

Georg Fischer Waga N.V.

+GF+

Product Catalogue

EL MULTI/JOINT® · HET ORIGINEEL · THE ORIGINAL · DAS ORIGINAL · EL MULTI/JOINT® · MULTI/JOINT® · MULTIJOINT® · EL MULTI/JOINT® · HET ORIGINEEL · THE ORIGINAL · DAS ORIGINAL · EL MULTI/JOINT® · MULTI/JOINT® · MULTIJOINT®





Georg Fischer Waga N.V.

Georg Fischer Waga N.V. was founded in 1957 and has the main focus on the development, production and sales of high quality connection techniques. For many years now, our products are successfully used around the world in under and above ground water and gas applications for new construction, expansion and maintenance & repair.

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The technical data are not binding and not expressly warranted characteristics of the goods. They are subject to change. Please consult our general conditions of supply.

For more information visit our website:



Water & gas



Maintenance & repair

Maintenance and repair in under and above ground piping systems for water and gas requires no special efforts with the products from the Georg Fischer Waga N.V. program. We offer a wide range of products, which can be used for transport lines, distribution lines, house connections and service lines.



We offer various solutions for a variety of maintenance and repair work. Whether the job is to connect, repair or drill, we have the right product. Quality and simplicity are always the most important characteristics of our products. With our reliable fittings it is easy to make a maintenance free and long lasting connection. That is the strength of all our products and an absolute must for the users in the water and gas market!

Transport lines

Transport lines carry water and gas from the source to the distribution lines. Distribution lines distribute the water or gas towards the end user. Transport lines, usually with large diameters, are repaired with large diameter fittings. Especially for these large diameter transport lines we developed products that can easily be used to connect and repair these pipelines from DN300 up to DN2200.

Distribution lines

Distribution lines ensure water and gas distribution to the end user. Through large diameter transport lines, via distribution and service lines, water or gas reaches the end user. Whether it concerns new construction or maintenance and repair applications, with products from the Georg Fischer Waga N.V. program distribution lines from DN50 up to DN400 can perfectly be installed.

House connections and service lines

The last stage of the distribution grid is through pipelines that supply water or gas to the meter. These pipelines are commonly known as house connections and service lines. Through these pipe lines, with sizes of up to and including DN50, the water and gas is brought into houses or buildings. We have developed products for connections to these smaller diameter pipe lines, such as saddles and drilling devices.

Meet the VIPs



Our solutions

With all of our products we put quality and simplicity first. With our reliable fittings a quick, easy and maintenance free connection can be made that will last for a long time. That is the strength of all our products and for the water and gas market an absolute need!

+ Wide range restraint fittings

MULTI/JOINT® 3000 Plus



+ Dedicated fittings

ST-System



UNI-Coupling



+ Repair clamps & tapping saddles

Multi/Clamp



+ Drilling devices

W400 / W410



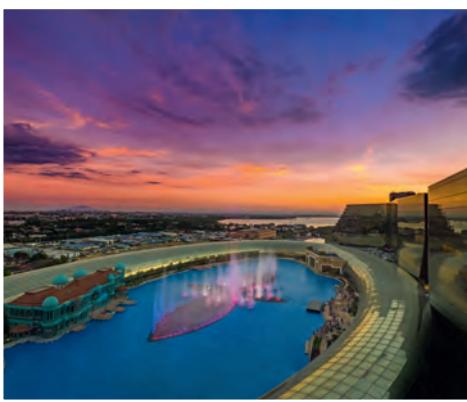
Around the world



Our reference cases

Whether it is connecting, repairing or tapping, our products can be used in a variety of applications. Our product programs are successfully implemented in the water and gas market in various applications around the world.

A selection of MULTI/JOINT® reference cases:



How the MULTI/Joint® Became a Piece of Art

Amsterdam, The Netherlands

Imagine being the manager of the Stedelijk Museum in Amsterdam, a large and popular art museum in the Netherlands. Just like any other day, you are in control and making sure everything goes well. Of course, that is until you are faced with a potentially disastrous leakage...

[READ MORE](#)



MULTI/Joint® a Solid Bet for Philippines' Okada Manila Integrated Resort

Parañaque, Philippines

In February 2017, the casino resort and hotel complex Okada Manila, officially opened its doors. Japanese business man Kazuo Okada, who earned a big part of his fortune with the Japanese Pachinko machines, obtained a license back in 2008 to run a casino in the Manila Entertainment City. This prestigious gambling facility should compete with casinos in Macau and should turn Manila into a regional and international gambling destination.

[READ MORE](#)



Giant Sinkhole Swallows Cars

Florence, Italy

Around noon, all of a sudden, a large part of the embankment collapsed and came crashing down a number of meters. A leaking cast iron water pipe DN600 washed away a massive amount of soil, causing a giant hole with a swirling water mass, which swallowed the parked cars and caused an enormous mess.

[READ MORE](#)

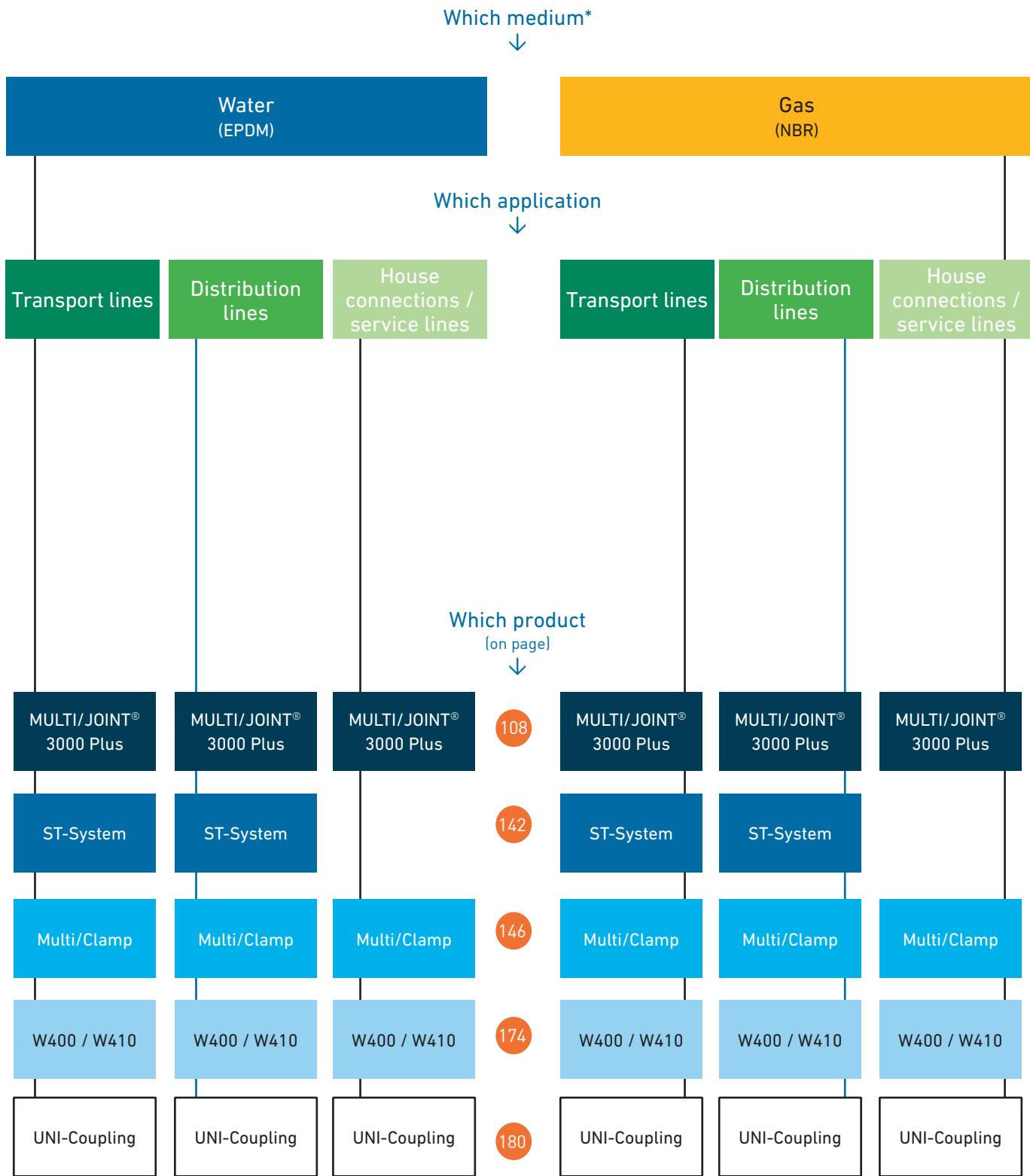


The right choice



Which product do you need?

Our products can be used for various applications. Therefore we would like to help you make the right choice. In the below shown flow chart you can see which product is suitable for your application.



* For other fluids than water and gas, please contact your supplier.

MULTI/JOINT® The original!

Perfection in every detail MULTI/JOINT® 3000 Plus



kiwa



WRAS APPROVED PRODUCT



Uni/Fiks ring

Clamp ring:

ductile cast iron GGG45 EN-GJS-450-10

with Resicoat® epoxy powder coating

type RT 9000 R4

Uni/Fiks ring

stainless steel A4 (AISI 316)

Varioseal:

rubber gasket

(EPDM or NBR)

Body:

ductile cast iron

GGG45 EN-GJS-450-10

with Resicoat® epoxy

powder coating

type RT 9000 R4

Nuts:

stainless steel A2 (AISI 304)

galvanised and passivated

or stainless steel A4 (AISI 316)

galvanised and passivated

Bolts:

stainless steel A2 (AISI 304)

Lubo coated or stainless steel

A4 (AISI 316) Lubo coated

Hygiene protection:

Ensures the fitting stays
clean from production
to point of use

(cap in the
picture:
DN50 -

DN400)

Washer:

stainless steel A2 (AISI 304)

or stainless steel A4 (AISI 316)

Technical information

Terms and definitions

Terms and definitions used throughout this technical manual comply (as much as possible) with the latest terms and definitions used in the European standards.

Allowable operating pressure (PFA)

Internal pressure, exclusive of surge that a component can safely withstand in permanent service (see EN 805), often referred to as working pressure.

Allowable test pressure (PEA)

Maximum hydrostatic pressure that a newly installed component can withstand for a relatively short duration, when either fixed above ground level or laid and backfilled underground in order to measure the integrity and tightness of the pipeline (see EN 805), often referred to as test pressure. **Note:** This test pressure is different from the system test pressure (STP), which is related to the design pressure of the pipeline, and is intended to ensure the integrity and leak tightness of a certain installed fitting.

Nominal pressure (PN)

Numerical designation expressed by a number, which is used for reference purposes.

Nominal size (DN diameter nominal)

Numerical designation of size, which is common to all components in a piping system. It is a convenient round number for reference purposes and is only loosely related to manufacturing dimensions (see EN ISO 6708).

Outside diameter (OD)

Outside diameter of the pipe(s) to be connected.

Depth of engagement

Minimum distance between any point of the spigot end and the internal face of the joint gasket.

Ductile cast iron

Cast iron used for pipes, fittings and accessories in which graphite is present, mainly in spheroidal form.

Fitting

Casting other than a pipe, which allows pipeline deviation, change of direction or bore. In addition flanged socket pieces, flanged spigot pieces and collars are also classified as fittings.

Flange

Flat circular end of a fitting or pipe extending perpendicular to its axis, with bolt holes equally spaced in a circle.

Gasket

Sealing component of a joint.

Joint

Connection between the ends of two pipes and/or fittings in which a gasket is used to effect a seal.

Joint angular deflection

Angle between the axis of two connected pipe components, which a flexible joint can accommodate.

Joint gap

Maximum axial distance between any point of the spigot ends of the pipes to be connected (coupling), or, maximum axial distance between any point of the spigot end of the pipe and the flange face (flange adaptor).

Wide range coupling

Fitting intended for use with pipes of various materials which:

- is used in a pipeline to make the connection between two spigots of pipes, fittings or valves
- allows for radial and axial displacements in order to facilitate easy assembly.

Wide range flange adaptor

Fitting intended for use with pipes of various materials which:

- is used in a pipeline to make the connection with a spigot of a pipe or a fitting and the flange of another component of the pipeline (e.g. pipe, fitting, valve)
- allows for radial and axial displacements in order to facilitate easy assembly.

Wide range stepped or reducer coupling

Large tolerance coupling intended for use with pipe components of different nominal sizes.

Performance test

Proof of design test, which is done once and is repeated only after changing the design.

Restraint flexible joint

Flexible joint in which a means is provided to prevent separation of the assembled joint.

Dimensions and units

All dimensions used in this catalogue or other documentation are indicated in mm and/or inches and are specified as nominal or standard sizes. We reserve the right to alter design of fittings.

Pipe outside diameters

Coupling DN	Steel imp.	Steel metric	PVC/PE metric	PVC/PE imp.	Ductile iron cl. 18	Grey cast iron Brit.	AC cl 6/12
50	60.3	60.3/66	63	60.3	66	68	-
65	76.1	76.1	75	76.1	82	-	-
80	88.9	88.9	90	88.9	98	95	124
100	114.3	108	110/125	114.3	118	122	149/151
125	139.7	133	140	139.7	144	148	174
150	168.3	159	160/180	168.3	170	174	228
200	219.1	211/216	225	219.1	222	228	-
225	244.5	241	250	244.5	248	257	268/280
250	273	267	280	273	274	284	334
300	323.9	316/318	315/355	323.9	326	337	-
350	355.6	368	355	355.6	378	-	-
400	406.4	419	400	406.4	429	-	-
425	457	-	450	457	-	442	-
450	457	464/470	450	457	480	-	-
475	508	-	500	508	-	495	-
500	508	514/521	500	508	532	-	-
550	559	559	560	-	558	548	550
600	609.6	622	630	609.6	635	-	-
625	660	-	630	660	635	650	638
675	-	-	-	-	-	667	-
700	711	-	710	711	738	703/720/729	-
800	813	-	800	813	-	807/826	-
825	864	-	-	-	842	860	850

Coupling DN	AC cl. 10 rough approx.	AC cl. 12 rough approx.	AC cl. 12 rough approx.	AC cl. 18	AC cl. 24
50	68	-	-	-	-
65	-	72	74	78	86
80	98	102	-	-	86
100	120	124	104/124	108/128	106/126
125	145	149	149	153	153
150	176	180	180	184	178
200	-	-	-	-	-
225	232	236	238	242	234
250	284	288	292	296	288
300	340	346	350	356	344
350	-	-	-	356	344
400	-	402	410	416	402
425	452	460	-	456	-
450	452	460	468	476	456
475	510	-	-	508	-
500	510	518	522	530	508
550	568	576	580	-	564
600	-	-	-	-	-
625	-	-	651	-	-
675	-	-	-	-	668
700	-	-	-	-	-
800	-	-	-	-	-
825	-	-	868	-	-

Georg Fischer pipe and fittings O.D. chart

MULTI/JOINT®

www.waga.nl



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International

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A connection between
an old and a new pipe.
These pipes have various
outside diameters.
MULTI-JOINT® 3000 Plus
which fits and grips all
turned out to be the
perfect solution.

Material specifications

Ductile cast iron

Conforming to EN-GJS-450-10 HB200 (GGG 45). General description: cast iron (used for pipes, fittings and accessories) in which graphite is present mainly in spheroidal form.

MULTI/JOINT®

Mechanical properties
GGG45

Symbol	EN-GJS-450-10 HB 200
Tensile strength R _m	min. 450 N/mm ²
0,2% Proof Stress R _{p0,2}	min. 310 N/mm ²
Elongation at break	min. 10%
Modulus at elasticity	169 GN/mm ²
Predominant structure	Ferrite

Steel 37-2, ASTM A108

Conforming to DIN 1.0112, BS 970 080A17. General description: medium low-carbon steel with a good weldability and slightly better machine-ability.

Mechanical properties

	ISO R 1038
Hardness, Brinell	126
Tensile strength, ultimate	140 N/mm ²
Tensile strength yield	370 N/mm ²
Elongation at break	15% in 50 mm
Modulus of elasticity	205 GPa typical for steel

Stainless steel AISI 304, A2 quality X 5CrNi 189

Conforming to DIN 1.4301, ISO 683/13 11. General description: austenitic CR-Ni stainless steel. High ductility, excellent drawing, forming and spinning properties. Essentially non-magnetic, becomes slightly magnetic when cold worked. Chemical resistance: resists most oxidizing acids and salt spray. Low carbon content means less carbide precipitation in the heat-affected zone during welding and a lower susceptibility to intergranular corrosion.

Thermal properties

CTE, linear	17.3 µm/m- °C
20 °C	from 0-100 °C
Modulus of elasticity	193-200 GPa

Mechanical properties

AISI 304

Hardness, Brinell	123 converted from Rockwell B hardness
Tensile strength, ultimate	565 N/mm ²
Tensile strength yield	310 N/mm ²
Elongation at break	70% in 50 mm

Stainless steel AISI 316, A4 quality X 5CrNiMo 17122

Conforming to DIN 1.4401, ISO 6931. General description: molybdenum content increases resistance to marine environments. High creep strength at elevated temperatures and good heat resistance Biocompatible. Fabrication characteristics are similar to types 304.

Thermal properties

CTE, linear	17.3 µm/m- °C
20 °C	from 0-100 °C

Mechanical properties

AISI 316

Hardness, Brinell	190
Tensile strength, ultimate	620 N/mm ²
Tensile strength yield	415 N/mm ²
Elongation at break	45% in 50 mm
Modulus at elasticity	205 GPa

Rubber

Rubbers are available in many shapes and qualities. Rubbers are an essential component of fittings and valves in pipeline constructions. Depending on the transported media and temperature, a choice has to be made for a sealing material. All the different materials have their own specific quality and applications.

The basic understandings

There still exists some confusion regarding the material rubber and the methods by which products are manufactured of it. Natural or synthetic rubber is combined with several chemicals through mixing and rolling, resulting in the so-called non-vulcanised rubber mixture. The added chemicals are often more important than the rubber raw material, for characteristics of the final product. Such a rubber mixture, a viscous, plastic

mass, will be processed further into the required product, by a variety of methods. To form the product to its final shape, moulds are required to shape the material either by transfer moulding machines or compression presses. The rubber mixture is introduced in the mould under pressure, at a temperature of about 150 °C, resulting in a chemical reaction, which transforms the mixture into a formed, elastic product. One should be fully aware of the required quality standard, in order to decide on the compound to be used.

NBR

Nitrile Butadiene Rubber. Rubber seals should conform to certain requirements, such as:

NEN 5601	Hardness with shore A
NEN-ISO 37	Determination tension and stress properties
NEN-ISO 48	Hardness with 1 RHD
NEN-ISO 188	Tests for accelerated ageing
NEN-ISO 815	Determination of permanent deformation
NEN-ISO 816	Determination of abrasion strength
NEN-ISO 1431	Determination of ozone resistance
EN-ISO 1817	Determination of resistance against fluids
NEN-ISO 2285	Determination of permanent stretch at temperature

NBR rubber is eminently resistant against gas, oil, grease, petrol and solvents. The resistance is strongly dependent on the Acrylonitril percentage; the best results are achieved with high percentages. However the elasticity, the resistance against permanent transformation and the low temperature resistance will decrease. The material is sensitive to corrosion by ozone. At lower temperatures, NBR will stiffen. Depending on the mixture, the maximum temperature for use can be up to around 90 °C. By complete immersion in for example oil, NBR can be used up to around 120 °C. NBR is also suitable for use in drinking and waste water systems. All NBR seals used by Georg Fischer Waga N.V. meet the requirements of EN 682 GB for gas applications, and are suitable for use in drinking water systems.

Application NBR

Gas-, drinking- and waste water systems	
Temperature	-5 °C to +50 °C
Hardness	60 to 70 IRHD

EPDM

Ethylene-propylene-diene-monomer rubber. By copolymerisation of ethane and propane, an elastomer arises without double bindings, that can only be vulcanised with peroxides. If with polymerisation a third monomer is built in, the elastomer can be vulcanised with sulphur (EPDM). EPDM is very well resistant against weather influences in general and ozone especially. Besides that, the material is excellently resistant against high temperatures, hardly sensitive to corrosion, and resistant against free-basing, acid and solvents. Depending on the mixture and type of vulcanisation, the maximum temperature for use of EPDM is around 120 °C. All EPDM seals used by Georg Fischer Waga N.V. meet the requirements of EN 681-1 / WA.

