 0796 2651 170                            |
| 40 x 32           | REDUCING COUPLER (RC) 40 x 32  | 0796 2651 171                            |
| 50 x 20           | REDUCING COUPLER (RC) 50 x 20  | 0796 2651 172                            |
| 50 x 25           | REDUCING COUPLER (RC) 50 x 25  | 0796 2651 173                            |
| 50 x 32           | REDUCING COUPLER (RC) 50 x 32  | 0796 2651 174                            |
| 50 x 40           | REDUCING COUPLER (RC) 50 x 40  | 0796 2651 175                            |
| 63 x 25           | REDUCING COUPLER (RC) 63 x 25  | 0796 2651 176                            |
| 63 x 32           | REDUCING COUPLER (RC) 63 x 32  | 0796 2651 177                            |
| 63 x 40           | REDUCING COUPLER (RC) 63 x 40  | 0796 2651 178                            |
| 63 x 50           | REDUCING COUPLER (RC) 63 x 50  | 0796 2651 179                            |
| 75 x 40           | REDUCING COUPLER (RC) 75 x 40  | 0796 2640 322                            |
| 75 x 50           | REDUCING COUPLER (RC) 75 x 50  | 0796 2640 323                            |
| 75 x 63           | REDUCING COUPLER (RC) 75 x 63  | 0796 2640 324                            |
| 90 x 63           | REDUCING COUPLER (RC) 90 x 63  | 0796 2640 325                            |
| 90 x 75           | REDUCING COUPLER (RC) 90 x 75  | 0796 2640 326                            |
| 110 x 90          | REDUCING COUPLER (RC) 110 x 90 | 0796 2640 327                            |

### Reducing tee – RT



| Size<br>mm x inch | Designation                | Polypropylene homopolymer<br>Product No. |
|-------------------|----------------------------|------------------------------------------|
| 25 x 20           | REDUCING TEE (RT) 25 x 20  | 0796 2651 180                            |
| 32 x 20           | REDUCING TEE (RT) 32 x 20  | 0796 2651 181                            |
| 32 x 25           | REDUCING TEE (RT) 32 x 25  | 0796 2651 182                            |
| 40 x 25           | REDUCING TEE (RT) 40 x 25  | 0796 2651 183                            |
| 40 x 32           | REDUCING TEE (RT) 40 x 32  | 0796 2651 184                            |
| 50 x 25           | REDUCING TEE (RT) 50 x 25  | 0796 2651 185                            |
| 50 x 32           | REDUCING TEE (RT) 50 x 32  | 0796 2651 186                            |
| 50 x 40           | REDUCING TEE (RT) 50 x 40  | 0796 2651 187                            |
| 63 x 32           | REDUCING TEE (RT) 63 x 32  | 0796 2651 188                            |
| 63 x 40           | REDUCING TEE (RT) 63 x 40  | 0796 2651 189                            |
| 63 x 50           | REDUCING TEE (RT) 63 x 50  | 0796 2651 190                            |
| 75 x 40           | REDUCING TEE (RT) 75 x 40  | 0796 2640 328                            |
| 75 x 50           | REDUCING TEE (RT) 75 x 50  | 0796 2640 329                            |
| 75 x 63           | REDUCING TEE (RT) 75 x 63  | 0796 2640 330                            |
| 90 x 63           | REDUCING TEE (RT) 90 x 63  | 0796 2640 331                            |
| 90 x 75           | REDUCING TEE (RT) 90 x 75  | 0796 2640 332                            |
| 110 x 90          | REDUCING TEE (RT) 110 x 90 | 0796 2640 333                            |

### Flange adaptor – FLA



| Size<br>mm x inch | Designation                      | Polypropylene homopolymer<br>Product No. |
|-------------------|----------------------------------|------------------------------------------|
| 63 x 50DN         | FLANGE ADAPTOR (FLA) 63 x 50DN   | 0796 2600 004                            |
| 90 x 80DN         | FLANGE ADAPTOR (FLA) 90 x 80DN   | 0796 2600 005                            |
| 110 x 100DN       | FLANGE ADAPTOR (FLA) 110 x 100DN | 0796 2600 006                            |

### Pop-up Equal bend – PE



| Size<br>mm x inch | Designation                      | Polypropylene homopolymer<br>Product No. |
|-------------------|----------------------------------|------------------------------------------|
| 20 x 1/2"         | POP-UP EQUAL BEND (PE) 20 x 1/2" | 0796 2030 181                            |
| 25 x 1/2"         | POP-UP EQUAL BEND (PE) 25 x 1/2" | 0796 2030 182                            |
| 32 x 3/4"         | POP-UP EQUAL BEND (PE) 32 x 3/4" | 0796 2030 183                            |

### Wall plate elbow – WPE



| Size<br>mm x inch | Designation                      | Polypropylene homopolymer<br>Product No. |
|-------------------|----------------------------------|------------------------------------------|
| 25 x 3/4"         | WALL PLATE ELBOW (WPE) 25 x 3/4" | 0796 2030 360                            |

### Male threaded adaptor with brass insert – MAB



| Size<br>mm x inch | Designation                                             | Polypropylene homopolymer<br>Product No. |
|-------------------|---------------------------------------------------------|------------------------------------------|
| 20 x 1/2"         | MALE THREADED ADAPTOR WITH BRASS INSERT (MAB) 20 x 1/2" | 0796 2651 119                            |
| 25 x 3/4"         | MALE THREADED ADAPTOR WITH BRASS INSERT (MAB) 25 x 3/4" | 0796 2651 123                            |
| 25 x 1"           | MALE THREADED ADAPTOR WITH BRASS INSERT (MAB) 25 x 1"   | 0796 2651 125                            |
| 32 x 1"           | MALE THREADED ADAPTOR WITH BRASS INSERT (MAB) 32 x 1"   | 0796 2651 129                            |

### Female threaded adaptor with brass insert – FAB

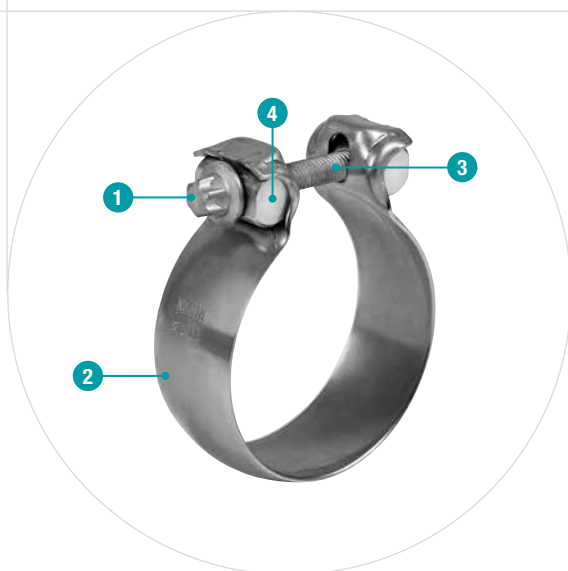


| Size<br>mm x inch | Designation                                               | Polypropylene homopolymer<br>Product No. |
|-------------------|-----------------------------------------------------------|------------------------------------------|
| 20 x 1/2"         | FEMALE THREADED ADAPTOR WITH BRASS INSERT (FAB) 20 x 1/2" | 0796 2651 017                            |
| 25 x 3/4"         | FEMALE THREADED ADAPTOR WITH BRASS INSERT (FAB) 25 x 3/4" | 0796 2651 024                            |
| 25 x 1"           | FEMALE THREADED ADAPTOR WITH BRASS INSERT (FAB) 25 x 1"   | 0796 2651 027                            |
| 32 x 1"           | FEMALE THREADED ADAPTOR WITH BRASS INSERT (FAB) 32 x 1"   | 0796 2651 032                            |

### Female threaded bend with brass insert – FBB



| Size<br>mm x inch | Designation                                            | Polypropylene homopolymer<br>Product No. |
|-------------------|--------------------------------------------------------|------------------------------------------|
| 20 x 3/4"         | FEMALE THREADED BEND WITH BRASS INSERT (FBB) 20 x 3/4" | 0796 2651 053                            |
| 25 x 3/4"         | FEMALE THREADED BEND WITH BRASS INSERT (FBB) 25 x 3/4" | 0796 2651 058                            |
| 32 x 1"           | FEMALE THREADED BEND WITH BRASS INSERT (FBB) 32 x 1"   | 0796 2651 067                            |



- 1 Torx screw with integrated washer**  
– makes installation and removal easier
- 2 Band adapted to fit ball-shaped flange connections**  
– system works in perfect harmony
- 3 Free from chromium(VI); easy-slide coating**  
– improved clamping force
- 4 Solid trunnion, chromium(VI)-free coating**  
– high temperature resistance, maintains high clamping force levels

## Ball zone exhaust gas clamps

NORMACONNECT® SEC ball zone exhaust gas clamps are the ideal solution when it comes to making connections in central and rear exhaust gas areas. When used in conjunction with flange joints, it is possible to swivel silencers during installation.

### Advantages at a glance

- Angle compensation in exhaust gas system
- Silencers can be swiveled during installation
- Installation and removal conditions easier to work with thanks to increased flexibility of overall system
- Higher torsion moments than conventional ball-shaped flange connections
- Low leakage rate
- Low weight

### Applications

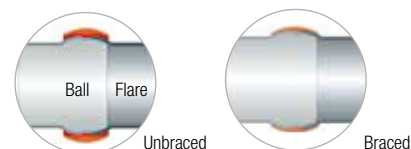
- Agricultural machines
- Building Machines
- Engine manufacturing

### Materials

| W1       | W2                                         | W3 | W4 | W5 |
|----------|--------------------------------------------|----|----|----|
|          | x                                          |    |    |    |
| Material | Corrosion resistance in salt spray testing |    |    |    |
| W2       | Min. 96 h                                  |    |    |    |

### Bolts

The scope of delivery does not include fastening bolts or nuts. Sizes M8 or M10 are required.



### Technical data & Ordering information

| NORMACONNECT® SEC |                     |           |                         |               |                |
|-------------------|---------------------|-----------|-------------------------|---------------|----------------|
| Designation       | Pipe diameter Inner |           | Clamping diameter in mm | Flange radius | W2 Product No. |
|                   | in mm               | in inches |                         |               |                |
| SEC 55            | 55                  | 2 3/16    | 65                      | 32.5          | 0595 0312 055  |
| SEC 60            | 60                  | 2 3/8     | 69.5                    | 35            | 0595 0312 060  |
| SEC 65            | 65                  | 2 9/16    | 75                      | 37.6          | 0595 0312 065  |
| SEC 70            | 70                  | 2 3/4     | 81.5                    | 40.2          | 0595 0312 070  |

Additional diameters on request



- 1 **M8, M10 & M12 bolts available as alternatives**  
– depending on clamping force requirements
- 2 **Clamp band in one piece**  
– contact surface meets pipe consistently  
– even contact pressure over the entire pipe circumference  
– excellent sealing properties
- 3 **Single-bolt closure**  
– easy installation
- 4 **Rounded band edges**  
– pipe protection  
– prevents risk of injuries

## Exhaust pipe clamps

ARS exhaust pipe clamps provide a secure, reliable connection for pipes that are fitted into one another, even those that are subject to significant temperature fluctuations. As such, they are particularly suitable for connecting exhaust pipes and silencers in the automotive industry.



### Advantages at a glance

- One piece
- Contact surface meets pipe consistently
- Even contact pressure over entire pipe circumference
- No risk of asymmetrical pipe deformation

### Applications

- Agricultural machines
- Building machines
- Engine manufacturing

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  | x* |    | x* | x* |

\* On request.

| Material | Corrosion resistance in salt spray testing |
|----------|--------------------------------------------|
| W1       | Min. 144 h                                 |

### Bolts

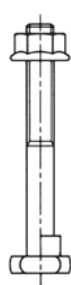
| Bolt | Hammer head bolt/Flange nut | Hexagon-head bolt/Flange nut | Hexagon-head bolt/Hexagon | Loose washer * |
|------|-----------------------------|------------------------------|---------------------------|----------------|
| M8   | X                           | X                            |                           | X **           |
| M10  |                             |                              | X                         | X              |
| M12  |                             |                              | X                         | X              |

\* Under bolt head and under bolt nut.

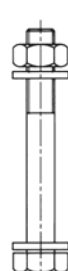
\*\* Under bolt head (select nominal diameters only).



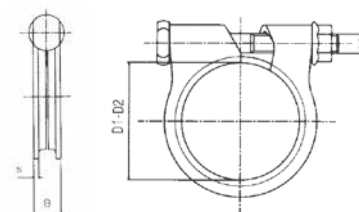
M8 version with hammer head bolt.



M10 and M12 version with hexagon-head bolt.



## Technical data &amp; Ordering information



## NORMACONNECT® ARS

| Designation | Clamping ranges<br>D1–D2 in mm | S   | B    | Recommended<br>tightening torque | W1<br>Product No. |
|-------------|--------------------------------|-----|------|----------------------------------|-------------------|
| ARS-M8-27   | 24-27                          | 1.5 | 10.4 | 8–10 Nm                          | 0151 8939 027     |
| ARS-M8-33   | 30-33                          | 1.5 | 10.4 |                                  | 0151 8939 033     |
| ARS-M8-36   | 33-36                          | 2.0 | 12.8 | 10–15 Nm                         | 0151 8940 036     |
| ARS-M8-39.5 | 36.5-39.5                      | 2.0 | 12.0 |                                  | 0151 8940 040     |
| ARS-M8-42   | 39-42                          | 2.0 | 12.8 |                                  | 0151 8940 042     |
| ARS-M8-45   | 42-45                          | 2.5 | 13.6 |                                  | 0151 8941 045     |
| ARS-M8-46   | 43-46                          | 2.5 | 12.8 | 15-20 Nm                         | 0151 8941 046     |
| ARS-M8-47   | 44-47                          | 2.5 | 13.6 |                                  | 0151 8941 047     |
| ARS-M8-48   | 45-49                          | 2.5 | 13.2 |                                  | 0151 8941 048     |
| ARS-M8-49   | 48-51                          | 2.5 | 13.2 |                                  | 0151 8941 049     |
| ARS-M8-50.5 | 51-54                          | 2.5 | 13.2 |                                  | 0151 8941 505     |
| ARS-M8-51   | 52-55                          | 2.5 | 13.2 |                                  | 0151 8941 051     |
| ARS-M8-54   | 55-58                          | 2.5 | 13.2 |                                  | 0151 8941 054     |
| ARS-M8-55   | 55-58                          | 2.5 | 13.6 |                                  | 0151 8941 055     |
| ARS-M8-58   | 61-64                          | 2.5 | 13.2 |                                  | 0151 8941 058     |
| ARS-M8-64   | 63-66                          | 2.5 | 13.2 |                                  | 0151 8941 064     |
| ARS-M8-71   | 68-71                          | 2.5 | 13.2 | 35-40 Nm                         | 0151 8941 071     |
| ARS-M10-71  | 67-71.5                        | 3.0 | 13.2 |                                  | 0161 8939 071     |
| ARS-M12-114 | 106-114                        | 3.0 | 19.0 |                                  | 0181 8079 114     |
| ARS-M12-145 | 137.5-144.5                    | 3.0 | 19.0 |                                  | 0181 8941 145     |



- 1 Option of attaching a lug**  
– clamp can also function as a fixing clip or retaining clamp
- 2 Clamp supplied without bolts**  
– bolts can be selected individually
- 3 Straightforward clamp structure**  
– pipe protection  
– easy to handle

## Exhaust pipe clamps in accordance with DIN 71555

NORMACONNECT® RS/DIN exhaust pipe clamps are an alternative to NORMACONNECT® ARS clamps. They ensure an equally secure connection for pipes that are fitted into one another. Additionally, the straightforward clamp structure of the RS/DIN version allows a lug to be attached to it, meaning that it can also be used as a fixing clip.



### Advantages at a glance

- Safe system for connecting pipes that are fitted to one another
- Can also be used as a fixing clip or retaining clamp
- In accordance with DIN 71555

### Applications

- Agricultural machines
- Building machines
- Engine manufacturing

### Materials

| W1 | W2 | W3  | W4  | W5  |
|----|----|-----|-----|-----|
| x  |    | x * | x * | x * |

\* On request.

| Material | Corrosion resistance in salt spray testing |
|----------|--------------------------------------------|
| W1       | Min. 144 h                                 |

### Bolts

The scope of delivery does not include fastening bolts or nuts. Sizes M8 or M10 are required.

## Technical data & Ordering information

| NORMACONNECT® RS/DIN |                    |                         |                |
|----------------------|--------------------|-------------------------|----------------|
| Band width           | Designation        | Clamping diameter in mm | W1 Product No. |
| 20                   | RS 30.2 DIN 71555  | 30.2                    | 0550 7000 030  |
|                      | RS 32.2 DIN 71555  | 32.2                    | 0550 7000 032  |
|                      | RS 35.2 DIN 71555  | 35.2                    | 0550 7000 035  |
|                      | RS 37.2 DIN 71555  | 37.2                    | 0550 7000 037  |
| 25                   | RS 40.3 DIN 71555  | 40.3                    | 0550 7000 040  |
|                      | RS 42.3 DIN 71555  | 42.3                    | 0550 7000 042  |
|                      | RS 45.5 DIN 71555  | 45.5                    | 0550 7000 045  |
|                      | RS 48.5 DIN 71555  | 48.5                    | 0550 7000 048  |
|                      | RS 50.5 DIN 71555  | 50.5                    | 0550 7000 050  |
|                      | RS 53.5 DIN 71555  | 53.5                    | 0550 7000 053  |
|                      | RS 55.5 DIN 71555  | 55.5                    | 0550 7000 055  |
|                      | RS 58.5 DIN 71555  | 58.5                    | 0550 7000 058  |
|                      | RS 60.5 DIN 71555  | 60.5                    | 0550 7000 060  |
|                      | RS 63.5 DIN 71555  | 63.5                    | 0550 7000 063  |
|                      | RS 65.5 DIN 71555  | 65.5                    | 0550 7000 065  |
|                      | RS 68.5 DIN 71555  | 68.5                    | 0550 7000 068  |
| 30                   | RS 70.5 DIN 71555  | 70.5                    | 0550 7000 070  |
|                      | RS 73.5 DIN 71555  | 73.5                    | 0550 7000 073  |
|                      | RS 75.5 DIN 71555  | 75.5                    | 0550 7000 075  |
|                      | RS 78.5 DIN 71555  | 78.5                    | 0550 7000 078  |
|                      | RS 85.5 DIN 71555  | 85.5                    | 0550 7000 085  |
|                      | RS 89.5 DIN 71555  | 89.5                    | 0550 7000 089  |
|                      | RS 90.5 DIN 71555  | 90.5                    | 0550 7000 090  |
|                      | RS 94.5 DIN 71555  | 94.5                    | 0550 7000 094  |
|                      | RS 100.5 DIN 71555 | 100.5                   | 0550 7000 100  |
|                      | RS 104.5 DIN 71555 | 104.5                   | 0550 7000 104  |
|                      | RS 110.5 DIN 71555 | 110.5                   | 0550 7000 110  |



- 1 High-strength fastener hardware with corrosion-resistant coating
- 2 Easy to assemble, only one assembly torque point
- 3 Smooth band

### Unique seal clamp

The AccuSeal offers an innovative reaction block technology to provide a full 360 degree equal distribution of stretching force, prohibiting pipe distortion while completing a unique seal around the joined exhaust components with high clamp load. The exhaust connections are serviceable and easy to disassemble.



#### Advantages at a glance

- Simple, effective way to connect exhaust system components
- Unique seal and high clamp loads are provided without permanent distortion to exhaust members
- Provides joint serviceability
- Durable installation without damage to pipe ends
- Designed for part-in-assembly attachment
- Superior clamp load capability

#### Applications

- For connecting exhaust system components
- Assembled, serviceable joint for use on all slotted rigid pipe
- Pipes, mufflers and converters

#### Materials

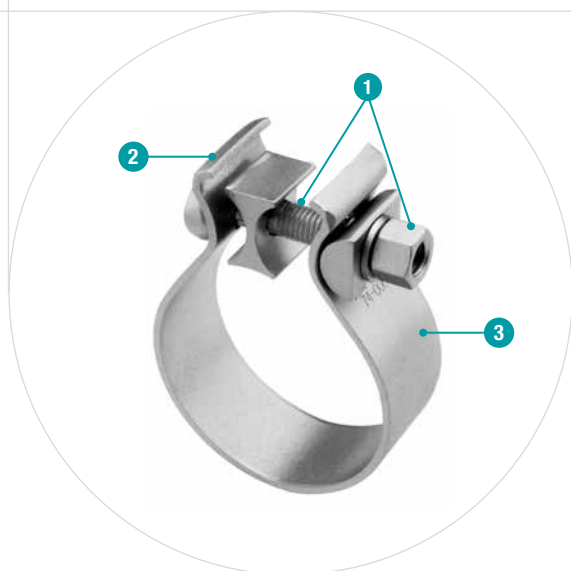
| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    | x  |    |    |

#### Information

- Features 47.0 mm (1.85") band up to 70.6 mm (2.78")

## Technical data & Ordering information

| NORMACONNECT® ACCUSEAL |                |           |                   |                   |
|------------------------|----------------|-----------|-------------------|-------------------|
| Description            | Clamping range |           | W1<br>Product No. | W3<br>Product No. |
|                        | in mm          | in inches |                   |                   |
| ACCUSEAL 47.0          | 47.0           | 1.85      |                   | 0366 6100 470     |
| ACCUSEAL 47.6          | 47.6           | 1.87      |                   | 0366 6100 476     |
| ACCUSEAL 50.0          | 50.0           | 1.97      | 0366 6100 500     | 0366 6120 500     |
| ACCUSEAL 50.6          | 50.6           | 1.99      | 0366 6110 506     | 0366 6100 506     |
| ACCUSEAL 52.0          | 52.0           | 2.05      |                   | 0366 6100 520     |
| ACCUSEAL 53.0          | 53.0           | 2.09      |                   | 0366 6100 530     |
| ACCUSEAL 53.6          | 53.6           | 2.11      | 0366 6120 536     | 0366 6110 536     |
| ACCUSEAL 53.6          | 53.6           | 2.11      |                   | 0366 6100 536     |
| ACCUSEAL 54.9          | 54.9           | 2.16      | 0366 6120 549     | 0366 6100 549     |
| ACCUSEAL 55.5          | 55.5           | 2.19      |                   | 0366 6100 555     |
| ACCUSEAL 55.6          | 55.6           | 2.19      |                   | 0366 6130 556     |
| ACCUSEAL 55.6          | 55.6           | 2.19      |                   | 0366 6140 556     |
| ACCUSEAL 55.7          | 55.7           | 2.19      |                   | 0366 6110 557     |
| ACCUSEAL 56.0          | 56.0           | 2.20      | 0366 6100 560     |                   |
| ACCUSEAL 56.4          | 56.4           | 2.22      | 0366 6100 564     | 0366 6110 564     |
| ACCUSEAL 57.6          | 57.6           | 2.27      |                   | 0366 6110 576     |
| ACCUSEAL 58.7          | 58.7           | 2.31      |                   | 0366 6110 587     |
| ACCUSEAL 59.2          | 59.2           | 2.33      |                   | 0366 6000 592     |
| ACCUSEAL 59.4          | 59.4           | 2.34      | 0366 6110 594     | 0366 6120 594     |
| ACCUSEAL 59.7          | 59.7           | 2.35      |                   | 0366 6100 597     |
| ACCUSEAL 60.0          | 60.0           | 2.36      |                   | 0366 6110 600     |
| ACCUSEAL 60.3          | 60.3           | 2.37      |                   | 0366 6110 603     |
| ACCUSEAL 60.5          | 60.5           | 2.38      |                   | 0366 6100 605     |
| ACCUSEAL 60.6          | 60.6           | 2.39      |                   | 0366 6110 606     |
| ACCUSEAL 61.4          | 61.4           | 2.42      | 0366 6100 614     |                   |
| ACCUSEAL 61.6          | 61.6           | 2.43      |                   | 0366 6100 616     |
| ACCUSEAL 62.1          | 62.1           | 2.44      | 0366 6140 621     | 0366 6110 621     |
| ACCUSEAL 62.3          | 62.3           | 2.45      |                   | 0366 6100 623     |
| ACCUSEAL 62.9          | 62.9           | 2.48      | 0366 6100 629     | 0366 6120 629     |
| ACCUSEAL 64.9          | 64.9           | 2.56      | 0366 6100 649     | 0366 6110 649     |
| ACCUSEAL 65.3          | 65.3           | 2.57      |                   | 0366 6100 653     |
| ACCUSEAL 65.6          | 65.6           | 2.58      | 0366 6100 656     | 0366 6110 656     |
| ACCUSEAL 66.8          | 66.8           | 2.63      |                   | 0366 6120 668     |
| ACCUSEAL 68.4          | 68.4           | 2.69      |                   | 0366 6100 684     |
| ACCUSEAL 68.9          | 68.9           | 2.71      | 0366 6100 689     |                   |
| ACCUSEAL 69.1          | 69.1           | 2.72      |                   | 0366 6100 691     |
| ACCUSEAL 69.4          | 69.4           | 2.73      | 0366 6100 694     |                   |
| ACCUSEAL 69.7          | 69.7           | 2.74      |                   | 0366 6100 697     |
| ACCUSEAL 69.9          | 69.9           | 2.75      |                   | 0366 6110 699     |
| ACCUSEAL 70.6          | 70.6           | 2.78      | 0366 6110 706     | 0366 6120 706     |



- 1** High-strength fastener hardware with corrosive resistant coating
- 2** Improved clamp performance for thicker pipes on larger pipe gaps
- 3** Easy to assemble, only one assembly torque point

## Extra seal clamp

The DuraSeal offers extra seal and clamp load performance to meet or exceed durability requirements without permanent distortion to exhaust members. Designed for applications with thicker pipe walls and larger pipe assembly gaps, it is ideal for applications with limited packaging space.



### Advantages at a glance

- Exclusive reaction block provides a full 360° distribution
- Simple, effective way to connect exhaust system components
- Designed for part-in-assembly pre-attachment
- Pre-assembled for easy installation
- Provides joint serviceability; no permanent distortion

### Applications

- For high durability requirements
- Improved clamp performance for applications with thicker pipe walls and larger pipe assembly gaps
- Ideal for applications with limited packaging space
- Pipes, mufflers and converters

### Materials

- 409 stainless steel
- 304 stainless steel (on request)

### Information

- Diameter range: 50.8 mm (2") up to 127 mm (5")
- 7.9 mm (5/16") slotted hex screw

## Technical data & Ordering information

| NORMACONNECT® DURASEAL |           |           |                                    |
|------------------------|-----------|-----------|------------------------------------|
| Designation            | Diameters |           | 409 Stainless Steel<br>Product No. |
|                        | in mm     | in inches |                                    |
| DURASEAL 50.8          | 50.8      | 2         | 0371 0001 056                      |
| DURASEAL 57.15         | 57.15     | 2.25      | 0371 0001 062                      |
| DURASEAL 63.5          | 63.5      | 2.5       | 0371 0003 068                      |
| DURASEAL 69.85         | 69.85     | 2.75      | 0371 0003 075                      |
| DURASEAL 76.2          | 76.2      | 3         | 0371 0004 081                      |
| DURASEAL 88.9          | 88.9      | 3.5       | 0371 0000 093                      |
| DURASEAL 101.6         | 101.6     | 4         | 0371 0001 107                      |
| DURASEAL 114.3         | 114.3     | 5         | 0371 0000 132                      |



- 1 Provides OE with a robust design alternative to flat flange
- 2 Provides rotational and axial alignment flexibility

### Robust alternative clamp

The AccuLock exhaust clamp provides a robust alternative to flat flanges with enhanced assembly flexibility, lower weight and improved overall value. Designed for use in low leak, pre-after treatment (catalyst) applications. Uses less space than a flat flange joint and has positive axial retention.

#### Advantages at a glance

- Enhanced assembly flexibility, lower weight, improved overall value
- Positive axial retention
- Uses less space than a flat flange joint

#### Applications

- Designed for use in low leak, pre-after treatment (catalyst) applications

#### Materials

- Aluminized steel
- 409 stainless steel
- 430 stainless steel

#### Information

- Available in standard industry sizes from 45 mm (1 - 1/4") up to 127 mm (5")

### Technical data & Ordering information

| NORMACONNECT® ACCULOCK |           |           |                                 |                                    |                                    |
|------------------------|-----------|-----------|---------------------------------|------------------------------------|------------------------------------|
| Designation            | Diameters |           | Aluminized Steel<br>Product No. | 409 Stainless Steel<br>Product No. | 430 Stainless Steel<br>Product No. |
|                        | in mm     | in inches |                                 |                                    |                                    |
| ACCULOCK 88.9          | 88.9      | 3.5       | 0370 0002 089                   | 0370 0000 089                      |                                    |
| ACCULOCK 55            | 55        | 2.2       | 0370 0000 055                   |                                    |                                    |
| ACCULOCK 63.5          | 63.5      | 2.5       | 0370 0001 064                   |                                    |                                    |
| ACCULOCK 336.8         | 336.8     | 13.3      |                                 |                                    | 0370 0001 337                      |
| ACCULOCK 362.2         | 362.2     | 14.3      |                                 |                                    | 0370 0001 362                      |
| ACCULOCK 387.6         | 387.6     | 15.3      |                                 |                                    | 0370 0001 388                      |



- 1 High-strength fastener hardware with corrosion-resistant coating
- 2 Exclusive reaction block
- 3 Indexed interior band provides a superior joint seal

## Joining exhaust system components

The Coupler is an effective way to join exhaust system components without the need for pipe flares/slip joints or slotting. This clamp offers superior clamp load capability and a serviceable joint. Allows for quick assembly and service of exhaust pipes. It provide significant resistance to longitudinal and rotational movement of pipes.

### Advantages at a glance

- No need for pipe sizing or slotting
- Provides a serviceable joint. No permanent distortion of exhaust members
- No loose hardware
- Allows assembly & service without longitudinal movement of pipe members
- Overall width 87.95mm
- Does not require pipe overlap
- Eliminated the need for sizing and slotting of pipe members

### Applications

- Effective alternative for joining high performance exhaust components

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    |    | x  |    |    |

### Information

- Features 38 mm (1.50") diameter up to 65 mm (2.56")
- 15 mm fastener drive

## Technical data & Ordering information

| NORMACONNECT® COUPLER |                |           |                   |
|-----------------------|----------------|-----------|-------------------|
| Description           | Clamping range |           | W3<br>Product No. |
|                       | in mm          | in inches |                   |
| COUPLER 38            | 38             | 1.50      | 0367 6102 038     |
| COUPLER 42            | 42             | 1.65      | 0367 6100 042     |
| COUPLER 45            | 45             | 1.77      | 0367 6102 045     |
| COUPLER 50            | 50             | 1.97      | 0367 6100 050     |
| COUPLER 55            | 55             | 2.17      | 0367 6100 055     |
| COUPLER 60            | 60             | 2.36      | 0367 6100 060     |
| COUPLER 65            | 65             | 2.56      | 0367 6100 065     |

## ACCUSEAL COUPLER

## Pipe Clamps – Exhaust Pipe Clamp



- 1 Unique designed slots provide optimal seal and joints retention performance
- 2 Unique fastening system stretches the band using its tensile strength permitting the use of thinner gauge, corrosive resistant materials

### Pipe based coupler

The NORMACONNECT® AccuSeal Coupler is a pipe-based coupler that is flexible in both length and diameter. With its unique seal and high clamp loads, permanent distortion to exhaust members is prevented.

#### Advantages at a glance

- Exclusive reaction block provides a 360 equal distribution of stretching forces, prohibiting pipe distortion while completing a seal around the joined exhaust components
- Efficient use of materials reduces weight and assembly costs

#### Applications

- Pipes, mufflers and converters

#### Materials

- 409 stainless steel
- 304 stainless steel

#### Technical data & Ordering information

| NORMACONNECT® ACCUSEAL COUPLER |           |      |          |            |
|--------------------------------|-----------|------|----------|------------|
| MALE - OD mm                   | FEMALE ID |      | Ferritic | Austenitic |
| 45                             | 45.3      | 45.8 | ALZ 45   | 304 45     |
| 50                             | 50.3      | 50.8 | ALZ 50   | 304 50     |
| 55                             | 55.3      | 55.8 | ALZ 55   | 304 55     |
| 60                             | 60.3      | 60.8 | ALZ 60   | 304 60     |
| 65                             | 65.3      | 65.8 | ALZ 65   | 304 65     |
| 70                             | 70.3      | 70.8 | ALZ 70   | 304 70     |
| 75                             | 75.3      | 75.8 | ALZ 75   | 304 75     |
| 80                             | 80.3      | 80.8 | ALZ 80   | 304 80     |
| 85                             | 85.3      | 85.8 | ALZ 85   | 304 85     |
| 90                             | 90.3      | 90.8 | ALZ 90   | 304 90     |



1 Pre-mounted screw and nuts

## Exhaust system pipe clamp

The NORMACONNECT® Pipe clamp M8 meets quality standards, which are suitable for use with a wide range of pipe diameters. Pipe clamps are not used only in exhaust systems.