Application EPDM

Drinking water

Temperature	0 °C to +50 °C
Hardness	70 IRHD

Perbunan

All Perbunan seals used by Georg Fischer Waga N.V. meet the requirements of EN 682 for gas applications and are suitable for use in drinking water systems.

Application Perbunan

Gas-, drinking- and

Temperature	-30 °C to +100 °C
Hardness	approx. 60 shore A

Guidance on storage of rubber seals

In case there is any doubt about the suitability of the rubber sealing for certain applications, please contact us. The rubber seals should:

- have a storage temperature below 25 °C and preferably below 15 °C,
- be protected from light, in particular strong sunlight and artificial light with a high UV content,
- not be stored in a room with any equipment capable of generating ozone, e.g. Mercury vapour lamps, high voltage electrical equipment, which may give rise to electrical sparks or silent electrical discharges,
- be stored in a relaxed condition free from tension, compression or other deformation,
- be maintained in a clean condition.

Coatings

Coating for corrosion protection

To ensure a durable, high quality corrosion protection of castings (and other metals), coatings must be resistant to temperature changes and the effects of weather and other environmental influences such as moisture, industrial gases etc., which stress the casting. The coating must ensure a completely sealed surface without porous areas. A protective coating prevents corrosion and the formation of corrosion products which, when carried along the pipeline, could lead to disruption at other points. A smooth surface reduces friction between the transported medium and the fitting. Encrustation by salts or organic materials is avoided.

Epoxy coatings

Coatings on the basis of epoxy resin are the best way of protecting castings. Epoxy powder coatings offer long-term reliability. The coating protects the entire surface area, with a film thickness of minimum 250 µm. It has no pinholes, tested with 3 kV. The epoxy resin technology uses less energy compared to other coating processes,

as the parts are only heated up to approximately 200 °C. The application processes of epoxy coatings, Fluidised Bed Coating or Electro static Spray Application, allow automatic manufacturing processes and result in a homogeneous layer thickness inside and outside of the fittings, formed by one material without discontinuity. Consequently it offers excellent edge coverage. We were one of the first coupling manufacturers who started to have their product protected with an epoxy coating ever. Since we introduced the epoxy coated couplings in the beginning of 1987, we have built up a lot of experience and know-how. Within the European Standard work groups, the tendency is very clearly towards epoxy coatings instead of other coatings. As a member of GSK, Georg Fischer Waga N.V. contributes to lifting the standards for epoxy coating used in the (utility) market.

Resicoat® RT 9000 R4 (red)

Resicoat® has a very high durability. It shows very high impact resistance and offers a good electrical insulation. Values measured on blast cleaned cast iron.

Resicoat®

Technical data

Minimum thickness	250 µm according to GSK
Colour	Ruby Red, RAL 3011
Basis	Epoxy resin
Impact resistant	20 joule at 23 °C according to DIN 30671
Porosity	0 (zero) 3 kV test
Elasticity	5% at 23 °C according to DIN 30671 and DIN 30677-25
Flexibility	11% at 23 °C according to ASTM 522
Pressure resistance	100 µ at 90 °C according to DIN 30671
Hardness	Shore D 98 / > 100 according to EN ISO 2815
Adhesion	> 20 N/mm² according to DIN 53232 and > 16 MPa according to DIN ISO 4624
Salt spray test	> 720 hours according to ASTM B 117
Maximum temperature	135 °C according to VDE 0368
Edge coverage	Excellent
CD-properties	Excellent at 30 days, 23 °C
Chemical resistance	pH 2 up to pH 13
Breakdown voltage	> 3 kV at 250 µm according to ISO 8130-2
Water absorption	100 days, 23 °C < 2% according to DIN 53495 100 days, 65 °C < 3% according to DIN 53495
Water immersion (5 y.)	no blisters ISO 7253
Cathodic disbandment test	at 23 °C < 10 mm DIN 30677-2



The pre heated ductile cast iron body gets dipped into the Resicoat® Epoxy powder. The heat causes the powder to fusion bond with the ductile cast iron permanently. The coating is GSK approved and 100% safe for drinking water.

GSK

The GSK, Quality Association for Heavy Duty Corrosion Protection of Powder Coated Valves and Fittings, was founded in 1993 in order to fulfil the growing quality requirements for pipelines in many European countries. Today the GSK has 27 members, all leading European manufacturers of fittings and valves, engineering companies and producers of fusion bonded epoxy powder coatings. The epoxy powder coating of valves and fittings is the ideal technology for long-term corrosion protection and involves the highest levels of quality control in their manufacture. GSK is recognised by RAL (German Institute for Quality Assurance and Quality Marks) and sets the quality and testing standards for machinery, materials, processes and quality assurance in the epoxy coatings technology. The regulations of the GSK not only meet the requirements of the relevant national and international standards (e.g. DIN, ISO) but also exceed them. The fixed quality level serves as a reliable standard for builders, engineers, construction workers and manufacturers. A safe and consistent quality fulfils high demands. The quality is controlled by an independent test laboratory: MPA Germany.

Approvals

A wide range of approvals assures the suitability in contact with gas and drinking water. The tests include water purity and bacterial attack. Furthermore the coating meets the requirements specified for use in waste water and gas pipe systems. The coating also meets the requirements of Kest SFW 2.0. Resicoat® R4 epoxy resin carries over 80 drinking water approvals. Some of these include: Belgaqua (Belgium), DGS (France), KTW (Germany), KIWA (the Netherlands), NSF Standard 61 (USA), WRAS (United Kingdom) as well as drinking water approvals in Austria, Switzerland and the Czech Republic. And last but not least the Resicoat® R4 meets the requirements of DIN 30677, 30677 T1 + T2, DIN 3476 and passes the GSK standard.

GSK



Coating application process

Before the fittings are coated, they are cleaned, and then grid-blasted according to class SA 2 ½. Both application techniques, Fluidised Bed Coating or Electrostatic Spray Application, are used to apply the coating to our fittings.

Electrostatic spray application

The powder is applied by an electrostatic spray gun, either manually or by a robot.

Fluidized bed coating

The powder melts onto the pre heated grid blasted fitting and excessive powder falls off, helped by movement of the coated part.

Anti friction coating

Galling or fretting is a severe form of adhesive wear, which occurs during sliding contact of one surface relative to another. Clumps of one part may stick to the mating part and break away from the surface. This is also the case with stainless steel. To prevent this problem, anti friction coatings can be used. Our stainless steel A2 and A4 bolts are coated with Lubo anti friction coating.

Lubo coating

In order to prevent friction, the stainless steel bolts are coated with Lubo coating, a low friction coating applied to threads. This is a dry lubricant and has the property of reducing the torque tension scatter during tightening. It is also used to prevent problems caused by weld splatter obstructing the threads of weld nuts during their placement and it eliminates the need for masking or cleaning when painted, since paint will not adhere to the coating.

Passivated nuts

Another anti friction measure is the use of passivated nuts. Here, another zinc layer lubricates the thread reducing friction.

EN14525 KIWA, SVGW & ÖVGW



Technical specification flanges

Flanged connections are one of the oldest methods of connecting pipes and/or fittings together. One of the first flanged connections dates from the 17th century and was described in a standard for the first time in 1882. In 1926 the first material independent standard for mating dimension of flanges was published. These standard sizes made it possible to connect two flanges, independent of type, within the same DN (nominal size) and PN (pressure class) together regardless the material of which the flange was made from.

Flange mating dimensions

The mating dimensions describe the interchangeability between flanges within the same DN and PN. The mating dimensions are described by:

- diameter of bolt circle (pitch circle)
- number of bolts (pitch)
- diameter of bolt hole (bolt size)

The mating dimensions, which are used in our products, are standard PN 10 or PN 16 according:

- EN 1092-2, ISO 2531, DIN 2501
- DIN 28604 / 28605 and other
- EN-ISO-DIN orientated standards. This secures the interchangeability with BS 4504: Section 3.2:1989 up to DN300

Drilling patterns

(E.g. mating dimensions) of other standards can be supplied as long as they are allowed within the physical dimensions of the flange.

Physical dimensions

Other physical dimensions of the flange determine the strength of the flange. This strength is depending on the type of material of which the flange is made of. Physical dimensions are:

- the flange diameter
- the flange thickness
- the diameter and height of possible flange facing
- concentrically grooves

The flanges used in our products are all dimensioned type B (raised face) according to EN 1092-2.

Flange facing

All flange facings in our cast iron product lines are standard equipped with concentric grooves. These grooves, opposite to flat facings, give a ring tightening force to the flange gasket rather than a faced tightening. This ensures a heavy duty performance with high life expectancy in combination with rubber flange gasket.

		DN (mm)																												
PN6		40	50	60	65	80	100	125	150	200	225	250	300	350	400	450	500	600	700	800	900	1000	1200							
Outside diameter flange	D	130	140	150	160	190	210	240	265	320	375	440	490	540	645	755	860	975	1075	1175	1405									
Diameter of bolt circle	K	100	110	120	130	150	170	200	225	280	335	395	445	495	600	705	810	920	1020	1120	1340									
Number of bolts	N	4	4	4	4	4	4	8	8	8	12	12	12	16	20	20	24	24	24	28	32									
Diameter of bolt hole	L	14	14	14	14	19	19	19	19	19	19	23	23	23	23	28	28	31	31	31	34	34								
Nominal size bolts		M12	M12	M12	M12	M16	M16	M16	M16	M16	M16	M20	M20	M20	M20	M24	M24	M27	M27	M27	M30									
		DN (mm)																												
PN10		40	50	60	65	80	100	125	150	200	225	250	300	350	400	450	500	600	700	800	900	1000	1200							
Outside diameter flange	D										340	395	445	505	565	640	670	780	895	1015	1115	1230	1455							
Diameter of bolt circle	K										295	350	400	460	515	565	620	725	840	950	1050	1160	1380							
Number of bolts	N										8	12	12	16	16	20	20	20	24	24	28	32								
Diameter of bolt hole	L										23	23	23	28	28	28	31	31	34	34	37	41								
Nominal size bolts											M20	M20	M20	M24	M24	M24	M27	M27	M30	M30	M33	M36								
		DN (mm)																												
PN16		40	50	60	65	80	100	125	150	200	225	250	300	350	400	450	500	600	700	800	900	1000	1200							
Outside diameter flange	D										See PN 40	175	185	200	220	250	285	340	405	460	520	580	640	715						
Diameter of bolt circle	K											135	145	160	180	210	240	295	355	410	470	525	585	650						
Number of bolts	N											4	4	8	8	8	8	12	12	16	16	20	20							
Diameter of bolt hole	L											19	19	19	19	19	23	23	28	28	31	31	34							
Nominal size bolts												M16	M16	M16	M16	M16	M20	M20	M24	M24	M27	M30	M33	M36						
		DN (mm)																												
PN25		40	50	60	65	80	100	125	150	200	225	250	300	350	400	450	500	600	700	800	900	1000	1200							
Outside diameter flange	D										See PN 40	270	300	360	425	485	555	620	730	845	960	1085	1185	1320	1530					
Diameter of bolt circle	K											220	250	310	370	430	490	550	660	770	875	990	1090	1210	1420					
Number of bolts	N											8	8	12	12	16	16	16	20	20	24	24	28	32						
Diameter of bolt hole	L											28	28	28	31	31	34	37	37	41	44	50	50	57	57					
Nominal size bolts												M24	M24	M24	M27	M27	M30	M33	M33	M36	M39	M45	M45	M52	M52					
		DN (mm)																												
PN40		40	50	60	65	80	100	125	150	200	225	250	300	350	400	450	500	600	700	800	900	1000	1200							
Outside diameter flange	D	150	165	175	185	200	235	270	300	375	450	515	580	660	755	890	995	1140	1250	1360	1575									
Diameter of bolt circle	K	110	125	135	145	160	190	220	250	320	385	450	510	585	670	795	900	1030	1140	1250	1460									
Number of bolts	N	4	4	8	8	8	8	8	12	12	16	16	16	20	20	24	24	28	28	32										
Diameter of bolt hole	L	19	19	19	19	19	23	28	28	31	34	34	37	41	44	50	50	57	57	57	62									
Nominal size bolts		M16	M16	M16	M16	M16	M20	M24	M27	M30	M30	M33	M36	M39	M45	M45	M52	M52	M52	M56										
		DN (mm)																												
DIN 1882		40	50	60	65	80	100	125	150	200	225	250	300	350	400	450	500	600	700	800	900	1000	1200							
Outside diameter flange	D										160	200	230	260	290	350	400	450	520	575	630	680	790							
Diameter of bolt circle	K										125	160	180	210	240	310	350	400	485	520	570	625	725							
Number of bolts	N										4	4	4	6	6	8	8	10	10	12	12	16								
Diameter of bolt hole	L										18	18	18	22	22	22	26	26	26	26	26	30	30							
Nominal size bolts											M16	M16	M16	M20	M20	M20	M24	M24	M24	M24	M27	M30								
		DN (mm)																												
AS4087 standard pressure		40	50	60	65	80	100	125	150	200	225	250	300	350	375	400	450	500	525	600	700	750	800	900	1000	1200				
Outside diameter flange	D										See PN 40	150	165	185	215	255	280	335	370	405	455	525	550	580	640	705	735	825	910	995
Diameter of bolt circle	K											114	127	146	178	210	235	292	324	356	406	470	495	521	584	641	673	758	845	927
Number of bolts	N											4	4	4	4	8	8	8	8	12	12	12	12	12	16	16	16	20	20	
Diameter of bolt hole	L											18	18	18	18	18	18	18	22	22	26	26	26	30	33	33	36	36		
Nominal size bolts												M16	M16	M16	M16	M16	M20	M20	M24	M24	M24	M27	M27	M30	M33	M33	M33			
		DN (mm)																												
AS4087 high pressure		40	50	60	65	80	100	125	150	200	225	250	300	350	375	400	450	500	525	600	700	750	800	900	1000	1200				
Outside diameter flange	D										See PN 40	165	185	205	230	305	370	405	430	490	550	580	610	675	735	760	850	1015		
Diameter of bolt circle	K											127	146	165	191	260	324	356	381	438	495	552	610	673	699	781		674		
Number of bolts	N											4	8	8	8	12	12	12	12	16	20	20	24	24	28					
Diameter of bolt hole	L											18	18	18	18	22	22	22	26	26	26	30	33	33	36	36				
Nominal size bolts												M16	M16	M16	M16	M20	M20	M24	M24	M24	M24	M27	M30	M33	M33	M33				
		DN (mm)																												
ANSI B 16.1 125 LB/ AWWA C-1		40	50	60	65	80	100	125	150	200	225	250	300	350	375	400	450	500	525	600	700	750	800	900	1000	1200				
Outside diameter flange	D										See PN 40	152	178	191	229	255	280	343	405	483	533	597	635	699	813	984				
Diameter of bolt circle	K											121	140	152	191	216	241	298	362	432	476	540	578	635	749	914				
Number of bolts	N											4	4	4	8	8	8	12	12	12	16	16	20							

Insert stiffeners

In this chapter, the need of using insert stiffeners (also called support liners) in general is explained. Also the specific guideline of using inserts in combination with the Georg Fischer Waga N.V. products is mentioned.

Mechanical joints on plastic pipes

Plastic materials suffer from material relaxation, resulting in a change of shape over time. This phenomenon is known as stress relaxation. Especially when installing a mechanical fitting on plastic pipes, tightening of the bolts results in an increased surface pressure of the joint onto the plastic pipe wall. This extra pressure in most cases leads to a deformation of the pipe wall (picture 1), enhancing the relaxation process. In case of restraint mechanical joints, such as the MULTI/JOINT® 3000 Plus, the forces of the restraining mechanism brought onto the pipe are often much higher than the forces of the sealing mechanism. These higher stress levels will therefore result in a higher creep deformation and might cause a higher risk of joint failure.

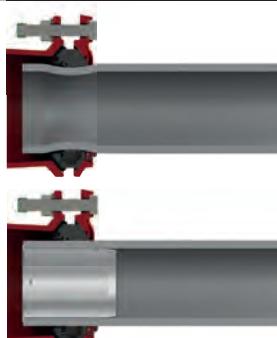
By inserting a stainless steel insert stiffener into the plastic pipe end, the pipe is reinforced from the inside, ensuring that the pipe wall cannot be deformed (picture 2). This will result in the best possible connection on plastic pipes.

Bending torques

Another reason for using the stainless steel insert stiffeners is to avoid bending torques. A plastic pipe always tends to knick exactly at the spot of the sealing area when bending torques act on the pipe (picture 3.). This might result in leakages of the fitting. When using an insert stiffener, the bending point is diverted away from the sealing area, resulting in a longlasting leak free connection (picture 4).

Mechanical pipe joints

1.



2.

Use of insert stiffeners

In order to guarantee the best possible performance of the Georg Fischer Waga N.V. fittings on plastic pipes, we set the following directive:

Use of an insert stiffener (approved by Georg Fischer Waga N.V.) is mandatory on all plastic pipes, both for restraint and non restraint connections, both for permanent and temporary connections.

Exceptions:

No insert stiffeners need to be used in water and gas applications on:

- PVC pipes with SDR-class 21 or thicker walled

No insert stiffeners need to be used for temporary (< 5 years) non restraint connections in water applications on:

- PP-B, PB and HDPE (80/100/100-RC) pipes with SDR-class 11 or thicker walled

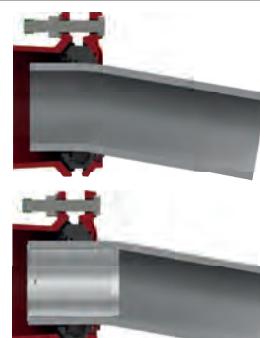
Note: in gas applications on PP-B, PB and HDPE (80/100/100-RC) pipes the use of insert stiffeners is mandatory.

Design and properties

Georg Fischer Waga N.V. offers two types of insert stiffeners for different applications. Depending on the application the right choice has to be made. To guarantee the correct support to the spigot, insert stiffeners must be designed according the intended use for plastic piping systems. Therefore insert stiffeners must conform to the following properties to guarantee its function.

Residual stress and bending torques

3.



4.

The insert stiffener must:

- be axially secured to stay in place inside the spigot
- not be oversized to reduce residual stress due to installation
- not be too small in order to guarantee sufficient support
- have the appropriate length to support at least the joint area plus $0,2 \times$ the outside diameter
- be ridged to at least withstand the forces brought on by the sealing and restraining mechanism
- be easy to install
- be free of corrosion
- not affect the content of the pipe system

Insert Economy

The Insert Economy is designed for (PE, PB, PVC etc.) pipes dimensioned according to DIN 8074. The insert can be installed in these pipes as long as they are within the allowed production tolerances. In order to secure a sufficient support to the pipe, the (nominal) diameter of the insert is just below the nominal inside diameter of the pipe. This means that when the pipe is produced at its biggest tolerance, it "falls in", supported by the dimples. When the pipe is produced at its lowest tolerance, you need some extra force to put in the insert. But this extra force should be no more than can be achieved with a hammer. The Insert Economy is available for various SDR-sizes. To guarantee the correct working of the insert, the use is limited to pipes up to DN300. Above this dimension, the production tolerances become such, that sufficient support is no longer guaranteed. For inserts bigger than DN300, we refer to inserts with wedge.

Insert Economy



Insert with wedge

The Insert with Wedge is intended for pipes with larger production tolerances and pipes produced according to unknown standards, and is available up to DN1600. The wedge construction offers a small tolerance, overcoming minor dimension differences of the pipe. After positioning the insert, the wedge is hammered in, to fix the insert. After that the top end of the remaining wedge has to be sawed off.

Insert with wedge



Insert with wedge MJ DN625 – DN800

This Insert with Wedge MJ DN625 - DN800 is specially designed for the MULTI/JOINT® 3000 Plus DN625 – DN800. Other sizes are available on request. In contrast to the Insert Economy and Insert with Wedge for the smaller sizes, this product comes with a separate top and bottom part. After positioning the insert, the two wedges are placed on each side between the two compartments. When the wedges are properly placed according to the corresponding user manual, the remaining parts are sawed off.

Insert with wedge MJ DN625 - DN800



MULTI/JOINT® 3000 Plus principle

Proven quality

The MULTI/JOINT® 3000 Plus system comprises wide range fittings, flange adaptors, reduction pieces, bends, duck feet bends, end caps and PE adaptors of ductile cast iron in the ranges DN50 - DN825. Thanks to the unique wide range sealing system all fittings can be made restraint as long as the nominal diameters are the same. All you need to know is the outer diameter of the pipe, the medium and the working pressure. The MULTI/JOINT® 3000 Plus system has a range up to 43 mm and connects pipes from 46 - 869 mm. MULTI/JOINT® 3000 Plus restraint fittings are suitable for applications in water pipes up to 16 bar and gas pipes up to 8 bar. The MULTI/JOINT® system has earned its reputation for quality on the international market over the past 30 years.

Unique sealing system

When the quality standard is high, you need a reliable connection. The MULTI/JOINT® 3000 Plus system meets the demands and is suitable for applications in water and gas. The uniqueness of the system lies in the sealing which consists of a flexible ring (Uni/Fleks ring or Uni/Fiks ring) which consists of plastic segments and a rubber sealing ring (EPDM or NBR). The Uni/Fiks version is supplied with metal grippers which make the MULTI/JOINT® 3000 Plus system restraint on all types of pipe materials.

Uni/Fleks ring

The Uni/Fleks ring is a combination of a plastic ring, consisting of plastic segments, with a thin rubber sealing (Varioseal). This rubber sealing (available both in EPDM and NBR) is a reliable solution for both water and gas applications. The Uni/Fleks ring is non restraint.

Uni/Fiks ring

When metal grippers (Uni/Fiksers) are placed in the Uni/Fleks ring, the sealing system is restraint. The Uni/Fiks ring with the Uni/Fiksers makes a restraint connection up to an impressive 16 bar for water and 8 bar for gas, both on rigid pipes and plastic pipes.

Segments

The plastic segments in the ring sizes DN50 – DN125 consist of one part, made of POM. Furthermore the design of the ring enables large range coverage in outside diameters. The plastic segments in the ring sizes DN150 – DN825 consist of two parts; the wedge and the topple. The wedge is made of POM and is in contact with the pipe material. The topple, made of polyamide, ensures the integrity of the ring. This combination results in a progressive sealing and gripping mechanism. In the ring sizes DN425 – DN825 a clip has been added to fixate the ring in the body of the fitting ensuring easy installation with no interference.

Uni/Fiksers

The Uni/Fiksers ensure optimal restraint both on rigid pipe materials and on plastic pipes, without compromise.

Body and gland

The length of the body determines the insertions depth or joint gap possible. Because the insertion depth complies, and even exceeds, the dimensions given in EN 14525, large joint gaps can be covered. Secondly the design of the body and gland are such that losses in tension, which will occur in time, are compensated.

Nominal angularity



Pressure/Performance

See table in the user manual of the MULTI/JOINT® 3000 Plus.

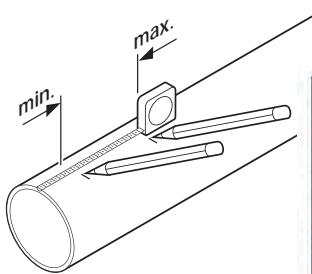
Joint gap

Maximum axial distance between any point of the spigot ends of the pipes to be connected (coupling), or, maximum axial distance between any point of the spigot end of the pipe and the flange face (flange adaptor).

Depth of engagement (DE)

Minimum distance between any point of the spigot end and the internal face of the joint gasket. The manufacturer shall declare the maximum joint gap.

Minimum and maximum insertion depth



DN	Minimum (mm)	Maximal (mm)
DN50	84	95
DN65	84	100
DN80	84	100
DN100	90	105
DN125	90	115
DN150	110	130
DN200	110	145
DN225	125	170
DN250	130	180
DN300	130	185
DN350	130	185
DN400	135	190
DN425	160	225
DN450	160	225
DN475	160	225
DN500	160	225
DN550	160	225
DN600	170	235
DN625	210	320
DN675	210	320
DN700	210	320
DN800	210	320
DN825	210	320

Angularity

The MULTI/JOINT® 3000 Plus family has on each side a nominal angularity at installation of 8° (based on the middle of the range).

Temperature

The MULTI/JOINT® 3000 Plus has different parts, which resist different temperatures.

NBR	EPDM
-5 °C up to temperature for joint	0 °C up to +50 °C
+50 °C	+50 °C

Certified quality

The MULTI/JOINT® 3000 Plus family is both tested internally as well as externally by independent laboratories. All performed tests comply with the international standard requirements such as EN 14525. For more detailed information please contact us.

Note: Care must be taken to ensure that manufacturer's declared maximum joint gap is not exceeded due to pipe contraction or expansion as a result of temperature or pressure change.

Guidelines on storage of MULTI/JOINT® 3000 Plus

At any given time between production and use, the product should be stored in accordance with the following recommendations:

- The storage temperature should be below 25 °C and preferably below 15 °C
- The rubber seals should be protected from light, in particular strong sunlight and high ultraviolet artificial light
- The rubber seals should not be stored near equipment that generates ozone (e.g. mercury vapour lamps) or high voltage electrical equipment, which releases electric sparks or silent electrical discharges

The shelf life of a MULTI/JOINT® 3000 Plus fitting is 2 years from date of assembly (if properly stored). After the expiration date, a MULTI/JOINT® 3000 Plus fitting can still be installed, but may have a lower life expectancy.

MULTI/JOINT® 3000 Plus, the Original



Multi/Clamp length selection

Multi/Clamp can be used to repair the following types of pipe:

- (Ductile) Cast Iron (DI)
- Steel
- Asbestos Cement
- PVC*
- PE*
- GRP*

* If pipe repair clamps are to be used on plastic pipes, please always contact Georg Fischer Waga N.V.

The following types of damage can be repaired:



Cracked pipe after hot tap



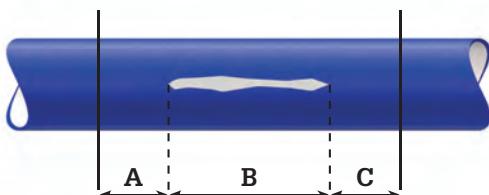
Pit holes



Longitudinal cracks

Multi/Clamp repair clamps should be used under following conditions:

- The length of the clamp should be equal to at least the pipe outside diameter.
- The length of the clamp should be at least 150mm longer (A+C) than the length of any crack (B) on pipes with an outside diameter up to 350mm. On larger pipes this should be at least 200mm.
- For all plastic pipes such as PVC/PE, the width of the clamps should be 50% longer and bolt torque should be reduced by 50%. This to avoid the gasket being pushed out.
- On PE and similar plastic pipes Multi/Clamp repair clamps should only be used as a short term repair solution.
- The maximum allowable distance between two pipe ends should not exceed 10mm.
- The maximum allowable offset should not exceed 3mm.



User manuals



User manual MULTI/JOINT® 3000 Plus DN50 - DN400

Georg Fischer Waga N.V.



GB	User Manual
D	Montageanleitung
NL	Montagehandleiding
F	Manuel d'instruction
NO	Brukermanual
SE	Användarmanual
DK	Montagevejledning
FIN	Käyttömanuaali
ES	Manual de instalacion
PT	Manual de instalação
IT	Manuale d'uso
RO	Manualul utilizatorului
CZ	Návod k montáži
GR	Εγχειρίδιο χρήσης
HU	Szerelési utasítás
RUS	Руководство по установке
PL	Instrukcja Obsługi

MULTI/JOINT® 3000 Plus DN50-DN400

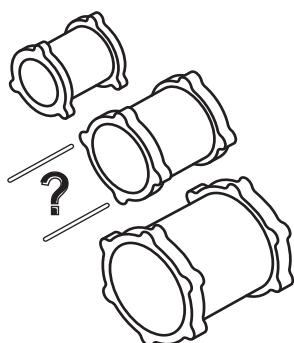


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WA4000/12-20/ML

01

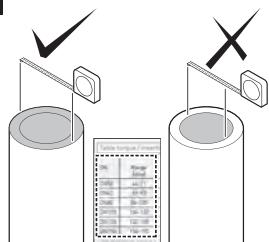
FITTING CHOICE



D	Kupplung auswählen
NL	Keuze koppeling
F	Choisir le raccord
NO	Valg av kobling
SE	Kopplings val
DK	Valg af kobling
FIN	Muhvi vaihtoehdot
PT	Escolha do tipo de ligação

ES	Elegir union
IT	Scelta del giunto
GR	Επιλογή συνδέσμου
CZ	Výběr spojky
HU	Idom kiválasztása
RO	Alegerea cuplei
PL	Wybór łącznika
RUS	Выбор фитинга

WA4000/12-20/ML

01**CHECK TABLE IF CHOSEN FITTING MATCHES PIPE OD.****D**

Die Rohraussendurchmesser überprüfen und mit der Tabelle vergleichen.

NL

Kies de juiste koppeling m.b.v. de tabel.

F

Vérifiez sur le tableau si le raccord couvre bien le diamètre extérieur du tube.

NO

Sjekk med tabellen at koblingen stemmer overens med utvendig diameter rør.

SE

Kontrollera om vald rördel stämmer mot rörets ytterdiameter.

DK

Kontroller med tabellen om den valgte kobling passer til rørdiametren.

FIN

Tarkista taulukosta jos valitut asennukset sopivat putkelle QD.

PT

Ver na tabela se os acessórios estão de acordo com o diâmetro exterior dos tubos.

ES

Ver tabla anexa para unir distintos diámetros exteriores.

DN	Range [mm]
DN50	46-71
DN65	63-90
DN80	84-105
DN100	104-132
DN125	132-155
DN150	154-192

DN	Range [mm]
DN200	192-232
DN225	230-268
DN250	267-310
DN300	315-356
DN350	352-393
DN400	392-433

IT

Controllare sulla tabella se il giunto è idoneo al d.e. del tubo.

GR

Με βάση το πίνακα μεγεθών, επιβεβαιώστε ότι ο σύνδεσμος είναι κατάλληλος για τη συγκεκριμένη διάμετρο αγωγού στον οποίο πρόκειται να τοποθετηθεί.

CZ

V tabulce zkontrolovat použitelnost tvarovky v daném rozsahu průměru.

HU

Ellenőrizze, hogy a kiválasztott idom megfelel-e a cső külső átmérőjéhez.

RO

Se verifica in tabelă dacă fittingul ales corespunde Dext al tevi.

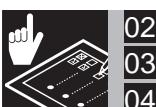
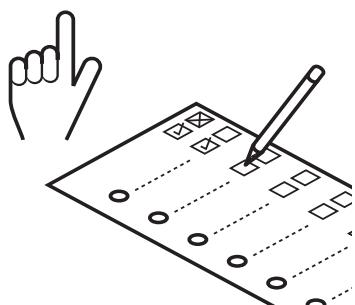
PL

Sprawdź w tabeli czy łącznik pasuje do zewnętrznej średnicy rury.

RUS

Проверить по таблице совместимость фитинга с трубой.

WA4000/12-20/ML

**PREPARE FITTING FOR INSTALLATION****D**

Kupplung für die Montage vorbereiten

NL

Montageklaar maken

F

Préparez le raccord pour l'installation

NO

Forbedrelse av kobling

SE

Förbered kopplingen för installation

DK

Klargør koblingen til installationen

FIN

Valmistaa muhvi asennusta varten

PT

Preparação da ligação

ES

Preparar union para instalacion

IT

Preparazione per l'installazione

GR

Προετοιμασία συνδέσμου για τοποθέτηση

CZ

Příprava spojky pro instalaci

HU

Idom előkészítése a felhelyezésre

RO

Pregatirea cuplei pentru instalare

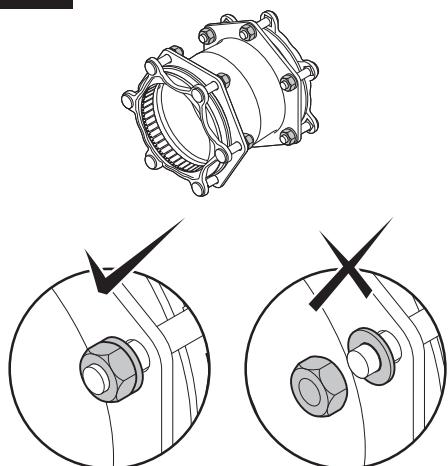
PL

Przygotowanie łącznika do instalacji

RUS

Подготовка фитинга к установке

WA4000/12-20/ML

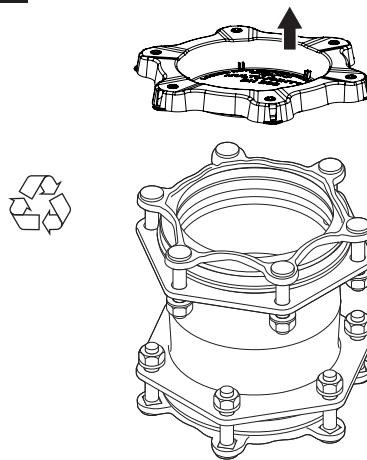
02**DO NOT REMOVE OR GREASE BOLTS.**

D Schrauben nicht entfernen und nicht fetten

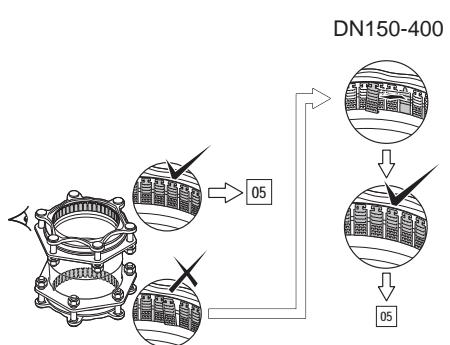
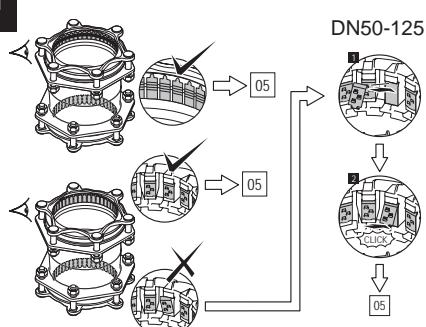
NL Bouten niet verwijderen of invetten

F Ne pas enlever et/ou graisser les vis

IT Non rimuovere e non ingrassare le viti

03

WA4000/12-20/ML

04**CHECK IF "FIKSERS" (METAL GRIPPERS) POSITION IS CORRECT.**

D Sicherstellen, dass alle Fikser richtig positioniert sind.

NL Controleer de juiste positie van de "Fiksers".

F Assurez-vous que les "Fiksers" (les mors métalliques) sont correctement positionnés.

NO Kontroller at "Fikserne" er i riktig posisjon.

SE Kontrollera om "Fiksers" position är korrekt.

DK Kontroller om "Fikernes" placering er korrekt.

FIN Tarkista "Fikseri", että asento on oikein.

PT Ver se a posição dos "Fiksers" é correta.

ES Revise si los "Fiksers" se encuentran en la posición correcta.

IT Controllare gli inserti antisfilo "Fiksers" sono OK.

GR Ελέγχετε αν τα εξαρτήματα αγκύωσης που διαθέτει ο σύνδεσμος "Fiksers" έχουν αγκυρώσει σωστά πάνω στον αγωγό.

CZ Zkontrolovat správnou polohu fixerů.

HU Ellenőrizze, hogy a "Fikser"-ek megfelelő helyzetben vannak-e.

RO Se verifica daca pozitia elementelor de fixare "Fiksers" este corecta.

PL Sprawdź poprawność ułożenia blaszek.

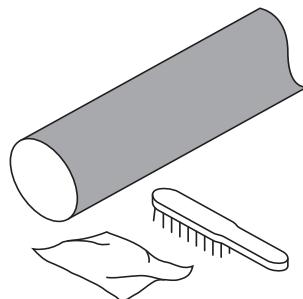
RUS Убедиться в правильности установки "Fiksers" (металлических фиксаторов).

WA4000/12-20/ML



05 08
06 09
07

PIPE PREPARATION



D Zu verbindende Rohre vorbereiten

NL Voorbereiden buis

F Préparez les tubes

NO Forberedelse av rør

SE Rörberedning

DK Klargøring af røret

FIN Putken esivalmistus

PT Preparação do tubo

ES Preparacion de la tubería

IT Preparazione tubazione

GR Προετοιμασία Αγωγού

CZ Příprava trubky

HU Cső előkészítése

RO Pregatirea conductei

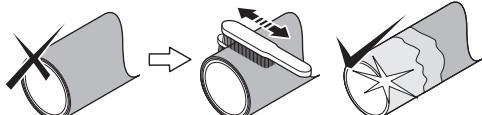
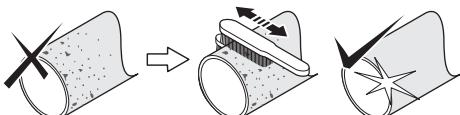
PL Przygotowanie rury

RUS Подготовка труб

WA4000/12-20/ML

05

REMOVE ALL RUST, DIRT, BURRS, DAMAGES AND ALL FINISHING LAYERS FROM THE PIPE. MOUNT ON MEDIUM CARRYING PIPE MATERIAL ONLY.



D Von der drucktragenden Rohroberfläche allen Rost, Grat, Schmutz, Schäden und alle Beschichtungen entfernen.

NL Verwijder alle roest, vuil, bramen, beschadigingen en buislagen. Monteer alleen op de mediumvoerende buis.

F Eliminez la rouille, la saleté, les bourrelets de soudure, les défauts de surface et toutes les couches de finition du tube. Assemblez seulement sur le matériau principal du tube.

NO Fjern all rust, løs overflate samt skader på materialet og overflatebehandling.

SE Avlägsna all rost, smuts, grader och eventuell ytbehandling från röret. Montera endast på mediabärande rörmaterial.

DK Fjern al rust, snavs, spáner, beskadigelser og alle belægninger på røret. Monter kun på selve det mediebærende rør.

FIN Poista kaikki ruoste, lika, taite, vauriot ja kasaurmat putkesta. Asenna ainoastaan keskivahvalle putkelle.

PT Remover oxidação, sujeira, rebarbas, e revestimento do tubo.

HU Távolítsa el minden rozsdát, szennyeződést, sorját, sérülésekét és minden fedőréteget a csőről. Csak közvetlenül a közegek szállító csőanyagra helyezze fel az idomot.

ES Retirar toda la suciedad, polvo, daños y etiquetas de la tubería. Montar solamente entre tubos.

IT Rimuovere sporcizia, polvere, intagli e gli strati superficiali della tubazione. Il montaggio deve avvenire sullo strato a contatto del fluido trasportato.

GR Καθαρίστε όλα τα οξειδωμένα τμήματα, τις επικαθίσεις, τις παραμορφώσεις και τις υλικές βλάβες της επιφάνειας του αγωγού καθώς και τις επιστρώσεις του αγωγού μέχρι τον αγωγό μεταφοράς του υλικού.

CZ Odstranit všechny nečistoty, rez, otvary a všechny dodatečné vrstvy z povrchu trubky. Montovat pouze na trubky určené pro transport médií.

RO Indepartati praful, crestaturile, muraria, defectele precum si toate straturile de acoperire de pe teava. Se monteaza doar pe materialul conductei.

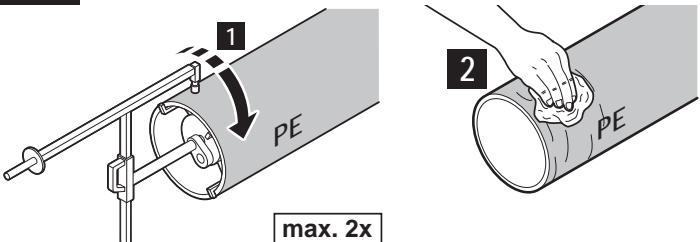
PL Usuń wszelkiego rodzaju uszkodzenia, zabrudzenia, zadrapania, rdzę i wierzchnie warstwy na długości rury pokrytej przez łącznik.

RUS Удалить любые загрязнения, ржавчину, задиры и наплывы, а так же покрытия с поверхности трубы. Устанавливать только на основной материал трубы.

WA4000/12-20/ML

06

REMOVE ALL DIRT, BURRS, DAMAGES AND ALL FINISHING LAYERS FROM THE PIPE. USE AN (BY GEORG FISCHER) APPROVED SCRAPPING TOOL.
MOUNT ON MEDIUM CARRYING PIPE MATERIAL ONLY.



GAS / GAZ

D Für PE-Rohre ist ein Georg Fischer Schälgerät zu verwenden.