### Advantages at a glance

- Hexagonal wheel for better maintenance of the U
- Completely assembled
- Suitable for use with a wide range of pipe diameters

### Applications

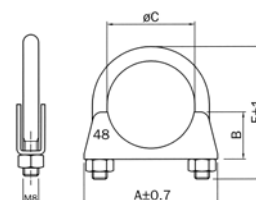
- Exhaust systems
- Mounting of signage
- TV antennas/aerials

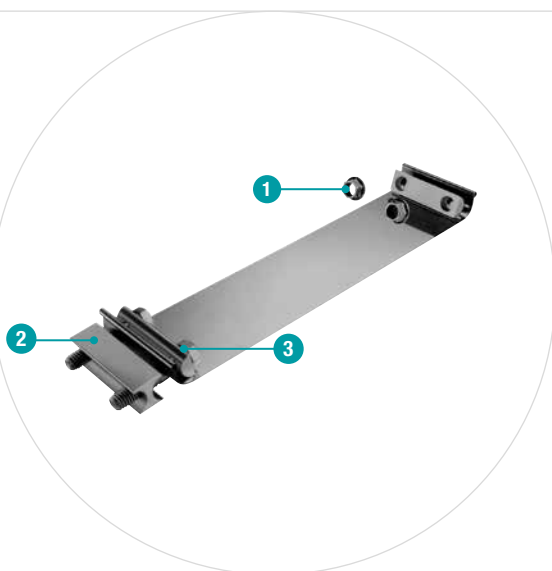
### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    |    |    |    |

### Technical data & Ordering information

| NORMACONNECT® PIPE CLAMP M8 |                |        |      |    |      |                |
|-----------------------------|----------------|--------|------|----|------|----------------|
| Designation                 | Diameter in mm | A± 0.7 | B    | C  | E± 1 | W1 Product No. |
| PIPE CLAMP M8 25            | 25             | 50     | 16   | 25 | 52   | 0152 0000 025  |
| PIPE CLAMP M8 28            | 28             | 53     | 17.5 | 28 | 54   | 0152 0000 028  |
| PIPE CLAMP M8 32            | 32             | 57     | 19   | 32 | 60   | 0152 0000 032  |
| PIPE CLAMP M8 35            | 35             | 60     | 20   | 35 | 63   | 0152 0000 035  |
| PIPE CLAMP M8 38            | 38             | 63     | 22   | 38 | 65   | 0152 0000 038  |
| PIPE CLAMP M8 42            | 42             | 67     | 23.5 | 42 | 69   | 0152 0000 042  |
| PIPE CLAMP M8 45            | 45             | 70     | 25.5 | 45 | 71   | 0152 0000 045  |
| PIPE CLAMP M8 48            | 48             | 73     | 26   | 48 | 73   | 0152 0000 048  |
| PIPE CLAMP M8 51            | 51             | 76     | 26.5 | 51 | 76   | 0152 0000 051  |
| PIPE CLAMP M8 54            | 54             | 79     | 28   | 54 | 79   | 0152 0000 054  |
| PIPE CLAMP M8 57            | 57             | 82.5   | 29   | 57 | 83   | 0152 0000 057  |





- 1 High-strength, plated Grade 8 fasteners
- 2 The original invented reaction block technology creates a complete “inner circle seal” when clamp is secured
- 3 Pre-attached hardware for fast, easy and accurate installation

## Wide band exhaust clamps

The EasySeal offers the best value in wideband exhaust clamps. Used for joining exhaust members of the same diameter. The unique design makes for fast, easy and accurate installation.

### Advantages at a glance

- Patented design makes for fast, easy and accurate installation - there's no need to separate pipes or exhaust members before clamping
- Replaced U-bolts and clamps
- With pre-attached hardware
- Ideal, service specific design
- Flat, packaged, easy to store
- Easy, fast, accurate installation
- Unique sealing performance
- Durable installation without damage to pipe ends

### Applications

- To connect exhaust system components

### Materials

- Band in bright finish stainless steel or matt finish aluminized carbon steel.

### Information

- Available in standard industry sizes from 50.8 mm (2") up to 203.2 mm (8")

### Technical data & Ordering information

| NORMACONNECT® EASYSEAL |           |           |                                    |
|------------------------|-----------|-----------|------------------------------------|
| Designation            | Diameters |           | 409 Stainless Steel<br>Product No. |
|                        | in mm     | in inches |                                    |
| EASYSEAL 50.8          | 50.8      | 2         | 0368 0000 051                      |
| EASYSEAL 57.15         | 57.15     | 2.25      | 0368 0000 056                      |
| EASYSEAL 63.5          | 63.5      | 2.5       | 0368 0000 064                      |
| EASYSEAL 69.85         | 69.85     | 2.75      | 0368 0000 069                      |
| EASYSEAL 76.2          | 76.2      | 3         | 0368 0000 076                      |
| EASYSEAL 88.9          | 88.9      | 3.5       | 0368 0000 089                      |
| EASYSEAL 101.6         | 101.6     | 4         | 0368 0000 102                      |
| EASYSEAL 114.3         | 114.3     | 5         | 0368 0000 114                      |
| EASYSEAL 127           | 127       | 5         | 0368 0000 127                      |
| EASYSEAL 152.4         | 152.4     | 6         | 0368 0000 152                      |
| EASYSEAL 177.8         | 177.8     | 7         | 0368 0000 178                      |
| EASYSEAL 203.2         | 203.2     | 8         | 0368 0000 203                      |



- 1 **Bridge**
  - good hose/sleeve coverage
- 2 **Design protects hoses/sleeves**
  - clamping force is distributed across a wide area
  - prevents damage to components being clamped
  - excellent transverse rigidity

## Wide-band hose clamps in accordance with DIN 3017-5

Used in conjunction with a rubber sleeve, BRS wide-band hose clamps are the ideal choice for connecting pipes with smooth ends. They connect cast iron and steel pipes just as securely as plastic or glass pipes and without any welding.

NORMACONNECT® wide-band hose and retaining clamps are produced with standardized band widths and materials. The progressive ratio is 1 mm in the case of a single-part version. Up to a clamping diameter of 300 mm, the clamps are supplied in rolled-up form. With clamping diameters of 301 mm and up, they are supplied in stretched-out form.

### Advantages at a glance

- Extremely wide band
- Clamping force distributed over a large area
- High level of transverse rigidity
- Single-part and multi-part versions

### Applications

- Machine building
- White goods
- Food and beverage industry
- Agricultural machines
- Engine manufacturing
- Exhaust air technology
- Suction systems
- Laboratory technology
- Drainage technology

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
|    | x  |    | x  |    |

| Material | Corrosion resistance in salt spray testing |
|----------|--------------------------------------------|
| W2       | Min. 72 h                                  |
| W4       | Min. 240 h                                 |

### Bolts

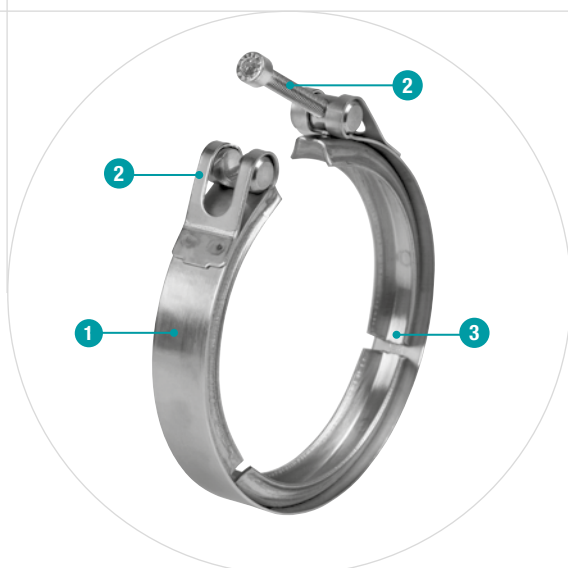
| NORMACONNECT® BRS |                      |                      |
|-------------------|----------------------|----------------------|
| Band width        | Sz in the case of W2 | Sk in the case of W4 |
|                   |                      |                      |
| 48                | M6 x 38 Sz           | M6 x 45 Sk           |
| 54                | M8 x 47 Sz           | M8 x 50 Sk           |
| 65                | M8 x 47 Sz           | M8 x 50 Sk           |

### Technical data

| NORMACONNECT® BRS |                        |                                |                          |     |
|-------------------|------------------------|--------------------------------|--------------------------|-----|
| Band width in mm  | Minimum diameter in mm | Static tightening torque in Nm | Material thickness in mm |     |
|                   |                        |                                | W2                       | W4  |
| 48                | 50                     | 4                              | 0.4                      | 0.5 |
| 54                | 50                     | 12                             | 0.4                      | 0.5 |
| 65                | 50                     | 12                             | 0.4                      | 0.5 |

### Ordering information

|         | 1. Type | 2. Clamping range | 3. Band width | 4. Material | 5. Bolt |
|---------|---------|-------------------|---------------|-------------|---------|
| Example | BRS     | 55                | 48            | W2          | Sz      |



- 1 Cover band**  
– optimum distribution of clamping forces
- 2 Closure**
- 3 3 profile segments**  
– ease of assembly



The SSV STC-type closure is a cost effective alternative to conventional T-bolt closures.

## Profile clamp with cover band

The V profile clamps are reliable and time-effective connection elements for industrial and automotive use. They are made to customer requirements and can be supplied with various profiles, band widths and closure types.

### Advantages at a glance

- Low friction losses
- Robust precision components
- Consistently high material quality
- State-of-the-art automated manufacturing
- Highly competitively priced

### Applications

- Automotive: Turbocharger – catalytic converter connection
- Automotive: Exhaust manifold
- Industry: Bulk material container
- Industry: Bypass filter unit

### Materials

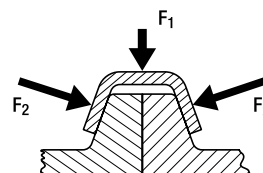
NORMACONNECT® SSV profile clamps are available in three material specifications:

| Code | Closures |     |     | Closure components      | Profile segments/<br>Cover band |
|------|----------|-----|-----|-------------------------|---------------------------------|
|      | STC      | QRC | SVS |                         |                                 |
| W2   | •        |     | •   | Mild steel, zinc plated | Stainless steel                 |
| W4   | •        | •   | •   | Stainless steel         |                                 |

| ISO           | DIN    | AISI | BS       | AFNOR       |
|---------------|--------|------|----------|-------------|
| X5 CrNi 18-10 | 1.4301 | 304  | 304 S 15 | Z6 CN 18-09 |

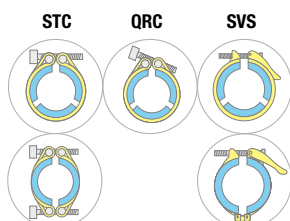
### Product's method of operation

The profile clamp's method of operation is based on the principle of an inclined plane. When the closure bolt is tightened, this exerts circumferential force on the profile segments. The two halves of the flange are pressed together by means of the profile (see diagram below). The circumferential force that is exerted is converted into considerably higher axial force.



### All profiles at a glance

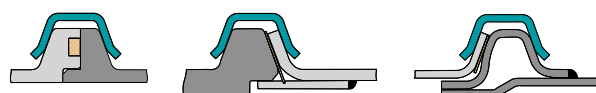
Single-part 3 profile segments  
Available up to diameter 300 mm



Two-part 2 profile segments  
Available from diameter 200 mm up to 500 mm

### Example of flange designs

Use of gasket may be required in some applications. Support and advice on gasket selection can be provided.



## Profile types

| 4.0 b $\geq \varnothing 89$  |       |       | 5.0 a $\geq \varnothing 82$  |       |       | 5.3 b $\geq \varnothing 110$  |       |       | 6.0 a $\geq \varnothing 125$  |       |       |
|------------------------------|-------|-------|------------------------------|-------|-------|-------------------------------|-------|-------|-------------------------------|-------|-------|
|                              |       |       |                              |       |       |                               |       |       |                               |       |       |
|                              | 20 mm | 25 mm |                              | 20 mm | 25 mm |                               | 20 mm | 25 mm |                               | 20 mm | 25 mm |
| STC                          | •     |       | STC                          | •     |       | STC                           | •     |       | STC                           | •     |       |
| QRC                          | •     |       | QRC                          | •     |       | QRC                           | •     |       | QRC                           | •     |       |
| SVS                          | •     |       | SVS                          | •     |       | SVS                           | •     |       | SVS                           | •     |       |
| 6.6 b $\geq \varnothing 100$ |       |       | 9.2 a $\geq \varnothing 100$ |       |       | 10.2 a $\geq \varnothing 130$ |       |       | 14.5 a $\geq \varnothing 105$ |       |       |
|                              |       |       |                              |       |       |                               |       |       |                               |       |       |
|                              | 20 mm | 25 mm |                              | 20 mm | 25 mm |                               | 20 mm | 25 mm |                               | 20 mm | 25 mm |
| STC                          | •     |       | STC                          |       | •     | STC                           |       | •     | STC                           |       | •     |
| QRC                          | •     |       | QRC                          |       | •     | QRC                           |       | •     | QRC                           |       | •     |
| SVS                          | •     |       | SVS                          |       | •     | SVS                           |       | •     | SVS                           |       | •     |

The inner profile diameter can be freely selected in millimeter increments. All profiles can be supplied with a diameter of up to  $\varnothing 500$  mm. Please refer to the relevant profile diagram in the table below to find out the minimum diameter permissible for that profile.

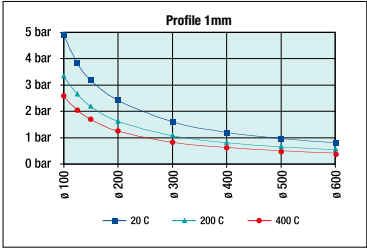
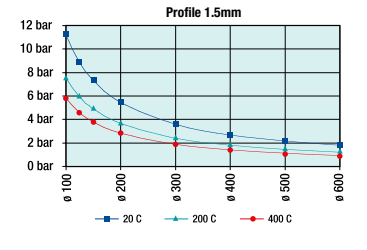
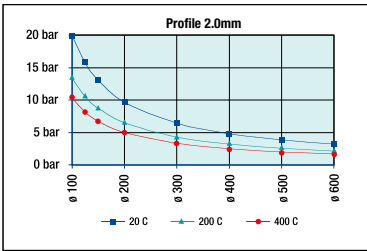
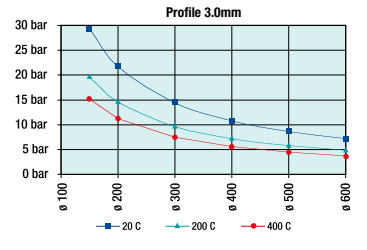
Profile clamps can be supplied with cover bands measuring 20 mm or 25 mm in width.

The table above indicates which cover band is suitable for which profile.

## Examples of flange structures

| Inner profile $\varnothing$                                                                                               |                            | Flange 1 |        | Flange 2 |        |        |        | Flange 3        |        |        |        | Flange 4        |        |        |        |
|---------------------------------------------------------------------------------------------------------------------------|----------------------------|----------|--------|----------|--------|--------|--------|-----------------|--------|--------|--------|-----------------|--------|--------|--------|
| <p>Gap width 1.5</p> <p>Profile <math>\varnothing</math></p> <p>flange <math>\varnothing</math> + 2 x gap width</p>       |                            |          |        |          |        |        |        |                 |        |        |        |                 |        |        |        |
| Profile type                                                                                                              | Profile $\varnothing$ (mm) | W (mm)   | H (mm) | W (mm)   | H (mm) | R (mm) | T (mm) | W (mm)          | H (mm) | R (mm) | T (mm) | W (mm)          | H (mm) | R (mm) | T (mm) |
| 4.0b                                                                                                                      | $\geq 100$                 | 5.1      | 7.5    | 5.1      | 8      | 2      | 2      | 5.1             | 7.5    | 1      | 1      | Not recommended |        |        |        |
| 5.0a                                                                                                                      | $\geq 100$                 | 6.1      | 4.6    | 6.1      | 4.6    | 1.5    | 1.5    | 6.1             | 4.6    | 1      | 1      | 6.1             | 4.6    | 1.5    | 1.5    |
| 5.3b                                                                                                                      | $\geq 110$                 | 6.4      | 7.3    | 6.4      | 7.8    | 2      | 2      | 6.4             | 7.3    | 1.5    | 1.5    | 6.4             | 7.8    | 2      | 2      |
| 6.0a                                                                                                                      | $\geq 125$                 | 7.1      | 4      | 7.1      | 4      | 1.5    | 1.5    | Not recommended |        |        |        | 7.1             | 4      | 1.5    | 1.5    |
| 6.5a                                                                                                                      | $\geq 130$                 | 7.6      | 8.3    | 7.6      | 8.8    | 2      | 2      | 7.6             | 8.3    | 1.5    | 1.5    | 7.6             | 8.8    | 2      | 2      |
| 6.6b                                                                                                                      | $\geq 100$                 | 7.7      | 6.6    | 7.7      | 6.6    | 1.5    | 1.5    | 7.7             | 6.6    | 1.5    | 1.5    | 7.7             | 6.6    | 1.5    | 1.5    |
| 7.9b                                                                                                                      | $\geq 100$                 | 9        | 5.7    | 9        | 6.2    | 2      | 2      | 9               | 5.7    | 1.5    | 1.5    | 9               | 6.2    | 2      | 2      |
| 9.2a                                                                                                                      | $\geq 100$                 | 10.3     | 7.3    | 10.3     | 7.8    | 2      | 2      | 10.3            | 7.8    | 2      | 2      | 10.3            | 7.8    | 2      | 2      |
| 10.2a                                                                                                                     | $\geq 130$                 | 11.3     | 7.3    | 11.3     | 7.8    | 2      | 2      | 11.3            | 7.8    | 2      | 2      | 11.3            | 7.8    | 2      | 2      |
| 14.5a                                                                                                                     | $\geq 105$                 | 15.6     | 7.4    | 15.6     | 7.9    | 2      | 2      | 15.6            | 7.9    | 2      | 2      | Not recommended |        |        |        |
| Abbreviations:      W = overall flange width   H = overall flange height      R = flange radius      T = flange thickness |                            |          |        |          |        |        |        |                 |        |        |        |                 |        |        |        |

## Technical information

| Profile type                   | Profile $\phi$ (mm)                                  | Performance (stainless steel only)                                                  | Technical information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |      |                   |       |     |      |       |     |       |      |       |     |                 |
|--------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------|-------------------|-------|-----|------|-------|-----|-------|------|-------|-----|-----------------|
| 5.0 a<br>6.0a<br>6.6b          | $\geq 100$<br>$\geq 125$<br>$\geq 100$               |    | <ol style="list-style-type: none"><li>Determine the <b>application or test pressure</b>.</li><li>Determine the <b>max. operating temperature</b> to which the profile clamp will be exposed.<br/>(Note: The profile clamps presented in this brochure have been designed for a maximum operating temperature of 400°C.)</li><li>Calculate the required inner diameter of the profile as follows: outer flange diameter + <b>3 mm</b></li><li>Using the diagrams on the left. Check whether the profile thickness you have selected will be sufficient.<br/>(Note: The result only represents an initial approximation based on static pressures and ideal operating conditions.)</li></ol> <p>Other factors may come into play, such as:</p> <ul style="list-style-type: none"><li>Shape of and material used for sealing measures</li><li>Roughness of flange surface</li><li>Operating temperatures</li><li>Bending moments</li><li>Pressure surges/Vibrations</li><li>Safety requirements</li></ul> <p>Based on these factors, you may decide that a thicker profile is necessary.<br/>The SVS closure is only recommended for low pressures (e.g., vacuum applications).</p> |            |      |                   |       |     |      |       |     |       |      |       |     |                 |
| 4.0b<br>5.3b<br>7.9b<br>14.5a  | $\geq 100$<br>$\geq 110$<br>$\geq 100$<br>$\geq 105$ |    | <p>The tables below provide information on the tightening torques for the various closure types and bolt sizes.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |      |                   |       |     |      |       |     |       |      |       |     |                 |
| 6.5a<br>9.2a<br>10.2a<br>11.4b | $\geq 130$<br>$\geq 100$<br>$\geq 130$<br>$\geq 180$ |  | <p>5.1. Recommended tightening torque for STC &amp; QRC-type closures:</p> <table border="1"><thead><tr><th>Band width</th><th>Bolt</th><th>Tightening torque</th></tr></thead><tbody><tr><td>20 mm</td><td>M 6</td><td>6 Nm</td></tr><tr><td>25 mm</td><td>M 8</td><td>12 Nm</td></tr></tbody></table> <p>5.2 SVS closing force:</p> <table border="1"><thead><tr><th>Bolt</th><th>Force</th></tr></thead><tbody><tr><td>M 6</td><td><math>\approx 80</math> Nm</td></tr></tbody></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Band width | Bolt | Tightening torque | 20 mm | M 6 | 6 Nm | 25 mm | M 8 | 12 Nm | Bolt | Force | M 6 | $\approx 80$ Nm |
| Band width                     | Bolt                                                 | Tightening torque                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |      |                   |       |     |      |       |     |       |      |       |     |                 |
| 20 mm                          | M 6                                                  | 6 Nm                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |      |                   |       |     |      |       |     |       |      |       |     |                 |
| 25 mm                          | M 8                                                  | 12 Nm                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |      |                   |       |     |      |       |     |       |      |       |     |                 |
| Bolt                           | Force                                                |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |      |                   |       |     |      |       |     |       |      |       |     |                 |
| M 6                            | $\approx 80$ Nm                                      |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |            |      |                   |       |     |      |       |     |       |      |       |     |                 |
| 9.2 b                          | $\geq 155$                                           |  | <p>Example of application:</p> <ul style="list-style-type: none"><li>Operating pressure: 4 bar (static)</li><li>Temperature: 20 °C</li><li>Profile type: 4.0b</li><li>Profile thickness: 1,5 mm</li><li>Flange diameter: <math>\phi</math> 197 mm</li><li>Inner profile diameter: <math>\phi</math> 200</li></ul> <p>Max. permissible pressure at 20 °C:</p> <ul style="list-style-type: none"><li>5.4 bar &gt; 4 bar -OK</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |      |                   |       |     |      |       |     |       |      |       |     |                 |

NORMACONNECT® V profile clamps are manufactured in two different band widths and with different closures, depending on the profile type concerned:

| Closure type | Cover band 1.0 x 20 mm | Cover band 1.5 x 25 mm |
|--------------|------------------------|------------------------|
| STC          | Bolt M 6 x 50          | Bolt M 8 x 70          |
| QRC          |                        |                        |
| SVS          | Bolt M 6 x 70          | Bolt M 6 x 70          |

## Technical data & Ordering information

| NORMACONNECT® V STC |                |                   |                   |
|---------------------|----------------|-------------------|-------------------|
| Min. profile type   | Profile Ø (mm) | W2<br>Product No. | W4<br>Product No. |
|                     |                | STC               | STC               |
| 4.0b                | ≥ 89           | 0611 1043 ...     | 0611 2043 ...     |
| 5.0a                | ≥ 82           | 0611 1032 ...     | 0611 2032 ...     |
| 5.3b                | ≥ 110          | 0611 1078 ...     | 0611 2078 ...     |
| 6.0a                | ≥ 125          | 0611 1004 ...     | 0611 2004 ...     |
| 6.5a                | ≥ 130          | 0611 3015 ...     | 0611 4015 ...     |
| 6.6b                | ≥ 100          | 0611 1031 ...     | 0611 2031 ...     |
| 7.9b                | ≥ 100          | 0611 1099 ...     | 0611 2099 ...     |
| 9.2a                | ≥ 100          | 0611 3009 ...     | 0611 4009 ...     |
| 10.2a               | ≥ 130          | 0611 3081 ...     | 0611 4081 ...     |
| 14.5a               | ≥ 105          | 0611 3028 ...     | 0611 4028 ...     |

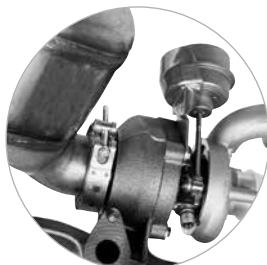
Single-part design • 3 segments • Cover band • Inner profile diameter Ø ≤ 300 mm  
 " ... = Ø without decimals in mm "

| NORMACONNECT® V STC |                   |                   |
|---------------------|-------------------|-------------------|
| Profile type        | W2<br>Product No. | W4<br>Product No. |
|                     | STC               | STC               |
| 4.0b                | 0609 1043 ...     | 0609 2043 ...     |
| 5.0a                | 0609 1032 ...     | 0609 2032 ...     |
| 5.3b                | 0609 1078 ...     | 0609 2078 ...     |
| 6.0a                | 0609 1004 ...     | 0609 2004 ...     |
| 6.5a                | 0609 3015 ...     | 0609 4015 ...     |
| 6.6b                | 0609 1031 ...     | 0609 2031 ...     |
| 7.9b                | 0609 1099 ...     | 0609 2099 ...     |
| 9.2a                | 0609 3009 ...     | 0609 4009 ...     |
| 10.2a               | 0609 3081 ...     | 0609 4081 ...     |
| 14.5a               | 0609 3028 ...     | 0609 4028 ...     |

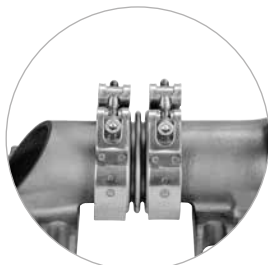
Two-part version\* • 2 segments • No cover band • Inner profile diameter Ø 200 - 500 mm  
 " ... = Ø without decimals in mm "

## Application areas

NORMACONNECT® V profile clamps are quick-release connecting elements for flanges and represent an economical alternative to conventional bolted flange connections.



Automotive: Turbocharger –  
catalytic converter connection



Automotive: Exhaust manifold



Industry: Bulk material container



Industry: Bypass filter unit

## QRC



## NORMACONNECT® V QRC

| Min. profile type | Profile Ø (mm) | W4<br>Product No. |
|-------------------|----------------|-------------------|
|                   |                | QRC               |
| 4.0b              | ≥ 89           | 0615 2043 ...     |
| 5.0a              | ≥ 82           | 0615 2032 ...     |
| 5.3b              | ≥ 110          | 0615 2078 ...     |
| 6.0a              | ≥ 125          | 0615 2004 ...     |
| 6.5a              | ≥ 130          | 0615 4015 ...     |
| 6.6b              | ≥ 100          | 0615 2031 ...     |
| 7.9b              | ≥ 100          | 0615 2099 ...     |
| 9.2a              | ≥ 100          | 0615 4009 ...     |
| 10.2a             | ≥ 130          | 0615 4081 ...     |
| 14.5a             | ≥ 105          | 0615 4028 ...     |

Single-part design • 3 segments • Cover band • Inner profile diameter Ø ≤ 300 mm  
 " ... = Ø without decimals in mm "

The revolutionary new QRC-type closure offers significant advantages over conventional T-bolt solutions.

## Advantages at a glance

- Rapid closing and opening
- Captive closure components
- Significantly shorter installation
- Closure bolt secured during tightening

## Materials

- W4

## SVS



The SVS type includes an over-center lever which enables manual installation.

## Advantages at a glance

- Installation without tools
- Ideal for frequent handling

## Materials

- W2, W4

## NORMACONNECT® V SVS

| Min. profile type | Profile Ø (mm) | W2<br>Product No. | W4<br>Product No. |
|-------------------|----------------|-------------------|-------------------|
|                   |                | SVS               | SVS               |
| 4.0b              | ≥ 89           | 0607 1043 ...     | 0607 2043 ...     |
| 5.0a              | ≥ 82           | 0607 1032 ...     | 0607 2032 ...     |
| 5.3b              | ≥ 110          | 0607 1078 ...     | 0607 2078 ...     |
| 6.0a              | ≥ 125          | 0607 1004 ...     | 0607 2004 ...     |
| 6.5a              | ≥ 130          | 0607 3015 ...     | 0607 4015 ...     |
| 6.6b              | ≥ 100          | 0607 1031 ...     | 0607 2031 ...     |
| 7.9b              | ≥ 100          | 0607 1099 ...     | 0607 2099 ...     |
| 9.2a              | ≥ 100          | 0607 3009 ...     | 0607 4009 ...     |
| 10.2a             | ≥ 130          | 0607 3081 ...     | 0607 4081 ...     |
| 14.5a             | ≥ 105          | 0607 3028 ...     | 0607 4028 ...     |

Single-part design • 3 segments • Cover band • Inner profile diameter Ø ≤ 300 mm  
 " ... = Ø without decimals in mm "

## NORMACONNECT® V SVS

| Profile type | W2<br>Product No. | W4<br>Product No. |
|--------------|-------------------|-------------------|
|              | SVS               | SVS               |
| 4.0b         | 0605 1043 ...     | 0605 2043 ...     |
| 5.0a         | 0605 1032 ...     | 0605 2032 ...     |
| 5.3b         | 0605 1078 ...     | 0605 2078 ...     |
| 6.0a         | 0605 1004 ...     | 0605 2004 ...     |
| 6.5a         | 0605 3015 ...     | 0605 4015 ...     |
| 6.6b         | 0605 1031 ...     | 0605 2031 ...     |
| 7.9b         | 0605 1099 ...     | 0605 2099 ...     |
| 9.2a         | 0605 3009 ...     | 0605 4009 ...     |
| 10.2a        | 0605 3081 ...     | 0605 4081 ...     |
| 14.5a        | 0605 3028 ...     | 0605 4028 ...     |

Two-part version\* • 2 segments • No cover band • Inner profile diameter Ø 200 - 500 mm  
 " ... = Ø without decimals in mm "

# NORMAFIX® – Retaining Products

## **Versatile products for a whole host of applications**

The NORMAFIX® range of clamps, clips and systems for retaining pipes, cables, cable harnesses and hoses are ready for action wherever they're needed – walls, ceilings or car bodies.





## Smooth round edges

- easier to handle and safer to install

## Variety of colors

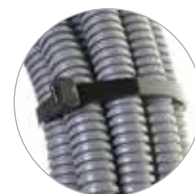
- available in: black, white, red, yellow, green, blue

## “Carbon Black” added in Black cable tie flange

- increased resistance to UV rays
- suitable for outdoor use

## Quick and safe securing of cables in material PA 6.6

Cable tie for securing cables in electrical installations, industrial wiring, automotive, etc. Made of polyamide 6.6. Resistant to extreme temperatures and numerous external agents. Quick and safe assembly. The black cable tie offers excellent resistance to UV rays thanks to added “carbon black.”



### Advantages at a glance

- Made of Polyamide 6.6 for optimum resistance to extreme temperatures, bases, oils, greases, etc.
- Bent rounded tip allows easier insertion through the head of the cable ties
- Low-friction material coefficient allows a faster installation

### Applications

- Electrical installations
- Industrial cabling
- Automotive cabling
- Marine cabling
- Panel building
- Special applications

### Materials

**Material** Polyamide 6.6

#### Characteristics of raw material polyamide PA 6.6

Working temperature: -45°C to 85°C

Tightening temperature: -10°C to 60°C

Max admissible point: 120°C\*

Melting temperature: 256°C

Limiting Oxygen Index (LOI): 27%

Recovery of moisture: 2.7% to 50% relative humidity

Halogen free: Evaluated according to EN 50146. Flame retardancy according to UL 94-V2

\*(for a short time)

#### Resistance to external agents

Excellent resistance to aromatic solvents, bases, oils, fat, petroleum products

Maintain limited contact with acid

Not resistant to phenol and chlorinated solvents

Resistance to UV (black colored cable ties)\*

\*The black cable ties are loaded with carbon black. Therefore they possess UV resistance according to standard ISO QUV-B 4892 (150 hours), equivalent to 3 years of exposure to sunlight. They are also particularly recommended for external applications.