NL Gebruik een door Georg Fischer goedgekeurde schiller.

F Utilisez un grattoir mécanique approuvé par Georg Fischer.

NO Bruk skapeverktøy godkjent av Georg Fischer.

SE Använd ett (av Georg Fischer) godkänt skrapverktyg.

DK Brug et (af Georg Fischer) godkendt skrabeiærtøj.

FIN Käytä (Georg Fischer) hyväksymää karhennus työkalua.

PT Usar uma ferramenta (Georg Fischer) adequada.

ES Utilizar un rascador circular Georg Fischer.

IT Utilizzare in raschiatore approvato da Georg Fischer.

GR Για τις εργασίες καθαρισμού και λείασης χρησιμοποιείστε το κατάλληλο (από την GF) εργαλείο.

CZ Použít škrabku (schválenou Georg Fischer).

HU Használjon (GF által jóváhagyott) hántoló szerszámat.

RO Se va utiliza un dispozitiv de raschetat recomandat (de GF).

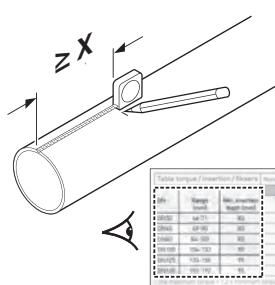
PL Użyj skrobaka (Georg Fischer) do przygotowania rury.

RUS Использовать только разрешенный (компанией Georg Fischer) инструмент для зачистки.

WA4000/12-20/ML

07

CHECK TABLE FOR MINIMUM INSERTION DEPTH (X).



DN	X Min. insertion depth [mm]*
DN50	84
DN65	84
DN80	84
DN100	90
DN125	90
DN150	110

DN	X Min. insertion depth [mm]*
DN200	110
DN225	125
DN250	130
DN300	130
DN350	130
DN400	135



* For maximum joint gap information; see our technical manual

D Aus der Tabelle die Einstekttiefe (X) entnehmen.

NL Zie de tabel voor de minimale insteekdiepte (X).

F Vérifiez sur le tableau la profondeur d'insertion (X) correcte du tube.

NO Sjekk med tabell for korrekt innstiksdybde (X).

SE Kontrollera i tabellen korrekt insticksdjup (X).

DK Kontroller med tabellen for korrekt indstiksdybde (X).

FIN Tarkista taulukosta oikea asennus syvyys (X).

PT Ver na tabela a profundidade (X) de inserção do tubo no acessório.

ES Ver tabla para la profundidad de inserción mínima (X).

IT Controllare sulla tabella la profondità di inserimento (X).

GR Συμβουλευτείτε τον πίνακα για την υπόδειξη του κατάλληλου βάθους εισαγωγής (X) του συνδέσμου στον αγωγό.

CZ Zkontrolovat v tabulce správnou hloubku zasunutí (X).

HU Ellenőrizze a táblázatot a megfelelő betolási mélység érékekében (X).

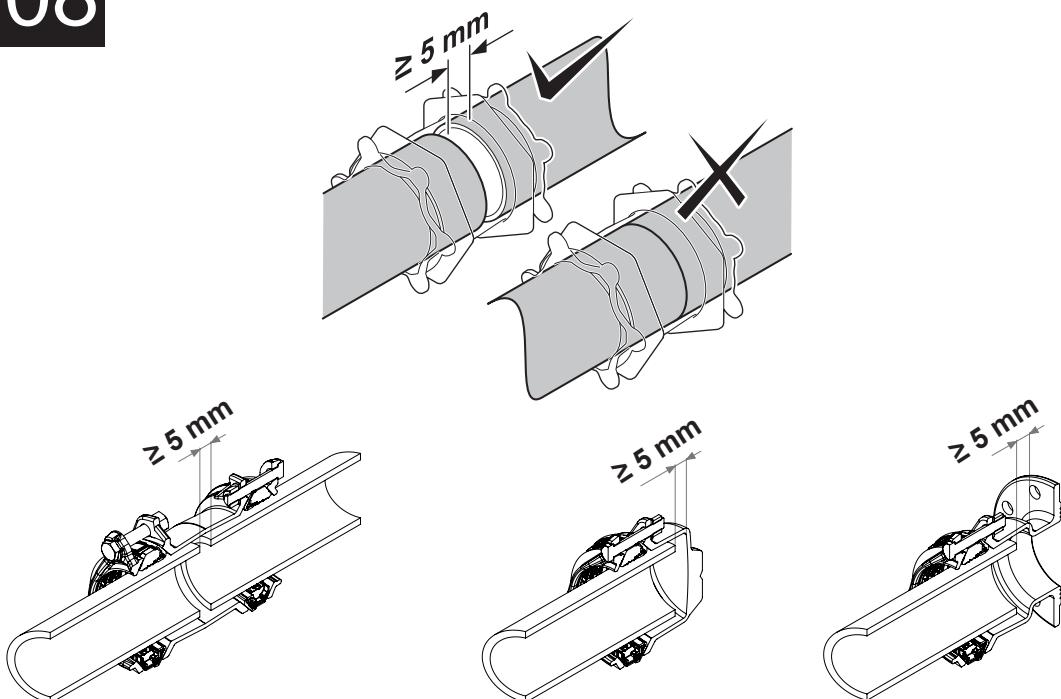
RO Se verifica in tabel adancimea corecta de inserare (X).

PL Korzystając z tabeli określ głębokość nasunięcia łącznika (X).

RUS Проверить по таблице значение глубины ввода трубы (X).

WA4000/12-20/ML

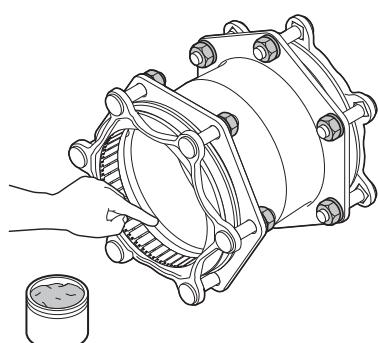
08



WA4000/12-20/ML

09

APPLY SUITABLE GREASE ONLY IN GAS APPLICATIONS



GAS / GAZ

D Für die Gasanwendung den Dichtungsbereich ausreichend mit Gleitmittel versehen.

NL Smeer de afdichting in met een geschikt glijmiddel.

F Lubrifiez le bague de joint avec une graisse appropriée.

NO Bruk egnet glidemiddel.

SE Applicera lämpligt smörjmedel.

DK Påfør egnet glidemiddel.

FIN Lisää soveltuva rasva.

PT Aplicar lubrificante adequado (nunca de origem mineral).

ES Aplicar la grasa correspondiente a la junta.

IT Appicare lubrificante opportuno.

GR Τοποθετήστε κατάλληλη ποσότητα λιπαντικής ουσίας στα μηχανικά μέρη του συνδέσμου.

CZ Aplikovat vhodné mazivo.

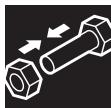
HU Használjon megfelelő kenőanyagot.

RO Se aplica lubrifiant.

PL Naloż warstwę smaru.

RUS Использовать только подходящую смазку.

WA4000/12-20/ML



10	13'
11	13'
12	14

INSTALLATION

**EN:**

When manoeuvring the product out of the packaging to the pipe surface, please ensure that the proper lifting procedures are followed. Ensure that local safety and lifting procedures are adopted. All lifting should be done by qualified personnel, with approved equipment.

NL:

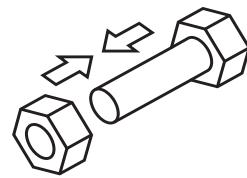
Zorg ervoor dat bij het manoevreren van het product vanuit de verpakking naar het buisoppervlak, de juiste hijsprocedures in acht worden genomen. U dient de lokale veiligheids- en hijsvoorschriften op te volgen. Het hijsen van producten dient te gebeuren met gekeurde hijsmiddelen en gekwalificeerd personeel.

D:

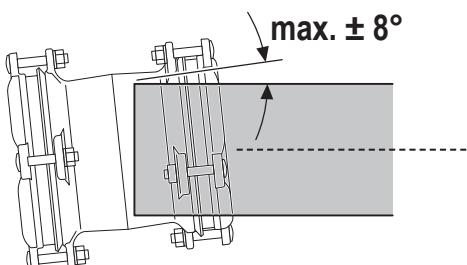
Bitte stellen Sie eine ordnungsgemäße manuelle Handhabung sicher, wenn das Produkt aus seiner Verpackung entnommen, transportiert und am Rohr angebracht wird. Ist der Einsatz mechanischer Hebezeuge erforderlich, so muss gewährleistet werden, dass sichere Arbeitsverfahren angewendet werden, geprüfte und anerkannte Hebezeuge verwendet werden und von qualifiziertem Personal durchgeführt werden.

D	Montage
NL	Montage
F	Installation
NO	Montering
SE	Installation
DK	Installation
FIN	Asennus
PT	Instalação

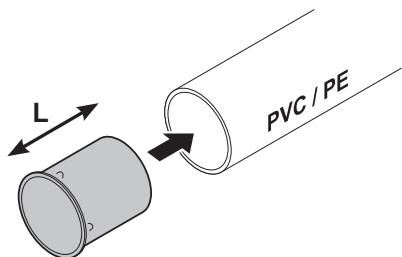
ES	Instalación
IT	Installazione
GR	Installazione
CZ	Instalace
HU	Felhelyezés
RO	Instalarea
PL	Montaż
RUS	Установка



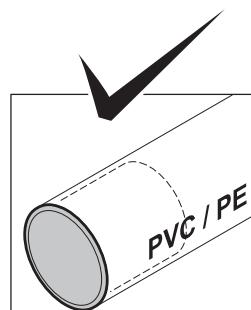
WA4000/12-20/ML

10**NOMINAL ANGULARITY***

* based on the middle of the range

11

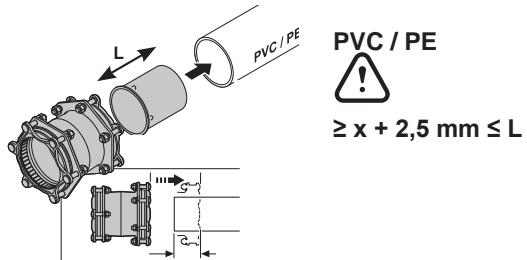
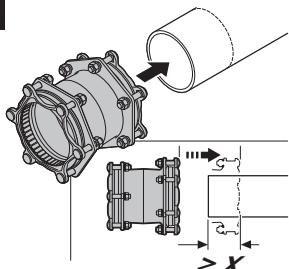
(insert approved by Georg Fischer Waga N.V.)



WA4000/12-20/ML

12

**MAKE SURE “FIKSERS” (METAL GRIPPERS) ARE IN CORRECT POSITION!
FOR PE/PVC SEE WARNING !**



D Sicherstellen, dass alle Fiksers richtig positioniert sind.

NL Houd de “Fiksers” in de juiste positie! Bij gebruik steunbus PE/PVC: let op! Max. insteekdiepte \leq lengte steunbus (L).

F Assurez-vous que les “Fiksers” (les mors métalliques) sont correctement positionnés.

NO Ved støttestikk løsning sjekk at Fikserne er på plass.

SE Säkerställ att ”Fiksers” (metal gripbleck) är korrekt positionerade.

DK Vær opmærksom på om ”Fikserne” (metal-griberne) sidder korrekt!

FIN Varmista ”Fikserit” (metalli puristimet) ovat paikallaan.

PT Garantir que os ”Fiksers” (“grampos” de metal) estão na posição correta.

ES Asegurarse de utilizar los Fiksers adecuados en la posición adecuada.

IT Controllare che le placche antisfilo metalliche siano fissate.

GR Ελέγχετε αν τα εξαρτήματα αγκύρωσης που διαθέτει ο σύνδεσμος “Fiksers” είναι σε κατάλληλη θέση έτσι ώστε να εφαρμόσουν και να αγκυρώσουν το σύνδεσμο στον αγωγό κατά τη σύσφιξη.

CZ Zkontrolovat správnou pozici fixerů (zákusné díly).

HU Győződjön meg róla, hogy a ”Fikser”-ek (fém húzásbiztosítók) megfelelő helyzetben vannak-e!

RO Se verifica dacă elementele metalice de fixare ”Fiksers” sunt în poziția corectă!

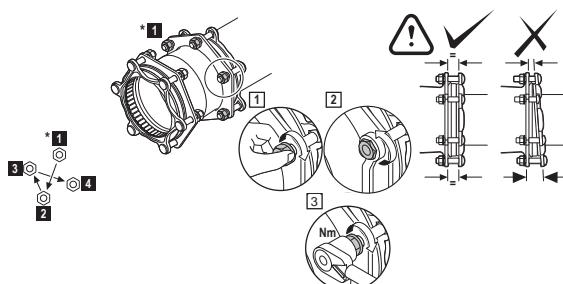
PL Upewni się czy blaszki ”Fiksers” są odpowiednio ułożone.

RUS Убедиться в правильности установки “Fiksers” (металлических фиксаторов).

WA4000/12-20/ML

13^a

TIGHTEN THE BOLTS WITH THE CORRECT TORQUE.



D Der Tabelle das richtige Schraubendrehmoment entnehmen. Die Verwendung eines Drehmomentschlüssels ist zwingend erforderlich.

NL Zie de tabel voor het juiste aandraaimoment.

F Vérifiez dans les tableaux le couple de serrage à respecter.
Mutrene strammes i kryss, da man skal holde samme avstand mellom koblingshus og trykkflens(gland). Etterstram med en momentnøkkel iht. Momenttabell.

NO Kontroller i tabell korrekt åtdragningsmoment.

SE Det rigtige tilspændingsmoment findes i tabellen.

DK Tarkista taulukosta oikea väintömomentti.

FIN Tarkista taulukosta oikea väintömomentti.

PT Ver na tabela a força de aperto.



MULTI/JOINT® 3000 Plus
without Fiksers



MULTI/JOINT® 3000 Plus
with Fiksers

DN50-125 DN150-400

ES Ver tabla para el par de apriete.

IT Controllare la tabella per il serraggio.

GR Συμβουλευτείτε τον τίτανα για την επιλογή της κατάλληλης στρεπτικής ροπής που θα πρέπει να εφαρμοστεί στον σύνδεσμο, κατά την διαδικασία της σύσφιξης του στον αγωγό.

CZ Zkontrolovat v tabulce správný utahovací moment.

HU Ellenőrizze a táblázatot a megfelelő nyomaték érdekében.

RO Se verifica in tabel valoarea momentului de stangere.

PL Odczytaj z tabeli odpowiedni moment dokręcania śrub.

RUS Проверить по таблице соответствующий момент затяжки болтов.

WA4000/12-20/ML

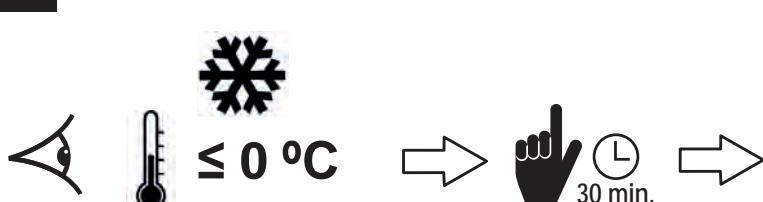
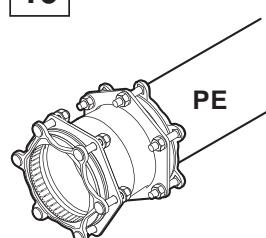
13^b

CHECK TABLE FOR INSTALLATION TORQUE AND PRESSURE RATING.

RESTRAINT				NON-RESTRAINT			
MULTI/JOINT® 3000 Plus <u>with Fikser</u>				MULTI/JOINT® 3000 Plus <u>without Fikser</u>			
(S)St, CU, DCI, GCI, AC*, GRP*, PVC, PE, PEX, PP-B, PP-H, ABS [* NO guarantee as quality varies!]							
DN	Torque (Nm)	MOP gas (bar)	PFA water (bar)	DN	Torque (Nm)	MOP gas (bar)	PFA water (25 bar)
DN50	30			DN50	30		30
DN65	40			DN65	30		40
DN80	60			DN80	40		60
DN100	100			DN100			100
DN125				DN125			
DN150	120			DN150			
DN200				DN200			
DN225				DN225			
DN250	140			DN250			
DN300				DN300			
DN350	140	8**	16**	DN350			
DN400				DN400			

** MOP 5 BAR GAS / PFA 10 BAR WATER FOR PLASTIC PIPE MATERIALS

WA4000/12-20/ML

14 $\leq 0 \text{ } ^\circ\text{C}$ ONLY ON PE PIPE UNDER FREEZING CONDITIONS, APPLY TORQUE (PRESCRIBED UNDER 13) ONE MORE TIME AFTER 30 MINUTES.**PE****D**Nur für Einsatz auf PE Rohren bei Temperaturen ≤ 0 , das unter 13 ermittelte Schraubendrehmoment nach 30 Minuten noch einmal aufbringen.**NL**

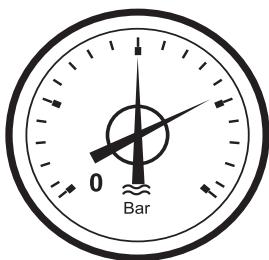
Alleen bij montage op PE bij temperaturen onder 0, het (onder 13) voorgeschreven draaimoment na 30 minuten nog eenmaal aanbrengen.

FRépétez l'étape 13 après 30 minutes seulement sur des tubes en PE en temps glacial.**HU** $\leq 0 \text{ } ^\circ\text{C}$ fagypont alatti hőmérsékleten, csak PE csöveken, 30 perc elteltével újra nyomatéka kell húzni a 13. oldalon leírtak szerint $\geq 0 \text{ } ^\circ\text{C}$ **15**

WA4000/12-20/ML

15
16

TESTING



$$P_{\max} \leq 1,5 \times PFA *$$

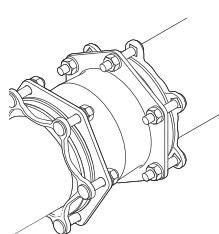
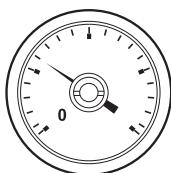
D	Dichtheitsprüfung
NL	Testen
F	Essais
NO	Trykktesting
SE	Testa
DK	Prøvning
FIN	Testi
PT	Teste

ES	Probar
IT	Test
GR	Έλεγχος/ δοκιμές
CZ	Zkouška
HU	Teszteleś
RO	Testarea
PL	Testowanie
RUS	Испытание

WA4000/12-20/ML

15

CONDUCT A PRESSURE TEST.



13

PFA	Bar	psi	kg/cm²
1	0.1	14.5	1.0
2	0.2	29.0	2.0
3	0.3	43.5	3.0
4	0.4	58.0	4.0
5	0.5	72.5	5.0
6	0.6	87.0	6.0
7	0.7	101.5	7.0
8	0.8	116.0	8.0
9	0.9	130.5	9.0
10	1.0	145.0	10.0

$$* PN25 \rightarrow P_{\max} \leq 30 \text{ bar}$$

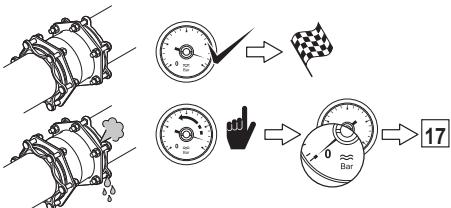
D	Dichtheitsprüfung durchführen.
NL	Voer een druktest uit.
F	Procédez à un essai de pression.
NO	Utfør trykktest på hele installasjonen, med minimum det aktuelle driftstrykk før anlegget dekkes til. Trykktestinga må ikke overstige $1,5 \times PFA$ (max arbeidstrykk) i henhold til tabellen.
SE	Utför tryckprovning.
DK	Gennemfør en trykprøvning.
FIN	Aseta painetesti.
PT	Efetuar teste de pressão.

ES	Realizar un test de presión.
IT	Fare test in pressione.
GR	Για τον έλεγχο της στεγανότητας της σύνδεσης πραγματοποιείστε δοκιμή υπό πίεση στον αγώγο για τυχόν διαρροές.
CZ	Prověst tlakovou zkoušku.
HU	Hajtson végre nyomáspróbát.
RO	Se realizeaza un test de presiune.
PL	Przeprowadź próbę ciśnieniową.
RUS	Провести опрессовку.

WA4000/12-20/ML

16

PRESSURE TEST FAIL => REINSTALL FITTING. TEST OK => INSTALLATION FINISHED.



17-20 → 1

D

NL

F

NO

SE

DK

FIN

PT

ES

Falls die Dichtheitsprüfung eine Undichtheit aufzeigt, den Montagevorgang wiederholen - nach wiederholter, erfolgreicher Dichtheitsprüfung ist die Montage abgeschlossen. Druktest negatief => opnieuw installeren. Test OK => installatie gereed.

Mauvais résultat d'essai, réinstallez le raccord. Essai réussi, l'installation est terminée.

Trykprøving negativ => Re-installer kobling. Test OK => installasjon er utført.

Tryckprovning falrar => Ommontera rördelen. Test OK => installation avslutad.

Trykprøving negativ => Re-installer kobling. Test OK => installationen er udført.

Paine testi hylätty=> asenna uudelleen. Testi OK => asennus suoritettu.

Teste de pressão falhou => Voltar a instalar o acessório => Teste OK => Instalação terminada.

Test de Presion Fallo => Reinstalar el accesorio TEST OK=> Instalacion completada

IT

GR

CZ

HU

RO

PL

RUS

Se test negativo => Reinstallare. Se test positivo => Installazione finita.

Σε περίπτωση που η εγκατάσταση αποτύχει και υπάρχει διαρροή στη σύνδεση => Επανεγκαταστήσετε το σύνδεσμο. Σε περίπτωση που η δεν παρατηρηθεί διαρροή στη σύνδεση=> η εγκατάσταση του συνδέσμου επί του αγωγού έχει ολοκληρωθεί με επιτυχία.

Tlaková zkouška není OK => Tvarovku znova namontovat. Tlaková zkouška OK => konec instalace.

Nyomás próba sikertelen => végezz el újra az idom felhelyezését. Próba sikeres => felhelyezés befejezve.

Daca testul de presiune esueaza => Se reinstaleaza fittingul. Daca rezultatul testului este OK => Instalare terminata.

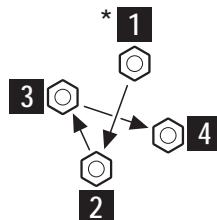
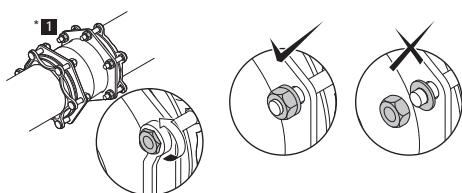
Niedana próba => Ponowny montaż łącznika. Udana próba => montaż zakończony.

Опрессовка не пройдена => Установить фитинг снова. Опрессовка пройдена => Установка завершена.

WA4000/12-20/ML

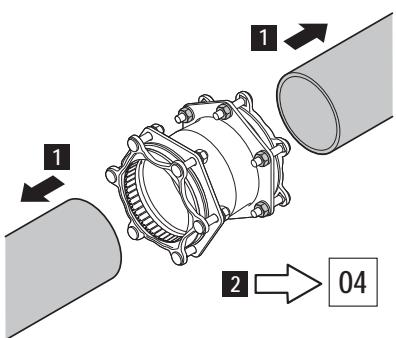
17

DISASSEMBLY



18

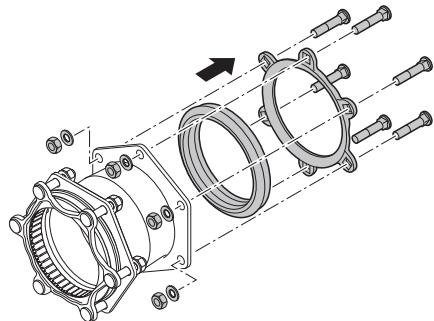
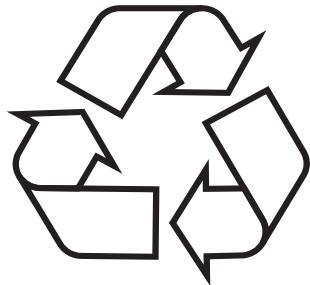
DISASSEMBLY



WA4000/12-20/ML

19
20

REUSE

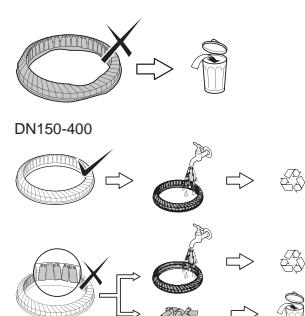
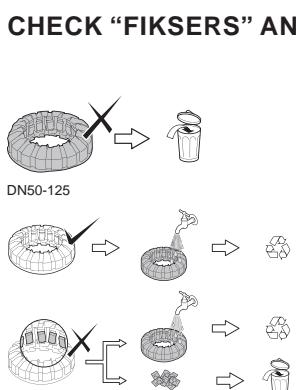


D	Wiederverwendung
NL	Hergebruik
F	Réutilisation
NO	Gjenbruk
SE	Återanvända
DK	Genbrug
FIN	Uudelleen käyttö
PT	Reutilização

ES	Reutilizar
IT	Riutilizzo
GR	Επαναχρησιμοποίηση
CZ	Opětovné použití
HU	Újra felhasználás
RO	Reutilizarea
PL	Ponowne użycie
RUS	Повторное использование

WA4000/12-20/ML

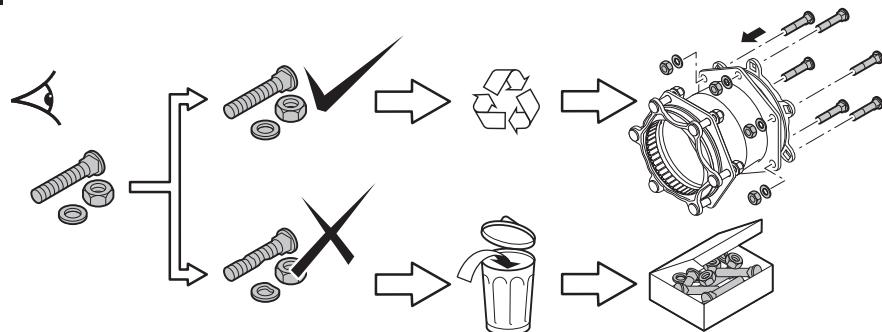
19



D	Die Dichtung und die Fikser überprüfen, ob diese in unbeschädigten, neuwertigem Zustand sind.
NL	Controleer de conditie van de "Fiksers" en deafdichtingsring.
F	Vérifiez l'état des "Fiksers" et du joint.
NO	Kontroller "Fikserne" og pakningens stand.
SE	Kontrollera "Fiksers" och tätningars kondition.
DK	Kontroller "Fiksernes" og tætningsringens tilstand.
FIN	Tarkista "Fikseri" ja tiiviste kunto.
PT	Ver o estado dos Fiksers" e do anel.

ES	Revisar los "Fiksers" y la junta.
IT	Controllare gli inserti antisfilo "Fiksers" e la guarnizione.
GR	Ελέγχετε την κατάσταση στην οποία βρίσκονται τα εξόρτιμα αγκύρωσης που διαθέτει ο σύνδεσμος "Fiksers" και τα παρεμβύσματα.
CZ	Zkontrolovat stav fixerů a těsnění.
HU	Ellenőrizze a "Fikser"-ek és a tömítés állapotát.
RO	Se verifica starea elementele de fixare "Fiksers" si a garniturilor.
PL	Sprawdź stan blaszek i uszczelki.
RUS	Проверить состояние "Fiksers" (металлических фиксаторов) и резинового уплотнения.

WA4000/12-20/ML

20**CHECK BOLTS, WASHERS AND NUTS.**

D Die Schrauben, Unterlegscheiben und Muttern auf Gebrauchstauglichkeit überprüfen.

NL Controleer bouten, moeren en onderlegringen.

F Vérifiez l'état des vis, des rondelles et des écrous.

NO Kontroller skiver, mutter og bolter.

SE Kontrollera bultar, brickor och muttrar.

DK Kontroller bolte, skiver og møtrikker.

FIN Tarkista lukko, prikka ja mutteri.

PT Ver o estado dos parafusos, arruelas e porcas.

ES Revisar los tornillos, arandelas y tuercas.

IT Controllare viti, dadi e rondelle.

GR Ελέγχετε την κατάσταση των βιδών, των παξιμαδιών και των περικοχλίων αν έχουν εφαρμόσει σωστά.

CZ Zkontrolovat šrouby, podložky a matky.

HU Ellenőrizze a csavarokat, anyákat és alátéteket.

RO Se verifica suruburile si piulitele.

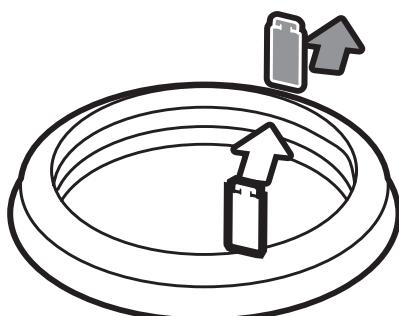
PL Sprawdź śruby, nakrętki i podkładki.

RUS Проверить наличие болтов, шайб и гаек.

WA4000/12-20/ML



INSTALLATION/REMOVAL OF “FIKSERS”



D Montage/Demontage der Fiksere

NL Fiksers monteren/verwijderen

F Mise en place / Dépose des “Fiksers”

NO Montering/fjerning av “Fiksere”

SE Installation/borttagande av “Fiksers”

DK Installation/demontering af fiksers

FIN “Fikseri” asennus / poisto

PT Instalação/Retirar los Fiksers

ES Instalación/Retirar los Fiksers

IT Installazione/rimozione “Fiksers”

GR Εγκατάσταση/απομάκρυνση των εξαρτημάτων αγκύρωσης “Fiksers”

CZ Instalace/odstranění fixerů

HU “Fikser”-ek behelyezése/eltávolítása

RO Înstălarea/Îndepărarea elementelor de fixare “Fiksers”

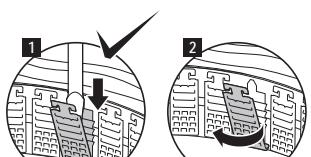
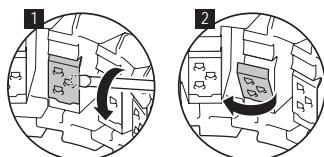
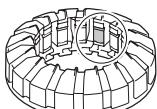
PL Montaż/demontaż blaszek “Fiksers”

RUS Установка/снятие фиксаторов

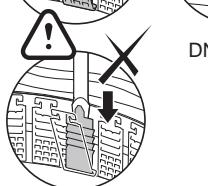
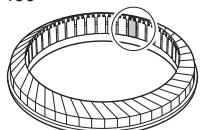
WA4000/12-20/ML

21

DN50-125



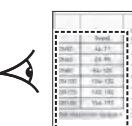
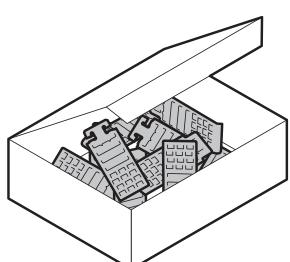
DN150-400

**22**

WA4000/12-20/ML

23

CHECK TABLE FOR CORRECT NUMBER OF "FIKSERS" PER DN.

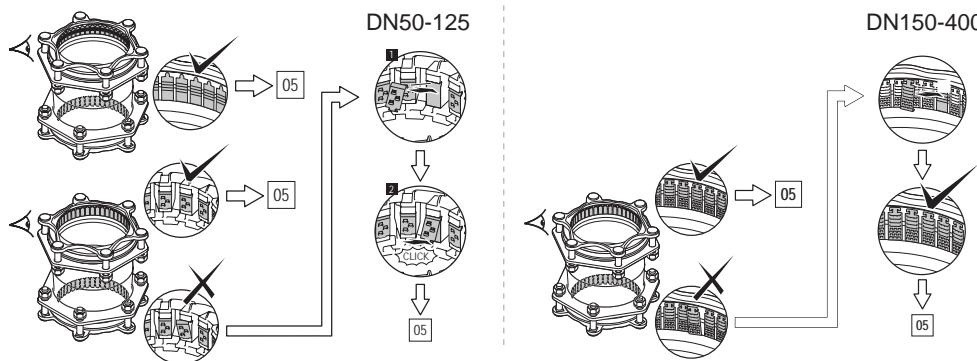


DN	Uni/Fikser
DN50	16
DN65	19
DN80	22
DN100	15
DN125	18
DN150	40

DN	Uni/Fikser
DN200	48
DN225	45
DN250	53
DN300	63
DN350	68
DN400	74

D Die Anzahl (laut Tabelle) der Fiksere überprüfen.**NL** Zie de tabel voor juiste aantal "Fiksers" per DN.**F** Vérifiez dans le tableau le nombre exact de "Fiksers" à installer par DN.**NO** Sjekk tabellen vedrørende antall "Fiksere" mot DN.**SE** Kontrollera i tabellen för korrekt antal "Fiksers" per DN.**DK** Kontroller det korrekta antalet "Fiksers" pr. DN med tabellen.**FIN** Tarkista taulukosta oikea "Fiksersien" lukumäärä per DN.**PT** Ver na tabela o numero de "Fiksers" para cada diâmetro.**ES** Ver Tabla para instalar el numero apropiado de Fiksers por DN.**IT** Controllare in tabella il numero di "Fiksers" per DN.**GR** Ελέγχετε από τον πίνακα αν ο σύνδεσμος διαθέτει του κατάλληλο αριθμό εξαρτημάτων αγκύρωσης "Fiksers" ανάλογα με τη διάμετρο του (DN).**CZ** V tabulce zkontrolujte správný počet fixerů v závislosti na DN.**HU** Ellenőrizze a táblázatot a megfelelő számú "Fikser" per DN érdekében.**RO** Se verifica in tabel numarul recomandat de elemente de fixare "Fiksers" pentru un anumit DN.**PL** Odczytaj z tabeli liczbę blaszek przypadających na daną wartość DN.**RUS** Проверить по таблице количество фиксаторов для данного DN.

WA4000/12-20/ML

24**CHECK IF “FIKSERS” (METAL GRIPPERS) POSITION IS CORRECT.**

D Sicherstellen, dass alle Fiksers richtig positioniert sind.

NL Controleer de juiste positie van de "Fiksers".

F Assurez-vous que les "Fiksers" (les mors métalliques) sont correctement positionnés.

NO Kontroller at "Fikserne" er i riktig posisjon.

SE Kontrollera om "Fiksers" position är korrekt.

DK Kontroller om "Fikernes" placering er korrekt.

FIN Tarkista "Fikseri", että asento on oikein.

PT Ver se a posição dos "Fiksers" é correcta.

ES Revise si los "Fiksers" se encuentran en la posición correcta.

IT Controllare gli inserti antisfilo "Fiksers" sono OK.

GR Ελέγχετε αν τα εξαρτήματα αγκύρωσης που διαθέτει ο σύνδεσμος "Fiksers" έχουν αγκυρώσει σωστά πάνω στον αγωγό.

CZ Zkontrolovat správnou polohu fixerů.

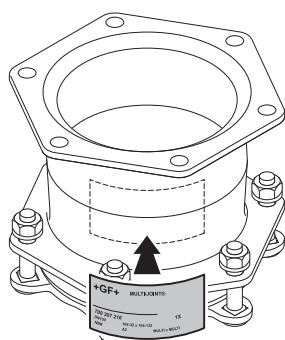
HU Ellenőrizze, hogy a "Fikser"-ek megfelelő helyzetben vannak-e.

RO Se verifica daca pozitia elementelor de fixare "Fiksers" este corecta.

PL Sprawdź poprawność ułożenia blaszek.

RUS Убедиться в правильности установки "Fiksers" (металлических фиксаторов).

WA4000/12-20/ML

25**ATTACH NEW STICKER.**

D Neues Etikett am Fittingskörper anbringen.

NL Plaats een nieuwe sticker.

F Collez la nouvelle étiquette.

NO Monter nytt klistermerke.

SE Sätt på ny sticker.

DK Pásæt ny etiket.

FIN Attach new sticker.

PT Colocar etiqueta nova.

ES Adjuntar una nueva pegatina.

IT Attaccare.

GR Επικολλήστε καινούριο αυτοκόλλητο σήμανσης στον αγωγό μετά τη τοποθέτηση.

CZ Nalepit nový štítek.

HU Ragasszon fel új címkét.

RO Se lipeste o eticheta nouă.

PL Przyklep nową naklejkę.

RUS Нанести новую наклейку.

WA4000/12-20/ML

User manual MULTI/JOINT® 3000 Plus DN425 - DN600

Georg Fischer Waga N.V.



GB	User Manual
D	Montageanleitung
NL	Montagehandleiding
F	Manuel d'instruction
NO	Brukermanual
SE	Användarmanual
DK	Montagevejledning
FIN	Käyttömanuaali
ES	Manual de instalacion
PT	Manual de instalação
IT	Manuale d'uso
RO	Manualul utilizatorului
CZ	Návod k montáži
GR	Εγχειρίδιο χρήσης
HU	Szerelési utasítás
RUS	Руководство по установке
PL	Instrukcja Obsługi

MULTI/JOINT® 3000 Plus DN425-DN600



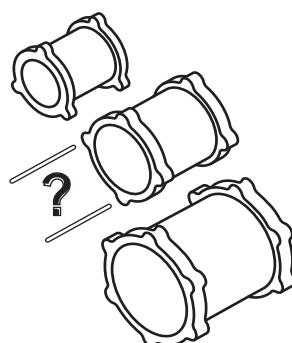
Georg Fischer Waga N.V.-P.O Box 290-
8160 AG Epe-The Netherlands-www.waga.nl

DN425-DN600/12/20/ML



01

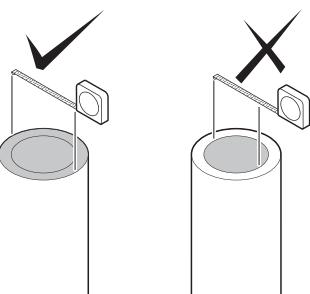
FITTING CHOICE



D	Kupplung auswählen
NL	Keuze koppelung
F	Choisir le raccord
NO	Valg av kobling
SE	Kopplings val
DK	Valg af kobling
FIN	Muhvi vaihtoehdot
PT	Escolha do tipo de ligação

ES	Elegir union
IT	Scelta del giunto
GR	Επιλογή συνδέσμου
CZ	Výběr spojky
HU	Idom kiválasztása
RO	Alegerea cuplei
PL	Wybór łącznika
RUS	Выбор фитинга

DN425-DN600/12/20/ML

01**CHECK TABLE IF CHOSEN FITTING MATCHES PIPE OD.**

DN	Range [mm]
DN425	432 – 464
DN450	450 – 482
DN475	481 – 513
DN500	500 – 532
DN550	548 – 580
DN600	605 – 637

D

Die Rohraussendurchmesser überprüfen und mit der Tabelle vergleichen.

NL

Kies de juiste koppeling m.b.v. de tabel.

F

Vérifiez sur le tableau si le raccord couvre bien le diamètre extérieur du tube.

NO

Sjekk med tabell at koblingen stemmer overens med utvendig diameter rør.

SE

Kontrollera om vald rördel stämmer mot rörets ytterdiameter.

DK

Kontroller med tabellen om den valgte kobling passer til rördiametern.

FIN

Tarkista taulukosta jos valitut asennukset sopivat putkelle QD.

PT

Ver na tabela se os acessórios estão de acordo com o diâmetro exterior dos tubos.

ES

Ver tabla anexa para unir distintos diámetros exteriores.

IT

Controllare sulla tabella se il giunto è idoneo al d.e. del tubo.

GR

Με βάση το πίνακα μεγεθών, επιβεβαιώστε ότι ο σύνδεσμος είναι κατάλληλος για τη συγκεκριμένη διάμετρο αγωγού στον οποίο πρόκειται να τοποθετηθεί.

CZ

V tabulce zkontrolovat použitelnost tvarovky v daném rozsahu průměru.

HU

Ellenőrizze, hogy a kiválasztott idom megfelel-e a cső külső átmérőjéhez.

RO

Se verifica in tabelă dacă fittingul ales corespunde Dext al tevi.

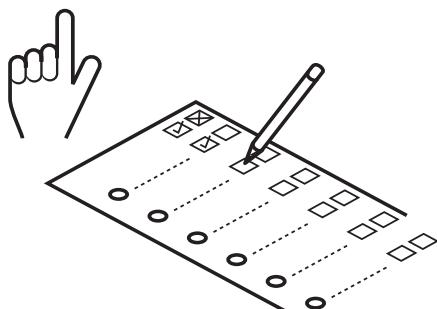
PL

Sprawdź w tabeli czy łącznik pasuje do zewnętrznej średnicy rury.