### Information

#### EC directives

The material used to produce our cable ties complies with the following EC directives:

2000/53/EC (VHU)

2002/95/EC (RoHS)

2002/96/EC (DEEE)

2003/11/EC

## Technical data &amp; Ordering information

| Width | Designation           | Length in mm | Maximum diameter in mm | Resistance to traction in Kgs | White Product No. | Black Product No. | Red Product No. | Yellow Product No. | Green Product No. | Blue Product No. |
|-------|-----------------------|--------------|------------------------|-------------------------------|-------------------|-------------------|-----------------|--------------------|-------------------|------------------|
| 2.5   | CABLE TIE 2.5 x 98    | 98           | 21                     | 8                             | 0860 0110 201     | 0860 0210 201     | 0860 0310 201   | 0860 0320 201      | 0860 0330 201     | 0860 0340 201    |
| 2.6   | CABLE TIE 2.6 x 160   | 160          | 40                     | 8                             | 0860 0110 302     | 0860 0210 302     |                 |                    |                   |                  |
| 3.5   | CABLE TIE 3.5 x 140   | 140          | 35                     | 13                            | 0860 0110 401     | 0860 0210 401     | 0860 0310 401   | 0860 0320 401      | 0860 0330 401     | 0860 0340 401    |
|       | CABLE TIE 3.5 x 200   | 200          | 50                     | 13                            | 0860 0110 402     | 0860 0210 402     | 0860 0310 402   | 0860 0320 402      | 0860 0330 402     | 0860 0340 402    |
|       | CABLE TIE 3.5 x 290   | 290          | 80                     | 13                            | 0860 0110 403     | 0860 0210 403     |                 |                    |                   |                  |
|       | CABLE TIE 3.5 x 370   | 370          | 103                    | 13                            | 0860 0110 404     | 0860 0210 404     |                 |                    |                   |                  |
| 4.5   | CABLE TIE 4.5 x 120   | 120          | 24                     | 20                            | 0860 0110 501     | 0860 0210 501     |                 |                    |                   |                  |
|       | CABLE TIE 4.5 x 160   | 160          | 40                     | 20                            | 0860 0110 502     | 0860 0210 502     |                 |                    |                   |                  |
|       | CABLE TIE 4.5 x 200   | 200          | 50                     | 22                            | 0860 0110 602     | 0860 0210 602     | 0860 0310 601   | 0860 0320 601      | 0860 0330 601     | 0860 0340 601    |
| 4.8   | CABLE TIE 4.8 x 178   | 178          | 45                     | 22                            | 0860 0110 601     | 0860 0210 601     |                 |                    |                   |                  |
|       | CABLE TIE 4.8 x 250   | 250          | 68                     | 22                            | 0860 0110 603     | 0860 0210 603     |                 |                    |                   |                  |
| 4.5   | CABLE TIE 4.5 x 290   | 290          | 79                     | 22                            | 0860 0110 604     | 0860 0210 604     | 0860 0310 602   | 0860 0320 602      | 0860 0330 602     | 0860 0340 602    |
|       | CABLE TIE 4.5 x 360   | 360          | 103                    | 22                            | 0860 0110 605     | 0860 0210 605     |                 |                    |                   |                  |
| 4.8   | CABLE TIE 4.8 x 390   | 390          | 106                    | 22                            | 0860 0110 606     | 0860 0210 606     |                 |                    |                   |                  |
| 4.5   | CABLE TIE 4.5 x 430   | 430          | 115                    | 22                            | 0860 0110 607     | 0860 0210 607     |                 |                    |                   |                  |
| 7.8   | CABLE TIE 7.8 x 180   | 180          | 45                     | 55                            | 0860 0110 702     | 0860 0210 702     |                 |                    |                   |                  |
|       | CABLE TIE 7.8 x 240   | 240          | 63                     | 55                            | 0860 0110 703     | 0860 0210 703     |                 |                    |                   |                  |
|       | CABLE TIE 7.8 x 300   | 300          | 80                     | 55                            | 0860 0110 704     | 0860 0210 704     |                 |                    |                   |                  |
| 7.5   | CABLE TIE 7.5 x 365   | 365          | 100                    | 55                            | 0860 0110 705     | 0860 0210 705     |                 |                    |                   |                  |
|       | CABLE TIE 7.5 x 450   | 450          | 130                    | 55                            | 0860 0110 706     | 0860 0210 706     |                 |                    |                   |                  |
|       | CABLE TIE 7.5 x 540   | 540          | 158                    | 55                            | 0860 0110 707     | 0860 0210 707     |                 |                    |                   |                  |
|       | CABLE TIE 7.5 x 750   | 750          | 200                    | 55                            | 0860 0110 708     | 0860 0210 708     |                 |                    |                   |                  |
| 9     | CABLE TIE 9 x 780     | 780          | 233                    | 77                            | 0860 0110 801     | 0860 0210 801     |                 |                    |                   |                  |
| 12.5  | CABLE TIE 12.5 x 500  | 500          | 143                    | 110                           | 0860 0110 902     | 0860 0210 902     |                 |                    |                   |                  |
|       | CABLE TIE 12.5 x 1000 | 1000         | 302                    | 110                           | 0860 0110 905     | 0860 0210 905     |                 |                    |                   |                  |



Refer to pages 189 and 193.



- 1 Wave shaped perforated band
- 2 Straight shaped perforated band
- 3 Perforated band, multi holes
- 4 Perforated band, oval holes

Flexible fixing system for multiple applications

NORMAFIX® Perforated bands are suitable as suspension bands for various kinds of pipes. They can be used in a wide range of environments and applications.



Advantages at a glance

- Delivered in a plastic dispenser for easy handling
- Length: 10 m
- Possibility of performing several fixations by choosing the ideal diameter needed
- Easy to cut and fast to use

Applications

- Mounting cables, hoses and pipes

Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    | x  |    | x  |

### Wave shape



#### NORMAFIX® PERFORATED BAND WAVE SHAPE

| Width x Thickness in mm | Designation                            | Length in m | W1 Product No. | W3 Product No. | W5 Product No. |
|-------------------------|----------------------------------------|-------------|----------------|----------------|----------------|
| 17 x 0.8                | PERFORATED BAND WAVE SHAPE 17 x 0.8/10 | 10          | 0863 0211 708  | 0863 0231 706  | 0863 0251 708  |

### Straight shape



#### NORMAFIX® PERFORATED BAND STRAIGHT SHAPE

| Width x Thickness in mm | Designation                                | Length in m | W1 Product No. |
|-------------------------|--------------------------------------------|-------------|----------------|
| 12 x 0.8                | PERFORATED BAND STRAIGHT SHAPE 12 x 0.8/10 | 10          | 0863 0311 208  |
| 17 x 0.8                | PERFORATED BAND STRAIGHT SHAPE 17 x 0.8/10 | 10          | 0863 0311 708  |

### Multi holes



#### NORMAFIX® PERFORATED BAND MULTI HOLES

| Width x Thickness in mm | Designation                           | Length in m | W1 Product No. |
|-------------------------|---------------------------------------|-------------|----------------|
| 17 x 0.6                | PERFORATED BAND ROUND HOLES 17 x 0.6  | 10          | 0890 1202 067  |
| 25 x 0.75               | PERFORATED BAND ROUND HOLES 25 x 0.75 | 10          | 0890 1202 068  |

### Oval holes



#### NORMAFIX® PERFORATED BAND OVAL HOLES

| Width x Thickness in mm | Designation                          | Length in m | W1 Product No. |
|-------------------------|--------------------------------------|-------------|----------------|
| 17 x 0.6                | PERFORATED BAND OVAL HOLES 17 x 0.6  | 10          | 0890 1202 065  |
| 25 x 0.75               | PERFORATED BAND OVAL HOLES 25 x 0.75 | 10          | 0890 1202 066  |



**Continuous band available in smooth version or with thread stamping throughout**

**4 different closure types to suit a huge variety of applications**



## Continuous band clamping system

Consisting of a continuous band, the NORMAFIX® NORMETTA® system is able to adapt itself to the shape and size of various objects. 4 different types of closure are available to choose from. The system is particularly suitable for carrying out retaining and repair work under difficult and extreme conditions.



### Advantages at a glance

- Flexible and versatile
- Can be installed under difficult conditions

### Applications

- Irrigation systems
- Railway industry
- Building machines
- Pump and filter
- Retaining applications; sealing pipes during repair work
- Attaching signs and containers
- Binding hoses

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  | x  | x  | x  |    |

### Product and closure types

The continuous band is available in a 30 m roll and as either a smooth version with a range of band widths or a version with thread stamping throughout (with 12 mm band width only). It can also be supplied in different material grades.

## Smooth band



To be used with the buckles NB-A W1, NB-D W4 and NB-H W4.

### NORMAFIX® NORMETTA SMOOTH BAND

| Width | Thickness | Designation                    | Length in m | Resistance to traction in N | W1 Product No. | W4 Product No. |
|-------|-----------|--------------------------------|-------------|-----------------------------|----------------|----------------|
| 5     | 0.35      | NORMETTA SMOOTH BAND 30M/5 W1  | 30          | 350 N                       | 0560 8500 004  |                |
| 9     | 0.44      | NORMETTA SMOOTH BAND 30M/9 W1  | 30          | 720 N                       | 0560 8500 001  |                |
|       | 0.55      | NORMETTA SMOOTH BAND 30M/9 W4  | 30          | 4100 N                      |                | 0560 8554 009  |
| 13    | 0.7       | NORMETTA SMOOTH BAND 30M/13 W4 | 30          | 7100 N                      |                | 0560 8553 013  |
| 16    | 0.7       | NORMETTA SMOOTH BAND 30M/16 W4 | 30          | 8800 N                      |                | 0560 8553 016  |
| 19    | 0.7       | NORMETTA SMOOTH BAND 30M/19 W4 | 30          | 10600 N                     |                | 0560 8553 019  |



Refer to pages 180 and 189.

## Stamped band



To be used with the buckles NB-G W1 and W3

### NORMAFIX® NORMETTA STAMPED BAND

| Width | Thickness | Designation                     | Length in m | Resistance to traction in N | W1 Product No. | W3 Product No. |
|-------|-----------|---------------------------------|-------------|-----------------------------|----------------|----------------|
| 12    | 0.8       | NORMETTA STAMPED BAND 30M/12 W1 | 30          | 1700 N                      | 0560 8566 001  |                |
|       | 0.8       | NORMETTA STAMPED BAND 30M/12 W3 | 30          | 2600 N                      |                | 0560 8566 003  |



Refer to page 189.

## Perforated Band



To be used with buckles NB-K W2.

### NORMAFIX® NORMETTA PERFORATED BAND

| Width | Thickness | Designation                        | Length in m | Resistance to traction in N | W2 Product No. | W4 Product No. |
|-------|-----------|------------------------------------|-------------|-----------------------------|----------------|----------------|
| 8     | 0.6       | NORMETTA PERFORATED BAND 25M/8 W2  | 25          | 790 N                       | 0817 7020 001  |                |
|       | 0.6       | NORMETTA PERFORATED BAND 25M/8 W4  | 25          | 790 N                       |                | 0817 7022 001  |
| 13    | 0.6       | NORMETTA PERFORATED BAND 25M/13 W4 | 25          | 850 N                       |                | 0817 7022 002  |
| 14    | 0.6       | NORMETTA PERFORATED BAND 25M/14 W2 | 25          | 850 N                       | 0817 7020 002  |                |



Refer to page 189.

## NB-A



### Closure type NB-A

Suitable for less demanding applications such as attaching signs and sealing low-pressure hoses. Can be re-used.

For bands: 5, 9 mm

Required tools: Steel pin, angled screwdriver or pliers, plate shears

#### NORMAFIX® NB-A

| For Band width | Designation | W1<br>Product No. |
|----------------|-------------|-------------------|
| 5              | NB-A5       | 0560 8520 002     |
| 9              | NB-A9       | 0560 8520 000     |



Refer to page 189.

## NB-D



### Closure type NB-D

Suitable for attaching signs and containers to pipes and hoses as well as binding hoses.

For bands: 9, 13, 16, 19 mm

Required tools: Clamping and cutting tool; hammer

#### NORMAFIX® NB-D

| For Band width | Designation | W4<br>Product No. |
|----------------|-------------|-------------------|
| 9              | NB-D/9      | 0560 8550 009     |
| 13             | NB-D/13     | 0560 8550 013     |
| 16             | NB-D/16     | 0560 8550 016     |
| 19             | NB-D/19     | 0560 8550 019     |



Refer to page 189.

## NB-G



### Closure type NB-G

Suitable for applications with cramped installation conditions.

Can be re-used.

For stamped bands.

Required tools: Screwdriver or SW7 socket wrench and plate shears

#### NORMAFIX® NB-G

| For Band width | Designation | W1<br>Product No. | W3<br>Product No. |
|----------------|-------------|-------------------|-------------------|
| 12             | NB-G/12     | 0560 8565 001     |                   |
|                | NB-G/12     |                   | 0560 8565 003     |



Refer to page 189.

## NB-H



### Closure type NB-H

An adjustable quick-release closure that enables fast and easy installation and removal. Can be re-used.

For bands: 16, 19 mm

Required tools: Screwdriver and plate shears

#### NORMAFIX® NB-H

| For Band width | Maximum diameter in mm | Designation | W1 Product No. | W4 Product No. |
|----------------|------------------------|-------------|----------------|----------------|
| 16 / 19        | 124                    | NB-H/124    | 0560 8558 124  | 0560 0004 124  |
|                | 400                    | NB-H/400    | 0560 8558 400  | 0560 0004 400  |
|                | 800                    | NB-H/800    | 0560 8558 800  | 0560 0004 800  |



Refer to page 189.

## NB-K



### Closure type NB-K

Suitable for fixing suspended ventilation tubes.

For bands: 8, 13, 14 mm

Required tools: Screwdriver

#### NORMAFIX® NB-K

| For Band width | Designation | W2 Product No. | W4 Product No. |
|----------------|-------------|----------------|----------------|
| 8              | NB-K/8      | 0817 7019 003  | 0817 7021 003  |
| 13             | NB-K/13     |                | 0817 7021 004  |
| 14             | NB-K/14     | 0817 7019 004  |                |



Refer to page 189.



### 1 Form-fit, adjustable band

#### Reinforced band ends

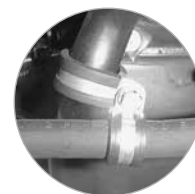
- 2 – strengthen the band; prevent retaining sections from tearing or becoming loose during exposure to extremely high mechanical loads

#### Can be supplied with rubber profile as an option

- 3 – improved form closure between clip and clamping fixture  
– damping

## Pipe retaining clips in accordance with DIN 3016

NORMAFIX® RS/RSGU pipe retaining clips are suitable for all kinds of fastening and retaining applications: pipes, cables, cable harnesses, cable protection pipes, hoses and other lines.



### Advantages at a glance

- Easy installation and secure fastening
- Reinforced band ends for extremely high mechanical loads
- Rubber profile protects against vibrations and creeping water, is sound-absorbent and protects against contact corrosion
- No single parts for the customer

### Applications

- Machine building
- White goods
- Chemical industry
- Irrigation systems
- Ship manufacturing
- Food and beverage industry
- Railway industry
- Agricultural machines
- Building machines
- Engine manufacturing
- Pump and filter
- Mining industry

### Materials

| W1 | W2 | W3 | W4 | W5 |
|----|----|----|----|----|
| x  |    | x* | x* | x  |

\*W3 and W4 on request

### Bolts

The scope of delivery does not include bolts or nuts.

We recommend:

For NORMAFIX® RSGU with 12mm band width: M5 bolt

For NORMAFIX® RSGU with 15mm band width: M6 bolt

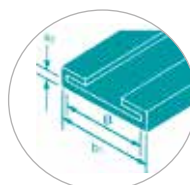
For NORMAFIX® RSGU with 20mm band width: M8 bolt

### Rubber profile

#### MATERIAL PROPERTIES OF EPDM RUBBER PROFILE

| Material properties                   |                             | EPDM rubber profile |
|---------------------------------------|-----------------------------|---------------------|
| Tensile strength [N/mm <sup>2</sup> ] |                             | Min. 8              |
| Elongation at break [%]               |                             | 350                 |
| Shore hardness A                      |                             | 70 ± 5              |
| Temperature [°C]                      |                             | –40 to +120         |
| Resistance to:                        | Weather/Ozone               | Very good           |
|                                       | Aging/UV                    | Very good           |
|                                       | Fuel storage                | Not suitable        |
|                                       | Storage in oils and greases | Not suitable        |
|                                       | Alcohols                    | Good                |
|                                       | Acids                       | Good                |
|                                       | Alkalis                     | Good                |

Silicone rubber profile also available on request.



B = band width of clip

b<sub>1</sub> = width in mm

s<sub>2</sub> = material thickness in mm

## Technical data &amp; Ordering information

| NORMAFIX® RSGU 1 |              |                 |           |                   |      |     |      |          |               |               |
|------------------|--------------|-----------------|-----------|-------------------|------|-----|------|----------|---------------|---------------|
| Band width       | Designation  | Clamping ranges |           | h1 <sup>2</sup> ~ | b1   | s2  | EPDM | Silicone | W1            | W5            |
|                  |              | in mm           | in inches |                   |      |     |      |          | Product No.   | Product No.   |
| 12               | RSGU1. 6/12  | 6               | 1/4       | 8.0+              | 15.0 | 1.2 | x    | x        | 0941 8912 006 | 0941 7712 006 |
|                  | RSGU1. 8/12  | 8               | 5/16      | 8.0+              | 15.0 | 1.2 | x    | x        | 0941 8912 008 | 0941 7712 008 |
|                  | RSGU1. 10/12 | 10              | 3/8       | 8.0+              | 15.0 | 1.2 | x    | x        | 0941 8912 010 | 0941 7712 010 |
|                  | RSGU1. 12/12 | 12              | 1/2       | 8.0+              | 15.0 | 1.2 | x    | x        | 0941 8912 012 | 0941 7712 012 |
|                  | RSGU1. 13/12 | 13              | 1/2       | 8.0+              | 15.0 | 1.2 | x    | x        | 0941 8912 013 | 0941 7712 013 |
|                  | RSGU1. 14/12 | 14              | 9/16      | 8.0+              | 15.0 | 1.2 | x    | x        | 0941 8912 014 | 0941 7712 014 |
|                  | RSGU1. 15/12 | 15              | 5/8       | 8.0+              | 15.0 | 1.2 | x    | x        | 0941 8912 015 | 0941 7712 015 |
|                  | RSGU1. 16/12 | 16              | 5/8       | 8.0+              | 15.0 | 1.2 | x    | x        | 0941 8912 016 | 0941 7712 016 |
|                  | RSGU1. 18/12 | 18              | 3/4       | 8.0+              | 15.0 | 1.2 | x    | x        | 0941 8912 018 | 0941 7712 018 |
|                  | RSGU1. 19/12 | 19              | 3/4       | 8.0+              | 15.0 | 1.2 | x    | x        | 0941 8912 019 | 0941 7712 019 |
|                  | RSGU1. 20/12 | 20              | 13/16     | 8.0+              | 15.0 | 1.2 | x    | x        | 0941 8912 020 | 0941 7712 020 |
|                  | RSGU1. 21/12 | 21              | 13/16     | 8.0+              | 15.0 | 1.2 | x    | x        | 0941 8912 021 | 0941 7712 021 |
|                  | RSGU1. 22/12 | 22              | 7/8       | 8.0+              | 15.0 | 1.2 | x    | x        | 0941 8912 022 | 0941 7712 022 |
| 15               | RSGU1. 6/15  | 6               | 1/4       | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 006 | 0941 7715 006 |
|                  | RSGU1. 8/15  | 8               | 5/16      | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 008 | 0941 7715 008 |
|                  | RSGU1. 10/15 | 10              | 3/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 010 | 0941 7715 010 |
|                  | RSGU1. 12/15 | 12              | 1/2       | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 012 | 0941 7715 012 |
|                  | RSGU1. 13/15 | 13              | 1/2       | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 013 | 0941 7715 013 |
|                  | RSGU1. 14/15 | 14              | 9/16      | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 014 | 0941 7715 014 |
|                  | RSGU1. 15/15 | 15              | 5/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 015 | 0941 7715 015 |
|                  | RSGU1. 16/15 | 16              | 5/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 016 | 0941 7715 016 |
|                  | RSGU1. 18/15 | 18              | 3/4       | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 018 | 0941 7715 018 |
|                  | RSGU1. 19/15 | 19              | 3/4       | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 019 | 0941 7715 019 |
|                  | RSGU1. 20/15 | 20              | 13/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 020 | 0941 7715 020 |
|                  | RSGU1. 21/15 | 21              | 13/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 021 | 0941 7715 021 |
|                  | RSGU1. 22/15 | 22              | 7/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 022 | 0941 7715 022 |
|                  | RSGU1. 23/15 | 23              | 7/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 023 | 0941 7715 023 |
|                  | RSGU1. 25/15 | 25              | 1         | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 025 | 0941 7715 025 |
|                  | RSGU1. 26/15 | 26              | 11/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 026 | 0941 7715 026 |
|                  | RSGU1. 28/15 | 28              | 11/8      | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 028 | 0941 7715 028 |
|                  | RSGU1. 30/15 | 30              | 13/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 030 | 0941 7715 030 |
|                  | RSGU1. 32/15 | 32              | 11/4      | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 032 | 0941 7715 032 |
|                  | RSGU1. 34/15 | 34              | 15/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 034 | 0941 7715 034 |
|                  | RSGU1. 35/15 | 35              | 13/8      | 11.2+             | 18.5 | 1.5 | x    | x        | 0941 8915 035 | 0941 7715 035 |
| 20               | RSGU1. 10/20 | 10              | 3/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 010 | 0941 7720 010 |
|                  | RSGU1. 12/20 | 12              | 1/2       | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 012 | 0941 7720 012 |
|                  | RSGU1. 13/20 | 13              | 1/2       | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 013 | 0941 7720 013 |
|                  | RSGU1. 14/20 | 14              | 9/16      | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 014 | 0941 7720 014 |
|                  | RSGU1. 15/20 | 15              | 5/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 015 | 0941 7720 015 |
|                  | RSGU1. 16/20 | 16              | 5/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 016 | 0941 7720 016 |
|                  | RSGU1. 18/20 | 18              | 3/4       | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 018 | 0941 7720 018 |
|                  | RSGU1. 19/20 | 19              | 3/4       | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 019 | 0941 7720 019 |
|                  | RSGU1. 20/20 | 20              | 13/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 020 | 0941 7720 020 |
|                  | RSGU1. 22/20 | 22              | 7/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 022 | 0941 7720 022 |
|                  | RSGU1. 23/20 | 23              | 7/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 023 | 0941 7720 023 |
|                  | RSGU1. 24/20 | 24              | 15/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 024 | 0941 7720 024 |
|                  | RSGU1. 25/20 | 25              | 1         | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 025 | 0941 7720 025 |
|                  | RSGU1. 28/20 | 28              | 11/8      | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 028 | 0941 7720 028 |
|                  | RSGU1. 30/20 | 30              | 13/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 030 | 0941 7720 030 |
|                  | RSGU1. 32/20 | 32              | 11/4      | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 032 | 0941 7720 032 |
|                  | RSGU1. 34/20 | 34              | 15/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 034 | 0941 7720 034 |
|                  | RSGU1. 35/20 | 35              | 13/8      | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 035 | 0941 7720 035 |
|                  | RSGU1. 36/20 | 36              | 17/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 036 | 0941 7720 036 |
|                  | RSGU1. 38/20 | 38              | 11/2      | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 038 | 0941 7720 038 |
|                  | RSGU1. 40/20 | 40              | 19/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0941 8920 040 | 0941 7720 040 |

Band width 9 mm and 25 mm on request  
Additional diameters on request



Refer to page 182.

## RSGU 0



NORMAFIX® RSGU 0

| Band width | Designation  | Clamping ranges |           | h1 <sup>2</sup> ~ | b1   | s2  | EPDM | Silicone | W1            | W5            |
|------------|--------------|-----------------|-----------|-------------------|------|-----|------|----------|---------------|---------------|
|            |              | in mm           | in inches |                   |      |     |      |          | Product No.   | Product No.   |
| 12         | RSGU0. 6/12  | 6               | 1/4       | 8.0+              | 15.0 | 1.2 | x    | x        | 0940 8912 006 | 0940 7712 006 |
|            | RSGU0. 8/12  | 8               | 5/16      | 8.0+              | 15.0 | 1.2 | x    | x        | 0940 8912 008 | 0940 7712 008 |
|            | RSGU0. 10/12 | 10              | 3/8       | 8.0+              | 15.0 | 1.2 | x    | x        | 0940 8912 010 | 0940 7712 010 |
|            | RSGU0. 12/12 | 12              | 1/2       | 8.0+              | 15.0 | 1.2 | x    | x        | 0940 8912 012 | 0940 7712 012 |
|            | RSGU0. 13/12 | 13              | 1/2       | 8.0+              | 15.0 | 1.2 | x    | x        | 0940 8912 013 | 0940 7712 013 |
|            | RSGU0. 14/12 | 14              | 9/16      | 8.0+              | 15.0 | 1.2 | x    | x        | 0940 8912 014 | 0940 7712 014 |
|            | RSGU0. 15/12 | 15              | 5/8       | 8.0+              | 15.0 | 1.2 | x    | x        | 0940 8912 015 | 0940 7712 015 |
|            | RSGU0. 16/12 | 16              | 5/8       | 8.0+              | 15.0 | 1.2 | x    | x        | 0940 8912 016 | 0940 7712 016 |
|            | RSGU0. 18/12 | 18              | 3/4       | 8.0+              | 15.0 | 1.2 | x    | x        | 0940 8912 018 | 0940 7712 018 |
|            | RSGU0. 19/12 | 19              | 3/4       | 8.0+              | 15.0 | 1.2 | x    | x        | 0940 8912 019 | 0940 7712 019 |
|            | RSGU0. 20/12 | 20              | 13/16     | 8.0+              | 15.0 | 1.2 | x    | x        | 0940 8912 020 | 0940 7712 020 |
|            | RSGU0. 21/12 | 21              | 13/16     | 8.0+              | 15.0 | 1.2 | x    | x        | 0940 8912 021 | 0940 7712 021 |
|            | RSGU0. 22/12 | 22              | 7/8       | 8.0+              | 15.0 | 1.2 | x    | x        | 0940 8912 022 | 0940 7712 022 |
| 15         | RSGU0. 6/15  | 6               | 1/4       | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 006 | 0940 7715 006 |
|            | RSGU0. 8/15  | 8               | 5/16      | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 008 | 0940 7715 008 |
|            | RSGU0. 10/15 | 10              | 3/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 010 | 0940 7715 010 |
|            | RSGU0. 12/15 | 12              | 1/2       | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 012 | 0940 7715 012 |
|            | RSGU0. 13/15 | 13              | 1/2       | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 013 | 0940 7715 013 |
|            | RSGU0. 14/15 | 14              | 9/16      | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 014 | 0940 7715 014 |
|            | RSGU0. 15/15 | 15              | 5/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 015 | 0940 7715 015 |
|            | RSGU0. 16/15 | 16              | 5/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 016 | 0940 7715 016 |
|            | RSGU0. 18/15 | 18              | 3/4       | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 018 | 0940 7715 018 |
|            | RSGU0. 19/15 | 19              | 3/4       | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 019 | 0940 7715 019 |
|            | RSGU0. 20/15 | 20              | 13/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 020 | 0940 7715 020 |
|            | RSGU0. 21/15 | 21              | 13/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 021 | 0940 7715 021 |
|            | RSGU0. 22/15 | 22              | 7/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 022 | 0940 7715 022 |
|            | RSGU0. 23/15 | 23              | 7/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 023 | 0940 7715 023 |
|            | RSGU0. 25/15 | 25              | 1         | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 025 | 0940 7715 025 |
|            | RSGU0. 26/15 | 26              | 11/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 026 | 0940 7715 026 |
|            | RSGU0. 28/15 | 28              | 11/8      | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 028 | 0940 7715 028 |
|            | RSGU0. 30/15 | 30              | 13/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 030 | 0940 7715 030 |
|            | RSGU0. 32/15 | 32              | 11/4      | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 032 | 0940 7715 032 |
|            | RSGU0. 34/15 | 34              | 15/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 034 | 0940 7715 034 |
|            | RSGU0. 35/15 | 35              | 13/8      | 11.2+             | 18.5 | 1.5 | x    | x        | 0940 8915 035 | 0940 7715 035 |
| 20         | RSGU0. 10/20 | 10              | 3/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 010 | 0940 7720 010 |
|            | RSGU0. 12/20 | 12              | 1/2       | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 012 | 0940 7720 012 |
|            | RSGU0. 13/20 | 13              | 1/2       | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 013 | 0940 7720 013 |
|            | RSGU0. 14/20 | 14              | 9/16      | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 014 | 0940 7720 014 |
|            | RSGU0. 15/20 | 15              | 5/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 015 | 0940 7720 015 |
|            | RSGU0. 16/20 | 16              | 5/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 016 | 0940 7720 016 |
|            | RSGU0. 18/20 | 18              | 3/4       | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 018 | 0940 7720 018 |
|            | RSGU0. 19/20 | 19              | 3/4       | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 019 | 0940 7720 019 |
|            | RSGU0. 20/20 | 20              | 13/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 020 | 0940 7720 020 |
|            | RSGU0. 22/20 | 22              | 7/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 022 | 0940 7720 022 |
|            | RSGU0. 23/20 | 23              | 7/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 023 | 0940 7720 023 |
|            | RSGU0. 24/20 | 24              | 15/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 024 | 0940 7720 024 |
|            | RSGU0. 25/20 | 25              | 1         | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 025 | 0940 7720 025 |
|            | RSGU0. 28/20 | 28              | 11/8      | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 028 | 0940 7720 028 |
|            | RSGU0. 30/20 | 30              | 13/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 030 | 0940 7720 030 |
|            | RSGU0. 32/20 | 32              | 11/4      | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 032 | 0940 7720 032 |
|            | RSGU0. 34/20 | 34              | 15/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 034 | 0940 7720 034 |
|            | RSGU0. 35/20 | 35              | 13/8      | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 035 | 0940 7720 035 |
|            | RSGU0. 36/20 | 36              | 17/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 036 | 0940 7720 036 |
|            | RSGU0. 38/20 | 38              | 11/2      | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 038 | 0940 7720 038 |
|            | RSGU0. 40/20 | 40              | 19/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0940 8920 040 | 0940 7720 040 |

Band width 9 mm and 25 mm on request  
Additional diameters on request

## RSGU 2



**NORMAFIX® RSGU 2**

| Band width | Designation  | Clamping ranges |           | h1 <sup>2</sup> ~ | b1   | s2  | EPDM | Silicone | W1            | W5            |
|------------|--------------|-----------------|-----------|-------------------|------|-----|------|----------|---------------|---------------|
|            |              | in mm           | in inches |                   |      |     |      |          | Product No.   | Product No.   |
| 12         | RSGU2. 6/12  | 6               | 1/4       | 8.0+              | 15.0 | 1.2 | x    | x        | 0942 8912 006 | 0942 7712 006 |
|            | RSGU2. 8/12  | 8               | 5/16      | 8.0+              | 15.0 | 1.2 | x    | x        | 0942 8912 008 | 0942 7712 008 |
|            | RSGU2. 10/12 | 10              | 3/8       | 8.0+              | 15.0 | 1.2 | x    | x        | 0942 8912 010 | 0942 7712 010 |
|            | RSGU2. 12/12 | 12              | 1/2       | 8.0+              | 15.0 | 1.2 | x    | x        | 0942 8912 012 | 0942 7712 012 |
|            | RSGU2. 13/12 | 13              | 1/2       | 8.0+              | 15.0 | 1.2 | x    | x        | 0942 8912 013 | 0942 7712 013 |
|            | RSGU2. 14/12 | 14              | 9/16      | 8.0+              | 15.0 | 1.2 | x    | x        | 0942 8912 014 | 0942 7712 014 |
|            | RSGU2. 15/12 | 15              | 5/8       | 8.0+              | 15.0 | 1.2 | x    | x        | 0942 8912 015 | 0942 7712 015 |
|            | RSGU2. 16/12 | 16              | 5/8       | 8.0+              | 15.0 | 1.2 | x    | x        | 0942 8912 016 | 0942 7712 016 |
|            | RSGU2. 18/12 | 18              | 3/4       | 8.0+              | 15.0 | 1.2 | x    | x        | 0942 8912 018 | 0942 7712 018 |
|            | RSGU2. 19/12 | 19              | 3/4       | 8.0+              | 15.0 | 1.2 | x    | x        | 0942 8912 019 | 0942 7712 019 |
|            | RSGU2. 20/12 | 20              | 13/16     | 8.0+              | 15.0 | 1.2 | x    | x        | 0942 8912 020 | 0942 7712 020 |
|            | RSGU2. 21/12 | 21              | 13/16     | 8.0+              | 15.0 | 1.2 | x    | x        | 0942 8912 021 | 0942 7712 021 |
|            | RSGU2. 22/12 | 22              | 7/8       | 8.0+              | 15.0 | 1.2 | x    | x        | 0942 8912 022 | 0942 7712 022 |
| 15         | RSGU2. 6/15  | 6               | 1/4       | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 006 | 0942 7715 006 |
|            | RSGU2. 8/15  | 8               | 5/16      | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 008 | 0942 7715 008 |
|            | RSGU2. 10/15 | 10              | 3/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 010 | 0942 7715 010 |
|            | RSGU2. 12/15 | 12              | 1/2       | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 012 | 0942 7715 012 |
|            | RSGU2. 13/15 | 13              | 1/2       | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 013 | 0942 7715 013 |
|            | RSGU2. 14/15 | 14              | 9/16      | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 014 | 0942 7715 014 |
|            | RSGU2. 15/15 | 15              | 5/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 015 | 0942 7715 015 |
|            | RSGU2. 16/15 | 16              | 5/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 016 | 0942 7715 016 |
|            | RSGU2. 18/15 | 18              | 3/4       | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 018 | 0942 7715 018 |
|            | RSGU2. 19/15 | 19              | 3/4       | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 019 | 0942 7715 019 |
|            | RSGU2. 20/15 | 20              | 13/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 020 | 0942 7715 020 |
|            | RSGU2. 21/15 | 21              | 13/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 021 | 0942 7715 021 |
|            | RSGU2. 22/15 | 22              | 7/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 022 | 0942 7715 022 |
|            | RSGU2. 23/15 | 23              | 7/8       | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 023 | 0942 7715 023 |
|            | RSGU2. 25/15 | 25              | 1         | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 025 | 0942 7715 025 |
|            | RSGU2. 26/15 | 26              | 11/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 026 | 0942 7715 026 |
|            | RSGU2. 28/15 | 28              | 11/8      | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 028 | 0942 7715 028 |
|            | RSGU2. 30/15 | 30              | 13/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 030 | 0942 7715 030 |
|            | RSGU2. 32/15 | 32              | 11/4      | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 032 | 0942 7715 032 |
|            | RSGU2. 34/15 | 34              | 15/16     | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 034 | 0942 7715 034 |
|            | RSGU2. 35/15 | 35              | 13/8      | 11.2+             | 18.5 | 1.5 | x    | x        | 0942 8915 035 | 0942 7715 035 |
| 20         | RSGU2. 10/20 | 10              | 3/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 010 | 0942 7720 010 |
|            | RSGU2. 12/20 | 12              | 1/2       | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 012 | 0942 7720 012 |
|            | RSGU2. 13/20 | 13              | 1/2       | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 013 | 0942 7720 013 |
|            | RSGU2. 14/20 | 14              | 9/16      | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 014 | 0942 7720 014 |
|            | RSGU2. 15/20 | 15              | 5/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 015 | 0942 7720 015 |
|            | RSGU2. 16/20 | 16              | 5/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 016 | 0942 7720 016 |
|            | RSGU2. 18/20 | 18              | 3/4       | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 018 | 0942 7720 018 |
|            | RSGU2. 19/20 | 19              | 3/4       | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 019 | 0942 7720 019 |
|            | RSGU2. 20/20 | 20              | 13/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 020 | 0942 7720 020 |
|            | RSGU2. 22/20 | 22              | 7/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 022 | 0942 7720 022 |
|            | RSGU2. 23/20 | 23              | 7/8       | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 023 | 0942 7720 023 |
|            | RSGU2. 24/20 | 24              | 15/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 024 | 0942 7720 024 |
|            | RSGU2. 25/20 | 25              | 1         | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 025 | 0942 7720 025 |
|            | RSGU2. 28/20 | 28              | 11/8      | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 028 | 0942 7720 028 |
|            | RSGU2. 30/20 | 30              | 13/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 030 | 0942 7720 030 |
|            | RSGU2. 32/20 | 32              | 11/4      | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 032 | 0942 7720 032 |
|            | RSGU2. 34/20 | 34              | 15/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 034 | 0942 7720 034 |
|            | RSGU2. 35/20 | 35              | 13/8      | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 035 | 0942 7720 035 |
|            | RSGU2. 36/20 | 36              | 17/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 036 | 0942 7720 036 |
|            | RSGU2. 38/20 | 38              | 11/2      | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 038 | 0942 7720 038 |
|            | RSGU2. 40/20 | 40              | 19/16     | 14.5+             | 25.0 | 2.0 | x    | x        | 0942 8920 040 | 0942 7720 040 |