RUS

Проверить по таблице совместимость фитинга с трубой.

DN425-DN600/12-20/ML

**02
03
04****PREPARE FITTING FOR INSTALLATION****D**

Kupplung für die Montage vorbereiten

NL

Montageklaar maken

F

Préparez le raccord pour l'installation

NO

Forberedelse av kobling

SE

Förbered kopplingen för installation

DK

Klargør koblingen til installationen

FIN

Valmistaa muhvi asennusta varten

PT

Preparação da ligação

ES

Preparar union para instalacion

IT

Preparazione per l'installazione

GR

Προετοιμασία συνδέσμου για τοποθέτηση

CZ

Příprava spojky pro instalaci

HU

Idom előkészítése a felhelyezésre

RO

Pregatirea cuplei pentru instalare

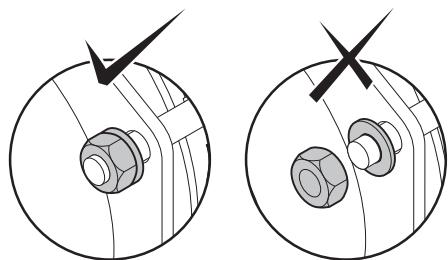
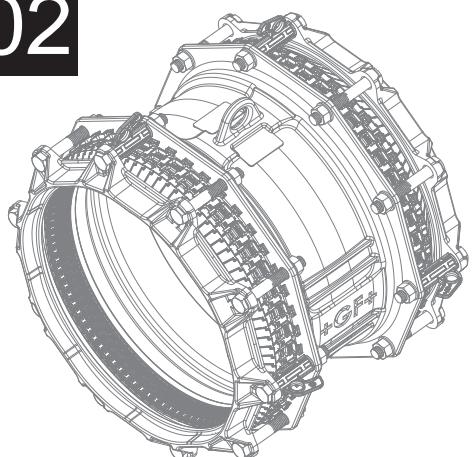
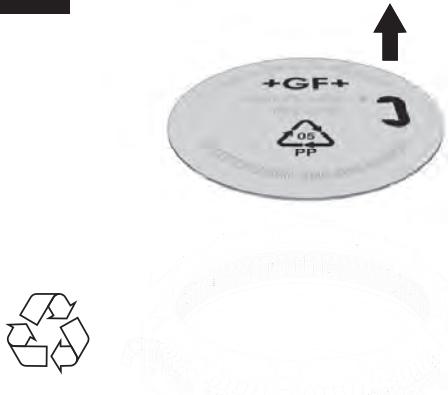
PL

Przygotowanie łącznika do instalacji

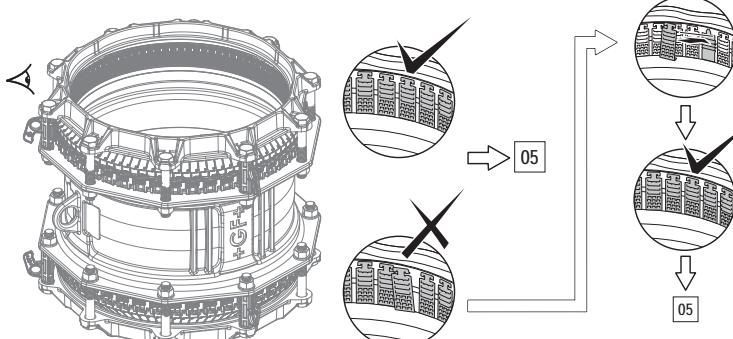
RUS

Подготовка фитинга к установке

DN425-DN600/12-20/ML

02**03**

DN425-DN600/12-20/ML

04
CHECK IF “FIKSERS” (METAL GRIPPERS) POSITION IS CORRECT.


DN425-600

- D** Sicherstellen, dass alle Fikser richtig positioniert sind.
- NL** Controleer de juiste positie van de "Fiksers".
- F** Assurez-vous que les "Fiksers" (les mors métalliques) sont correctement positionnés.
- NO** Kontroller at "Fikserne" er i riktig posisjon.
- SE** Kontrollera om "Fiksers" position är korrekt.
- DK** Kontroller om "Fikernes" placering er korrekt.
- FIN** Tarkista "Fikseri", että asento on oikein.
- PT** Ver se a posição dos "Fiksers" é correta.

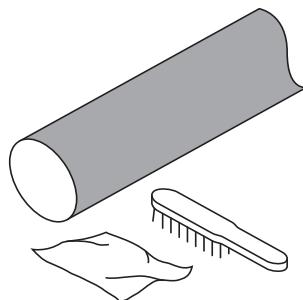
- ES** Revise si los "Fiksers" se encuentran en la posición correcta.
- IT** Controllare gli inserti antisfilo "Fiksers" sono OK.
- GR** Ελέγχετε αν τα εξαρτήματα αγκύρωσης που διαθέτει ο σύνδεσμος "Fiksers" έχουν αγκυρώσει σωστά πάνω στον αγωγό.
- CZ** Zkontrolovat správnou polohu fixerů.
- HU** Ellenőrizze, hogy a "Fikser"-ek megfelelő helyzetben vannak-e.
- RO** Se verifica daca pozitia elementelor de fixare "Fiksers" este corecta.
- PL** Sprawdź poprawność ułożenia blaszek.
- RUS** Убедиться в правильности установки "Fiksers" (металлических фиксаторов).

DN425-DN600/12-20/ML



05 08
06 09
07

PIPE PREPARATION



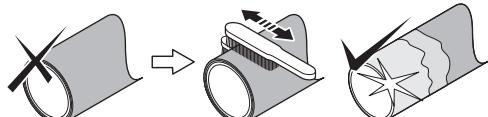
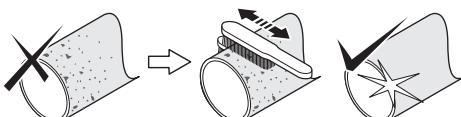
- D** Zu verbindende Rohre vorbereiten
- NL** Voorbereiden buis
- F** Préparez les tubes
- NO** Forbredelse av rør
- SE** Rörberedning
- DK** Klargøring af røret
- FIN** Putken esivalmistus
- PT** Preparação do tubo

- ES** Preparacion de la tuberia
- IT** Preparazione tubazione
- GR** Προετοιμασία Αγωγού
- CZ** Příprava trubky
- HU** Cső előkészítése
- RO** Pregatirea conductei
- PL** Przygotowanie rury
- RUS** Подготовка труб

DN425-DN600/12-20/ML

05

REMOVE ALL RUST, DIRT, BURRS, DAMAGES AND ALL FINISHING LAYERS FROM THE PIPE. MOUNT ON MEDIUM CARRYING PIPE MATERIAL ONLY.



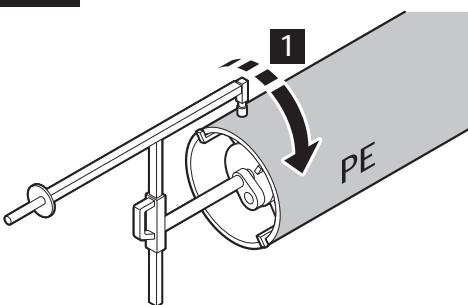
- D** Von der drucktragenden Rohroberfläche allen Rost, Grat, Schmutz, Schäden und alle Beschichtungen entfernen.
- NL** Verwijder alle roest, vuil, bramen, beschadigingen en buislagen. Monteer alleen op de mediumvoerende buis.
- F** Eliminez la rouille, la saleté, les bourrelets de soudures, les défauts de surface et toutes les couches de finition du tube. Assemblez seulement sur le matériau principal du tube.
- NO** Fjern all rust, løs overflate samt skader på materialet og overflatebehandling.
- SE** Avlägsna all rost, smuts, grader och eventuell ytbehandling från röret. Montera endast på mediabärande rörmaterial.
- DK** Fjern al rust, snavs, spåner, beskadigelser og alle belægninger på røret. Monter kun på selve det mediebærende rør.
- FIN** Poista kaikki ruoste, lika, taite, vauriot ja kasauamat putkesta. Asenna ainostaan keskivahalle putkelle.
- PT** Remover oxidação, sujeira, rebarbas, e revestimento do tubo.
- HU** Távolítson el minden rozsdát, szennyeződést, sorját, sérülésekét és minden fedőréteget a csőről. Csak közvetlenül a közegek szállító csőanyagra helyezze fel az idomot.

- ES** Retirar toda la suciedad, polvo, daños y etiquetas de la tubería. Montar solamente entre tubos.
- IT** Rimuovere sporcizia, polvere, intagli e gli strati superficiali della tubazione. Il montaggio deve avvenire sullo strato a contatto del fluido trasportato.
- GR** Καθαρίστε όλα τα οξειδωμένα τμήματα, τις επικαθίσεις, τις παραμορφώσεις και τις υλικές βλάβες της επιφάνειας του αγωγού καθώς και τις επιστρώσεις του αγωγού μέχρι τον αγωγό μεταφοράς του υλικού.
- CZ** Odstraníte všechny nečistoty, rez, otřepy a všechny dodatečné vrsty z povrchu trubky. Montovat pouze na trubky určené pro transport médií.
- RO** Indepartati praful, crestaturile, murdaria, defectele precum si toate straturile de acoperire de pe teava. Se monteaza doar pe materialul conductei.
- PL** Usuń wszelkiego rodzaju uszkodzenia, zabrudzenia, zadrapania, rdzę i wierzchnie warstwy na długości rury pokrytej przez łącznik.
- RUS** Удалить любые загрязнения, ржавчину, задиры и наплывы, а так же покрытия с поверхности трубы. Устанавливать только на основной материал трубы.

DN425-DN600/12-20/ML

06

USE AN (BY GF) APPROVED SCRAPPING TOOL.



GAS / GAZ

D Für PE-Rohre ist ein GF Schälgerät zu verwenden.

NL Gebruik een door GF goedgekeurde schiller.

F Utilisez un grattoir mécanique approuvé par GF.

NO Bruk skrapeverktøy godkjent av GF.

SE Använd ett (av GF) godkänt skrapverktyg.

DK Brug et (af GF) godkendt skrabeværktøj.

FIN Käytä (GF) hyväksymää karhennus työkalua.

PT Usar uma ferramenta (GF) adequada.

ES Utilizar un rascador circular GF.

IT Utilizzare in raschiatore approvato da GF.

GR Για τις εργασίες καθαρισμού και λείανσης χρησιμοποιείστε το κατάλληλο (από την GF) εργαλείο.

CZ Použít škrabku (schválenou GF).

HU Használjon (GF által jóváhagyott) hárító szerszámot.

RO Se va utiliza un dispositiv de raschetat recomandat (de GF).

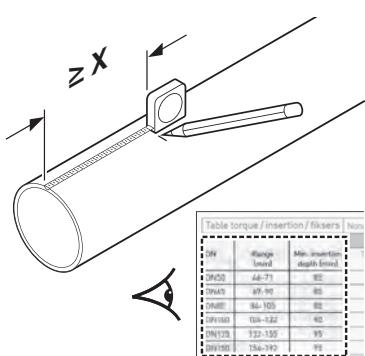
PL Użyj skrobaka (GF) do przygotowania rury.

RUS Использовать только разрешенный (компанией GF) инструмент для зачистки.

DN425-DN600/12/20/ML

07

CHECK TABLE FOR MINIMUM INSERTION DEPTH (X).



* For maximum joint gap information; see our technical manual.



D Aus der Tabelle die Einstekttiefe entnehmen (X).

NL Zie de tabel voor de minimale insteekdiepte (X).

F Vérifiez sur le tableau la profondeur d'insertion (X) correcte du tube.

NO Sjekk med tabell for korrekt innstikkdybde (X).

SE Kontrollera i tabellen korrekt insticksdjup (X).

DK Kontroller med tabellen for korrekt indstiksdybde (X).

FIN Tarkista taulukosta oikea asennus syvyys (X).

PT Ver na tabela a profundidade (X) de inserção do tubo no acessório.

ES Ver tabla para la profundidad de inserción mínima (X).

IT Controllare sulla tabella la profondità di inserimento (X).

GR Συμβουλευτείτε τον πίνακα για την υπόδειξη του κατάλληλου βάθους εισαγωγής (X) του συνδέσμου στον αγωγό.

CZ Zkontrolovat v tabulce správnou hloubku zasunutí (X).

HU Ellenőrizze a táblázatot a megfelelő betolási mélység érdekében (X).

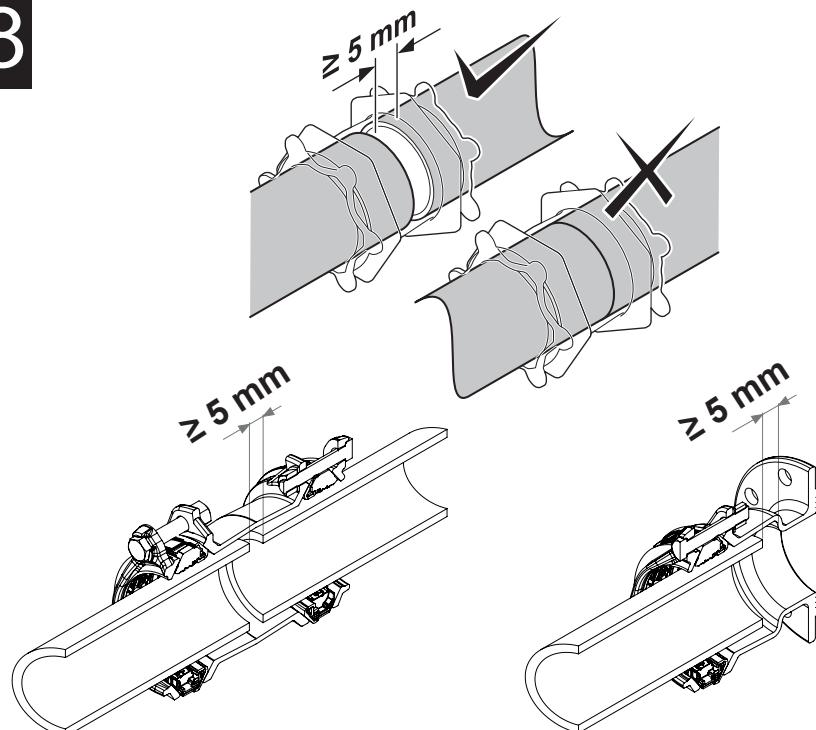
RO Se verifica in tabel adâncimea corecta de inserare (X).

PL Korzystając z tabeli określ głębokość nasunięcia łącznika (X).

RUS Проверить по таблице значение глубины ввода трубы (X).

DN425-DN600/12/20/ML

08

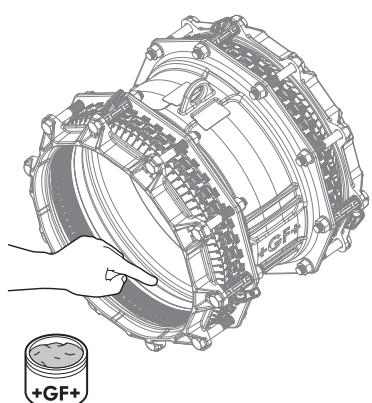


DN425-DN600/12-20/ML

09

APPLY SUITABLE GREASE

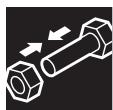
GAS / GAZ



D	Für die Gasanwendung den Dichtungsbereich ausreichend mit Gleitmittel versehen.
NL	Smeer de afdichting in met een geschikt glijmiddel.
F	Lubrifiez le bague de joint avec une graisse appropriée.
NO	Bruk egnet glidemiddel.
SE	Applicera lämpligt smörjmedel.
DK	Påfør egnet glidemiddel.
FIN	Lisää soveltuva rasva.
PT	Aplicar lubrificante adequado (nunca de origem mineral).

ES	Aplicar la grasa correspondiente a la junta.
IT	Applicare lubrificante opportuno.
GR	Τοποθετήστε κατάλληλη ποσότητα λιπαντικής ουσίας στα μηχανικά μέρη του συνδέσμου.
CZ	Aplikovat vhodné mazivo.
HU	Használjon megfelelő kenőanyagot.
RO	Se aplica lubrifiant.
PL	Naleź warstwę smaru.
RUS	Использовать только подходящую смазку.

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10	13
11	13°
12	14

INSTALLATION

**EN:**

When manoeuvring the product out of the packaging to the pipe surface, please ensure that the proper lifting procedures are followed. Ensure that local safety and lifting procedures are adopted. All lifting should be done by qualified personnel, with approved equipment.

NL:

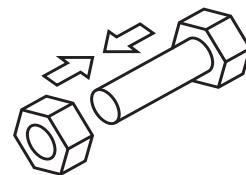
Zorg ervoor dat bij het manoeuvreren van het product vanuit de verpakking naar het buisoppervlak, de juiste hijsprocedures in acht worden genomen. U dient de lokale veiligheids- en hijsvoorschriften op te volgen. Het hijsen van producten dient te gebeuren met gekeurde hijsmiddelen en door gekwalificeerd personeel.

D:

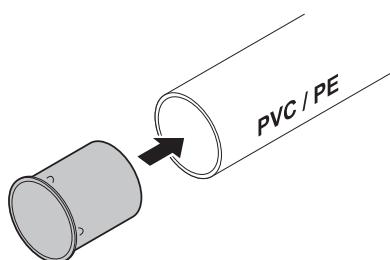
Bitte stellen Sie eine ordnungsgemäße manuelle Handhabung sicher, wenn das Produkt aus seiner Verpackung entnommen, transportiert und am Rohr angebracht wird. Ist der Einsatz mechanischer Hebezeuge erforderlich, so muss gewährleistet werden, dass sichere Arbeitsverfahren angewendet werden, geprüfte und anerkannte Hebezeuge verwendet werden und von qualifiziertem Personal durchgeführt werden.

DU	Montage
NL	Montage
F	Installation
NO	Montering
SE	Installation
DK	Installation
FIN	Asennus
PT	Instalação

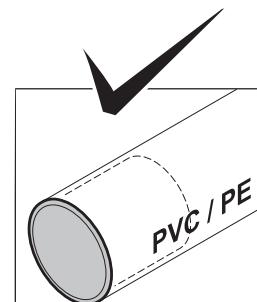
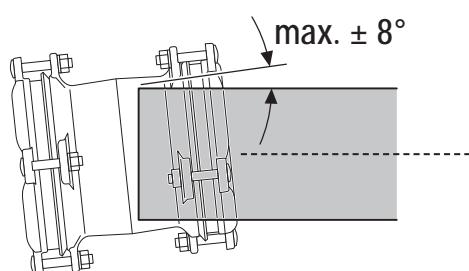
ES	Instalación
IT	Installazione
GR	Installazione
CZ	Instalace
HU	Felhelyezés
RO	Instalarea
PL	Montaż
RUS	Установка



DN425-DN600/12.20/ML

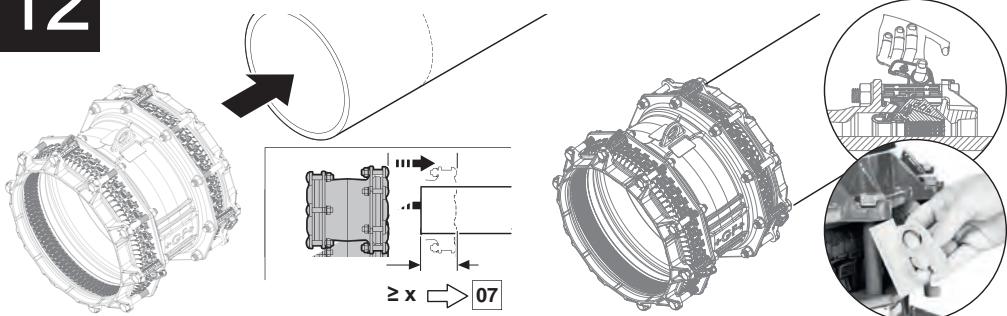
10

(approved by Georg Fischer Waga N.V.)