Band width 9 mm and 25 mm on request  
Additional diameters on request

## RS 0



| NORMAFIX® RS 0 |             |                 |           |          |                   |     |     |                   |                   |
|----------------|-------------|-----------------|-----------|----------|-------------------|-----|-----|-------------------|-------------------|
| Band width     | Designation | Clamping ranges |           | d        | h1 <sup>2</sup> ~ | l   | s   | W1<br>Product No. | W5<br>Product No. |
|                |             | in mm           | in inches |          |                   |     |     |                   |                   |
| 12             | RS 0. 6/12  | 6               | 1/4       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0410 8912 006     | 0410 7712 006     |
|                | RS 0. 8/12  | 8               | 5/16      | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0410 8912 008     | 0410 7712 008     |
|                | RS 0. 10/12 | 10              | 3/8       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0410 8912 010     | 0410 7712 010     |
|                | RS 0. 12/12 | 12              | 1/2       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0410 8912 012     | 0410 7712 012     |
|                | RS 0. 13/12 | 13              | 1/2       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0410 8912 013     | 0410 7712 013     |
|                | RS 0. 14/12 | 14              | 9/16      | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0410 8912 014     | 0410 7712 014     |
|                | RS 0. 15/12 | 15              | 5/8       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0410 8912 015     | 0410 7712 015     |
|                | RS 0. 16/12 | 16              | 5/8       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0410 8912 016     | 0410 7712 016     |
|                | RS 0. 18/12 | 18              | 3/4       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0410 8912 018     | 0410 7712 018     |
|                | RS 0. 19/12 | 19              | 3/4       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0410 8912 019     | 0410 7712 019     |
|                | RS 0. 20/12 | 20              | 13/16     | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0410 8912 020     | 0410 7712 020     |
|                | RS 0. 21/12 | 21              | 13/16     | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0410 8912 021     | 0410 7712 021     |
|                | RS 0. 22/12 | 22              | 7/8       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0410 8912 022     | 0410 7712 022     |
| 15             | RS 0. 6/15  | 6               | 1/4       | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0410 8915 006     | 0410 7715 006     |
|                | RS 0. 8/15  | 8               | 5/16      | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0410 8915 008     | 0410 7715 008     |
|                | RS 0. 10/15 | 10              | 3/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0410 8915 010     | 0410 7715 010     |
|                | RS 0. 12/15 | 12              | 1/2       | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0410 8915 012     | 0410 7715 012     |
|                | RS 0. 13/15 | 13              | 1/2       | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0410 8915 013     | 0410 7715 013     |
|                | RS 0. 14/15 | 14              | 9/16      | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0410 8915 014     | 0410 7715 014     |
|                | RS 0. 15/15 | 15              | 5/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 015     | 0410 7715 015     |
|                | RS 0. 16/15 | 16              | 5/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 016     | 0410 7715 016     |
|                | RS 0. 18/15 | 18              | 3/4       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 018     | 0410 7715 018     |
|                | RS 0. 19/15 | 19              | 3/4       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 019     | 0410 7715 019     |
|                | RS 0. 20/15 | 20              | 13/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 020     | 0410 7715 020     |
|                | RS 0. 21/15 | 21              | 13/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 021     | 0410 7715 021     |
|                | RS 0. 22/15 | 22              | 7/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 022     | 0410 7715 022     |
|                | RS 0. 23/15 | 23              | 7/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 023     | 0410 7715 023     |
|                | RS 0. 25/15 | 25              | 1         | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 025     | 0410 7715 025     |
|                | RS 0. 26/15 | 26              | 11/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 026     | 0410 7715 026     |
|                | RS 0. 28/15 | 28              | 11/8      | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 028     | 0410 7715 028     |
|                | RS 0. 30/15 | 30              | 13/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 030     | 0410 7715 030     |
|                | RS 0. 32/15 | 32              | 11/4      | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 032     | 0410 7715 032     |
|                | RS 0. 34/15 | 34              | 15/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 034     | 0410 7715 034     |
|                | RS 0. 35/15 | 35              | 13/8      | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0410 8915 035     | 0410 7715 035     |
| 20             | RS 0. 10/20 | 10              | 3/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0410 8920 010     | 0410 7720 010     |
|                | RS 0. 12/20 | 12              | 1/2       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0410 8920 012     | 0410 7720 012     |
|                | RS 0. 13/20 | 13              | 1/2       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0410 8920 013     | 0410 7720 013     |
|                | RS 0. 14/20 | 14              | 9/16      | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0410 8920 014     | 0410 7720 014     |
|                | RS 0. 15/20 | 15              | 5/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0410 8920 015     | 0410 7720 015     |
|                | RS 0. 16/20 | 16              | 5/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0410 8920 016     | 0410 7720 016     |
|                | RS 0. 18/20 | 18              | 3/4       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0410 8920 018     | 0410 7720 018     |
|                | RS 0. 19/20 | 19              | 3/4       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0410 8920 019     | 0410 7720 019     |
|                | RS 0. 20/20 | 20              | 13/16     | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0410 8920 020     | 0410 7720 020     |
|                | RS 0. 22/20 | 22              | 7/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0410 8920 022     | 0410 7720 022     |
|                | RS 0. 23/20 | 23              | 7/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0410 8920 023     | 0410 7720 023     |
|                | RS 0. 24/20 | 24              | 15/16     | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0410 8920 024     | 0410 7720 024     |
|                | RS 0. 25/20 | 25              | 1         | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0410 8920 025     | 0410 7720 025     |
|                | RS 0. 28/20 | 28              | 11/8      | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0410 8920 028     | 0410 7720 028     |
|                | RS 0. 30/20 | 30              | 13/16     | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0410 8920 030     | 0410 7720 030     |
|                | RS 0. 32/20 | 32              | 11/4      | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0410 8920 032     | 0410 7720 032     |
|                | RS 0. 34/20 | 34              | 15/16     | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0410 8920 034     | 0410 7720 034     |
|                | RS 0. 35/20 | 35              | 13/8      | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0410 8920 035     | 0410 7720 035     |
|                | RS 0. 36/20 | 36              | 17/16     | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0410 8920 036     | 0410 7720 036     |
|                | RS 0. 38/20 | 38              | 11/2      | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0410 8920 038     | 0410 7720 038     |
|                | RS 0. 40/20 | 40              | 19/16     | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0410 8920 040     | 0410 7720 040     |

Band width 9 mm and 25 mm on request  
Additional diameters on request

## RS 1



NORMAFIX® RS 1

| Band width | Designation | Clamping ranges |           | d        | h1 <sup>2</sup> ~ | l   | s   | W1<br>Product No. | W5<br>Product No. |
|------------|-------------|-----------------|-----------|----------|-------------------|-----|-----|-------------------|-------------------|
|            |             | in mm           | in inches |          |                   |     |     |                   |                   |
| 12         | RS 1. 6/12  | 6               | 1/4       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0411 8912 006     | 0411 7712 006     |
|            | RS 1. 8/12  | 8               | 5/16      | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0411 8912 008     | 0411 7712 008     |
|            | RS 1. 10/12 | 10              | 3/8       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0411 8912 010     | 0411 7712 010     |
|            | RS 1. 12/12 | 12              | 1/2       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0411 8912 012     | 0411 7712 012     |
|            | RS 1. 13/12 | 13              | 1/2       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0411 8912 013     | 0411 7712 013     |
|            | RS 1. 14/12 | 14              | 9/16      | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0411 8912 014     | 0411 7712 014     |
|            | RS 1. 15/12 | 15              | 5/8       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0411 8912 015     | 0411 7712 015     |
|            | RS 1. 16/12 | 16              | 5/8       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0411 8912 016     | 0411 7712 016     |
|            | RS 1. 18/12 | 18              | 3/4       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0411 8912 018     | 0411 7712 018     |
|            | RS 1. 19/12 | 19              | 3/4       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0411 8912 019     | 0411 7712 019     |
|            | RS 1. 20/12 | 20              | 13/16     | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0411 8912 020     | 0411 7712 020     |
|            | RS 1. 21/12 | 21              | 13/16     | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0411 8912 021     | 0411 7712 021     |
|            | RS 1. 22/12 | 22              | 7/8       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0411 8912 022     | 0411 7712 022     |
| 15         | RS 1. 6/15  | 6               | 1/4       | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0411 8915 006     | 0411 7715 006     |
|            | RS 1. 8/15  | 8               | 5/16      | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0411 8915 008     | 0411 7715 008     |
|            | RS 1. 10/15 | 10              | 3/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0411 8915 010     | 0411 7715 010     |
|            | RS 1. 12/15 | 12              | 1/2       | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0411 8915 012     | 0411 7715 012     |
|            | RS 1. 13/15 | 13              | 1/2       | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0411 8915 013     | 0411 7715 013     |
|            | RS 1. 14/15 | 14              | 9/16      | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 014     | 0411 7715 014     |
|            | RS 1. 15/15 | 15              | 5/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 015     | 0411 7715 015     |
|            | RS 1. 16/15 | 16              | 5/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 016     | 0411 7715 016     |
|            | RS 1. 18/15 | 18              | 3/4       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 018     | 0411 7715 018     |
|            | RS 1. 19/15 | 19              | 3/4       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 019     | 0411 7715 019     |
|            | RS 1. 20/15 | 20              | 13/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 020     | 0411 7715 020     |
|            | RS 1. 21/15 | 21              | 13/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 021     | 0411 7715 021     |
|            | RS 1. 22/15 | 22              | 7/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 022     | 0411 7715 022     |
|            | RS 1. 23/15 | 23              | 7/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 023     | 0411 7715 023     |
|            | RS 1. 25/15 | 25              | 1         | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 025     | 0411 7715 025     |
|            | RS 1. 26/15 | 26              | 11/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 026     | 0411 7715 026     |
|            | RS 1. 28/15 | 28              | 11/8      | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 028     | 0411 7715 028     |
|            | RS 1. 30/15 | 30              | 13/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 030     | 0411 7715 030     |
|            | RS 1. 32/15 | 32              | 11/4      | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 032     | 0411 7715 032     |
|            | RS 1. 34/15 | 34              | 15/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 034     | 0411 7715 034     |
|            | RS 1. 35/15 | 35              | 13/8      | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0411 8915 035     | 0411 7715 035     |
| 20         | RS 1. 10/20 | 10              | 3/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 009     | 0411 7720 010     |
|            | RS 1. 12/20 | 12              | 1/2       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 011     | 0411 7720 012     |
|            | RS 1. 13/20 | 13              | 1/2       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 012     | 0411 7720 013     |
|            | RS 1. 14/20 | 14              | 9/16      | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 013     | 0411 7720 014     |
|            | RS 1. 15/20 | 15              | 5/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 014     | 0411 7720 015     |
|            | RS 1. 16/20 | 16              | 5/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 015     | 0411 7720 016     |
|            | RS 1. 18/20 | 18              | 3/4       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 017     | 0411 7720 018     |
|            | RS 1. 19/20 | 19              | 3/4       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 018     | 0411 7720 019     |
|            | RS 1. 20/20 | 20              | 13/16     | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 019     | 0411 7720 020     |
|            | RS 1. 22/20 | 22              | 7/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 021     | 0411 7720 022     |
|            | RS 1. 23/20 | 23              | 7/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 022     | 0411 7720 023     |
|            | RS 1. 24/20 | 24              | 15/16     | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 023     | 0411 7720 024     |
|            | RS 1. 25/20 | 25              | 1         | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 024     | 0411 7720 025     |
|            | RS 1. 28/20 | 28              | 11/8      | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0411 8920 027     | 0411 7720 028     |
|            | RS 1. 30/20 | 30              | 13/16     | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0411 8920 029     | 0411 7720 030     |
|            | RS 1. 32/20 | 32              | 11/4      | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0411 8920 032     | 0411 7720 032     |
|            | RS 1. 34/20 | 34              | 15/16     | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0411 8920 034     | 0411 7720 034     |
|            | RS 1. 35/20 | 35              | 13/8      | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0411 8920 035     | 0411 7720 035     |
|            | RS 1. 36/20 | 36              | 17/16     | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0411 8920 036     | 0411 7720 036     |
|            | RS 1. 38/20 | 38              | 11/2      | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0411 8920 038     | 0411 7720 038     |
|            | RS 1. 40/20 | 40              | 19/16     | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0411 8920 040     | 0411 7720 040     |

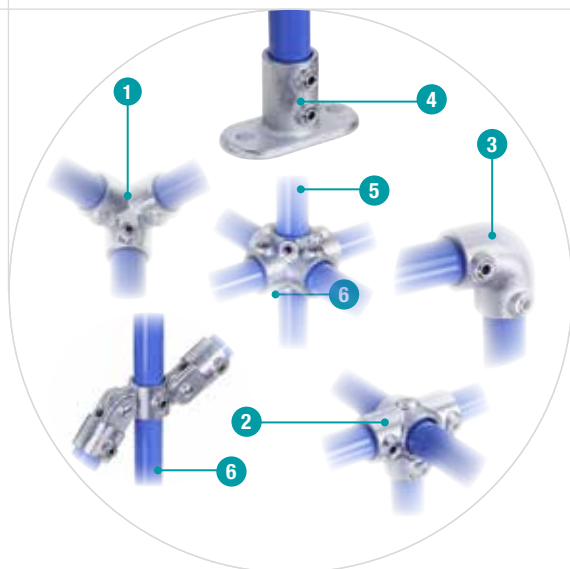
Band width 9 mm and 25 mm on request  
Additional diameters on request

## RS 2



| NORMAFIX® RS 2 |             |                 |           |          |                   |     |     |                   |                   |
|----------------|-------------|-----------------|-----------|----------|-------------------|-----|-----|-------------------|-------------------|
| Band width     | Designation | Clamping ranges |           | d        | h1 <sup>2</sup> ~ | l   | s   | W1<br>Product No. | W5<br>Product No. |
|                |             | in mm           | in inches |          |                   |     |     |                   |                   |
| 12             | RS 2. 6/12  | 6               | 1/4       | 4.3 (M4) | 4.7+              | 3.8 | 0.4 | 0412 8912 006     | 0412 7712 006     |
|                | RS 2. 8/12  | 8               | 5/16      | 4.3 (M4) | 4.7+              | 3.8 | 0.4 | 0412 8912 008     | 0412 7712 008     |
|                | RS 2. 10/12 | 10              | 3/8       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0412 8912 010     | 0412 7712 010     |
|                | RS 2. 12/12 | 12              | 1/2       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0412 8912 012     | 0412 7712 012     |
|                | RS 2. 13/12 | 13              | 1/2       | 4.3 (M4) | 4.7+              | 3.8 | 0.4 | 0412 8912 013     | 0412 7712 013     |
|                | RS 2. 14/12 | 14              | 9/16      | 4.3 (M4) | 4.7+              | 3.8 | 0.4 | 0412 8912 014     | 0412 7712 014     |
|                | RS 2. 15/12 | 15              | 5/8       | 4.3 (M4) | 4.7+              | 3.8 | 0.4 | 0412 8912 015     | 0412 7712 015     |
|                | RS 2. 16/12 | 16              | 5/8       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0412 8912 016     | 0412 7712 016     |
|                | RS 2. 18/12 | 18              | 3/4       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0412 8912 018     | 0412 7712 018     |
|                | RS 2. 19/12 | 19              | 3/4       | 4.3 (M4) | 4.7+              | 3.8 | 0.4 | 0412 8912 019     | 0412 7712 019     |
|                | RS 2. 20/12 | 20              | 13/16     | 4.3 (M4) | 4.7+              | 3.8 | 0.4 | 0412 8912 020     | 0412 7712 020     |
|                | RS 2. 21/12 | 21              | 13/16     | 4.3 (M4) | 4.7+              | 3.8 | 0.4 | 0412 8912 021     | 0412 7712 021     |
|                | RS 2. 22/12 | 22              | 7/8       | 5.3 (M5) | 6.8+              | 5.0 | 0.5 | 0412 8912 022     | 0412 7712 022     |
| 15             | RS 2. 6/15  | 6               | 1/4       | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0412 8915 006     | 0412 7715 006     |
|                | RS 2. 8/15  | 8               | 5/16      | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0412 8915 008     | 0412 7715 008     |
|                | RS 2. 10/15 | 10              | 3/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.6 | 0412 8915 010     | 0412 7715 010     |
|                | RS 2. 12/15 | 12              | 1/2       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 012     | 0412 7715 012     |
|                | RS 2. 13/15 | 13              | 1/2       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 013     | 0412 7715 013     |
|                | RS 2. 14/15 | 14              | 9/16      | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 014     | 0412 7715 014     |
|                | RS 2. 15/15 | 15              | 5/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 015     | 0412 7715 015     |
|                | RS 2. 16/15 | 16              | 5/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 016     | 0412 7715 016     |
|                | RS 2. 18/15 | 18              | 3/4       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 018     | 0412 7715 018     |
|                | RS 2. 19/15 | 19              | 3/4       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 019     | 0412 7715 019     |
|                | RS 2. 20/15 | 20              | 13/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 020     | 0412 7715 020     |
|                | RS 2. 21/15 | 21              | 13/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 021     | 0412 7715 021     |
|                | RS 2. 22/15 | 22              | 7/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 022     | 0412 7715 022     |
|                | RS 2. 23/15 | 23              | 7/8       | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 023     | 0412 7715 023     |
|                | RS 2. 25/15 | 25              | 1         | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 025     | 0412 7715 025     |
|                | RS 2. 26/15 | 26              | 11/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 026     | 0412 7715 026     |
|                | RS 2. 28/15 | 28              | 11/8      | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 028     | 0412 7715 028     |
|                | RS 2. 30/15 | 30              | 13/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 030     | 0412 7715 030     |
|                | RS 2. 32/15 | 32              | 11/4      | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 032     | 0412 7715 032     |
|                | RS 2. 34/15 | 34              | 15/16     | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 034     | 0412 7715 034     |
|                | RS 2. 35/15 | 35              | 13/8      | 6.4 (M6) | 9.7+              | 6.0 | 0.8 | 0412 8915 035     | 0412 7715 035     |
| 20             | RS 2. 10/20 | 10              | 3/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0412 8920 010     | 0412 7720 010     |
|                | RS 2. 12/20 | 12              | 1/2       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0412 8920 012     | 0412 7720 012     |
|                | RS 2. 13/20 | 13              | 1/2       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0412 8920 013     | 0412 7720 013     |
|                | RS 2. 14/20 | 14              | 9/16      | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0412 8920 014     | 0412 7720 014     |
|                | RS 2. 15/20 | 15              | 5/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0412 8920 015     | 0412 7720 015     |
|                | RS 2. 16/20 | 16              | 5/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0412 8920 016     | 0412 7720 016     |
|                | RS 2. 18/20 | 18              | 3/4       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0412 8920 018     | 0412 7720 018     |
|                | RS 2. 19/20 | 19              | 3/4       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0412 8920 019     | 0412 7720 019     |
|                | RS 2. 20/20 | 20              | 13/16     | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0412 8920 020     | 0412 7720 020     |
|                | RS 2. 22/20 | 22              | 7/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0412 8920 022     | 0412 7720 022     |
|                | RS 2. 23/20 | 23              | 7/8       | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0412 8920 023     | 0412 7720 023     |
|                | RS 2. 24/20 | 24              | 15/16     | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0412 8920 024     | 0412 7720 024     |
|                | RS 2. 25/20 | 25              | 1         | 8.4 (M8) | 12.5+             | 8.5 | 0.8 | 0412 8920 025     | 0412 7720 025     |
|                | RS 2. 28/20 | 28              | 11/8      | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0412 8920 028     | 0412 7720 028     |
|                | RS 2. 30/20 | 30              | 13/16     | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0412 8920 030     | 0412 7720 030     |
|                | RS 2. 32/20 | 32              | 11/4      | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0412 8920 032     | 0412 7720 032     |
|                | RS 2. 34/20 | 34              | 15/16     | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0412 8920 034     | 0412 7720 034     |
|                | RS 2. 35/20 | 35              | 13/8      | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0412 8920 035     | 0412 7720 035     |
|                | RS 2. 36/20 | 36              | 17/16     | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0412 8920 036     | 0412 7720 036     |
|                | RS 2. 38/20 | 38              | 11/2      | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0412 8920 038     | 0412 7720 038     |
|                | RS 2. 40/20 | 40              | 19/16     | 8.4 (M8) | 12.5+             | 8.5 | 1.0 | 0412 8920 040     | 0412 7720 040     |

Band width 9 mm and 25 mm on request  
Additional diameters on request



- 1 3 ways 90° elbow
- 2 Side outlet tee
- 3 90° elbow
- 4 Railing base flange
- 5 Four way cross
- 6 Double swivel combination

### Tube clamp fittings for safety systems

Made of malleable galvanized iron to ensure strength, quality and conformity of production. NORMA Tube Clamp Fittings can be easily assembled on pipes in order to create safety systems.



NORMAFIX®

#### Advantages at a glance

- Stainless steel screw
- Warranty up to 1500 N/m load
- No welding, so no fire permits required
- No threading, no bolting
- Can be assembled with a simple hexagonal key
- A versatile system that allows changes on site
- Can be painted

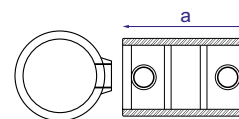
#### Applications

- Handrails
- Safety rails/Protective barriers
- Fall protections
- Other applications for safety work
- Fix railings
- Machinery guard
- Playgrounds

#### Materials

- Malleable galvanized iron

### Sleeve joint



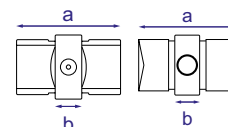
#### NORMAFIX® SLEEVE JOINT

| Designation       | Diameter in mm | a mm | Malleable galvanized iron Product No. |
|-------------------|----------------|------|---------------------------------------|
| SLEEVE JOINT 26.9 | 26.9           | 76   | 0819 6301 027                         |
| SLEEVE JOINT 33.7 | 33.7           | 90   | 0819 6301 034                         |
| SLEEVE JOINT 42.4 | 42.4           | 100  | 0819 6301 042                         |
| SLEEVE JOINT 48.3 | 48.3           | 100  | 0819 6301 048                         |
| SLEEVE JOINT 60.3 | 60.3           | 120  | 0819 6301 060                         |



Refer to page 191.

### Expanding connector



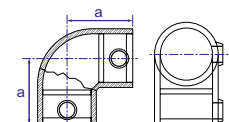
#### NORMAFIX® EXPANDING CONNECTOR

| Designation              | Diameter in mm | a mm | b mm | Malleable galvanized iron Product No. |
|--------------------------|----------------|------|------|---------------------------------------|
| EXPANDING CONNECTOR 33.7 | 33.7           | 78   | 20   | 0819 6302 034                         |
| EXPANDING CONNECTOR 42.4 | 42.4           | 78   | 20   | 0819 6302 042                         |
| EXPANDING CONNECTOR 48.3 | 48.3           | 78   | 20   | 0819 6302 048                         |



Refer to page 191.

### 90° elbow



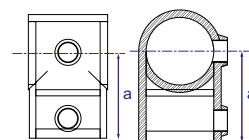
#### NORMAFIX® 90° ELBOW

| Designation    | Diameter in mm | a mm | Malleable galvanized iron Product No. |
|----------------|----------------|------|---------------------------------------|
| 90° ELBOW 26.9 | 26.9           | 41   | 0819 6303 027                         |
| 90° ELBOW 33.7 | 33.7           | 46   | 0819 6303 034                         |
| 90° ELBOW 42.4 | 42.4           | 60   | 0819 6303 042                         |
| 90° ELBOW 48.3 | 48.3           | 68   | 0819 6303 048                         |
| 90° ELBOW 60.3 | 60.3           | 84   | 0819 6303 060                         |



Refer to page 191.

### Short T



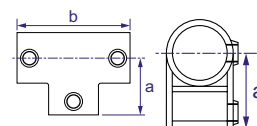
#### NORMAFIX® SHORT T

| Designation  | Diameter in mm | a mm | Malleable galvanized iron<br>Product No. |
|--------------|----------------|------|------------------------------------------|
| SHORT T 26.9 | 26.9           | 41   | 0819 6304 027                            |
| SHORT T 33.7 | 33.7           | 46   | 0819 6304 034                            |
| SHORT T 42.4 | 42.4           | 60   | 0819 6304 042                            |
| SHORT T 48.3 | 48.3           | 68   | 0819 6304 048                            |
| SHORT T 60.3 | 60.3           | 84   | 0819 6304 060                            |



Refer to page 191.

### Long T



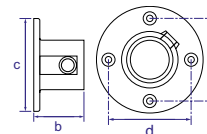
#### NORMAFIX® LONG T

| Designation | Diameter in mm | a mm | b mm | Malleable galvanized iron<br>Product No. |
|-------------|----------------|------|------|------------------------------------------|
| LONG T 26.9 | 26.9           | 41   | 82   | 0819 6305 027                            |
| LONG T 33.7 | 33.7           | 46   | 92   | 0819 6305 034                            |
| LONG T 42.4 | 42.4           | 60   | 120  | 0819 6305 042                            |
| LONG T 48.3 | 48.3           | 68   | 135  | 0819 6305 048                            |
| LONG T 60.3 | 60.3           | 84   | 168  | 0819 6305 060                            |



Refer to page 191.

### Wall flange



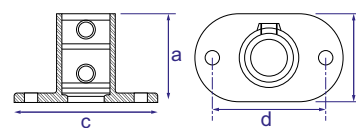
#### NORMAFIX® WALL FLANGE

| Designation      | Diameter in mm | b mm | c mm | d mm | Malleable galvanized iron<br>Product No. |
|------------------|----------------|------|------|------|------------------------------------------|
| WALL FLANGE 26.9 | 26.9           | 42   | 83   | 59   | 0819 6306 027                            |
| WALL FLANGE 33.7 | 33.7           | 48   | 89   | 65   | 0819 6306 034                            |
| WALL FLANGE 42.4 | 42.4           | 51   | 102  | 76   | 0819 6306 042                            |
| WALL FLANGE 48.3 | 48.3           | 59   | 114  | 88.5 | 0819 6306 048                            |
| WALL FLANGE 60.3 | 60.3           | 64   | 128  | 97   | 0819 6306 060                            |



Refer to page 191.

### Railing base flange



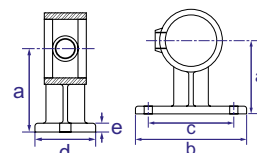
#### NORMAFIX® RAILING BASE FLANGE

| Designation              | Diameter in mm | a mm | c mm | d mm | e mm | Malleable galvanized iron Product No. |
|--------------------------|----------------|------|------|------|------|---------------------------------------|
| RAILING BASE FLANGE 26.9 | 26.9           | 60   | 105  | 76   | 52   | 0819 6307 027                         |
| RAILING BASE FLANGE 33.7 | 33.7           | 71   | 127  | 89   | 62   | 0819 6307 034                         |
| RAILING BASE FLANGE 42.4 | 42.4           | 84   | 139  | 101  | 72   | 0819 6307 042                         |
| RAILING BASE FLANGE 48.3 | 48.3           | 89   | 152  | 114  | 86   | 0819 6307 048                         |
| RAILING BASE FLANGE 60.3 | 60.3           | 104  | 165  | 127  | 96   | 0819 6307 060                         |



Refer to page 191.

### Handrail bracket



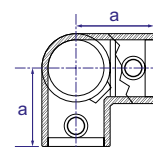
#### NORMAFIX® HANDRAIL BRACKET

| Designation           | Diameter in mm | a mm | b mm | c mm | d mm | e mm | Malleable galvanized iron Product No. |
|-----------------------|----------------|------|------|------|------|------|---------------------------------------|
| HANDRAIL BRACKET 26.9 | 26.9           | 54   | 77   | 57   | 44   | 7    | 0819 6308 027                         |
| HANDRAIL BRACKET 33.7 | 33.7           | 57   | 80   | 62   | 44   | 7    | 0819 6308 034                         |
| HANDRAIL BRACKET 42.4 | 42.4           | 62   | 102  | 82.5 | 45   | 7    | 0819 6308 042                         |
| HANDRAIL BRACKET 48.3 | 48.3           | 70   | 107  | 82.5 | 50   | 7    | 0819 6308 048                         |



Refer to page 191.

### 3 ways 90° elbow



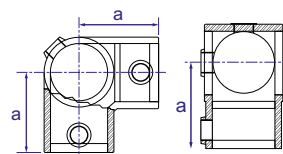
#### NORMAFIX® 3 WAYS 90° ELBOW

| Designation           | Diameter in mm | a mm | Malleable galvanized iron Product No. |
|-----------------------|----------------|------|---------------------------------------|
| 3 WAYS 90° ELBOW 26.9 | 26.9           | 41   | 0819 6309 027                         |
| 3 WAYS 90° ELBOW 33.7 | 33.7           | 48   | 0819 6309 034                         |
| 3 WAYS 90° ELBOW 42.4 | 42.4           | 60   | 0819 6309 042                         |
| 3 WAYS 90° ELBOW 48.3 | 48.3           | 68   | 0819 6309 048                         |
| 3 WAYS 90° ELBOW 60.3 | 60.3           | 84   | 0819 6309 060                         |



Refer to page 191.

### Corner C/W through tube



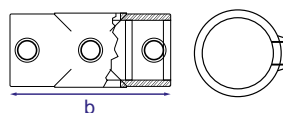
#### NORMAFIX® CORNER C/W THROUGH TUBE

| Designation               | Diameter in mm | a mm | Malleable galvanized iron Product No. |
|---------------------------|----------------|------|---------------------------------------|
| CORNER C/W THRO TUBE 26.9 | 26.9           | 41   | 0819 6310 027                         |
| CORNER C/W THRO TUBE 33.7 | 33.7           | 46   | 0819 6310 034                         |
| CORNER C/W THRO TUBE 42.4 | 42.4           | 60   | 0819 6310 042                         |
| CORNER C/W THRO TUBE 48.3 | 48.3           | 68   | 0819 6310 048                         |
| CORNER C/W THRO TUBE 60.3 | 60.3           | 84   | 0819 6310 060                         |



Refer to page 191.

### Two socket cross



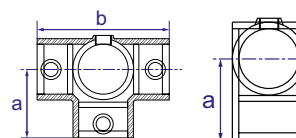
#### NORMAFIX® TWO SOCKET CROSS

| Designation           | Diameter in mm | a mm | Malleable galvanized iron Product No. |
|-----------------------|----------------|------|---------------------------------------|
| TWO SOCKET CROSS 26.9 | 26.9           | 82   | 0819 6311 027                         |
| TWO SOCKET CROSS 33.7 | 33.7           | 92   | 0819 6311 034                         |
| TWO SOCKET CROSS 42.4 | 42.4           | 120  | 0819 6311 042                         |
| TWO SOCKET CROSS 48.3 | 48.3           | 135  | 0819 6311 048                         |
| TWO SOCKET CROSS 60.3 | 60.3           | 168  | 0819 6311 060                         |



Refer to page 191.

### Side outlet tee



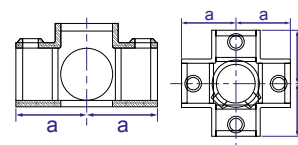
#### NORMAFIX® SIDE OUTLET TEE

| Designation          | Diameter in mm | a mm | b mm | Malleable galvanized iron Product No. |
|----------------------|----------------|------|------|---------------------------------------|
| SIDE OUTLET TEE 26.9 | 26.9           | 41   | 82   | 0819 6312 027                         |
| SIDE OUTLET TEE 33.7 | 33.7           | 46   | 92   | 0819 6312 034                         |
| SIDE OUTLET TEE 42.4 | 42.4           | 60   | 120  | 0819 6312 042                         |
| SIDE OUTLET TEE 48.3 | 48.3           | 68   | 136  | 0819 6312 048                         |
| SIDE OUTLET TEE 60.3 | 60.3           | 84.5 | 169  | 0819 6312 060                         |



Refer to page 191.

### Four way cross and center



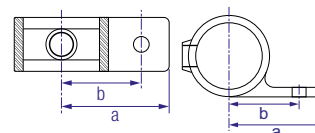
#### NORMAFIX® FOUR WAY CROSS AND CENTER

| Designation                    | Diameter in mm | a mm | Malleable galvanized iron Product No. |
|--------------------------------|----------------|------|---------------------------------------|
| FOUR WAY CROSS AND CENTER 26.9 | 26.9           | 41   | 0819 6313 027                         |
| FOUR WAY CROSS AND CENTER 33.7 | 33.7           | 46   | 0819 6313 034                         |
| FOUR WAY CROSS AND CENTER 42.4 | 42.4           | 60   | 0819 6313 044                         |
| FOUR WAY CROSS AND CENTER 48.3 | 48.3           | 68   | 0319 6313 048                         |



Refer to page 191.

### Fixing pad



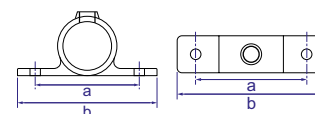
#### NORMAFIX® FIXING PAD

| Designation     | Diameter in mm | a mm | b mm | Malleable galvanized iron Product No. |
|-----------------|----------------|------|------|---------------------------------------|
| FIXING PAD 33.7 | 33.7           | 60   | 43   | 0819 6314 034                         |
| FIXING PAD 42.4 | 42.4           | 66   | 48   | 0819 6314 042                         |
| FIXING PAD 48.3 | 48.3           | 70   | 52   | 0819 6314 048                         |



Refer to page 191.

### Double wall coupler



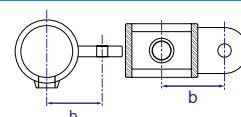
#### NORMAFIX® DOUBLE WALL COUPLER

| Designation              | Diameter in mm | a mm | b mm | Malleable galvanized iron Product No. |
|--------------------------|----------------|------|------|---------------------------------------|
| DOUBLE WALL COUPLER 33.7 | 33.7           | 86   | 120  | 0819 6315 034                         |
| DOUBLE WALL COUPLER 42.4 | 42.4           | 95   | 130  | 0819 6315 042                         |
| DOUBLE WALL COUPLER 48.3 | 48.3           | 104  | 140  | 0819 6315 048                         |



Refer to page 191.

### Male swivel



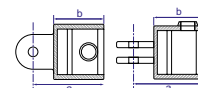
#### NORMAFIX® MALE SWIVEL

| Designation      | Diameter in mm | b mm | Malleable galvanized iron Product No. |
|------------------|----------------|------|---------------------------------------|
| MALE SWIVEL 33.7 | 33.7           | 43.5 | 0819 6316 034                         |
| MALE SWIVEL 42.4 | 42.4           | 48   | 0819 6316 042                         |
| MALE SWIVEL 48.3 | 48.3           | 53   | 0819 6316 048                         |
| MALE SWIVEL 60.3 | 60.3           | 60   | 0819 6316 060                         |



Refer to page 191.

### Female swivel



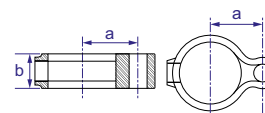
#### NORMAFIX® FEMALE SWIVEL

| Designation        | Diameter in mm | a mm | b mm | Malleable galvanized iron Product No. |
|--------------------|----------------|------|------|---------------------------------------|
| FEMALE SWIVEL 33.7 | 33.7           | 61   | 38   | 0819 6317 034                         |
| FEMALE SWIVEL 42.4 | 42.4           | 69   | 46   | 0819 6317 042                         |
| FEMALE SWIVEL 48.3 | 48.3           | 77   | 55   | 0819 6317 048                         |
| FEMALE SWIVEL 60.3 | 60.3           | 89   | 65   | 0819 6317 060                         |



Refer to page 191.

### Gate eye



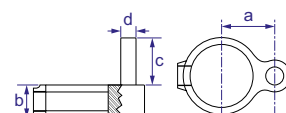
#### NORMAFIX® GATE EYE

| Designation   | Diameter in mm | a mm | b mm | Malleable galvanized iron Product No. |
|---------------|----------------|------|------|---------------------------------------|
| GATE EYE 33.7 | 33.7           | 33   | 25.5 | 0819 6318 034                         |
| GATE EYE 42.4 | 42.4           | 38   | 25   | 0819 6318 042                         |
| GATE EYE 48.3 | 48.3           | 41   | 25   | 0819 6318 048                         |



Refer to page 191.

### Gate hinge



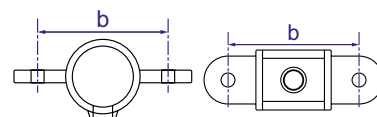
#### NORMAFIX® GATE HINGE

| Designation     | Diameter in mm | a mm | b mm | c mm | d mm | Malleable galvanized iron Product No. |
|-----------------|----------------|------|------|------|------|---------------------------------------|
| GATE HINGE 33.7 | 33.7           | 33   | 25.5 | 38   | 12   | 0819 6319 034                         |
| GATE HINGE 42.4 | 42.4           | 38   | 25   | 38   | 12   | 0819 6319 042                         |
| GATE HINGE 48.3 | 48.3           | 25   | 25   | 38   | 12   | 0819 6319 048                         |



Refer to page 191.

### Double male swivel



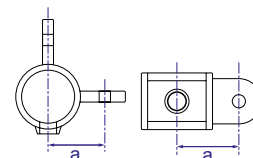
**NORMAFIX® DOUBLE MALE SWIVEL**

| Designation             | Diameter in mm | b mm | Malleable galvanized iron<br>Product No. |
|-------------------------|----------------|------|------------------------------------------|
| DOUBLE MALE SWIVEL 33.7 | 33.7           | 84   | 0819 6320 034                            |
| DOUBLE MALE SWIVEL 42.4 | 42.4           | 95   | 0819 6320 042                            |
| DOUBLE MALE SWIVEL 48.3 | 48.3           | 105  | 0819 6320 048                            |
| DOUBLE MALE SWIVEL 60.3 | 60.3           | 124  | 0819 6320 060                            |



Refer to page 191.

### 90° corner male swivel



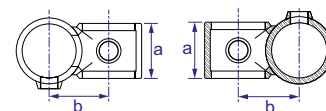
**NORMAFIX® 90° CORNER MALE SWIVEL**

| Designation                 | Diameter in mm | a mm | Malleable galvanized iron<br>Product No. |
|-----------------------------|----------------|------|------------------------------------------|
| 90° CORNER MALE SWIVEL 33.7 | 33.7           | 43.5 | 0819 6321 034                            |
| 90° CORNER MALE SWIVEL 42.4 | 42.4           | 48   | 0819 6321 042                            |
| 90° CORNER MALE SWIVEL 48.3 | 48.3           | 53   | 0819 6321 048                            |
| 90° CORNER MALE SWIVEL 60.3 | 60.3           | 62   | 0819 6321 060                            |



Refer to page 191.

### 90° Crossover



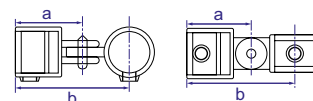
**NORMAFIX® 90° CROSSOVER**

| Designation        | Diameter in mm | a mm | b mm | Material:<br>Malleable galvanized iron<br>Product No. |
|--------------------|----------------|------|------|-------------------------------------------------------|
| 90° CROSSOVER 26.9 | 26.9           | 31.5 | 38   | 0819 6322 027                                         |
| 90° CROSSOVER 33.7 | 33.7           | 38.5 | 41   | 0819 6322 034                                         |
| 90° CROSSOVER 42.4 | 42.4           | 46   | 49.5 | 0819 6322 042                                         |
| 90° CROSSOVER 48.3 | 48.3           | 51   | 55   | 0819 6322 048                                         |
| 90° CROSSOVER 60.3 | 60.3           | 61   | 67   | 0819 6322 060                                         |



Refer to page 191.

### Single swivel combination



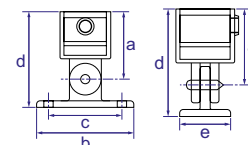
**NORMAFIX® SINGLE SWIVEL COMBINATION**

| Designation                    | Diameter in mm | a mm | b mm  | Malleable galvanized iron Product No. |
|--------------------------------|----------------|------|-------|---------------------------------------|
| SINGLE SWIVEL COMBINATION 26.9 | 26.9           | 61   | 106   | 0819 6323 027                         |
| SINGLE SWIVEL COMBINATION 33.7 | 33.7           | 61   | 104.5 | 0819 6323 034                         |
| SINGLE SWIVEL COMBINATION 42.4 | 42.4           | 69   | 117   | 0819 6323 042                         |
| SINGLE SWIVEL COMBINATION 48.3 | 48.3           | 77   | 130   | 0819 6323 048                         |
| SINGLE SWIVEL COMBINATION 60.3 | 60.3           | 89   | 152   | 0819 6323 060                         |



Refer to page 191.

### Base swivel combination



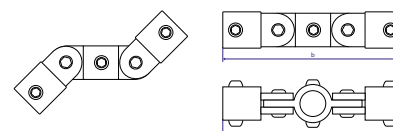
**NORMAFIX® BASE SWIVEL COMBINATION**

| Designation                  | Diameter in mm | a mm | b mm | c mm | d mm | e mm | Malleable galvanized iron Product No. |
|------------------------------|----------------|------|------|------|------|------|---------------------------------------|
| BASE SWIVEL COMBINATION 33.7 | 33.7           | 61   | 112  | 85   | 93   | 52   | 0819 6324 034                         |
| BASE SWIVEL COMBINATION 42.4 | 42.4           | 69   | 112  | 85   | 98   | 52   | 0819 6324 042                         |
| BASE SWIVEL COMBINATION 48.3 | 48.3           | 77   | 112  | 85   | 109  | 52   | 0819 6324 048                         |
| BASE SWIVEL COMBINATION 60.3 | 60.3           | 89   | 112  | 85   | 121  | 152  | 0819 6324 060                         |



Refer to page 191.

### Double swivel combination



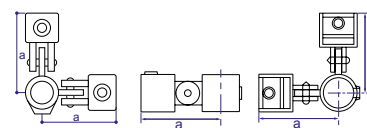
**NORMAFIX® DOUBLE SWIVEL COMBINATION**

| Designation                    | Diameter in mm | b mm | Malleable galvanized iron Product No. |
|--------------------------------|----------------|------|---------------------------------------|
| DOUBLE SWIVEL COMBINATION 33.7 | 33.7           | 208  | 0819 6325 034                         |
| DOUBLE SWIVEL COMBINATION 42.4 | 42.4           | 228  | 0819 6325 042                         |
| DOUBLE SWIVEL COMBINATION 48.3 | 48.3           | 259  | 0819 6325 048                         |



Refer to page 191.

### 90° Corner swivel combination



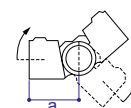
#### NORMAFIX® 90° CORNER SWIVEL COMBINATION

| Designation                        | Diameter in mm | a mm  | Malleable galvanized iron Product No. |
|------------------------------------|----------------|-------|---------------------------------------|
| 90° CORNER SWIVEL COMBINATION 33.7 | 33.7           | 104.5 | 0819 6326 034                         |
| 90° CORNER SWIVEL COMBINATION 42.4 | 42.4           | 117   | 0819 6326 042                         |
| 90° CORNER SWIVEL COMBINATION 48.3 | 48.3           | 130   | 0819 6326 048                         |



Refer to page 191.

### Short tee swivel



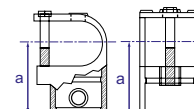
#### NORMAFIX® SHORT TEE SWIVEL

| Designation           | Diameter in mm | a mm | Malleable galvanized iron Product No. |
|-----------------------|----------------|------|---------------------------------------|
| SHORT TEE SWIVEL 26.9 | 26.9           | 53   | 0819 6327 027                         |
| SHORT TEE SWIVEL 33.7 | 33.7           | 59   | 0819 6327 034                         |
| SHORT TEE SWIVEL 42.4 | 42.4           | 73   | 0819 6327 042                         |
| SHORT TEE SWIVEL 48.3 | 48.3           | 93   | 0819 6327 048                         |



Refer to page 191.

### Clamp on tee



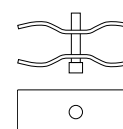
#### NORMAFIX® CLAMP ON TEE

| Designation       | Diameter in mm | a mm | Malleable galvanized iron Product No. |
|-------------------|----------------|------|---------------------------------------|
| CLAMP ON TEE 33.7 | 33.7           | 52.5 | 0819 6328 034                         |
| CLAMP ON TEE 42.4 | 42.4           | 67   | 0819 6328 042                         |
| CLAMP ON TEE 48.3 | 48.3           | 76,5 | 0819 6327 048                         |



Refer to page 191.

### Fence building clamp



#### NORMAFIX® FENCE BUILDING CLAMP

| Designation          | Diameter in mm | Electrolytic yellow passivated Product No. |
|----------------------|----------------|--------------------------------------------|
| FENCE BUILDING CLAMP | 48             | 0819 6333 048                              |



Refer to page 191.



- 1 2 bolts for fixing the clamp on the post
- 2 Round shaped to adapt to the form of the support

### Universal traffic sign fixation

Mainly used to hold road signs on a diversity of metal posts or lamppost diameters.



NORMAFIX®

#### Advantages at a glance

- Including 2 bolts
- To be used with a worm drive hose clamp

#### Applications

- Traffic signs industry

#### Materials

- Aluminum

#### Technical data & Ordering information

| NORMAFIX® ALU BAND CLAMP |        |                 |                      |
|--------------------------|--------|-----------------|----------------------|
| Designation              | Length | Number of bolts | Aluminum Product No. |
| ALU BAND CLAMP           | 82     | 2               | 0560 7563 082        |
| ALU BAND CLAMP           | 120    | 2               | 0560 7563 120        |



- 1 Dimple on both sides to insert the worm drive hose clamp

### Universal traffic sign fixation

Mainly used to hold road signs on a diversity of metal posts or lamppost diameters.



#### Advantages at a glance

- To be used with a worm drive hose clamp

#### Applications

- Traffic signs industry

#### Materials

- Stainless steel

#### Technical data & Ordering information

##### NORMAFIX® UNIVERSAL UCC CLAMP

| Designation         | Stainless steel<br>Product No. |
|---------------------|--------------------------------|
| UNIVERSAL UCC CLAMP | 0560 7620 000                  |

# For a helping hand in industrial, commercial and private applications – **Hose Connectors**

NORMAPLAST® plastic hose connectors – the NORMA® range of products for rapidly connecting hoses and pipes – are the helping hands that no one working in industrial, commercial or private applications should be without.





- |                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| <b>1 NORMAPLAST YN</b><br>– Y plastic pipe connectors                      | <b>6 NORMAPLAST WN</b><br>– Elbow plastic pipe connectors    |
| <b>2 NORMAPLAST TS</b><br>– Equal T push-on connectors                     | <b>7 NORMAPLAST GN</b><br>– Straight plastic pipe connectors |
| <b>3 NORMAPLAST GES</b><br>– Straight taper thread connectors              | <b>8 NORMAPLAST KS</b><br>– Cross push-on connectors         |
| <b>4 NORMAPLAST TES</b><br>– T-taper thread connector<br>– Equal bend – EB | <b>9 NORMAPLAST GS</b><br>– Straight push-on connectors      |
| <b>5 NORMAPLAST GRS</b><br>– Reducing straight push-on connectors          |                                                              |

## Hose connectors

NORMAPLAST® SV products are proven plastic hose and pipe connection components that create secure, reliable and affordable connections in lines used for transporting media.

NORMAPLAST® SV hose and pipe connectors are used in the automotive construction industry as well as practically every other industrial sector.

### Advantages at a glance

- Extremely strong
- Durable
- Low weight
- Can be used for damping/absorption
- Resistant to abrasion
- Highly resistant to impact

### Applications

- |                              |                         |
|------------------------------|-------------------------|
| • Machine building           | • Railway industry      |
| • White goods                | • Agricultural machines |
| • Chemical industry          | • Building machines     |
| • Irrigation systems         | • Engine manufacturing  |
| • Food and beverage industry | • Pump and filter       |

## Materials

| Materials                       |                                                   |                                                        |                                                              |                                                        |
|---------------------------------|---------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------|
|                                 | PP                                                | POM                                                    | PA6                                                          | PA with glass fiber                                    |
|                                 | Moplen HP501H                                     | Polyacetal copolymer standard material hose connectors | Polyamide unreinforced standard material threaded connectors | Polyamide reinforced standard material pipe connectors |
| <b>Mechanical Properties</b>    |                                                   |                                                        |                                                              |                                                        |
| <b>Operation temperature</b>    | 0°C to +80°C<br>short term (up to 1h) max. +100°C | –40°C to 80°C,<br>short-term (up to 1h) 110°C          | –40°C to 90°C,<br>short-term (up to 1h) 120°C                | –40°C to 120°C,<br>short-term (up to 1h) 150°C         |
| <b>Max. admissible pressure</b> | 10bar                                             | 10bar                                                  | 10bar                                                        | 10bar                                                  |

| Applications                                                         | Recommended material range |
|----------------------------------------------------------------------|----------------------------|
| Food area / drinking water area / chemical area                      | >POM<                      |
| Chemical area                                                        | >PP<                       |
| Chemical area (with aggressive media)                                | >PVDF<                     |
| Fuel / UREA (AdBlue) crank case ventilation                          | >PA12-GF30<                |
| Cooling water / Windshield washer fluid                              | >PA66-GF30<                |
| Air (Vacuum brake, Secondary air) TOC (Oil cooler, transmission oil) | >PA6-GF30<                 |

### Thermal properties

In the case of threaded spigots, the expansion coefficient  $100 \times 10^{-6}$  for thermoplastic material must be taken into consideration if temperature fluctuations occur. Our standard materials are classified in accordance with the UL (Underwriters Laboratories) system as follows:

- Flammability rating (UL94)
- POM, PP, PA6, PA6.6, and PA12: HB (Horizontal Burning)

## Materials

| Chemical properties of the plastics used |                                         |                             |             |     |         |      |        |       |
|------------------------------------------|-----------------------------------------|-----------------------------|-------------|-----|---------|------|--------|-------|
| No.                                      | Chemical substance                      | Concentration               | Temperature | POM | PP      | PA 6 | PA 6.6 | PA 12 |
| 1                                        | Acetone                                 | 100%                        | 20 °C/50 °C | 1/3 | 1/1     | 1/0  | 1/0    | 1/0   |
| 2                                        | Formic acid                             | 98-100%                     | 20 °C/50 °C | 4/4 | 1/3     | 4/4  | 4/4    | 4/4   |
| 3                                        | Ammonium hydroxide (spirits of ammonia) | Any                         | 20 °C/50 °C | 1/2 | 1/1     | 1/0  | 1/0    | 1/0   |
| 4                                        | Benzene; normal and super unleaded      | Commercial                  | 20 °C/50 °C | 1/1 | 3/4     | 1/1  | 1/1    | 1/1   |
| 5                                        | Benzene, benzene hydrocarbons           | 100%                        | 20 °C/50 °C | 3/3 | 3/4     | 1/0  | 1/0    | 1/0   |
| 6                                        | Bleaching lye (12.5% active chlorine)   | Aqueous solution 12.5%      | 20 °C/50 °C | 4/4 | 3/3     | 4/4  | 4/4    | 3/3   |
| 7                                        | Brake fluid (DOT4)                      | Commercial                  | 20 °C/50 °C | 1/1 | 1/1     | 1/1  | 1/1    | 1/1   |
| 8                                        | Butanol                                 | Technically pure            | 20 °C/50 °C | 1/2 | 1/1     | 1/0  | 1/0    | 1/0   |
| 9                                        | Chlorine, chlorine water                | Commercial                  | 20 °C/50 °C | 4/4 | 4/4     | 4/4  | 4/4    | 4/4   |
| 10                                       | Disinfectant phenols                    | Diluted solution            | 20 °C/50 °C | 4/4 | 1/1     | 4/4  | 4/4    | 4/4   |
| 11                                       | Diesel fuel, diesel oil                 | Commercial                  | 20 °C/50 °C | 1/1 | 1/3     | 1/1  | 1/1    | 1/1   |
| 12                                       | Decalcifier                             | Aqueous solution ~10%       | 20 °C/50 °C | 4/4 | 1/1     | 2/3  | 2/3    | 2/3   |
| 13                                       | Photographic developer (1:100)          | Commercial                  | 20 °C/50 °C | 1/1 | 1/1     | 4/4  | 4/4    | 4/4   |
| 14                                       | Natural gas (town gas, coal gas)        | Commercial                  | 20 °C/50 °C | 1/1 | 1/1     | 1/1  | 1/1    | 1/1   |
| 15                                       | Crude oil                               | Commercial                  | 20 °C/50 °C | 1/1 | 3/3     | 1/1  | 1/1    | 1/1   |
| 16                                       | Acetic acid (glacial acetic acid)       | 90%                         | 20 °C/50 °C | 4/4 | 1/2     | 4/4  | 4/4    | 4/4   |
| 17                                       | Ethyl alcohol                           | 96% (tech. pure)            | 20 °C/50 °C | 1/2 | 1/1     | 1/0  | 1/0    | 1/0   |
| 18                                       | Photographic emulsion                   | Commercial                  | 20 °C/50 °C | 1/0 | 1/1     | 1/0  | 1/0    | 1/0   |
| 19                                       | Fruit juices                            | Commercial                  | 20 °C/50 °C | 1/1 | 1/1     | 1/1  | 1/1    | 1/1   |
| 20                                       | Glycerine                               | Technically pure            | 20 °C/50 °C | 1/1 | 1/1     | 1/1  | 1/1    | 1/1   |
| 21                                       | Glysantin                               | Commercial                  | 20 °C/50 °C | 1/1 | 1/1     | 3/3  | 3/3    | 3/3   |
| 22                                       | Heating oil                             | Commercial                  | 20 °C/50 °C | 1/1 | 1/3     | 1/1  | 1/1    | 1/1   |
| 23                                       | Hydraulic fluid                         | Commercial                  | 20 °C/50 °C | 1/0 | 1/3     | 1/1  | 1/1    | 1/1   |
| 24                                       | Carbon dioxide, carbonic acid           | Technically pure, saturated | 20 °C/50 °C | 1/1 | 1/1     | 1/0  | 1/0    | 1/0   |
| 25                                       | Coolants (based on glycol)              | Commercial                  | 20 °C/50 °C | 1/1 | 1/1     | 3/3  | 1/1    | 1/1   |
| 26                                       | Methane                                 | Technically pure            | 20 °C/50 °C | 1/1 | 1/1     | 1/1  | 1/1    | 1/1   |
| 27                                       | Methanol                                | Technically pure            | 20 °C/50 °C | 1/1 | 1/1     | 1/1  | 1/1    | 3/3   |
| 28                                       | Methyl ethyl ketone                     | 100%                        | 20 °C/50 °C | 3/3 | 1/3     | 1/0  | 1/0    | 1/1   |
| 29                                       | Engine oils (HD)                        | Commercial                  | 20 °C/50 °C | 1/1 | 1/3     | 1/1  | 1/1    | 1/1   |
| 30                                       | Sodium hydroxide (lye; caustic soda)    | 40%                         | 20 °C/50 °C | 1/1 | 1/1     | 1/1  | 1/1    | 1/1   |
| 31                                       | Ozone                                   | Gaseous                     | 20 °C/50 °C | 4/4 | 3/4     | 3/4  | 3/4    | 3/4   |
| 32                                       | Propanol                                | Technically pure            | 20 °C/50 °C | 1/1 | 1/1     | 1/1  | 1/1    | 2/2   |
| 33                                       | Propane (liquefied gas)                 | Liquid                      | 20 °C/50 °C | 1/1 | 1/1     | 1/0  | 1/0    | 1/0   |
| 34                                       | Propene                                 | 96%                         | 20 °C/50 °C | 1/0 | 1/1     | 1/0  | 1/0    | 1/0   |
| 35                                       | Rape oil (rape oil methyl ester)        | Commercial                  | 20 °C/50 °C | 1/1 | 2/2 (*) | 1/1  | 1/1    | 1/1   |
| 36                                       | Hydrochloric acid                       | Aqueous, 10%                | 20 °C/50 °C | 4/4 | 1/1     | 4/4  | 4/4    | 3/3   |
| 37                                       | Lubricating oil/grease, soft soap       | Commercial                  | 20 °C/50 °C | 1/1 | 1/2     | 1/1  | 1/1    | 1/1   |
| 38                                       | Sulphuric acid                          | Aqueous, 10%                | 20 °C/50 °C | 4/4 | 1/2     | 3/3  | 3/3    | 2/2   |
| 39                                       | De-icing salt solution (brine)          | Saturated                   | 20 °C/50 °C | 1/2 | 1/1     | 1/1  | 1/1    | 1/1   |
| 40                                       | Soap suds (dissolved detergent)         | Diluted solution            | 20 °C/50 °C | 1/1 | 2/2 (*) | 1/1  | 1/1    | 1/1   |
| 41                                       | Water (drinking, river, sea)            | Technically pure            | 20 °C/50 °C | 1/1 | 1/1     | 1/1  | 1/1    | 1/1   |
| 42                                       | Citric acid                             | 10%                         | 20 °C/50 °C | 2/4 | 1/1     | 1/0  | 1/0    | 1/0   |

### Explanation of abbreviations:

POM = Acetal copolymer

PP = Polypropylene

PA = Polyamide

0 = No data available/Not possible to make an appropriate statement

1 = Highly stable/suitable  
(change in dimensions: none or negligible and reversible; no damage even after extended period)

2 = Very stable/suitable  
(change in dimensions after short period: none or negligible and reversible; little change in dimensions, possibly irreversible change to properties after extended period)

3 = Limited stability  
(considerable changes to dimensions, possibly irreversible change to properties after extended period)

4 = Unstable/unsuitable  
(soluble or serious effects after a short period)

(\*) Moisture expansion

The specifications in this catalogue are based on tests carried out by the granular material manufacturer. They are intended to serve as guidelines for our customers, but cannot simply be applied to any case in which customers expose these products to demands which fall outside the scope of the tests performed. On no account should this be done without first consulting us.

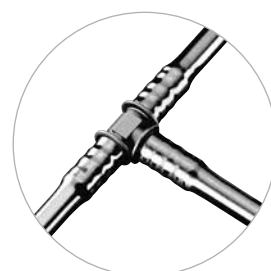
Our customers must perform their own tests to determine whether our NORMAPLAST® plastic hose connecting components are suitable for the application they are intended to be used in. We will be happy to offer any advice or information required.

Our liability is subject exclusively to our terms of delivery and sale. Special versions can be produced if an appropriate quantity of the component in question is ordered.

Please contact the relevant manufacturer before using a product as a safety component.