**11****NOMINAL ANGULARITY***

* based on the middle of the range

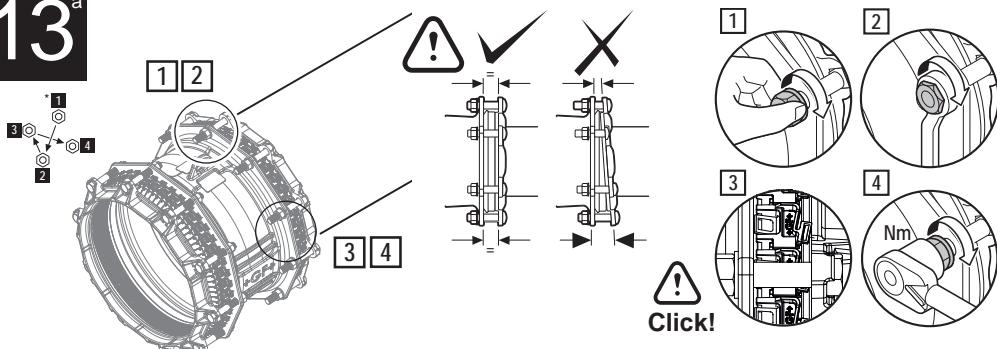
DN425-DN600/12.20/ML

12
**SLIDE THE MULTI/JOINT® 3000 PLUS ONTO PIPE END
AND REMOVE TRANSPORT CLIP!**


- D** Den MULTI/JOINT® 3000 Plus auf das Rohrende schieben und den Transportclip entfernen!
- NL** Schuif de MULTI/JOINT® 3000 Plus op het buiseinde en verwijder de transportclips!
- F** Faites glisser le MULTI/JOINT® 3000 Plus sur l'extrémité du tuyau et retirez le clip de transport!
- NO** Skli MULTI/JOINT® 3000 Plus muffe innpå rørende og deretter fjern trasportpinne!
- SE** Skjut MULTI/JOINT® 3000 Plus kopplingen på röret och ta bort transportsäkringarna (clip)!
- DK** Skub MULTI/JOINT® 3000 Plus på røret og fjern transportsbeslaget!
- FIN** Liu uta MULTI/JOINT® 3000 Plus putken päälle ja poista kuljetus klippi!
- PT** Deslize o MULTI/JOINT® 3000 Plus na extremidade do tubo e remover o clipe de transporte!

- ES** Deslice el MULTI/JOINT® 3000 Plus sobre el extremo del tubo y retire el clip de transporte!
- IT** Inserire MULTI/JOINT® 3000 Plus sul tubo e successivamente rimuovere i fermi per il trasporto!
- GR** Εισαγετε το multi/joint® 3000 plus στο ακρο του αγωγου και αφαιρεστε το κουμπιώμα μεταφοράς!
- CZ** Nasunout tvarovku MULTI/JOINT® 3000 Plus na konec trubky a teprve potom odstranit oranžové vymezovací díly!
- HU** Csúsztassa a MULTI/JOINT® 3000 Plus kötőidomot a csővégre, és távolítsa el a szállítási rögzítőelemet!
- RO** Introduceti piesa MULTI/JOINT® 3000 Plus pe capatul conductei si inflatura siguranta pentru transport!
- PL** Nasuń łącznik MULTI/JOINT® 3000 Plus na rurę a następnie zdejmij zabezpieczenie transportowe!
- RUS** Установите MULTI/JOINT® 3000 Plus на конец трубы и удалите транспортировочный хомут!

DN425-DN600/12-20/ML

13^a
TIGHTEN THE BOLTS WITH THE CORRECT TORQUE.


- D** Der Tabelle das richtige Schraubendrehmoment entnehmen. Die Verwendung eines Drehmomentschlüssels ist zwingend erforderlich.
- NL** Zie de tabel voor het juiste aandraaimoment.
- F** Vérifiez dans les tableaux le couple de serrage à respecter.
- NO** Mutrene strammes i kryss, da man skal holde samme avstand mellom koblingshus og trykkflens(gland). Etterstram med en momentnøkkel ihht. Momenttabell.
- SE** Kontrollera i tabell korrekt åtdragningsmoment.
- DK** Det rigtige tilspændingsmoment findes i tabellen.
- FIN** Tarkista taulukosta oikea väyntömomentti.
- PT** Ver na tabela a força de aperto.

- ES** Ver tabla para el par de apriete.
- IT** Controllare la tabella per il serraggio.
- GR** Συμβουλευτείτε τον πίνακα για την επιλογή της κατάλληλης στρεπτικής ροπής που θα πρέπει να εφαρμοστεί στον σύνδεσμο, κατά την διαδικασία της σύσφιξης του στον αγωγό.
- CZ** Zkontrolovat v tabulce správný utahovací moment.
- HU** Ellenőrizze a táblázatot a megfelelő nyomaték érédekében.
- RO** Se verifica in tabel valoarea momentului de stangere.
- PL** Odczytaj z tabeli odpowiedni moment dokręcania śrub.
- RUS** Проверить по таблице соответствующий момент затяжки болтов.

DN425-DN600/12-20/ML

13^b

CHECK TABLE FOR INSTALLATION TORQUE AND PRESSURE RATING**.

		RESTRAINT		NON-RESTRAINT	
MULTI/JOINT® 3000 Plus <u>with Fikser</u>					
(*S)St, CU, DCI, GCI, AC*, GRP*, PVC, PE, PEX, PP-B, PP-H, ABS (* NO guarantee as quality varies!)					
DN	Torque (Nm)	MOP gas (bar)	PFA water (bar)	DN	Torque (Nm)
DN425				DN425	
DN450				DN450	
DN475				DN475	
DN500				DN500	
DN550				DN550	
DN600				DN600	
140	5	10		140	8
					16

** ALL FITTINGS PN16 RATED, SEE RESTRAINT TABLE FOR PULL OUT
RESISTANT FORCES

DN425-DN600/12-20/ML

14

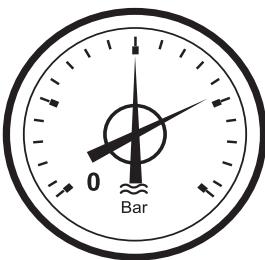
$\leq 0^{\circ}\text{C}$ ONLY ON PE PIPE UNDER FREEZING CONDITIONS, APPLY TORQUE
(PRESCRIBED UNDER 13) ONE MORE TIME AFTER 30 MINUTES.



DN425-DN600/12-20/ML

15
16

TESTING



$$P_{\max} \leq 1,5 \times PFA$$

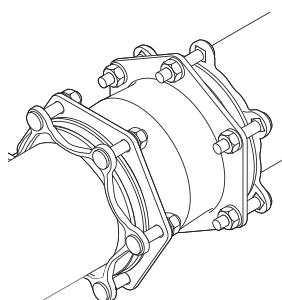
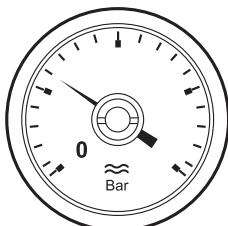
D	Dichtheitsprüfung
NL	Testen
F	Essais
NO	Trykktesting
SE	Testa
DK	Prövning
FIN	Testi
PT	Teste

ES	Probar
IT	Test
GR	Έλεγχος/ δοκιμές
CZ	Zkouška
HU	Teszteleś
RO	Testarea
PL	Testowanie
RUS	Испытание

DN425-DN600/12-20/ML

15

CONDUCT A PRESSURE TEST.

13^b

P ₁ (bar)	P ₂ (bar)
0	10
10	20
20	30
30	40
40	50
50	60
60	70
70	80
80	90
90	100
100	110
110	120
120	130
130	140
140	150
150	160
160	170
170	180
180	190
190	200
200	210
210	220
220	230
230	240
240	250
250	260
260	270
270	280
280	290
290	300
300	310
310	320
320	330
330	340
340	350
350	360
360	370
370	380
380	390
390	400
400	410
410	420
420	430
430	440
440	450
450	460
460	470
470	480
480	490
490	500
500	510
510	520
520	530
530	540
540	550
550	560
560	570
570	580
580	590
590	600

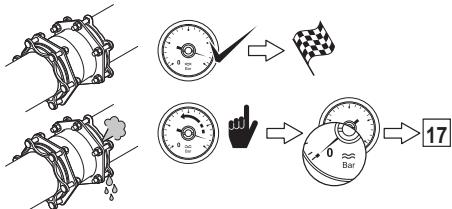
D	Dichtheitsprüfung durchführen.
NL	Voer een druktest uit.
F	Procédez à un essai de pression.
NO	Utfør trykktest på hele installasjonen, med minimum det aktuelle driftstrykk for anlegget dekkes til. Trykktestinga må ikke overstige $1,5 \times PFA$ (max arbeidstrykk) i henhold til tabellen.
SE	Utför tryckprovning.
DK	Gennemfør en trykprøvning.
FIN	Aseta painetesti.
PT	Efetuar teste de pressão.

ES	Realizar un test de presión.
IT	Fare test in pressione.
GR	Για τον έλεγχο της στεγανότητας της σύνδεσης πραγματοποιείστε δοκιμή υπό πίεση στον αγωγό για τυχόν διαρροές.
CZ	Prověst tlakovou zkoušku.
HU	Hajtson végre nyomáspróbát.
RO	Se realizeaza un test de presiune.
PL	Przeprowadź próbę ciśnieniową.
RUS	Провести опрессовку.

DN425-DN600/12-20/ML

16

IF PRESSURE TEST FAILS: REINSTALL FITTING. TEST OK \Rightarrow INSTALLATION FINISHED.



17-20 \Rightarrow 01

D

Falls die Dichtheitsprüfung eine Undichtheit aufzeigt, den Montagevorgang wiederholen - nach wiederholter, erfolgreicher Dichtheitsprüfung ist die Montage abgeschlossen.
Druktest negatief \rightarrow opnieuw installeren. Test OK \rightarrow installatie gereed.

NL

Mauvais résultat d'essai, réinstallez le raccord. Essai réussi, l'installation est terminée.

F

Trykkprøving negativ \rightarrow Re-installer kobling. Test OK \rightarrow installasjon er utført.

NO

Tryckprovning falrar \rightarrow Ommontera rördelen. Test OK \rightarrow installation avslutad.

SE

Trykprøving negativ \rightarrow Re-installer kobling. Test OK \rightarrow installationen er udført.

DK

Paine testi hylatty \rightarrow asenna uudelleen. Testi OK \rightarrow asennus suoritettu.

FIN

Teste de pressão falhou \rightarrow Voltar a instalar o acessório \rightarrow Teste OK \rightarrow Instalação terminada.

PT

Test de Presion Fallo \rightarrow Reinstalar el accesorio TEST OK \rightarrow Instalacion completada

ES

IT

Se test negativo \rightarrow Reinstallare. Se test positivo \rightarrow Installazione finita.

GR

Σε περίπτωση που η εγκατάσταση αποτύχει και υπάρχει διαρροή στη σύνδεση \rightarrow Επανα-εγκαταστήστε το σύνδεσμο. Σε περίπτωση που η δεν παρατηρθεί διαρροή στη σύνδεση \rightarrow η εγκατάσταση του συνδέσμου επί του αγωγού έχει ολοκληρωθεί με επιτυχία.

CZ

Tlaková zkouška není OK \rightarrow tvarovku znova namontovat. Tlaková zkouška OK \rightarrow konec instalace.

HU

Nyomás próba sikertelen \rightarrow végezz el újra az idom felhelyezését. Próba sikeres \rightarrow felhelyezés befejezve.

RO

Daca testul de presiune esueaza \rightarrow Se reinstaleaza fittingul. Daca rezultatul testului este OK \rightarrow Instalare terminata.

PL

Neudana próba \rightarrow Ponowny montaż łącznika. Udana próba \rightarrow montaż zakończony.

RUS

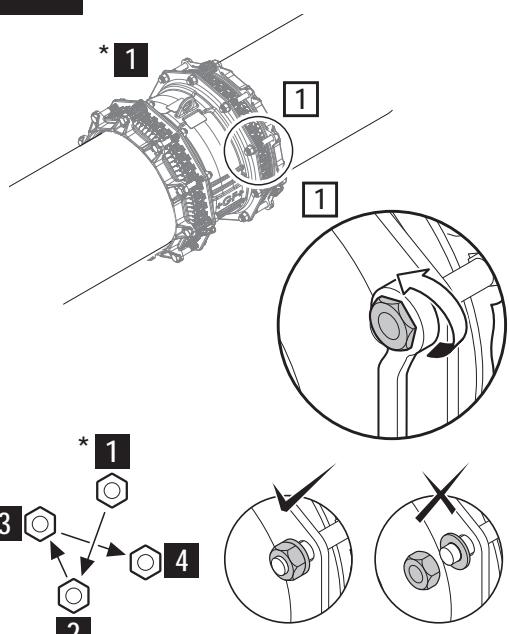
Опрессовка не пройдена \rightarrow Установить фитинг снова. Опрессовка пройдена \rightarrow Установка завершена.

DN425-DN600/12-20/ML

17

DISASSEMBLY

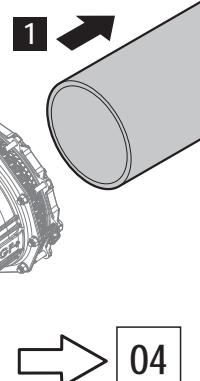
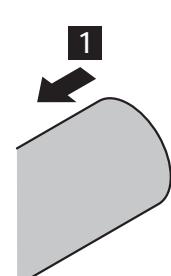
*



18

DISASSEMBLY

*

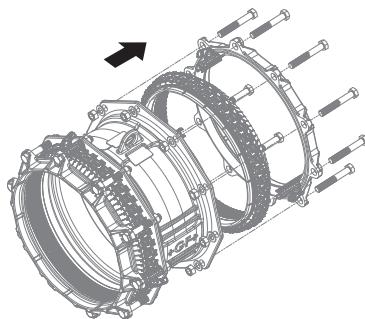
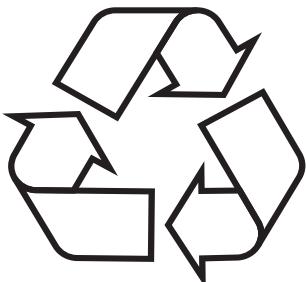


04

DN425-DN600/12-20/ML

19
20

REUSE



* For replacing
the Uni/Fiksring of
MULTI/JOINT® 3000 Plus
DN425 – DN600 see
our user manual:



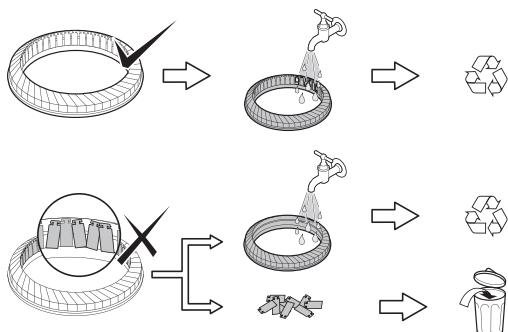
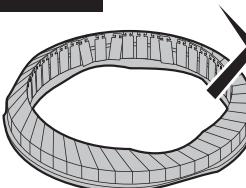
D	Wiederverwendung
NL	Hergebruik
F	Réutilisation
NO	Gjenbruk
SE	Återanvända
DK	Genbrug
FIN	Uudelleen käyttö
PT	Reutilização

ES	Reutilizar
IT	Riutilizzo
GR	Επαναχρησιμοποίηση
CZ	Opětovné použití
HU	Újra felhasználás
RO	Reutilizarea
PL	Ponowne użycie
RUS	Повторное использование

DN425-DN600/12-20/ML

19

CHECK "FIKSERS" AND GASKET CONDITION.

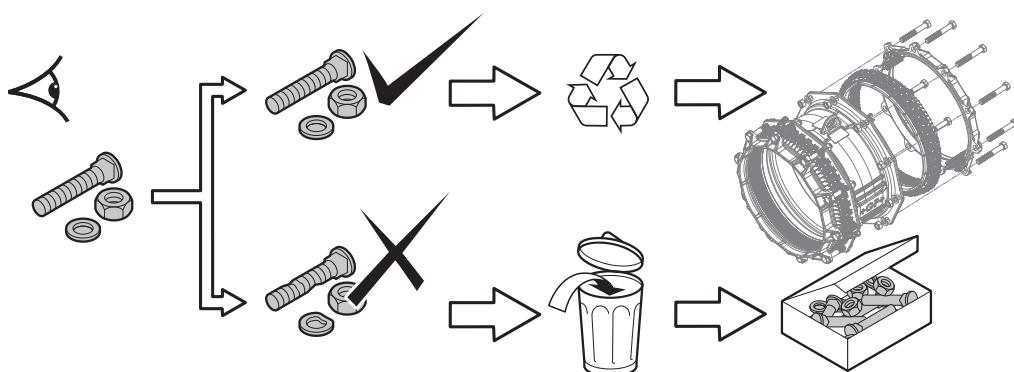


DN425-600

D	Die Dichtung und die Fiksers überprüfen, ob diese in unbeschädigten, neuwertigem Zustand sind.
NL	Controleer de conditie van de "Fiksers" en de afdichtingsring.
F	Vérifiez l'état des "Fiksers" et du joint.
NO	Kontroller "Fikserne" og pakningens stand.
SE	Kontrollera "Fiksers" och tätningars kondition.
DK	Kontroller "Fiksernes" og tætningsringens tilstand.
FIN	Tarkista "Fikseri" ja tiiviste kunto.
PT	Ver o estado dos Fiksers" e do anel.

ES	Revisar los "Fiksers" y la junta.
IT	Controllare gli inserti antisfilo "Fiksers" e la guarnizione.
GR	Ελέγχετε την κατάσταση στην οποία βρίσκονται τα εξαρτήματα αγκύρωσης που διαθέτει ο σύνδεσμος "Fiksers" και τα παρεμβύσματα.
CZ	Zkontrolovat stav fixerů a těsnění.
HU	Ellenőrizze a "Fikser"-ek és a tömítés állapotát.
RO	Se verifica starea elementele de fixare "Fiksers" și a garniturilor.
PL	Sprawdź stan blaszek i uszczelki.
RUS	Проверить состояние "Fiksers" (металлических фиксаторов) и резинового уплотнения.

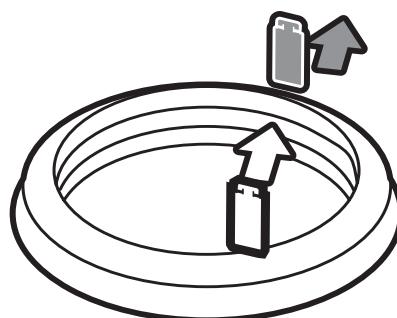
DN425-DN600/12-20/ML

20**CHECK BOLTS, WASHERS AND NUTS.**

- D** Die Schrauben, Unterlegscheiben und Muttern auf Gebrauchstauglichkeit überprüfen.
- NL** Controleer bouten, moeren en onderlegringen.
- F** Vérifiez l'état des vis, des rondelles et des écrous.
- NO** Kontroller skiver, mutter og bolter.
- SE** Kontrollera bultar, brickor och muttrar.
- DK** Kontroller bolte, skiver og møtrikker.
- FIN** Tarkista lukko, prikka ja mutteri.
- PT** Ver o estado dos parafusos, arruelas e porcas.

- ES** Revisar los tornillos, arandelas y tuercas.
- IT** Controllare viti, dadi e rondelle.
- GR** Ελέγχετε την κατάσταση των βιδών, των παξιμαδιών και των περικοχλίων αν έχουν εφαρμόσει σωστά.
- CZ** Zkontrolovat šrouby, podložky a matky.
- HU** Ellenőrizze a csavarokat, anyákat és alátéteket.
- RO** Se verifica suruburile si piulitele.
- PL** Sprawdź śruby, nakrętki i podkładki.
- RUS** Проверить наличие болтов, шайб и гаек.