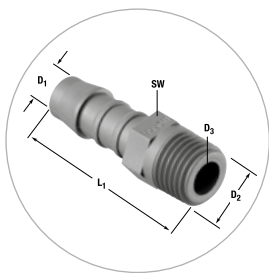


Use as a hose connector



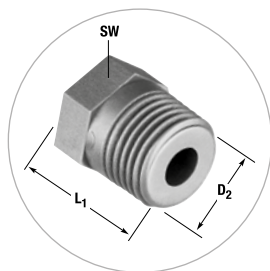
Use as a push-on connector

## GES – Straight taper thread connectors



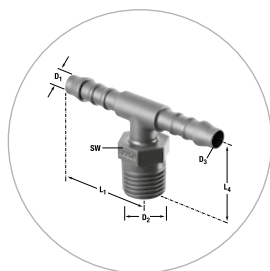
| Nominal size ID hose (in mm) | Designation         | D <sub>1</sub> | D <sub>2</sub>  | D <sub>3</sub> | L <sub>1</sub> ~ | SW | Material PA6 Product No. |
|------------------------------|---------------------|----------------|-----------------|----------------|------------------|----|--------------------------|
| 3                            | GES 3 / M 5         | 3              | M 5 cyl         | 2.5            | 19.5             | 6  | 0710 8952 003            |
| 4                            | GES 4 / M 8 x 1     | 4              | M 8 x 1 con.    | 2.5            | 27               | 10 | 0710 8901 004            |
|                              | GES 4 / M 8 x 1.25  | 4              | M 8 x 1.25 con. | 2.5            | 27               | 10 | 0710 8902 004            |
|                              | GES 4 / M 10 x 1    | 4              | M 10 x 1 con.   | 2.5            | 27               | 10 | 0710 8903 004            |
|                              | GES 4 / M 12 x 1.5  | 4              | M 12 x 1.5 con. | 2.5            | 32               | 14 | 0710 8904 004            |
|                              | GES 4 / M 14 x 1.5  | 4              | M 14 x 1.5 con. | 2.5            | 32               | 14 | 0710 8905 004            |
|                              | GES 4 / R 1/8       | 4              | R 1/8 con.      | 2.5            | 27               | 10 | 0710 8910 004            |
|                              | GES 4 / R 1/4       | 4              | R 1/4 con.      | 2.5            | 32               | 14 | 0710 8911 004            |
|                              | GES 4 / 1/8 NPT     | 4              | 1/8 NPT         | 2.5            | 29               | 10 | 0710 8917 004            |
|                              | GES 4 / 1/4 NPT     | 4              | 1/4 NPT         | 2.5            | 35               | 14 | 0710 8918 004            |
| 5                            | GES 5 / M 12 x 1.5  | 5              | M 12 x 1.5 con. | 3              | 36               | 14 | 0710 8904 005            |
|                              | GES 5 / M 14 x 1.5  | 5              | M 14 x 1.5 con. | 3              | 36               | 14 | 0710 8905 005            |
|                              | GES 5 / R 1/4       | 5              | R 1/4 con.      | 3              | 36               | 14 | 0710 8911 005            |
|                              | GES 5 / R 1/4 NPT   | 5              | R 1/4 NPT       | 3              | 39               | 14 | 0710 8918 005            |
| 6                            | GES 6 / M 10 x 1    | 6              | M 10 x 1 con.   | 4              | 32.5             | 10 | 0710 8903 006            |
|                              | GES 6 / M 12 x 1.5  | 6              | M 12 x 1.5 con. | 4              | 37.5             | 14 | 0710 8904 006            |
|                              | GES 6 / M 14 x 1.5  | 6              | M 14 x 1.5 con. | 4              | 36.5             | 14 | 0710 8905 006            |
|                              | GES 6 / R 1/8       | 6              | R 1/8 con.      | 4              | 32.5             | 10 | 0710 8910 006            |
|                              | GES 6 / R 1/4       | 6              | R 1/4 con.      | 4              | 37.5             | 14 | 0710 8911 006            |
|                              | GES 6 / R 3/8       | 6              | R 3/8 con.      | 4              | 39               | 17 | 0710 8912 006            |
|                              | GES 6 / 1/8 NPT     | 6              | 1/8 NPT         | 4              | 34.5             | 10 | 0710 8917 006            |
|                              | GES 6 / 1/4 NPT     | 6              | 1/4 NPT         | 4              | 40.5             | 14 | 0710 8918 006            |
| 8                            | GES 8 / M 10 x 1    | 8              | M 10 x 1 con.   | 5.6            | 38               | 14 | 0710 8903 008            |
|                              | GES 8 / M 12 x 1.5  | 8              | M 12 x 1.5 con. | 5.6            | 41               | 14 | 0710 8904 008            |
|                              | GES 8 / M 14 x 1.5  | 8              | M 14 x 1.5 con. | 5.6            | 41               | 14 | 0710 8905 008            |
|                              | GES 8 / M 18 x 1.5  | 8              | M 18 x 1.5 con. | 5.6            | 49               | 22 | 0710 8907 008            |
|                              | GES 8 / M 22 x 1.5  | 8              | M 22 x 1.5 con. | 5.6            | 49               | 22 | 0710 8949 008            |
|                              | GES 8 / M 26 x 1.5  | 8              | M 26 x 1.5 con. | 5.6            | 58               | 27 | 0710 8908 008            |
|                              | GES 8 / R 1/8       | 8              | R 1/8 con.      | 5.6            | 38               | 14 | 0710 8910 008            |
|                              | GES 8 / R 1/4       | 8              | R 1/4 con.      | 5.6            | 41               | 14 | 0710 8911 008            |
|                              | GES 8 / R 3/8       | 8              | R 3/8 con.      | 5.6            | 41               | 17 | 0710 8912 008            |
|                              | GES 8 / R 1/2       | 8              | R 1/2 con.      | 5.6            | 49               | 22 | 0710 8913 008            |
|                              | GES 8 / 1/4 NPT     | 8              | 1/4 NPT         | 5.6            | 44               | 14 | 0710 8918 008            |
| 10                           | GES 10 / M 12 x 1.5 | 10             | M 12 x 1.5 con. | 7              | 43.5             | 14 | 0710 8904 010            |
|                              | GES 10 / M 14 x 1.5 | 10             | M 14 x 1.5 con. | 7              | 43.5             | 14 | 0710 8905 010            |
|                              | GES 10 / M 16 x 1.5 | 10             | M 16 x 1.5 con. | 7              | 43.5             | 17 | 0710 8906 010            |
|                              | GES 10 / R 1/4      | 10             | R 1/4 con.      | 7              | 43.5             | 14 | 0710 8911 010            |
|                              | GES 10 / R 3/8      | 10             | R 3/8 con.      | 7              | 43.5             | 17 | 0710 8912 010            |
|                              | GES 10 / 1/4 NPT    | 10             | 1/4 NPT         | 7              | 46.5             | 14 | 0710 8918 010            |
|                              | GES 10 / 3/8 NPT    | 10             | 3/8 NPT         | 7              | 46.5             | 17 | 0710 8919 010            |
| 12                           | GES 12 / M 16 x 1.5 | 12             | M 16 x 1.5 con. | 8.6            | 45.5             | 17 | 0710 8906 012            |
|                              | GES 12 / M 18 x 1.5 | 12             | M 18 x 1.5 con. | 8.6            | 54               | 22 | 0710 8907 012            |
|                              | GES 12 / M 22 x 1.5 | 12             | M 22 x 1.5 con. | 8.6            | 54               | 22 | 0710 8949 012            |
|                              | GES 12 / M 26 x 1.5 | 12             | M 26 x 1.5 con. | 8.6            | 58               | 27 | 0710 8909 012            |
|                              | GES 12 / R 3/8      | 12             | R 3/8 con.      | 8.6            | 45.5             | 17 | 0710 8912 012            |
|                              | GES 12 / R 1/2      | 12             | R 1/2 con.      | 8.6            | 54               | 22 | 0710 8913 012            |
|                              | GES 12 / 3/8 NPT    | 12             | 3/8 NPT         | 8.6            | 48               | 17 | 0710 8919 012            |
| 14                           | GES 14 / M 20 x 1.5 | 14             | M 20 x 1.5 con. | 10             | 56               | 22 | 0710 8908 014            |
|                              | GES 14 / R 3/8      | 14             | R 3/8 con.      | 10             | 56               | 17 | 0710 8912 014            |
|                              | GES 14 / R 1/2      | 14             | R 1/2 con.      | 10             | 56               | 22 | 0710 8913 014            |
|                              | GES 14 / R 1/2 NPT  | 14             | R 1/2 NPT       | 10             | 58               | 22 | 0710 8920 014            |
| 16                           | GES 16 / M 26 x 1.5 | 16             | M 26 x 1.5 con. | 12             | 58               | 27 | 0710 8909 016            |
|                              | GES 16 / R 1/2      | 16             | R 1/2 con.      | 12             | 58               | 22 | 0710 8913 016            |
|                              | GES 16 / R 3/4      | 16             | R 3/4 con.      | 12             | 58               | 27 | 0710 8914 016            |
| 19                           | GES 19 / M 26 x 1.5 | 19             | M 26 x 1.5 con. | 15             | 58               | 27 | 0710 8909 019            |
|                              | GES 19 / R 3/4      | 19             | R 3/4 con.      | 15             | 58               | 27 | 0710 8914 019            |
| 25                           | GES 25 / R 1        | 25             | R 1 con.        | 21             | 69               | 32 | 0710 8915 025            |

**BST – Blanking plugs with screw-in thread**



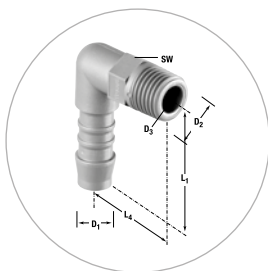
| Designation    | D <sub>2</sub>  | L <sub>1</sub> ~ | SW | Material PA6<br>Product No. |
|----------------|-----------------|------------------|----|-----------------------------|
| BST M 8 x 1    | M 8 x 1 con.    | 13               | 10 | 0711 8901 000               |
| BST M 10 x 1   | M 10 x 1 con.   | 13.5             | 10 | 0711 8903 000               |
| BST M 12 x 1.5 | M 12 x 1.5 con. | 17.5             | 14 | 0711 8904 000               |
| BST M 14 x 1.5 | M 14 x 1.5 con. | 17.5             | 14 | 0711 8905 000               |
| BST M 18 x 1.5 | M 18 x 1.5 con. | 26.5             | 22 | 0711 8907 000               |
| BST M 20 x 1.5 | M 20 x 1.5 con. | 25               | 22 | 0711 8908 000               |
| BST M 26 x 1.5 | M 26 x 1.5 con. | 26.5             | 22 | 0711 8909 000               |
| BST R 1/8      | R 1/8 con.      | 26               | 22 | 0711 8910 000               |
| BST R 1/4      | R 1/4 con.      | 12.5             | 10 | 0711 8911 000               |
| BST R 3/8      | R 3/8 con.      | 17.5             | 14 | 0711 8912 000               |
| BST R 1/2      | R 1/2 con.      | 27               | 17 | 0711 8913 000               |
| BST 1/8 NPT    | 1/8 NPT         | 27.5             | 22 | 0711 8917 000               |
| BST 1/4 NPT    | 1/4 NPT         | 14               | 10 | 0711 8918 000               |
| BST M 22 x 1.5 | M 22 x 1.5 con. | 20.5             | 14 | 0711 8949 000               |

**TES – T-taper thread connectors**

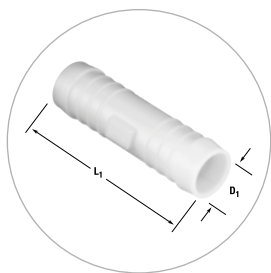


| Nominal size<br>ID hose<br>(in mm) | Designation        | D <sub>1</sub> | D <sub>2</sub>  | D <sub>3</sub> | L <sub>1</sub> ~ | L <sub>2</sub> ~ | SW | Material PA6<br>Product No. |
|------------------------------------|--------------------|----------------|-----------------|----------------|------------------|------------------|----|-----------------------------|
| 4                                  | TES 4 / M 8 x 1    | 4              | M 8 x 1 con.    | 2.5            | 21               | 18               | 10 | 0720 8901 004               |
|                                    | TES 4 / M 10 x 1   | 4              | M 10 x 1 con.   | 2.5            | 21               | 18               | 10 | 0720 8903 004               |
|                                    | TES 4 / M 12 x 1.5 | 4              | M 12 x 1.5 con. | 2.9            | 21               | 23               | 14 | 0720 8904 004               |
|                                    | TES 4 / R 1/8      | 4              | R 1/8 con.      | 2.5            | 21               | 18               | 10 | 0720 8910 004               |
|                                    | TES 4 / R 1/4      | 4              | R 1/4 con.      | 2.5            | 21               | 23               | 14 | 0720 8911 004               |
|                                    | TES 4 / 1/8 NPT    | 4              | 1/8 NPT         | 2.5            | 21               | 20               | 10 | 0720 8917 004               |
|                                    | TES 4 / 1/4 NPT    | 4              | 1/4 NPT         | 2.5            | 21               | 26               | 14 | 0720 8918 004               |
| 6                                  | TES 6 / M 10 x 1   | 6              | M 10 x 1 con.   | 4              | 28.5             | 21               | 10 | 0720 8903 006               |
|                                    | TES 6 / M 12 x 1.5 | 6              | M 12 x 1.5 con. | 4              | 28.5             | 26               | 14 | 0720 8904 006               |
|                                    | TES 6 / R 1/8      | 6              | R 1/8 con.      | 4              | 28.5             | 21               | 10 | 0720 8910 006               |
|                                    | TES 6 / R 1/4      | 6              | R 1/4 con.      | 4              | 28.5             | 26               | 14 | 0720 8911 006               |
|                                    | TES 6 / 1/8 NPT    | 6              | 1/8 NPT         | 4              | 28.5             | 23               | 10 | 0720 8917 006               |
|                                    | TES 6 / 1/4 NPT    | 6              | 1/4 NPT         | 4              | 28.5             | 29               | 14 | 0720 8918 006               |
| 8                                  | TES 8 / M 12 x 1.5 | 8              | M 12 x 1.5 con. | 5.6            | 33               | 27.5             | 14 | 0720 8904 008               |
|                                    | TES 8 / M 14 x 1.5 | 8              | M 14 x 1.5 con. | 5.6            | 33               | 27.5             | 14 | 0720 8905 008               |
|                                    | TES 8 / R 1/4      | 8              | R 1/4 con.      | 5.6            | 33               | 27.5             | 14 | 0720 8911 008               |
|                                    | TES 8 / 1/4NPT     | 8              | 1/4NPT          | 5.6            | 33               | 30.5             | 14 | 0720 8918 008               |
| 10                                 | TES 10 / R 3/8     | 10             | R 3/8 con.      | 7              | 35.5             | 30               | 17 | 0720 8912 010               |

## WES – Elbow taper thread connectors



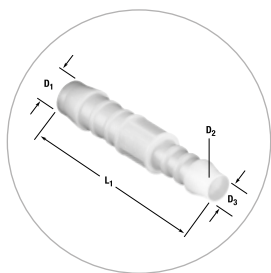
| Nominal size ID hose (in mm) | Designation         | D <sub>1</sub> | D <sub>2</sub>  | D <sub>3</sub> | L <sub>1</sub> ~ | L <sub>2</sub> ~ | SW | Material PA6 Product No. |
|------------------------------|---------------------|----------------|-----------------|----------------|------------------|------------------|----|--------------------------|
| 3                            | WES 3 / M 5 cyl.    | 3              | M 5 cyl.        | 2.5            | 12.5             | 12.5             | 6  | 0730 8952 003            |
| 4                            | WES 4 / M 8 x 1     | 4              | M 8 x 1 con.    | 2.7            | 21               | 16               | 10 | 0730 8901 004            |
|                              | WES 4 / M 10 x 1    | 4              | M 10 x 1 con.   | 2.7            | 21               | 16               | 10 | 0730 8903 004            |
|                              | WES 4 / M 12 x 1.5  | 4              | M 12 x 1.5 con. | 2.7            | 21               | 25               | 14 | 0730 8904 004            |
|                              | WES 4 / M 14 x 1.5  | 4              | M 14 x 1.5 con. | 2.7            | 21               | 25               | 14 | 0730 8905 004            |
|                              | WES 4 / R 1/8       | 4              | R 1/8 con.      | 2.7            | 21               | 16               | 10 | 0730 8910 004            |
|                              | WES 4 / R 1/4       | 4              | R 1/4 con.      | 2.7            | 21               | 25               | 14 | 0730 8911 004            |
|                              | WES 4 / 1/8 NPT     | 4              | 1/8 NPT         | 2.7            | 21               | 18               | 10 | 0730 8917 004            |
|                              | WES 4 / 1/4 NPT     | 4              | 1/4 NPT         | 2.7            | 21               | 28               | 14 | 0730 8918 004            |
| 6                            | WES 6 / M 10 x 1    | 6              | M 10 x 1 con.   | 4              | 28.5             | 21               | 10 | 0730 8903 006            |
|                              | WES 6 / M 12 x 1.5  | 6              | M 12 x 1.5 con. | 4              | 28.5             | 26               | 14 | 0730 8904 006            |
|                              | WES 6 / R 1/8       | 6              | R 1/8 con.      | 4              | 28.5             | 21               | 10 | 0730 8910 006            |
|                              | WES 6 / R 1/4       | 6              | R 1/4 con.      | 4              | 28.5             | 26               | 14 | 0730 8911 006            |
|                              | WES 6 / R 3/8       | 6              | R 3/8 con.      | 4              | 28.5             | 27               | 17 | 0730 8912 006            |
|                              | WES 6 / 1/8 NPT     | 6              | 1/8 NPT         | 4              | 28.5             | 23               | 10 | 0730 8917 006            |
|                              | WES 6 / 1/4 NPT     | 6              | 1/4 NPT         | 4              | 28.5             | 29               | 14 | 0730 8918 006            |
| 8                            | WES 8 / M 10 x 1    | 8              | M 10 x 1 con.   | 5.6            | 33               | 23.5             | 14 | 0730 8903 008            |
|                              | WES 8 / M 12 x 1.5  | 8              | M 12 x 1.5 con. | 5.6            | 33               | 27.5             | 14 | 0730 8904 008            |
|                              | WES 8 / M 14 x 1.5  | 8              | M 14 x 1.5 con. | 5.6            | 33               | 27.5             | 14 | 0730 8905 008            |
|                              | WES 8 / M 16 x 1.5  | 8              | M 16 x 1.5 con. | 5.6            | 36               | 27.5             | 17 | 0730 8906 008            |
|                              | WES 8 / M 18 x 1.5  | 8              | M 18 x 1.5 con. | 5.6            | 36               | 36               | 19 | 0730 8907 008            |
|                              | WES 8 / M 22 x 1.5  | 8              | M 22 x 1.5 con. | 5.6            | 36               | 36               | 22 | 0730 8949 008            |
|                              | WES 8 / R 1/8       | 8              | R 1/8 con.      | 5.6            | 33               | 23               | 14 | 0730 8910 008            |
|                              | WES 8 / R 1/4       | 8              | R 1/4 con.      | 5.6            | 33               | 27.5             | 14 | 0730 8911 008            |
|                              | WES 8 / R 3/8       | 8              | R 3/8 con.      | 5.6            | 36               | 31               | 17 | 0730 8912 008            |
|                              | WES 8 / R 1/2       | 8              | R 1/2 con.      | 5.6            | 36               | 36               | 22 | 0730 8913 008            |
|                              | WES 8 / 1/4 NPT     | 8              | 1/4 NPT         | 5.6            | 33               | 30.5             | 14 | 0730 8918 008            |
| 10                           | WES 10 / M 14 x 1.5 | 10             | M 14 x 1.5 con. | 7              | 38               | 30               | 14 | 0730 8905 010            |
|                              | WES 10 / R 1/4      | 10             | R 1/4           | 7              | 38               | 30               | 14 | 0730 8911 010            |
|                              | WES 10 / R 3/8      | 10             | R 3/8           | 7              | 38               | 30               | 17 | 0730 8912 010            |
|                              | WES 10 / 1/2 NPT    | 10             | 1/2 NPT         | 7              | 38               | 38               | 22 | 0730 8920 010            |
| 12                           | WES 12 / M 16 x 1.5 | 12             | M 16 x 1.5 con. | 8.6            | 40.5             | 30               | 17 | 0730 8906 012            |
|                              | WES 12 / M 18 x 1.5 | 12             | M 18 x 1.5 con. | 8.6            | 40.5             | 36               | 19 | 0730 8907 012            |
|                              | WES 12 / M 22 x 1.5 | 12             | M 22 x 1.5 con. | 8.6            | 40.5             | 36               | 22 | 0730 8949 012            |
|                              | WES 12 / M 26 x 1.5 | 12             | M 26 x 1.5 con. | 8.6            | 40.5             | 36               | 22 | 0730 8909 012            |
|                              | WES 12 / R 3/8      | 12             | R 3/8           | 8.6            | 40.5             | 31               | 17 | 0730 8912 012            |
|                              | WES 12 / R 1/2      | 12             | R 1/2           | 8.6            | 40.5             | 36               | 22 | 0730 8913 012            |
|                              | WES 12 / 3/8 NPT    | 12             | 3/8 NPT         | 8.6            | 40.5             | 31               | 19 | 0730 8919 012            |
| 19                           | WES 19 / M 24 x 2   | 19             | M 24 x 2 con.   | 15             | 45               | 42.8             | 27 | 0730 8953 019            |
|                              | WES 19 / R 3/4      | 19             | R 3/4 con.      | 15             | 45.5             | 42.8             | 27 | 0730 8914 019            |
| 25                           | WES 25 / R 1        | 25             | R 1 con.        | 21             | 60               | 49               | 32 | 0730 8915 025            |

**GS – Straight push-on connectors**

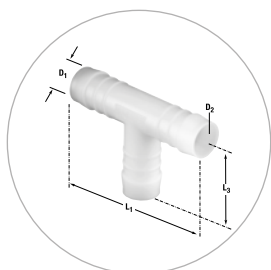
| Nominal size<br>ID hose (in<br>mm) | Designation | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | Material POM<br>Product No. |
|------------------------------------|-------------|----------------|----------------|------------------|-----------------------------|
| 3                                  | GS 3        | 3              | 2.5            | 25               | 0750 8900 003               |
| 4                                  | GS 4        | 4              | 2.7            | 35               | 0750 8900 004               |
| 5                                  | GS 5        | 5              | 3              | 45               | 0750 8900 005               |
| 6                                  | GS 6        | 6              | 4              | 49               | 0750 8900 006               |
| 8                                  | GS 8        | 8              | 5.6            | 56               | 0750 8900 008               |
| 10                                 | GS 10       | 10             | 7              | 63               | 0750 8900 010               |
| 12                                 | GS 12       | 12             | 8.6            | 66.5             | 0750 8900 012               |
| 13                                 | GS 13       | 13             | 8.6            | 73               | 0750 8900 013               |
| 14                                 | GS 14       | 14             | 10             | 79               | 0750 8900 014               |
| 16                                 | GS 16       | 16             | 12             | 75               | 0750 8900 016               |
| 19                                 | GS 19       | 19             | 15             | 76               | 0750 8900 019               |
| 25                                 | GS 25       | 25             | 21             | 95               | 0750 8900 025               |



Refer to pages 181 and 182.

**GRS – Reducing straight push-on connectors**

| Nominal size<br>ID hose (in<br>mm) | Designation | D <sub>1</sub> | D <sub>2</sub> | D <sub>3</sub> | L <sub>1</sub> ~ | Material POM<br>Product No. |
|------------------------------------|-------------|----------------|----------------|----------------|------------------|-----------------------------|
| 4 - 3                              | GRS 4 - 3   | 4              | 2.5            | 3              | 30               | 0751 8904 003               |
| 5 - 4                              | GRS 5 - 4   | 5              | 2.7            | 3              | 41               | 0751 8905 004               |
| 6 - 4                              | GRS 6 - 4   | 6              | 2.7            | 4              | 42.5             | 0751 8906 004               |
| 8 - 4                              | GRS 8 - 4   | 8              | 2.7            | 4              | 48               | 0751 8908 004               |
| 8 - 6                              | GRS 8 - 6   | 8              | 4              | 6              | 54               | 0751 8908 006               |
| 10 - 6                             | GRS 10 - 6  | 10             | 4              | 6              | 58               | 0751 8910 006               |
| 10 - 8                             | GRS 10 - 8  | 10             | 5.6            | 8              | 60.5             | 0751 8910 008               |
| 12 - 8                             | GRS 12 - 8  | 12             | 5.6            | 8              | 62.5             | 0751 8912 008               |
| 12 - 10                            | GRS 12 - 10 | 12             | 7              | 10             | 64               | 0751 8912 010               |

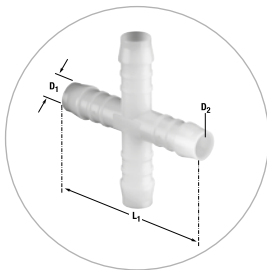
**TS – Equal T push-on connectors**

| Nominal size<br>ID hose (in<br>mm) | Designation | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | L <sub>2</sub> ~ | Material POM<br>Product No. |
|------------------------------------|-------------|----------------|----------------|------------------|------------------|-----------------------------|
| 3                                  | TS 3        | 3              | 2.5            | 25               | 12.5             | 0760 8900 003               |
| 4                                  | TS 4        | 4              | 2.7            | 35               | 19.5             | 0760 8900 004               |
| 5                                  | TS 5        | 5              | 3              | 42               | 22               | 0760 8900 005               |
| 6                                  | TS 6        | 6              | 4              | 50               | 26               | 0760 8900 006               |
| 7                                  | TS 7        | 7              | 5              | 50               | 26               | 0760 8900 007               |
| 8                                  | TS 8        | 8              | 5.6            | 58               | 30               | 0760 8900 008               |
| 10                                 | TS 10       | 10             | 7              | 62.5             | 33.5             | 0760 8900 010               |
| 12                                 | TS 12       | 12             | 8.6            | 69               | 36               | 0760 8900 012               |
| 13                                 | TS 13       | 13             | 8.6            | 68               | 36               | 0760 8900 013               |
| 14                                 | TS 14       | 14             | 10             | 77.5             | 41.5             | 0760 8900 014               |
| 15                                 | TS 15       | 15             | 11             | 79.5             | 43.5             | 0760 8900 015               |
| 16                                 | TS 16       | 16             | 12             | 81               | 45               | 0760 8900 016               |
| 19                                 | TS 19       | 19             | 15             | 85               | 45               | 0760 8900 019               |
| 25                                 | TS 25       | 25             | 21             | 105              | 52.5             | 0760 8900 025               |



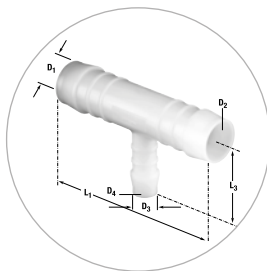
Refer to pages 181 and 182.

## KS – Cross push-on connectors



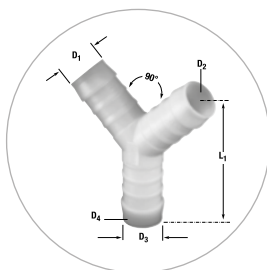
| Nominal size<br>ID hose (in mm) | Designation | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | Material POM<br>Product No. |
|---------------------------------|-------------|----------------|----------------|------------------|-----------------------------|
| 4                               | KS 4        | 4              | 2.9            | 39               | 0772 8900 004               |
| 5                               | KS 5        | 5              | 3              | 48               | 0772 8900 005               |
| 6                               | KS 6        | 6              | 4              | 48               | 0772 8900 006               |
| 12                              | KS 12       | 12             | 8.6            | 69               | 0772 8900 012               |

## TRS – Reducing T push-on connectors



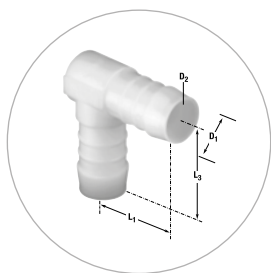
| Nominal size<br>ID hose<br>(in mm) | Designation      | D <sub>1</sub> | D <sub>2</sub> | D <sub>3</sub> | D <sub>4</sub> | L <sub>1</sub> ~ | L <sub>2</sub> ~ | Material POM<br>Product No. |
|------------------------------------|------------------|----------------|----------------|----------------|----------------|------------------|------------------|-----------------------------|
| 3 - 4 - 3                          | TRS 3 - 4 - 3    | 3              | 2.5            | 4              | 2.5            | 25               | 17.5             | 0761 8903 004               |
| 4 - 6 - 4                          | TRS 4 - 6 - 4    | 4              | 2.7            | 6              | 4              | 37               | 24               | 0761 8904 006               |
| 6 - 4 - 6                          | TRS 6 - 4 - 6    | 6              | 4              | 4              | 2.5            | 49               | 20.5             | 0761 8906 004               |
| 8 - 4 - 8                          | TRS 8 - 4 - 8    | 8              | 5.6            | 4              | 2.5            | 56               | 22               | 0761 8908 004               |
| 8 - 6 - 8                          | TRS 8 - 6 - 8    | 8              | 5.6            | 6              | 4              | 56               | 28               | 0761 8908 006               |
| 8 - 12 - 8                         | TRS 8 - 12 - 8   | 8              | 5.6            | 12             | 8.6            | 57               | 34               | 0761 8908 012               |
| 10 - 6 - 10                        | TRS 10 - 6 - 10  | 10             | 7              | 6              | 4              | 62               | 28               | 0761 8910 006               |
| 10 - 8 - 10                        | TRS 10 - 8 - 10  | 10             | 7              | 8              | 5.6            | 62               | 31               | 0761 8910 008               |
| 10 - 13 - 10                       | TRS 10 - 13 - 10 | 10             | 7              | 13             | 8.6            | 64               | 38               | 0761 8910 013               |
| 12 - 6 - 12                        | TRS 12 - 6 - 12  | 12             | 8.6            | 6              | 4              | 69               | 29               | 0761 8912 006               |
| 12 - 8 - 12                        | TRS 12 - 8 - 12  | 12             | 8.6            | 8              | 5.6            | 69               | 31               | 0761 8912 008               |
| 12 - 10 - 12                       | TRS 12 - 10 - 12 | 12             | 8.6            | 10             | 7              | 69               | 33               | 0761 8912 010               |
| 15 - 6 - 15                        | TRS 15 - 6 - 15  | 15             | 11             | 6              | 4              | 78               | 28               | 0761 8915 006               |
| 15 - 8 - 15                        | TRS 15 - 8 - 15  | 15             | 11             | 8              | 5.6            | 79               | 33               | 0761 8915 008               |
| 18 - 10 - 18                       | TRS 18 - 10 - 18 | 18             | 14             | 10             | 7              | 79               | 36               | 0761 8918 010               |
| 18 - 15 - 18                       | TRS 18 - 15 - 18 | 18             | 14             | 15             | 11             | 80               | 44               | 0761 8918 015               |

## YRS – Reducing Y push-on connectors



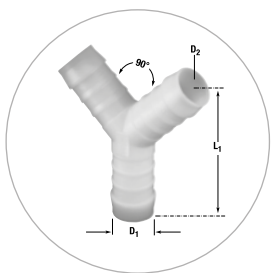
| Nominal size<br>ID hose<br>(in mm) | Designation   | D <sub>1</sub> | D <sub>2</sub> | D <sub>3</sub> | D <sub>4</sub> | L <sub>1</sub> ~ | Material POM<br>Product No. |
|------------------------------------|---------------|----------------|----------------|----------------|----------------|------------------|-----------------------------|
| 4 - 6 - 4                          | YRS 4 - 6 - 4 | 4              | 2.7            | 6              | 4              | 35               | 0771 8904 006               |
| 6 - 8 - 6                          | YRS 6 - 8 - 6 | 6              | 4              | 8              | 5.6            | 49               | 0771 8906 008               |

## WS – Elbow push-on connectors



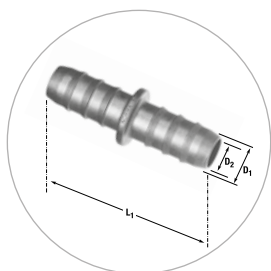
| Nominal size<br>ID hose<br>(in mm) | Designation | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | L <sub>2</sub> ~ | Material POM<br>Product No. |
|------------------------------------|-------------|----------------|----------------|------------------|------------------|-----------------------------|
| 3                                  | WS 3        | 3              | 2.5            | 12.5             | 12.5             | 0762 8900 003               |
| 4                                  | WS 4        | 4              | 2.5            | 17.5             | 19.5             | 0762 8900 004               |
| 5                                  | WS 5        | 5              | 3              | 21               | 22               | 0762 8900 005               |
| 6                                  | WS 6        | 6              | 4              | 25               | 26               | 0762 8900 006               |
| 8                                  | WS 8        | 8              | 5.6            | 29               | 30               | 0762 8900 008               |
| 10                                 | WS 10       | 10             | 7              | 31               | 33.5             | 0762 8900 010               |
| 12                                 | WS 12       | 12             | 8.6            | 34.5             | 36               | 0762 8900 012               |
| 13                                 | WS 13       | 13             | 8.6            | 36.5             | 38.5             | 0762 8900 013               |
| 14                                 | WS 14       | 14             | 10             | 38.5             | 41.5             | 0762 8900 014               |
| 15                                 | WS 15       | 15             | 11             | 40               | 43.5             | 0762 8900 015               |
| 16                                 | WS 16       | 16             | 12             | 40.5             | 45               | 0762 8900 016               |
| 19                                 | WS 19       | 19             | 15             | 43.5             | 46               | 0762 8900 019               |
| 25                                 | WS 25       | 25             | 21             | 52.5             | 52.5             | 0762 8900 025               |

## YS – Equal Y push-on connectors



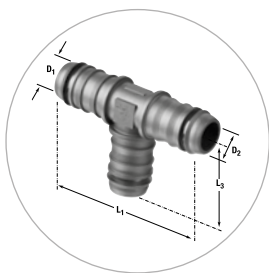
| Nominal size<br>ID hose<br>(in mm) | Designation | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | Material POM<br>Product No. |
|------------------------------------|-------------|----------------|----------------|------------------|-----------------------------|
| 3                                  | YS 3        | 3              | 2.5            | 21               | 0770 8900 003               |
| 4                                  | YS 4        | 4              | 2.5            | 25.5             | 0770 8900 004               |
| 5                                  | YS 5        | 5              | 3              | 43               | 0770 8900 005               |
| 6                                  | YS 6        | 6              | 4              | 44               | 0770 8900 006               |
| 8                                  | YS 8        | 8              | 5.6            | 51               | 0770 8900 008               |
| 10                                 | YS 10       | 10             | 7              | 54               | 0770 8900 010               |
| 12                                 | YS 12       | 12             | 8.6            | 64               | 0770 8900 012               |
| 13                                 | YS 13       | 13             | 9              | 65               | 0770 8900 013               |
| 14                                 | YS 14       | 14             | 10             | 65               | 0770 8900 014               |
| 16                                 | YS 16       | 16             | 12             | 67               | 0770 8900 016               |
| 19                                 | YS 19       | 19             | 15             | 72               | 0770 8900 019               |

## GN – Straight plastic pipe connectors



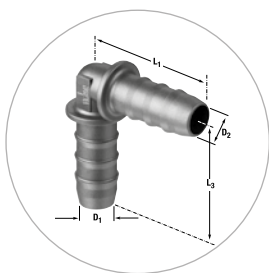
| Nominal size ID<br>PA tube<br>(in mm) | Designation | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | Material<br>PA6 -GF30*<br>Product No. | Material<br>PA12-GF20*<br>Product No. | Material<br>PA12-GF30*<br>Product No. |
|---------------------------------------|-------------|----------------|----------------|------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 6                                     | GN 6        | 6.4            | 4.75           | 45               |                                       |                                       | 0750 8200 006                         |
| 8                                     | GN 8        | 9.2            | 6.8            | 46               | 0750 8074 008                         |                                       |                                       |
| 10                                    | GN 10       | 11             | 8              | 46               | 0750 8300 010                         |                                       | 0750 8200 010                         |
| 15                                    | GN 15       | 16.9           | 12             | 32               |                                       | 0750 8001 015                         |                                       |
| 19                                    | GN 19       | 21             | 16             | 39               |                                       | 0750 8001 019                         |                                       |
| 27                                    | GN 27       | 29             | 24             | 42               |                                       | 0750 8001 027                         |                                       |
| 27 - 19                               | GRN 27 - 19 | 29 - 21        | 24 - 16        | 44               |                                       | 0751 8045 000                         |                                       |

\* Glass fiber content

**TN – T plastic pipe connectors**

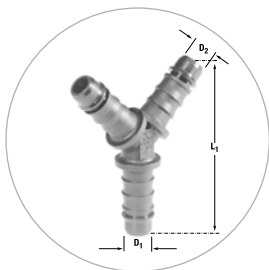
| Nominal size<br>ID PA tube<br>(in mm) | Designation | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | L <sub>3</sub> ~ | Material<br>PA6 -GF30*<br>Product No. | Material<br>PA66-GF30*<br>Product No. | Material<br>PA12-GF30*<br>Product No. |
|---------------------------------------|-------------|----------------|----------------|------------------|------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 4                                     | TN 4        | 4.6            | 2.5            | 43               | 23               | 0760 8129 004                         |                                       |                                       |
| 6                                     | TN 6        | 6.4            | 4.75           | 56.5             | 28.5             | 0760 8202 006                         | 0760 8203 006                         | 0760 8200 006                         |
| 8                                     | TN 8        | 9.2            | 6.8            | 58               | 29               | 0760 8112 008                         |                                       | 0760 8200 008                         |
| 10                                    | TN 10       | 11             | 8              | 60               | 30               |                                       |                                       | 0760 8200 010                         |
| 15                                    | TN 15       | 16.4           | 12             | 72               | 36               |                                       |                                       | 0760 8200 015                         |
| 19                                    | TN 19       | 18.9           | 16             | 65               | 32.5             |                                       |                                       | 0760 8201 019                         |
| 15-8-15                               | TN 15-8-15  | 16.4-8.9-16.4  | 12-6-12        | 72               | 35               |                                       |                                       | 0761 8052 000                         |
| 15-12-15                              | TN 15-12-15 | 16.4-13.5-16.4 | 12-10.5-12     | 72               | 35.5             |                                       |                                       | 0761 8015 012                         |

\* Glass fiber content

**WN – Elbow plastic pipe connectors**

| Nominal size<br>ID PA tube<br>(in mm) | Designation | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | L <sub>3</sub> ~ | Material<br>PA6 -GF30*<br>Product No. | Material<br>PA66-GF30*<br>Product No. | Material<br>PA12-GF30*<br>Product No. |
|---------------------------------------|-------------|----------------|----------------|------------------|------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 6                                     | WN 6        | 6.4            | 4.75           | 28               | 28               |                                       | 0762 8205 006                         | 0762 8200 006                         |
| 8                                     | WN 8        | 9.2            | 6.8            | 29               | 29               | 0762 8067 008                         |                                       | 0762 8200 008                         |
| 10                                    | WN 10       | 11             | 8              | 30               | 30               | 0762 8201 010                         |                                       | 0762 8200 010                         |
| 19                                    | WN 19       | 18.9           | 16             | 32               | 32               |                                       |                                       | 0762 8200 019                         |

\* Glass fiber content

**YN – Y plastic pipe connectors**

| Nominal size<br>ID PA tube<br>(in mm) | Designation | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | Material<br>PA66-GF30*<br>Product No. | Material<br>PA12-GF20*<br>Product No. | Material<br>PA12-GF30*<br>Product No. |
|---------------------------------------|-------------|----------------|----------------|------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| 8                                     | YN 8        | 8.4            | 5.8            | 50.5             | 0770 8203 008                         |                                       | 0770 8200 008                         |
| 10                                    | YN 10       | 11             | 8              | 80               |                                       |                                       | 0770 8200 010                         |
| 15                                    | YN 15       | 14.9           | 12             | 49.3             |                                       |                                       | 0770 8200 015                         |
| 19                                    | YN 19       | 18.9           | 16             | 85               |                                       | 0770 8201 019                         |                                       |

\* Glass fiber content

**EG – Straight compression connectors**

| Nominal size ID PA tube (in mm) | Designation      | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | SW | Diameter      | Material PA12-GF30* Product No. |
|---------------------------------|------------------|----------------|----------------|------------------|----|---------------|---------------------------------|
| 6                               | EG 6 x 1-R 1/8   | 6 x 1          | R 1/8 con.     | 25               | 13 | 6 x 1-R 1/8   | 0780 8900 001                   |
|                                 | EG 6 x 1-R 1/4   | 6 x 1          | R 1/4 con.     | 31               | 17 | 6 x 1-R 1/4   | 0780 8900 002                   |
|                                 | EG 6 x 1-M10 x 1 | 6 x 1          | M10 x 1 con.   | 25               | 13 | 6 x 1-M10 x 1 | 0780 8900 003                   |
| 8                               | EG 8 x 1-R 1/8   | 8 x 1          | R 1/8 con.     | 25               | 13 | 8 x 1-R 1/8   | 0780 8900 021                   |
|                                 | EG 8 x 1-R 1/4   | 8 x 1          | R 1/4 con.     | 31               | 17 | 8 x 1-R 1/4   | 0780 8900 022                   |
|                                 | EG 8 x 1-M10 x 1 | 8 x 1          | M10 x 1 con.   | 25               | 13 | 8 x 1-M10 x 1 | 0780 8900 023                   |

\* Glass fiber content

**EWS – Swivel elbow compression connectors**

| Nominal size ID PA tube (in mm) | Designation       | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | L <sub>2</sub> ~ | L <sub>3</sub> ~ | SW | Material PA6-GF30* Product No. |
|---------------------------------|-------------------|----------------|----------------|------------------|------------------|------------------|----|--------------------------------|
| 6                               | EWS 6 x 1-R 1/8   | 6 x 1          | R 1/8          | 14               | 21               | 30               | 13 | 0780 8901 001                  |
|                                 | EWS 6 x 1-R 1/4   | 6 x 1          | R 1/4          | 15               | 23               | 33.5             | 17 | 0780 8901 002                  |
|                                 | EWS 6 x 1-M10 x 1 | 6 x 1          | M10 x 1        | 14               | 21               | 30               | 13 | 0780 8901 003                  |
| 8                               | EWS 8 x 1-R 1/8   | 8 x 1          | R 1/8          | 14               | 21               | 30               | 13 | 0780 8901 021                  |
|                                 | EWS 8 x 1-R 1/4   | 8 x 1          | R 1/4          | 15               | 23               | 33.5             | 17 | 0780 8901 022                  |
|                                 | EWS 8 x 1-M10 x 1 | 8 x 1          | M10 x 1        | 14               | 21               | 30               | 13 | 0780 8901 023                  |

\* Glass fiber content

**ETS – Swivel T compression connectors**

| Nominal size ID PA tube (in mm) | Designation       | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | L <sub>2</sub> ~ | L <sub>3</sub> ~ | SW | Material PA6-GF30* Product No. |
|---------------------------------|-------------------|----------------|----------------|------------------|------------------|------------------|----|--------------------------------|
| 6                               | ETS 6 x 1-R 1/8   | 6 x 1          | R 1/8          | 14               | 21               | 30               | 13 | 0780 8902 001                  |
|                                 | ETS 6 x 1-R 1/4   | 6 x 1          | R 1/4          | 15               | 23               | 33.5             | 17 | 0780 8902 002                  |
|                                 | ETS 6 x 1-M10 x 1 | 6 x 1          | M10 x 1        | 14               | 21               | 30               | 13 | 0780 8902 003                  |
| 8                               | ETS 8 x 1-R 1/8   | 8 x 1          | R 1/8          | 15               | 23               | 33.5             | 17 | 0780 8902 021                  |

\* Glass fiber content

**ET – T compression connectors**

| Nominal size ID PA tube (in mm) | Designation      | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | L <sub>2</sub> ~ | Material PA6-GF30* Product No. |
|---------------------------------|------------------|----------------|----------------|------------------|------------------|--------------------------------|
| 6                               | ET 6 x 1-R 1/8   | 6 x 1          | R 1/8 con.     | 19               | 23               | 0780 8904 001                  |
|                                 | ET 6 x 1-R 1/4   | 6 x 1          | R 1/4 con.     | 23               | 23               | 0780 8904 002                  |
|                                 | ET 6 x 1-M10 x 1 | 6 x 1          | M10 x 1 con.   | 19               | 23               | 0780 8904 003                  |
| 8                               | ET 8 x 1-R 1/8   | 8 x 1          | R 1/8 con.     | 19               | 23               | 0780 8904 021                  |
|                                 | ET 8 x 1-R 1/4   | 8 x 1          | R 1/4 con.     | 23               | 23               | 0780 8904 022                  |
|                                 | ET 8 x 1-M10 x 1 | 8 x 1          | M10 x 1 con.   | 19               | 23               | 0780 8904 023                  |

\* Glass fiber content

**EW/WV – Elbow compression connectors**

| Nominal size ID PA tube (in mm) | Designation        | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | L <sub>2</sub> ~ | Material PA6-GF30* Product No. |
|---------------------------------|--------------------|----------------|----------------|------------------|------------------|--------------------------------|
| 6                               | EW 6 x 1 - R 1/8   | 6 x 1          | R 1/8 con.     | 19               | 23               | 0780 8905 001                  |
|                                 | EW 6 x 1 - R 1/4   | 6 x 1          | R 1/4 con.     | 23               | 23               | 0780 8905 002                  |
|                                 | EW 6 x 1 - M10 x 1 | 6 x 1          | M10 x 1 con.   | 19               | 23               | 0780 8905 003                  |
| 8                               | EW 8 x 1 - R 1/8   | 8 x 1          | R 1/8 con.     | 19               | 23               | 0780 8905 021                  |
|                                 | EW 8 x 1 - R 1/4   | 8 x 1          | R 1/4 con.     | 23               | 23               | 0780 8905 022                  |
|                                 | EW 8 x 1 - M10 x 1 | 8 x 1          | M10 x 1 con.   | 19               | 23               | 0780 8905 023                  |
|                                 | WV 8 x 1           | 8 x 1          | 8 x 1          | 23               | 23               | 0781 8900 011                  |

\* Glass fiber content

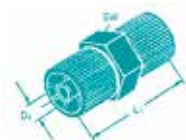
**VT/VTR** – Equal T and reducing  
T compression connectors



| Nominal<br>size ID<br>PA tube<br>(in mm) | Designation           | D <sub>1</sub> | D <sub>2</sub> | L <sub>1</sub> ~ | L <sub>2</sub> ~ | Material<br>PA6-GF30*<br>Product No. |
|------------------------------------------|-----------------------|----------------|----------------|------------------|------------------|--------------------------------------|
| N/A                                      | VT 6 x 1              | 6 x 1          | 6 x 1          | 23               | 23               | 0781 8900 001                        |
|                                          | VT 8 x 1              | 8 x 1          | 8 x 1          | 23               | 23               | 0781 8900 002                        |
|                                          | VTR 6 x 1-8 x 1-6 x 1 | 6 x 1          | 8 x 1          | 23               | 23               | 0781 8900 021                        |
|                                          | VTR 8 x 1-6 x 1-8 x 1 | 8 x 1          | 6 x 1          | 23               | 23               | 0781 8900 022                        |

\* Glass fiber content

**VG/VGR** – Straight/Reducing compression connectors



| Nominal<br>size ID<br>PA tube<br>(in mm) | Designation       | D <sub>1</sub> | L <sub>1</sub> ~ | SW | Material<br>PA6-GF30*<br>Product No. |
|------------------------------------------|-------------------|----------------|------------------|----|--------------------------------------|
| N/A                                      | VG 6 x 1          | 6 x 1          | 31               | 17 | 0781 8901 003                        |
|                                          | VG 8 x 1          | 8 x 1          | 31               | 17 | 0781 8901 002                        |
|                                          | VGR 8 x 1 - 6 x 1 | 6 x 1          | 31               | 17 | 0781 8901 004                        |

\* Glass fiber content



**NORMA**

NORMACLEAN® TORRO®

W2

[www.normagroup.com](http://www.normagroup.com)

4-16/32mm - 40 x  
10-12/32mm - 50 x  
16-17/32mm - 50 x  
20-12/32mm - 50 x  
20-40/32mm - 10 x  
30-50/32mm - 10 x

**NORMA**

**NORMA**

**NORMA**

A wide range of assortments, displays, dispenser and tools.

NORMA assortments section offers the possibility of having several clamp diameters in one package. All the accessories and the tools mentioned in this chapter are proposed to enable simple and easy installation of the NORMA products.



## NORMAFIX® NORMETTA® Mini repair kits



### NORMAFIX® NORMETTA® MINI REPAIR KITS

| Width | Designation         | Length in m | Number of closures | Closure type | W1 Product No. |
|-------|---------------------|-------------|--------------------|--------------|----------------|
| 5     | MINI REPAIR KIT 8/5 | 8           | 8                  | NB-A5        | 0560 8520 003  |
| 9     | MINI REPAIR KIT 8/9 | 8           | 8                  | NB-A9        | 0560 8520 001  |

## NORMACLAMP® Quick lock Band-on-roll



### NORMACLAMP® QUICK LOCK BAND-ON-ROLL

| Width | Designation     | Length in m | Number of closures | W2 Product No. | W4 Product No. |
|-------|-----------------|-------------|--------------------|----------------|----------------|
| 9     | BAND-ON-ROLL 3M | 3           | 8                  | 0815 7121 001  | 0815 7131 001  |
|       | BAND-ON-ROLL 5M | 5           | 8                  | 0815 7121 003  | 0815 7131 003  |
| 12    | BAND-ON-ROLL 3M | 3           | 6                  | 0815 6007 002  |                |
|       | BAND-ON-ROLL 5M | 5           | 6                  | 0815 6007 004  |                |

## ASSORTMENTS

### NORMACLAMP® TORRO® Assortment type 120 pcs



#### NORMACLAMP® TORRO ASSORTMENT TYPE 120 PCS

| Width | Designation     | Clamping range | Quantity | W1<br>Product No. | W4<br>Product No. |
|-------|-----------------|----------------|----------|-------------------|-------------------|
| 9     | TORRO 8 - 16/9  | 8 - 16         | 40       | 0126 5005 012     | 0126 5005 014     |
|       | TORRO 12 - 22/9 | 12 - 22        | 25       |                   |                   |
|       | TORRO 16 - 27/9 | 16 - 27        | 20       |                   |                   |
|       | TORRO 20 - 32/9 | 20 - 32        | 15       |                   |                   |
|       | TORRO 25 - 40/9 | 25 - 40        | 10       |                   |                   |
|       | TORRO 35 - 50/9 | 35 - 50        | 10       |                   |                   |
| NA    | FLEXIDRIVER     | NA             | 1        |                   |                   |

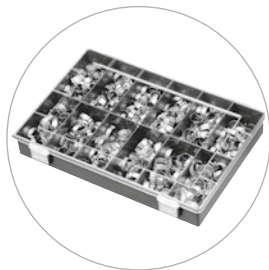
### NORMAPLAST® Assortment type 365 PA 6 and TORRO® W2



#### NORMAPLAST® ASSORTMENT TYPE 365 PA 6 AND TORRO W2

| Width | Designation       | Diameter | Quantity | PA 6<br>W2 (TORRO)<br>Product No. |
|-------|-------------------|----------|----------|-----------------------------------|
| NA    | GS 4              | 4        | 50       | 0773 9000 365                     |
|       | TS 4              | 4        | 50       |                                   |
|       | YS 4              | 4        | 50       |                                   |
|       | GS 6              | 6        | 25       |                                   |
|       | TS 6              | 6        | 25       |                                   |
|       | YS 6              | 6        | 25       |                                   |
|       | GS 8              | 8        | 20       |                                   |
|       | TS 8              | 8        | 10       |                                   |
|       | YS 8              | 8        | 10       |                                   |
|       | GRS 8 - 6         | 8        | 20       |                                   |
| 7.5   | TORRO 8 - 12/7.5  | 8 - 12   | 40       | 0773 9000 365                     |
|       | TORRO 10 - 16/7.5 | 10 - 16  | 40       |                                   |

### NORMACLAMP® COBRA kit type 500k



This workshop range is a clearly arranged collection of the most commonly used types of NORMACLAMP® COBRA hose clips in a practical plastic case (approx. 34x23x5 cm).

A workshop range comprises 500 NORMACLAMP® COBRA hose clips made from stainless steel nickel chromium steel and with band widths of 7 mm and 8 mm as follows:

#### NORMACLAMP® COBRA KIT TYPE 500K

| Width | Designation  | Diameter | Quantity | W4<br>Product No. |
|-------|--------------|----------|----------|-------------------|
| 7     | COBRA 7.5/7  | 7.5      | 30       | 0773 9000 500     |
|       | COBRA 8/7    | 8        | 25       |                   |
|       | COBRA 8.5/7  | 8.5      | 25       |                   |
|       | COBRA 9/7    | 9        | 25       |                   |
|       | COBRA 9.5/7  | 9.5      | 25       |                   |
|       | COBRA 10/7   | 10       | 25       |                   |
|       | COBRA 10.5/7 | 10.5     | 25       |                   |
|       | COBRA 11/7   | 11       | 25       |                   |
|       | COBRA 11.5/7 | 11.5     | 25       |                   |
| 8     | COBRA 12/8   | 12       | 25       |                   |
|       | COBRA 13/8   | 13       | 30       |                   |
|       | COBRA 14/8   | 14       | 30       |                   |
|       | COBRA 15/8   | 15       | 30       |                   |
|       | COBRA 16/8   | 16       | 30       |                   |
|       | COBRA 17/8   | 17       | 30       |                   |
|       | COBRA 18/8   | 18       | 30       |                   |
|       | COBRA 19/8   | 19       | 30       |                   |
|       | COBRA 21/8   | 21       | 30       |                   |

## NORMAFIX® RSGU 90 Pipe retaining clips assortment



| NORMAFIX® RSGU 90 PIPE RETAINING CLIPS ASSORTMENT |             |          |          |                |
|---------------------------------------------------|-------------|----------|----------|----------------|
| Width                                             | Designation | Diameter | Quantity | W1 Product No. |
| 15                                                | RSGU 4/15   | 4        | 10       | 0825 0304 001  |
|                                                   | RSGU 6/15   | 6        | 10       |                |
|                                                   | RSGU 9/15   | 9        | 10       |                |
|                                                   | RSGU 10/15  | 10       | 10       |                |
|                                                   | RSGU 12/15  | 12       | 10       |                |
|                                                   | RSGU 13/15  | 13       | 10       |                |
|                                                   | RSGU 15/15  | 15       | 5        |                |
|                                                   | RSGU 16/15  | 16       | 5        |                |
|                                                   | RSGU 18/15  | 18       | 5        |                |
|                                                   | RSGU 20/15  | 20       | 5        |                |
|                                                   | RSGU 22/15  | 22       | 5        |                |
|                                                   | RSGU 25/15  | 25       | 5        |                |

## NORMAFIX® RSGU ASS-1N100 RSGU W1



| NORMAFIX® ASS-1N100 RSGU W1 |              |          |          |                |
|-----------------------------|--------------|----------|----------|----------------|
| Width                       | Designation  | Diameter | Quantity | W1 Product No. |
| 12                          | RSGU1. 8/12  | 8        | 20       | 0941 1000 001  |
|                             | RSGU1. 10/12 | 10       | 20       |                |
|                             | RSGU1. 12/12 | 12       | 10       |                |
|                             | RSGU1. 13/12 | 13       | 10       |                |
|                             | RSGU1. 14/12 | 14       | 10       |                |
|                             | RSGU1. 15/12 | 15       | 10       |                |
|                             | RSGU1. 16/12 | 16       | 10       |                |
|                             | RSGU1. 20/12 | 20       | 10       |                |

## NORMAQUICK® PLAST® Assortment



| NORMAPLAST® NORMA QUICK PLAST ASSORTMENT |          |                  |
|------------------------------------------|----------|------------------|
| Designation                              | Quantity | PA 6 Product No. |
| NQS NW 8-6 0°                            | 3        | 0700 2011 000    |
| NQS NW8-6 90°                            | 3        |                  |
| NQS NW10-8-0°                            | 3        |                  |
| NQS NW10-8-90°                           | 3        |                  |
| NQS NW1/4"-1/4"-0°                       | 3        |                  |
| NQS NW1/4"-1/4" -90°                     | 3        |                  |
| NQS NW5/16"-06-0°                        | 3        |                  |
| NQS NW5/16"-06-90°                       | 3        |                  |
| ADAPTER NQS 5/16"-6-0°                   | 3        |                  |
| NQS NW3/8"5/16-0°                        | 3        |                  |
| NQS NW3/8"-5/16-90°                      | 3        |                  |
| ADAPTER NQSNW3/8"-5/16"-0°               | 3        |                  |
| GS 6                                     | 5        |                  |
| TS 6                                     | 5        |                  |
| GS 8                                     | 5        |                  |
| TS 8                                     | 5        |                  |
| GS 10                                    | 5        |                  |
| TS 10                                    | 5        |                  |

## NORMACLAMP® TORRO® Dispenser



| NORMACLAMP® TORRO DISPENSER |                  |                |          |                |
|-----------------------------|------------------|----------------|----------|----------------|
| Width                       | Designation      | Clamping range | Quantity | W2 Product No. |
| 7.5                         | TORRO 8 - 12/7.5 | 8 - 12         | 10       | 0126 9702 010  |
| 9                           | TORRO 8 - 16/9   | 8 - 16         | 10       |                |
|                             | TORRO 12 - 22/9  | 12 - 22        | 10       |                |
|                             | TORRO 16 - 27/9  | 16 - 27        | 10       |                |
|                             | TORRO 20 - 32/9  | 20 - 32        | 10       |                |
|                             | TORRO 25 - 40/9  | 25 - 40        | 10       |                |
|                             | TORRO 32 - 50/9  | 32 - 50        | 10       |                |
|                             | TORRO 40 - 60/9  | 40 - 60        | 10       |                |
|                             | TORRO 50 - 70/9  | 50 - 70        | 10       |                |
|                             | TORRO 60 - 80/9  | 60 - 80        | 10       |                |

## NORMACLAMP® TORRO® Drawer box



| NORMACLAMP® TORRO DRAWER BOX |                 |                |          |                |
|------------------------------|-----------------|----------------|----------|----------------|
| Width                        | Designation     | Clamping range | Quantity | W2 Product No. |
| 9                            | TORRO 8 - 16/9  | 8 - 16         | 155      | 0126 9702 450  |
|                              | TORRO 12 - 22/9 | 12 - 22        | 60       |                |
|                              | TORRO 16 - 27/9 | 16 - 27        | 100      |                |
|                              | TORRO 20 - 32/9 | 20 - 32        | 50       |                |
|                              | TORRO 25 - 40/9 | 25 - 40        | 50       |                |
|                              | TORRO 32 - 50/9 | 32 - 50        | 15       |                |
|                              | TORRO 50 - 70/9 | 50 - 70        | 20       |                |

## NORMACLAMP® TORRO® Pallet



| NORMACLAMP® TORRO PALLET |                 |                |          |                |                |
|--------------------------|-----------------|----------------|----------|----------------|----------------|
| Width                    | Designation     | Clamping range | Quantity | W1 Product No. | W4 Product No. |
| 9                        | TORRO 8 - 16 /9 | 8 - 16         | 40       | 0126 5006 012  | 0126 5006 015  |
|                          | TORRO 12 - 22/9 | 12 - 22        | 25       |                |                |
|                          | TORRO 16 - 27/9 | 16 - 27        | 20       |                |                |
|                          | TORRO 20 - 32/9 | 20 - 32        | 15       |                |                |
|                          | TORRO 25 - 40/9 | 25 - 40        | 10       |                |                |
|                          | TORRO 35 - 50/9 | 35 - 50        | 10       |                |                |
| NA                       | FLEXIDRIVER     | NA             | 1        |                |                |

## NORMACLAMP® TORRO® NHC 420 W1 Merchandiser



### NORMACLAMP® NHC420 W1 MERCHANDISER

| Width | Designation       | Clamping range | Quantity | W1 Product No. |
|-------|-------------------|----------------|----------|----------------|
| 9     | TORRO 8 - 12/9    | 8 - 12         | 50       | 0825 0300 039  |
|       | TORRO 10 - 16/9   | 10 - 16        | 50       |                |
|       | TORRO 12 - 22/9   | 12 - 22        | 50       |                |
| 12    | TORRO 16 - 27/12  | 16 - 27        | 40       |                |
|       | TORRO 20 - 32/12  | 20 - 32        | 30       |                |
|       | TORRO 25 - 40/12  | 25 - 40        | 40       |                |
|       | TORRO 30 - 45/12  | 30 - 45        | 40       |                |
|       | TORRO 35 - 50/12  | 35 - 50        | 40       |                |
|       | TORRO 40 - 60/12  | 40 - 60        | 30       |                |
|       | TORRO 50 - 70/12  | 50 - 70        | 20       |                |
|       | TORRO 70 - 90/12  | 70 - 90        | 10       |                |
|       | TORRO 80 - 100/12 | 80 - 100       | 10       |                |
|       | TORRO 90 - 110/12 | 90 - 110       | 10       |                |

## NORMACLAMP® TORRO® NHC 420 W3 Merchandiser



### NORMACLAMP® NHC 420 W3 MERCHANDISER

| Width | Designation       | Clamping range | Quantity | W3 Product No. |
|-------|-------------------|----------------|----------|----------------|
| 7.5   | TORRO 8 - 12/9    | 8 - 12         | 50       | 0825 0300 040  |
| 9     | TORRO 10 - 16/9   | 10 - 16        | 50       |                |
|       | TORRO 12 - 22/9   | 12 - 22        | 50       |                |
| 12    | TORRO 16 - 27/12  | 16 - 27        | 40       |                |
|       | TORRO 20 - 32/12  | 20 - 32        | 30       |                |
|       | TORRO 25 - 40/12  | 25 - 40        | 40       |                |
|       | TORRO 30 - 45/12  | 30 - 45        | 40       |                |
|       | TORRO 35 - 50/12  | 35 - 50        | 40       |                |
|       | TORRO 40 - 60/12  | 40 - 60        | 30       |                |
|       | TORRO 50 - 70/12  | 50 - 70        | 20       |                |
|       | TORRO 70 - 90/12  | 70 - 90        | 10       |                |
|       | TORRO 80 - 100/12 | 80 - 100       | 10       |                |
|       | TORRO 90 - 110/12 | 90 - 110       | 10       |                |

## NORMACLAMP® TORRO® NHC 420 W4 Merchandiser



### NORMACLAMP® NHC420 W4 MERCHANDISER

| Width | Designation       | Clamping range | Quantity | W4 Product No. |
|-------|-------------------|----------------|----------|----------------|
| 9     | TORRO 8 - 12/9    | 8 - 12         | 50       | 0825 0300 049  |
|       | TORRO 10 - 16/9   | 10 - 16        | 50       |                |
|       | TORRO 12 - 20/9   | 12 - 20        | 50       |                |
| 12    | TORRO 16 - 27/12  | 16 - 27        | 40       |                |
|       | TORRO 20 - 32/12  | 20 - 32        | 30       |                |
|       | TORRO 25 - 40/12  | 25 - 40        | 40       |                |
|       | TORRO 30 - 45/12  | 30 - 45        | 40       |                |
|       | TORRO 35 - 50/12  | 35 - 50        | 40       |                |
|       | TORRO 40 - 60/12  | 40 - 60        | 30       |                |
|       | TORRO 50 - 70/12  | 50 - 70        | 20       |                |
|       | TORRO 70 - 90/12  | 70 - 90        | 10       |                |
|       | TORRO 80 - 100/12 | 80 - 100       | 10       |                |
|       | TORRO 90 - 110/12 | 90 - 110       | 10       |                |

## NORMACLAMP® TORRO® NHC 135 W1 Merchandiser



| NORMACLAMP® NHC135 W1 MERCHANDISER |                  |                |          |                |
|------------------------------------|------------------|----------------|----------|----------------|
| Width                              | Designation      | Clamping range | Quantity | W1 Product No. |
| 9                                  | TORRO 8 - 12/9   | 8 - 12         | 20       | 0825 0300 006  |
|                                    | TORRO 10 - 16/9  | 10 - 16        | 20       |                |
|                                    | TORRO 12 - 22/9  | 12 - 22        | 20       |                |
| 12                                 | TORRO 16 - 27/12 | 16 - 27        | 15       |                |
|                                    | TORRO 20 - 32/12 | 20 - 32        | 15       |                |
|                                    | TORRO 25 - 40/12 | 25 - 40        | 15       |                |
|                                    | TORRO 35 - 50/12 | 35 - 50        | 15       |                |
|                                    | TORRO 40 - 60/12 | 40 - 60        | 15       |                |

## NORMACLAMP® TORRO® NHC 135 W3 Merchandiser



| NORMACLAMP® NHC135 W3 MERCHANDISER |                   |                |          |                |
|------------------------------------|-------------------|----------------|----------|----------------|
| Width                              | Designation       | Clamping range | Quantity | W3 Product No. |
| 7.5                                | TORRO 10 - 16/7.5 | 10 - 16        | 20       | 0825 0300 008  |
| 9                                  | TORRO 8 - 16/9    | 8 - 16         | 20       |                |
|                                    | TORRO 12 - 20/9   | 12 - 20        | 20       |                |
| 12                                 | TORRO 16 - 27/12  | 16 - 27        | 15       |                |
|                                    | TORRO 20 - 32/12  | 20 - 32        | 15       |                |
|                                    | TORRO 25 - 40/12  | 25 - 40        | 15       |                |
|                                    | TORRO 35 - 50/12  | 35 - 50        | 15       |                |
|                                    | TORRO 40 - 60/12  | 40 - 60        | 15       |                |

## NORMACLAMP® TORRO® NHC 135 W4 Merchandiser



| NORMACLAMP® NHC135 W4 MERCHANDISER |                  |                |          |                |
|------------------------------------|------------------|----------------|----------|----------------|
| Width                              | Designation      | Clamping range | Quantity | W4 Product No. |
| 9                                  | TORRO 8 - 12/9   | 8 - 12         | 20       | 0825 0300 010  |
|                                    | TORRO 8 - 16/9   | 8 - 16         | 20       |                |
|                                    | TORRO 12 - 22/9  | 12 - 22        | 20       |                |
| 12                                 | TORRO 16 - 27/12 | 16 - 27        | 15       |                |
|                                    | TORRO 20 - 32/12 | 20 - 32        | 15       |                |
|                                    | TORRO 25 - 40/12 | 25 - 40        | 15       |                |
|                                    | TORRO 35 - 50/12 | 35 - 50        | 15       |                |
|                                    | TORRO 40 - 60/12 | 40 - 60        | 15       |                |

## NORMACLAMP® TORRO® NHC 190 W1 Merchandiser



| NORMACLAMP® NHC190 W1 MERCHANDISER |                    |                |          |                |
|------------------------------------|--------------------|----------------|----------|----------------|
| Width                              | Designation        | Clamping range | Quantity | W1 Product No. |
| 9                                  | TORRO 8 - 12/9     | 8 - 12         | 10       | 0825 0300 059  |
|                                    | TORRO 10 - 16/9    | 10 - 16        | 10       |                |
|                                    | TORRO 12 - 22/9    | 12 - 22        | 10       |                |
| 12                                 | TORRO 16 - 27/12   | 16 - 27        | 10       |                |
|                                    | TORRO 20 - 32/12   | 20 - 32        | 10       |                |
|                                    | TORRO 25 - 40/12   | 25 - 40        | 10       |                |
|                                    | TORRO 30 - 45/12   | 30 - 45        | 10       |                |
|                                    | TORRO 35 - 50/12   | 35 - 50        | 10       |                |
|                                    | TORRO 40 - 60/12   | 40 - 60        | 10       |                |
|                                    | TORRO 50 - 70/12   | 50 - 70        | 10       |                |
|                                    | TORRO 60 - 80/12   | 60 - 80        | 10       |                |
|                                    | TORRO 70 - 90/12   | 70 - 90        | 10       |                |
|                                    | TORRO 80 - 100/12  | 80 - 100       | 10       |                |
|                                    | TORRO 90 - 110/12  | 90 - 110       | 10       |                |
|                                    | TORRO 100 - 120/12 | 100 - 120      | 10       |                |
|                                    | TORRO 110 - 130/12 | 110 - 130      | 10       |                |
|                                    | TORRO 120 - 140/12 | 120 - 140      | 10       |                |
|                                    | TORRO 130 - 150/12 | 130 - 150      | 10       |                |
|                                    | TORRO 140 - 160/12 | 140 - 160      | 10       |                |

## NORMACLAMP® TORRO® NHC 190 W3 Merchandiser



| NORMACLAMP® NHC190 W3 MERCHANDISER |                    |                |          |                |
|------------------------------------|--------------------|----------------|----------|----------------|
| Width                              | Designation        | Clamping range | Quantity | W3 Product No. |
| 7.5                                | TORRO 8 - 12/9     | 8 - 12         | 10       | 0825 0300 060  |
| 9                                  | TORRO 8 - 16/9     | 8 - 16         | 10       |                |
|                                    | TORRO 12 - 20/9    | 12 - 20        | 10       |                |
| 12                                 | TORRO 16 - 27/12   | 16 - 27        | 10       |                |
|                                    | TORRO 20 - 32/12   | 20 - 32        | 10       |                |
|                                    | TORRO 25 - 40/12   | 25 - 40        | 10       |                |
|                                    | TORRO 30 - 45/12   | 30 - 45        | 10       |                |
|                                    | TORRO 35 - 50/12   | 35 - 50        | 10       |                |
|                                    | TORRO 40 - 60/12   | 40 - 60        | 10       |                |
|                                    | TORRO 50 - 70/12   | 50 - 70        | 10       |                |
|                                    | TORRO 60 - 80/12   | 60 - 80        | 10       |                |
|                                    | TORRO 70 - 90/12   | 70 - 90        | 10       |                |
|                                    | TORRO 80 - 100/12  | 80 - 100       | 10       |                |
|                                    | TORRO 90 - 110/12  | 90 - 110       | 10       |                |
|                                    | TORRO 100 - 120/12 | 100 - 120      | 10       |                |
|                                    | TORRO 110 - 130/12 | 110 - 130      | 10       |                |
|                                    | TORRO 120 - 140/12 | 120 - 140      | 10       |                |
|                                    | TORRO 130 - 150/12 | 130 - 150      | 10       |                |
|                                    | TORRO 140 - 160/12 | 140 - 160      | 10       |                |

## NORMACLAMP® TORRO® NHC 190 W4 Merchandiser



### NORMACLAMP® NHC190 W4 MERCHANDISER

| Width | Designation        | Clamping range | Quantity | W4 Product No. |
|-------|--------------------|----------------|----------|----------------|
| 9     | TORRO 8 - 12/9     | 8 - 12         | 10       | 0825 0300 061  |
|       | TORRO 10 - 16/9    | 10 - 16        | 10       |                |
|       | TORRO 12 - 20/9    | 12 - 20        | 10       |                |
| 12    | TORRO 16 - 27/12   | 16 - 27        | 10       |                |
|       | TORRO 20 - 32/12   | 20 - 32        | 10       |                |
|       | TORRO 25 - 40/12   | 25 - 40        | 10       |                |
|       | TORRO 30 - 45/12   | 30 - 45        | 10       |                |
|       | TORRO 35 - 50/12   | 35 - 50        | 10       |                |
|       | TORRO 40 - 60/12   | 40 - 60        | 10       |                |
|       | TORRO 50 - 70/12   | 50 - 70        | 10       |                |
|       | TORRO 60 - 80/12   | 60 - 80        | 10       |                |
|       | TORRO 70 - 90/12   | 70 - 90        | 10       |                |
|       | TORRO 80 - 100/12  | 80 - 100       | 10       |                |
|       | TORRO 90 - 110/12  | 90 - 110       | 10       |                |
|       | TORRO 100 - 120/12 | 100 - 120      | 10       |                |
|       | TORRO 110 - 130/12 | 110 - 130      | 10       |                |
|       | TORRO 120 - 140/12 | 120 - 140      | 10       |                |
|       | TORRO 130 - 150/12 | 130 - 150      | 10       |                |
|       | TORRO 140 - 160/12 | 140 - 160      | 10       |                |

## NORMACLAMP® GBS M75 Merchandiser W1, W2 & W4



### NORMACLAMP® GBSM75 MERCHANDISER W1, W2 & W4

| Width | Designation | Clamping range | Quantity | W1 Product No. | W2 Product No. | W4 Product No. |
|-------|-------------|----------------|----------|----------------|----------------|----------------|
| 18    | GBS 18/18   | 18             | 4        | 0825 0301 002  | 0825 0301 000  | 0825 0301 001  |
|       | GBS 22/18   | 22             | 4        |                |                |                |
|       | GBS 28/18   | 28             | 4        |                |                |                |
|       | GBS 30/18   | 30             | 4        |                |                |                |
|       | GBS 33/18   | 33             | 4        |                |                |                |
|       | GBS 36/18   | 36             | 4        |                |                |                |
|       | GBS 39/18   | 39             | 4        |                |                |                |
| 20    | GBS 42/18   | 42             | 4        |                |                |                |
|       | GBS 45/20   | 45             | 4        |                |                |                |
|       | GBS 49/20   | 49             | 4        |                |                |                |
|       | GBS 53/20   | 53             | 4        |                |                |                |
|       | GBS 57/20   | 57             | 4        |                |                |                |
|       | GBS 61/20   | 61             | 4        |                |                |                |
| 25    | GBS 66/20   | 66             | 4        |                |                |                |
|       | GBS 71/25   | 71             | 4        |                |                |                |
|       | GBS 76/25   | 76             | 3        |                |                |                |
|       | GBS 82/25   | 82             | 3        |                |                |                |
|       | GBS 88/25   | 88             | 3        |                |                |                |
|       | GBS 108/25  | 108            | 3        |                |                |                |
|       | GBS 117/25  | 117            | 3        |                |                |                |

## NORMACLAMP® Quick lock Band-on-roll dispenser



### NORMACLAMP® QUICK LOCK BAND-ON-ROLL DISPENSER

| Width | Designation     | Length in m | W2 Product No. | W4 Product No. |
|-------|-----------------|-------------|----------------|----------------|
| 9     | BAND-ON-ROLL 3M | 3           | 0815 5007 015  | 0815 5007 014  |
|       | BAND-ON-ROLL 5M | 5           | 0815 5007 017  | 0815 5007 016  |

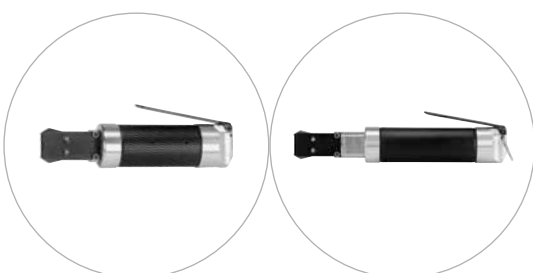
## NORMACLAMP® TORRO® Assembly fixture



### NORMACLAMP® TORRO® ASSEMBLY FIXTURE

| Designation      | Product No.   |
|------------------|---------------|
| ASSEMBLY FIXTURE | 0126 9900 001 |

## NORMACLAMP® COBRA Pneumatic pliers

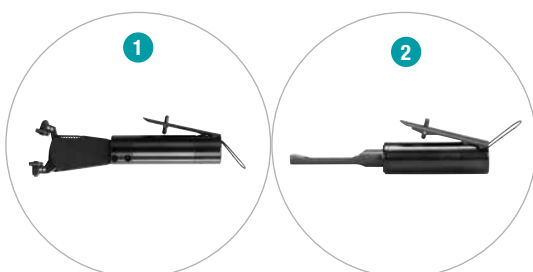


These pneumatically assisted pliers are available in a short version, and a long version, and are the ideal installation tool for industrial applications, allowing serial installation work involving large quantities to be handled with ease.

### NORMACLAMP® COBRA PNEUMATIC PLIERS

| Designation            | Product No.   |
|------------------------|---------------|
| COBRA PNEUMATIC PLIERS | 0110 8420 010 |

## NORMACLAMP® FBS Pneumatic pliers



- Version S**  
Suitable for "vertical" assembly operations where the clamp head is approached from above. Ideal for high volume series assembly.
- Version W**  
Suitable for "horizontal" assembly operations where the clamp head is approached from the side. For high volume series assembly.

### NORMACLAMP® FBS PNEUMATIC PLIERS TYPE S

| Designation                 | Product No.     |
|-----------------------------|-----------------|
| FBS PNEUMATIC PLIERS TYPE S | 0115 0000 911*1 |
| FBS PNEUMATIC PLIERS TYPE S | 0115 0000 912*2 |

### NORMACLAMP® FBS PNEUMATIC PLIERS TYPE W

| Designation                 | Product No.     |
|-----------------------------|-----------------|
| FBS PNEUMATIC PLIERS TYPE W | 0115 0000 919*1 |
| FBS PNEUMATIC PLIERS TYPE W | 0115 0000 920*2 |

\*1 jaws are opened before release

\*2 jaws are closed before release

## NORMACLAMP® FBS C Multirelease tool



For unlocking pre-opened FBS C, only our release tool is permitted.

### NORMACLAMP® FBS C MULTIRELEASE TOOL

| Designation             | Product No.   |
|-------------------------|---------------|
| FBS C MULTIRELEASE TOOL | 0115 0000 936 |

## NORMACONNECT® FGR Fitting pliers belt for REP E



### NORMACONNECT® FGR FITTING PLIERS BELT FOR REP E

| Designation                            | Product No.   |
|----------------------------------------|---------------|
| FITTING PLIERS FOR DIAMETER 38 - 168.3 | 0573 8000 007 |
| FITTING PLIERS FOR DIAMETER 180 - 1200 | 0575 8000 049 |

## NORMAFIX® Cable tie pliers



2.2 to 4.8 mm



4.8 to 7.8 mm



3.6 mm to 13 mm



3.6 mm to 9 mm

### NORMAFIX® CABLE TIE PLIERS FROM 2.2 TO 4.8 MM

| Designation                             | Product No.   |
|-----------------------------------------|---------------|
| PLIERS FOR CABLE TIE FROM 2.2 TO 4.8 MM | 0860 1000 001 |

### NORMAFIX® CABLE TIE PLIERS FROM 4.8 TO 7.8 MM

| Designation                             | Product No.   |
|-----------------------------------------|---------------|
| PLIERS FOR CABLE TIE FROM 4.8 TO 7.8 MM | 0860 1000 004 |

### NORMAFIX® CABLE TIE PLIERS FROM 3.6 TO 13 MM

| Designation                                 | Product No.   |
|---------------------------------------------|---------------|
| PLIERS FOR CABLE TIE 0860 FROM 3.6 TO 13 MM | 0860 1000 005 |

### NORMAFIX® CABLE TIE PLIERS FROM 3.6 TO 9 MM

| Designation                                | Product No.   |
|--------------------------------------------|---------------|
| PLIERS FOR CABLE TIE 0860 FROM 3.6 TO 9 MM | 0860 1000 006 |

## NORMAFIX® NORMETTA® Clamping and cutting tool



This high quality cast tool is recommended for professional work. Easy to use, it provides a tensile force of approximately 10,000 N (1000 KP).

### NORMAFIX® NORMETTA CLAMPING AND CUTTING TOOL

| Designation               | Product No.   |
|---------------------------|---------------|
| CLAMPING AND CUTTING TOOL | 0560 8555 001 |

## NORMACLAMP® Earclip pliers



### NORMACLAMP® EARCLIP PLIERS

| Designation                 | Product No.   |
|-----------------------------|---------------|
| EARCLIP PLIERS END CLOSING  | 0819 0022 094 |
| EARCLIP PLIERS SIDE CLOSING | 0819 0022 095 |

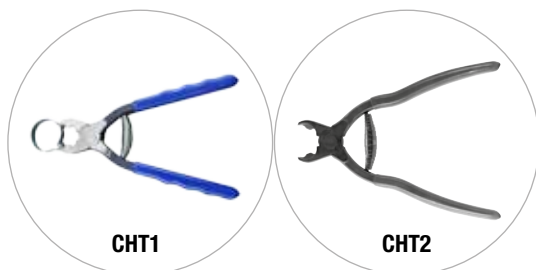
## NORMACLAMP® Earclip pliers for flat mounting



### NORMACLAMP® EARCLIP PLIERS FOR FLAT MOUNTING

| Designation                      | Product No.  |
|----------------------------------|--------------|
| EARCLIP PLIERS FOR FLAT MOUNTING | 0819 022 161 |

## NORMACLAMP® COBRA Handheld pliers



These handheld pliers enable precise installation and removal. The tips of the pliers' head enable a secure grip on the clip's tool gripping points. The integrated smooth-running spring element keeps the pliers open continuously, allowing you to work quickly and comfortably.

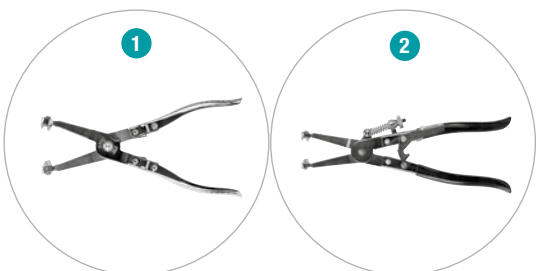
### NORMACLAMP® COBRA CHT 1

| Designation | Product No.   |
|-------------|---------------|
| COBRA CHT 1 | 0110 8420 000 |

### NORMACLAMP® COBRA CHT 2

| Designation | Product No.   |
|-------------|---------------|
| COBRA CHT 2 | 0110 8420 004 |

## NORMACLAMP® FBS Handheld pliers



For professional installation of FBS clamps, two types of handheld pliers are available depending on the band width involved:

- 1 Type1: for small nominal diameters.
- 2 Type 2: for all diameters, with integrated safety lever for fixing the pliers in position.

### NORMACLAMP® FBS PLIERS

| Designation | Product No.   |
|-------------|---------------|
| FBS PLIERS  | 0115 0000 903 |

### NORMACLAMP® FBS PLIERS WITH INTEGRATED SAFETY LEVER

| Designation                             | Product No.   |
|-----------------------------------------|---------------|
| FBS PLIERS WITH INTEGRATED SAFETY LEVER | 0115 0000 904 |

## NORMACLAMP® TORRO® Screwdriver SW6, SW7, SW6/7



### NORMACLAMP® TORRO® SCREWDRIVER SW6, SW7, SW6/7

| Designation | Product No.   |
|-------------|---------------|
| SW6         | 0000 0000 899 |
| SW7         | 0000 0000 898 |
| SW6/7       | 0000 0000 894 |

## NORMACLAMP® Hi-torque T-screwdriver



### NORMACLAMP® HI-TORQUE T-SCREWDRIVER

| Designation                       | Product No.   |
|-----------------------------------|---------------|
| T-SCREWDRIVER FOR HI-TORQUE CLAMP | 0560 6600 001 |

## NORMAFIX® Tube clamp fittings Hexagonal key



### NORMAFIX® HEXAGONAL KEY

| Designation                  | Diameter in mm | Galvanized steel<br>Product No. |
|------------------------------|----------------|---------------------------------|
| HEXAGONAL KEY 26.9/33.7      | 26.9/33.7      | 0819 6332 001                   |
| HEXAGONAL KEY 42.4/48.3/60.3 | 42.4/48.3/60.3 | 0819 6332 002                   |

## NORMAFIX® Tube clamp fittings Aluminum end cap



### NORMAFIX® ALUMINUM END CAP

| Designation            | Diameter in mm | Aluminum Product No. |
|------------------------|----------------|----------------------|
| ALUMINUM END CAP 33.7  | 33.7           | 0819 6329 034        |
| ALUMINUM END CAP 42.4  | 42.4           | 0819 6329 042        |
| ALUMINIUM END CAP 48.3 | 48.3           | 0819 6329 048        |

## NORMAFIX® Tube clamp fittings Plastic end cap



### NORMAFIX® PLASTIC END CAP

| Designation          | Diameter in mm | Plastic Product No. |
|----------------------|----------------|---------------------|
| PLASTIC END CAP 33.7 | 33.7           | 0819 6330 034       |
| PLASTIC END CAP 42.4 | 42.4           | 0819 6330 042       |
| PLASTIC END CAP 48.3 | 48.3           | 0819 6330 048       |

## NORMAFIX® Tube clamp fittings Spare screws



### NORMAFIX® SPARE SCREW

| Designation                | Diameter in mm | Stainless steel Product No. |
|----------------------------|----------------|-----------------------------|
| SPARE SCREW 26.9/33.7      | 26.9/33.7      | 0819 6331 001               |
| SPARE SCREW 42.4/48.3/60.3 | 42.4/48.3/60.3 | 0819 6331 002               |

## NORMAFIX® Lamppost protection tape



### NORMAFIX® LAMPPOST PROTECTION TAPE

| Designation                                                      | Length in m | PVC Product No. |
|------------------------------------------------------------------|-------------|-----------------|
| BLACK EPDM PROTECTION TAPE ROLL OF 10 METERS                     | 10          | 0560 7640 010   |
| WRAP & SEAL VULCANIZING STRETCHABLE TAPE TAPE - BLACK 2.4 METERS | 2.4         | 0560 7640 002   |
| WRAP & SEAL VULCANIZING STRETCHABLE TAPE TAPE - BLACK 4.8 METERS | 4.8         | 0560 7640 004   |

## NORMAFIX® Cable tie Wall plug bases for cable tie

For fixing cables and pipes to walls. Very easy installation for cable ties up to 9 mm width.



### NORMAFIX® WALL PLUG BASES FOR CABLE TIES

| Designation                                           | PA 6.6        |               |               |
|-------------------------------------------------------|---------------|---------------|---------------|
|                                                       | White         | Black         | Grey          |
|                                                       | Product No.   | Product No.   | Product No.   |
| WALL PLUG BASES FOR CABLE TIES WITHOUT FINS 8 MM BASE | 0860 0701 002 | 0860 0701 001 |               |
| WALL PLUG BASES FOR CABLE TIES WITH FINS 6 MM BASE    | 0860 0701 112 | 0860 0701 111 | 0860 0703 111 |
| WALL PLUG BASES FOR CABLE TIES WITH FINS 8 MM BASE    | 0860 0701 102 | 0860 0701 101 | 0860 0703 101 |

## NORMAFIX® Cable tie Mounting bases for cable tie

For fixing cables and pipes to walls. Very easy installation for cable ties up to 9 mm width.



### NORMAFIX® MOUNTING BASES FOR CABLE TIES WITHOUT ADHESIVE

| Number of entrances | Designation                                        | For cable ties band width | Dimensions (mm) |    |     |   |     | PA 6.6        |               |
|---------------------|----------------------------------------------------|---------------------------|-----------------|----|-----|---|-----|---------------|---------------|
|                     |                                                    |                           |                 |    |     |   |     | White         | Black         |
|                     |                                                    |                           | A               | B  | C   | F | H   | Product No.   | Product No.   |
| 1                   | MOUNTING BASES FOR CABLE TIES WITHOUT ADHESIVE 3.6 | 3.6                       | 19              | 19 | 4.2 | 4 | 5   | 0860 0811 001 | 0860 0812 001 |
|                     | MOUNTING BASES FOR CABLE TIES WITHOUT ADHESIVE 4.8 | 4.8                       | 27              | 27 | 4.2 | 6 | 7.4 | 0860 0811 002 | 0860 0812 002 |
| 2                   | MOUNTING BASES FOR CABLE TIES WITHOUT ADHESIVE 3.6 | 3.6                       | 19              | 19 | 4.1 | 4 | 5   | 0860 0911 001 | 0860 0912 001 |
|                     | MOUNTING BASES FOR CABLE TIES WITHOUT ADHESIVE 4.8 | 4.8                       | 27              | 27 | 4.8 | 6 | 6.5 | 0860 0911 002 | 0860 0912 002 |

### NORMAFIX® MOUNTING BASES FOR CABLE TIES WITH ADHESIVE

| Number of entrances | Designation                                     | For cable ties band width | Dimensions (mm) |    |     |   |     | PA 6.6        |               |
|---------------------|-------------------------------------------------|---------------------------|-----------------|----|-----|---|-----|---------------|---------------|
|                     |                                                 |                           |                 |    |     |   |     | White         | Black         |
|                     |                                                 |                           | A               | B  | C   | F | H   | Product No.   | Product No.   |
| 1                   | MOUNTING BASES FOR CABLE TIES WITH ADHESIVE 3.6 | 3.6                       | 19              | 19 | 4.2 | 4 | 5   | 0860 0831 001 | 0860 0832 001 |
|                     | MOUNTING BASES FOR CABLE TIES WITH ADHESIVE 4.8 | 4.8                       | 27              | 27 | 4.2 | 6 | 7.4 | 0860 0831 002 | 0860 0832 002 |
| 2                   | MOUNTING BASES FOR CABLE TIES WITH ADHESIVE 3.6 | 3.6                       | 19              | 19 | 4.1 | 4 | 5   | 0860 0931 001 | 0860 0932 001 |
|                     | MOUNTING BASES FOR CABLE TIES WITH ADHESIVE 4.8 | 4.8                       | 27              | 27 | 4.8 | 6 | 6.5 | 0860 0931 002 | 0860 0932 002 |



# NORMA – User information

## Installation instructions

To obtain the most performance out of our products, we ask you to read through the following chapter User Information. Learn about the system requirements and how to make the installation most effective.



## System requirements for



## Spigot and bead

- Sufficient spigot strength required
- As smooth a surface as possible
- As round as possible
- No longitudinal grooves
- As little mismatch in mold as possible



## Hose

- Inner diameter of hose must be smaller than outer diameter of spigot. The smaller the hose used with the spigot concerned, the higher the push-on and pull-off force coverage. 0.5 mm to 1.5 mm should be aimed for (in relation to the diameter).
- Wall thickness as low as possible
- As round as possible
- Low relaxation properties
- No requirements relating to outer diameter tolerance
- No longitudinal grooves on inner diameter
- Lining reinforcement positioned as uniformly as possible in hose material
- Shore hardness not too low, in order to prevent damage to hose

The precise tolerance levels for the wall thickness and inner diameter are stated in the DIN 3017 specifications for heavy-duty clamps.

## Bead

- The higher the bead, the higher the pull-off and installation force
- The lower the bead, the lower the pull-off and installation force

Angle change as per **1**  
= lower pull-off forces

Angle change as per **2**  
= higher pull-off forces

Angle change as per **3**  
with specified bead length b  
= easy installation,  
low installation forces,  
low pull-off forces

Angle change as per **3**  
with specified bead diameter a  
= easier installation,  
similar installation force,  
same pull-off forces

Angle change as per **4**  
= opposite result



### Installation information for



**NORMACLAMP®**  
hose clamps



**NORMACONNECT®**  
pipe connections



**NORMAFIX®**  
retaining products

### Selecting the clamp

- Take the clamping diameter into consideration; in all cases, it must be possible to install the clamp on the hose.
- The correct band width must be selected with the system parameters taken into consideration.
- The material that is appropriate for the clamp must be selected with the corrosion conditions taken into consideration.
- Any potential thermal loads must be taken into consideration.
- Any potential mechanical loads must be taken into consideration.

#### Note:

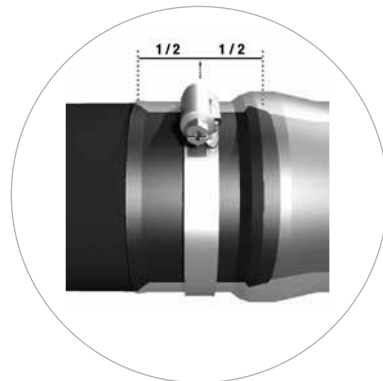
The system pressure must be taken into account as well. However, the clamp must not be considered in isolation in this respect; instead, the entire system must be made to work together in a way that delivers optimum performance.

### Professional installation

- The clamp must be installed in as central a position as possible on the junction piece.
- The clamp must be installed at an angle.
- The clamp should be tightened as slowly as possible.
- The recommended tightening torque is based on the results of testing and should be adhered to.
- If the clamp is tightened beyond the recommended tightening torque, the pull-off force and sealing ability of the clamp will not increase proportionally in relation to the torque that is applied.
- If the test torque is exceeded, there is a risk of permanent damage to the clamp and the system (e.g., failure of the clamp during re-installation).
- It may be advisable to re-tighten the connection once, 1–5 minutes after it has been installed for the first time (bear in mind the aging behavior of the hose).\*
- Water or a mixture of water and alcohol should be used to help the installation process. We do not advise using lubricants such as soap suds, greases or similar substances.

- It must be possible to attach the installation tool to the clamp at an angle.
- Ideally, for safety reasons we recommend using a hexagon installation tool or an open-ended tool.

\* Only applies to NORMACLAMP®TORRO® and NORMACLAMP®GBS



Central installation shown using  
the example of a NORMACLAMP®TORRO®

### Technical glossary

#### Tightening torque

The tightening torque describes the recommended torque which should be used to tighten a worm drive clamp. In most cases this is the torque that is specified by DIN 3017. It is very easy to measure this torque using a torque wrench.

It is important to note that, in addition to the structure of the clamp (form closure), the band tensile force (clamping force) is chiefly responsible for the sealing properties of a hose clamp connection. The level of this force can only be determined explicitly as a numerical value using appropriate measuring devices. Indirect methods such as measuring the pull-off force or burst pressure of certain connections may be used for comparative purposes. This means that the band tensile force (clamping force) of a clamp cannot be determined directly on the basis of the clamp tightening torque. Therefore, it is necessary to use appropriate structural measures in order to keep the spread of this clamping force to a minimum when a particular tightening torque is applied. This will ensure the components installed are appropriately secure and maintain the connection's sealing properties.

At NORMA Group, we are able to measure these band tensile forces precisely. We draw up band tensile force diagrams in which we enter the initial tightening torque converted into the band tensile force directly as a means of measuring efficiency levels. This allows us to determine the efficiency of the clamp being measured. This data is represented in the band tensile force specification at the nominal torque.

**A higher band tensile force at the nominal torque will produce a more effective hose clamp!**

#### Band tensile force

The band tensile force is the level which produces optimum mechanical adhesion and sealing properties in a particular connection (consisting of a hose, spigot and clamp). (See also the information under "Tightening torque.")

As part of the ongoing development of TORRO® products, the clamps have been optimized so that particularly high band tensile forces can be achieved.

#### Failure and destruction torque

The failure or destruction torque denotes the torque that has to be applied to the clamp in order to destroy it. Like the test torque, this torque provides an indication of how robust the clamp is and is viewed as particularly significant in the commercial vehicle sector, as torque tools are not always available for installing or removing clamps in service. In this kind of scenario, installing hose clamps simply based on what feels correct (rather than using precise tools) must not result in damage to the clamps.

**A high failure or destruction torque means a high level of robustness.**

#### Idling torque

The idling torque refers to the torque that is required for turning a screw/bolt without generating clamping force. An extremely low idling torque and little spread create the ideal conditions for making the clamp easy to handle during installation.

#### Test torque

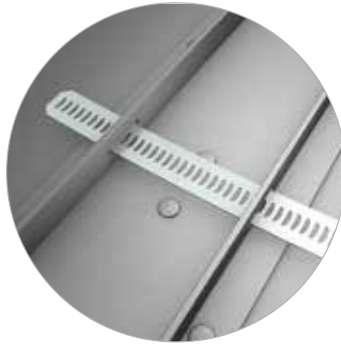
The test torque, which is usually around 30% above the tightening torque, denotes the torque that can be applied to the clamp without causing permanent damage to it.

**A high test torque means a high level of robustness.**

### Installation Notice Hi-Torque Clamp



- 1** Slide the loop onto the band in the direction of the arrow and push around the casing.



- 2** Insert the band through the flange slots and around the post.



- 3** Engage the band in the casing and screw the band through to approx. 50mm.



- 4** Slide any excess band under the loop.

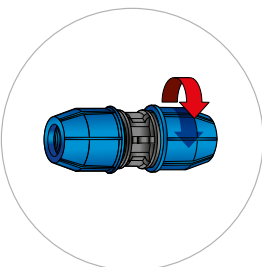


- 5** Tighten the band using an appropriate tool.

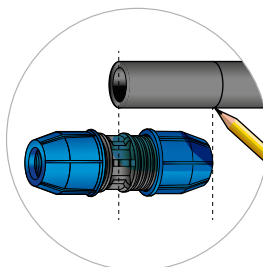


- 6** Your hi torque clamp is well installed now. It can be removed and repositioned if necessary.

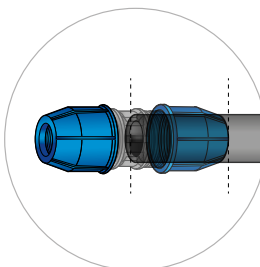
### Installation Notice Compression Fittings



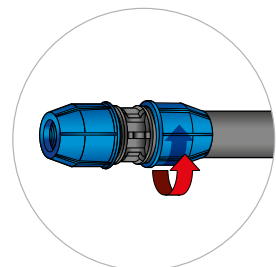
- 1** Unscrew the nut up to the last thread.



- 2** Cut the pipe and deburr, if necessary, in the insert depth.



- 3** Push the pipe, without unscrewing the nut, up to the mark. For this, you should push the pipe until reaching the clamping ring and the gasket.



- 4** Screw and tighten the nut firmly. The nut can be tightened manually.

## Manual installation of Cable Ties



**1** Insert the tip of the tie.



**2** Tighten the tie manually until complete fixation of the cables.



**3** Avoid sharp bending of the tie. This will not improve the fixing strength.



**4** Cut the excess part of the tie with a few millimeters of safety length.

## Tool installation of standard Cable Ties



**1** Set the max. tension of the tool depending on the size of the tie.



**2** Grip the tie with the tool.



**3** Tighten the tie until complete fixation of the cables.



**4** Cut off the excess part of the tie.

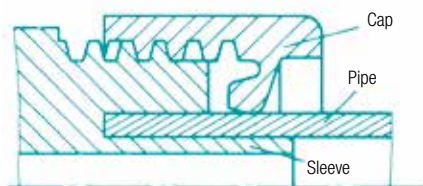
## Installation Plastic Hose Connectors

### Pipe dimensions: Outer diameter - 2x wall thickness

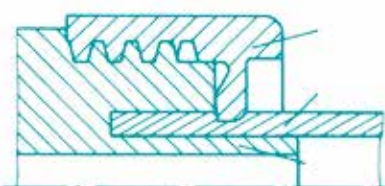
Push the cap onto the pipe; push the pipe onto the sleeve as far as it will go; tighten the cap on the buttress thread as much as possible (using standard pliers if necessary).

Cap also available as an individual part.

### Before tightening the cap



### After tightening the cap



Cap screwed on as far as it will go.



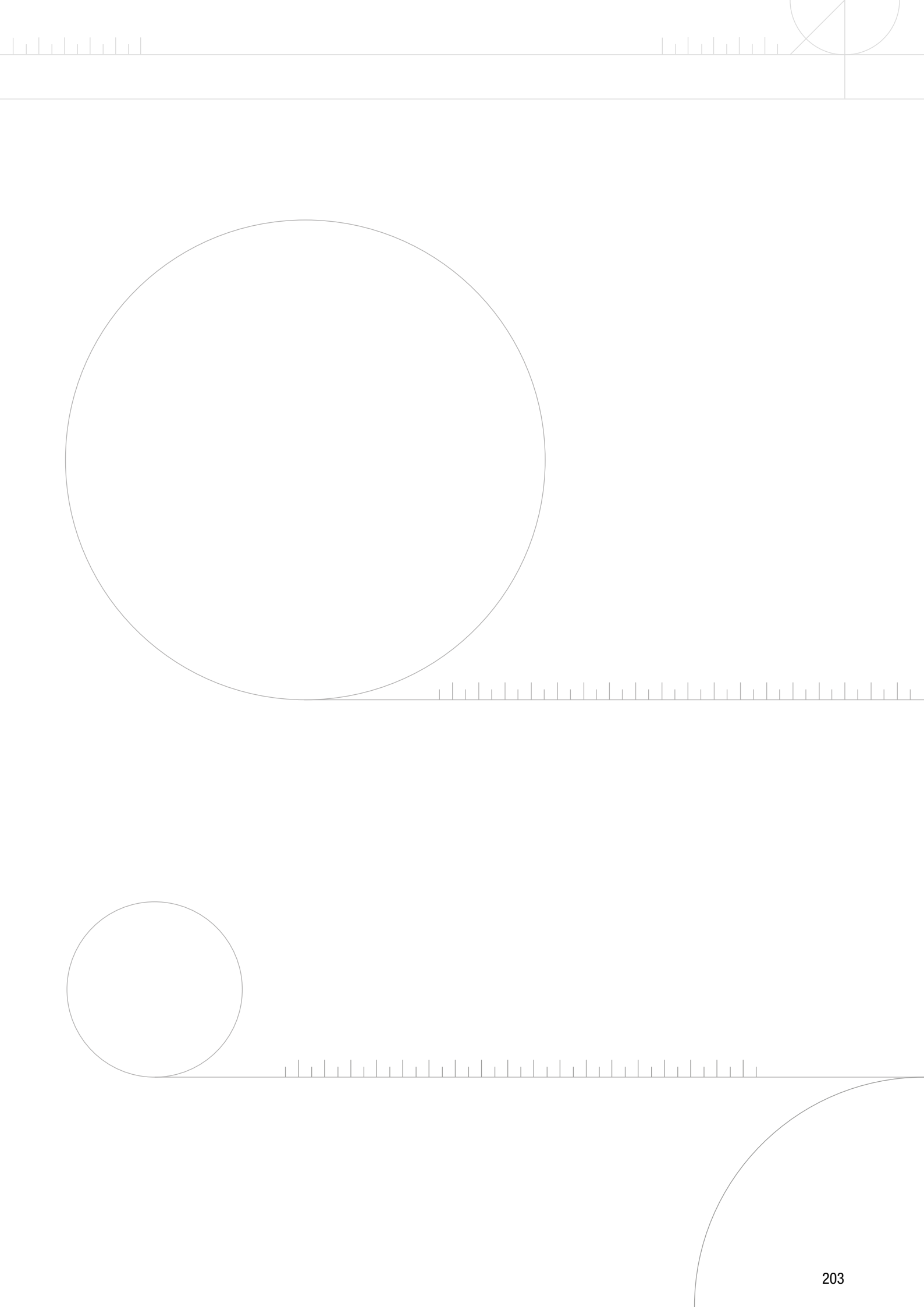
## NOTES

Handwriting practice lines consisting of 20 horizontal dotted lines.



# NOTES

Handwriting practice lines consisting of 20 horizontal dotted lines.





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NORMACLAMP®

NORMACONNECT®

NORMAFIX®

NORMAPLAST®

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