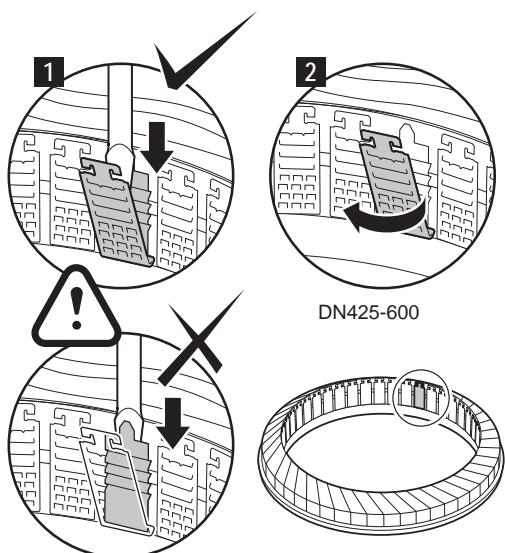
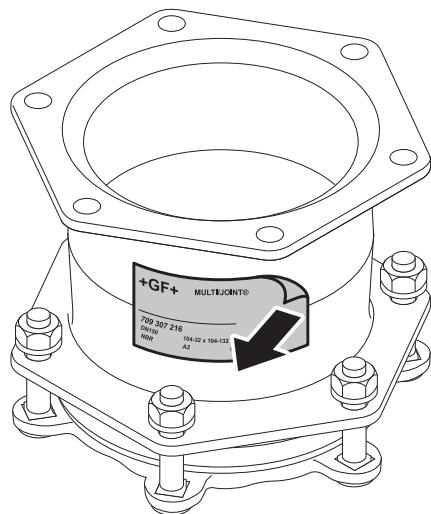
DN425-DN600/12-20/ML

**INSTALLATION/REMOVAL OF
“FIKSERS”**

- D** Montage/Demontage der Fiksere
- NL** Fiksers monteren/verwijderen
- F** Mise en place / Dépose des “Fiksers”
- NO** Montering/fjerning av “Fiksere”
- SE** Installation/borttagande av “Fiksers”
- DK** Installation/demontering af fiksers
- FIN** “Fikserienv” asennus / poisto
- PT** Instalação/Retirar los Fiksers

- ES** Instalación/Retirar los Fiksers
- IT** Installazione/rimozione “Fiksers”
- GR** Εγκατάσταση/απομάκρυνση των εξαρτημάτων αγκύρωσης “Fiksers”
- CZ** Instalace/odstranění fixerů
- HU** “Fikser”-ek behelyezése/eltávolítása
- RO** Înstalarea/Îndepărarea elementelor de fixare “Fiksers”
- PL** Montaż/demontaż blaszek “Fiksers”
- RUS** Установка/снятие фиксаторов

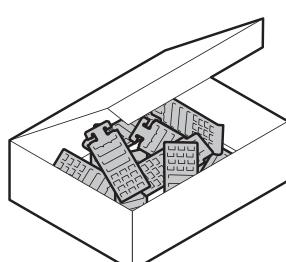
DN425-DN600/12-20/ML

21**22**

DN425-DN600/12.20/ML

23

CHECK TABLE FOR CORRECT NUMBER OF "FIKSERS" PER DN.

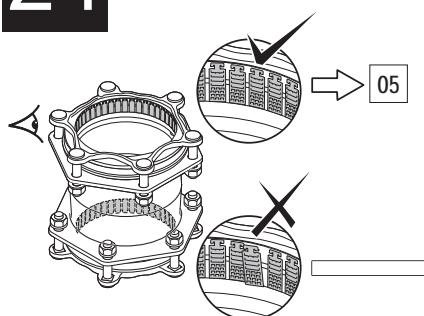


Item	DN425	DN450	DN475	DN500	DN550	DN600
DN425	44-71	49-70	66-105	104-132	122-150	154-192
DN450						
DN475						
DN500						
DN550						
DN600						

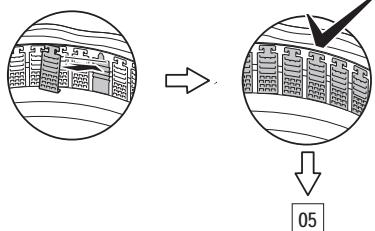
DN	Uni/Fikser
DN425	84
DN450	88
DN475	93
DN500	97
DN550	105
DN600	115

D Die Anzahl (laut Tabelle) der Fiksere überprüfen.**NL** Zie de tabel voor juiste aantal "Fiksers" per DN.**F** Vérifiez dans le tableau le nombre exact de "Fiksers" à installer par DN.**NO** Sjekk tabell vedrørende antall "Fiksere" mot DN.**SE** Kontrollera i tabellen för korrekt antal "Fiksers" per DN.**DK** Kontroller det korrekta antalet "Fiksers" pr. DN med tabellen.**FIN** Tarkista taulukosta oikea "Fikserien" lukumäärä per DN.**PT** Ver na tabela o numero de "Fiksers" para cada diâmetro.**ES** Ver Tabla para instalar el numero apropiado de Fiksers por DN.**IT** Controllare in tabella il numero di "Fiksers" per DN.**GR** Ελέγχετε από τον πίνακα αν ο σύνδεσμος διαθέτει του κατάλληλο αριθμό εξαρτημάτων αγκύρωσης "Fiksers" ανάλογα με τη διάμετρο του (DN).**CZ** V tabulce zkontrolujte správný počet fixerů v závislosti na DN.**HU** Ellenőrizze a táblázatot a megfelelő számú "Fikser" per DN érdekében.**RO** Se verifica in tabel numarul recomandat de elemente de fixare "Fiksers" pentru un anumit DN.**PL** Odczytaj z tabeli liczbę blaszek przypadających na daną wartość DN.**RUS** Проверить по таблице количество фиксаторов для данного DN.

DN425-DN600/12.20/ML

24**CHECK IF “FIKSERS” (METAL GRIPPERS) POSITION IS CORRECT.**

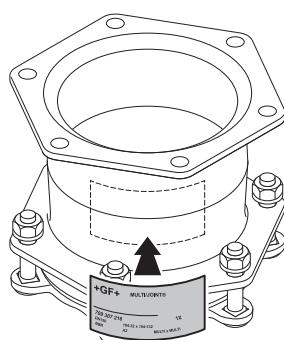
DN425-600



- D** Sicherstellen, dass alle Fiksers richtig positioniert sind.
- NL** Controleer de juiste positie van de “Fiksers”.
- F** Assurez-vous que les “Fiksers” (les mors métalliques) sont correctement positionnés.
- NO** Kontroller at “Fikserne” er i riktig posisjon.
- SE** Kontrollera om “Fiksers” position är korrekt.
- DK** Kontroller om “Fikernes” placering er korrekt.
- FIN** Tarkista “Fikseri”, että asento on oikein.
- PT** Ver se a posição dos “Fiksers” é correcta.

- ES** Revise si los “Fiksers” se encuentran en la posición correcta.
- IT** Controllare gli inserti antisfilo “Fiksers” sono OK.
- GR** Ελέγχετε αν τα εξαρτήματα αγκύρωσης που διαθέτει ο σύνδεσμος “Fiksers” έχουν αγκυρώσει σωστά πάνω στον αγωγό.
- CZ** Zkontrolovat správnou polohu fixerů.
- HU** Ellenőrizze, hogy a “Fikser”-ek megfelelő helyzetben vannak-e.
- RO** Se verifica dacă poziția elementelor de fixare “Fiksers” este corecta.
- PL** Sprawdź poprawność ułożenia blaszek.
- RUS** Убедиться в правильности установки “Fiksers” (металлических фиксаторов).

DN425-DN600/12-20/ML

25**ATTACH NEW STICKER.**

- D** Neues Etikett am Fittingskörper anbringen.
- NL** Plaats een nieuwe sticker.
- F** Collez la nouvelle étiquette.
- NO** Monter nytt klistermerke.
- SE** Sätt på ny sticker.
- DK** Påsæt ny etiket.
- FIN** Attach new sticker.
- PT** Colocar etiqueta nova.

- ES** Adjuntar una nueva pegatina.
- IT** Attaccare.
- GR** Επικολλήστε καινούριο αυτοκόλλητο σήμανσης στον αγωγό μετά τη τοποθέτηση.
- CZ** Nalepit nový štítek.
- HU** Ragasszon fel új címkét.
- RO** Se lipeste o eticheta noua.
- PL** Przyklep nową naklejkę.
- RUS** Нанести новую наклейку.

DN425-DN600/12-20/ML

User manual MULTI/JOINT® 3000 Plus DN625 - DN825

Georg Fischer Waga N.V.

+GF+

GB	User Manual
D	Montageanleitung
NL	Montagehandleiding
F	Manuel d'instruction
NO	Brukermanual
SE	Användarmanual
DK	Montagevejledning
FIN	Käyttömanuaali
ES	Manual de instalacion
PT	Manual de instalação
IT	Manuale d'uso
RO	Manualul utilizatorului
CZ	Návod k montáži
GR	Εγχειρίδιο χρήσης
HU	Szerelési utasítás
RUS	Руководство по установке
PL	Instrukcja Obsługi

MULTI/JOINT® 3000 Plus DN625-DN825



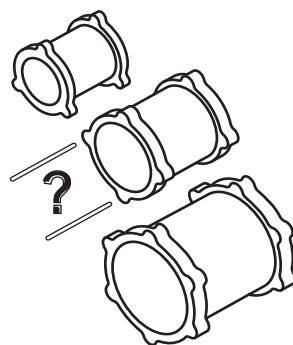
Georg Fischer Waga N.V.-P.O.Box 290-
8160 AG Epe-The Netherlands-www.waga.nl

DN625-DN825/08-20/ML



1

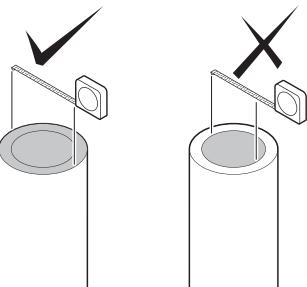
FITTING CHOICE



D	Kupplung auswählen
NL	Keuze koppeling
F	Choisir le raccord
NO	Valg av kobling
SE	Kopplings val
DK	Valg af kobling
FIN	Muhi vaihtoehdot
PT	Escolha do tipo de ligação

ES	Elegir union
IT	Scelta del giunto
GR	Επιλογή συνδέσμου
CZ	Výběr spojky
HU	Idom kiválasztása
RO	Alegerea cuplei
PL	Wybór łącznika
RUS	Выбор фитинга

DN625-DN825/08-20/ML

1**CHECK TABLE IF CHOSEN FITTING MATCHES PIPE OD.**

DN	Range [mm]
DN625	630 – 662
DN675	665 – 697
DN700	709 – 741
DN800	799 – 831
DN825	837 – 869

D

Die Rohraussendurchmesser überprüfen und mit der Tabelle vergleichen.

NL

Kies de juiste koppeling m.b.v. de tabel.

F

Vérifiez sur le tableau si le raccord couvre bien le diamètre extérieur du tube.

NO

Sjekk med tabell at koblingen stemmer overens med utvendig diameter rør.

SE

Kontrollera om vald rördel stämmer mot rörets ytterdiametern.

DK

Kontroller med tabellen om den valgte kobling passer til rördiametern.

FIN

Tarkista taulukosta jos valitut asennukset sopivat putkelle QD.

PT

Ver na tabela se os acessórios estão de acordo com o diâmetro exterior dos tubos.

ES

Ver tabla anexa para unir distintos diámetros exteriores.

IT

Controllare sulla tabella se il giunto è idoneo al d.e. del tubo.

GR

Me βάση το πίνακα μεγεθών, επιβεβαιώστε ότι ο σύνδεσμος είναι κατάλληλος για τη συγκεκριμένη διάμετρο αγωγού στον οποίο πρόκειται να τοποθετηθεί.

CZ

V tabulce zkontrolovat použitelnost tvarovky v daném rozsahu průměrů.

HU

Ellenőrizze, hogy a kiválasztott idom megfelel-e a cső külső átmérőjéhez.

RO

Se verifica in tabel daca fittingul ales corespunde Dext al tevii.

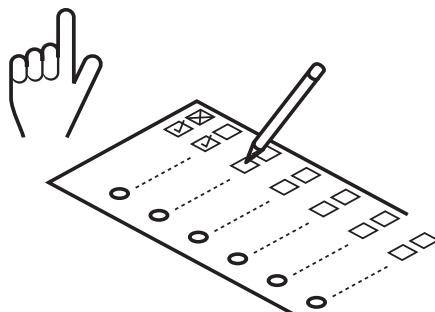
PL

Sprawdź w tabeli czy łącznik pasuje do zewnętrznej średnicy rury.

RUS

Проверить по таблице совместимость фитинга с трубой.

DN625-DN825/08-20/ML

2
3**PREPARE FITTING FOR INSTALLATION**

D

Kupplung für die Montage vorbereiten

NL

Montageklaar maken

F

Préparez le raccord pour l'installation

NO

Forberedelse av kobling

SE

Fürbered kopplingen för installation

DK

Klargør koblingen til installationen

FIN

Valmistaa muhvi asennusta varten

PT

Preparação da ligação

ES

Preparar union para instalacion

IT

Preparazione per l'installazione

GR

Προετοιμασία συνδέσμου για τοποθέτηση

CZ

Příprava spojky pro instalaci

HU

Idom előkészítése a felhelyezésre

RO

Pregatirea cuplei pentru instalare

PL

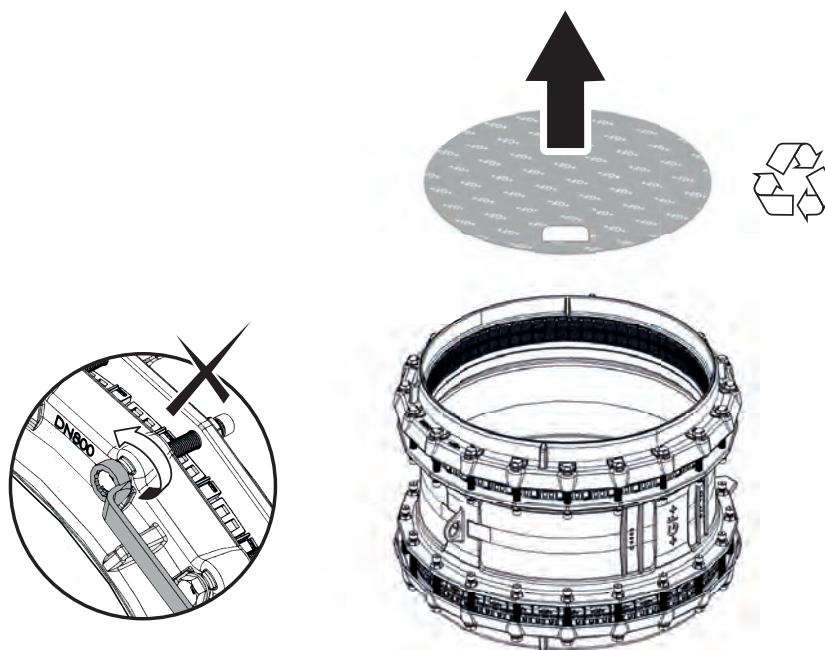
Przygotowanie łącznika do instalacji

RUS

Подготовка фитинга к установке

DN625-DN825/08-20/ML

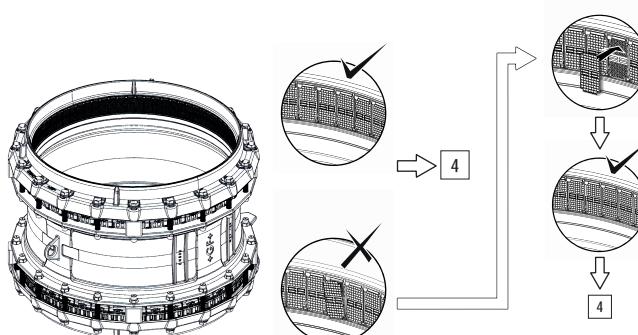
2



DN625-DN825/08-20/ML

3

CHECK IF "FIKSERS" (METAL GRIPPERS) POSITION IS CORRECT.

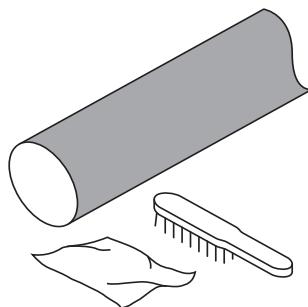


D	Sicherstellen, dass alle Fikser richtig positioniert sind.	ES	Revise si los "Fiksers" se encuentran en la posición correcta.
NL	Controleer de juiste positie van de "Fiksers".	IT	Controllare gli inserti antisfilo "Fiksers" sono OK.
F	Assurez-vous que les "Fiksers" (les mors métalliques) sont correctement positionnés.	GR	Ελέγχετε αν τα εξαρτήματα αγκύρωσης που διαθέτει ο σύνδεσμος "Fiksers" έχουν αγκυρώσει σωστά πάνω στον αγωγό.
NO	Kontroller at "Fikserne" er i riktig posisjon.	CZ	Zkontrolovat správnou polohu fixerů.
SE	Kontrollera om "Fiksers" position är korrekt.	HU	Ellenőrizze, hogy a "Fikser"-ek megfelelő helyzetben vannak-e.
DK	Kontroller om "Fikernes" placering er korrekt.	RO	Se verifica daca pozitia elementelor de fixare "Fiskers" este corecta.
FIN	Tarkista "Fikseri", että asento on oikein.	PL	Sprawdź poprawność ułożenia blaszek.
PT	Ver se a posição dos "Fiksers" é correto.	RUS	Убедиться в правильности установки "Fiksers" (металлических фиксаторов).

DN625-DN825/08-20/ML

4
5
6

PIPE PREPARATION



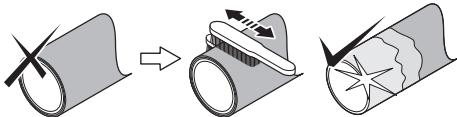
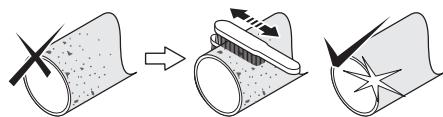
- D Zu verbindende Rohre vorbereiten
NL Voorbereiden buis
F Préparez les tubes
NO Forbredselse av rør
SE Rörberedning
DK Klargøring af røret
FIN Putken esivalmistus
PT Preparação do tubo

- ES Preparacion de la tuberia
IT Preparazione tubazione
GR Προετοιμασία Αγωγού
CZ Příprava trubky
HU Cső előkészítése
RO Pregatirea conductei
PL Przygotowanie rury
RUS Подготовка труб

DN625-DN825/08-20/ML

4

REMOVE ALL RUST, DIRT, BURRS, DAMAGES AND ALL FINISHING LAYERS FROM THE PIPE. INSTALL ON MEDIUM CARRYING PIPE MATERIAL ONLY.



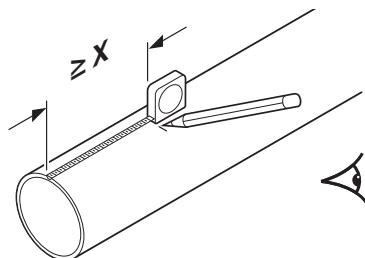
- D Von der drucktragenden Rohroberfläche allen Rost, Grat, Schmutz, Schäden und alle Beschichtungen entfernen.
NL Verwijder alle roest, vuil, bramen, beschadigingen en buislagen. Monteer alleen op de mediumvoerende buis.
F Eliminez la rouille, la saleté, les bourrelets de soudure, les défauts de surface et toutes les couches de finition du tube. Assemblez seulement sur le matériau principal du tube.
NO Fjern all rust, løs overflate samt skader på materialet og overflatebehandling.
SE Avlägsna all rost, smuts, grader och eventuell ytbehandling från röret. Montera endast på mediabärande rörmaterial.
DK Fjern al rust, snavs, spåner, beskadigelser og alle belægninger på røret. Monter kun på selve det mediebærende rørt.
FIN Poista kaikki ruoste, lika, taite, vauriot ja kasaumat putkesta. Asenna ainostaan keskivahalle putkelle.
PT Remover oxidação, sujeira, rebarbas, e revestimento do tubo.
HU Távolítsa el minden rozsdát, szennyeződést, sorját, sérülésekét és minden fedőréteget a csőről. Csak közvetlenül a közegek szállító csőanyagra helyezze fel az idomot.

- ES Retirar toda la suciedad, polvo, daños y etiquetas de la tubería. Montar solamente entre tubos.
IT Rimuovere sporcizia, polvere, intagli e gli strati superficiali della tubazione. Il montaggio deve avvenire sullo strato a contatto del fluido trasportato.
GR Καθαρίστε όλα τα οξειδωμένα τμήματα, τις επικαθίσεις, τις πάραμορφώσεις και τις υλικές βλάβες της επιφάνειας του αγωγού καθώς και τις επιστρώσεις του αγωγού μέχρι των αγωγό μεταφοράς του υλικού.
CZ Odstranit všechny nečistoty, rez, otřepy a všechny dodatečné vrstvy z povrchu trubky. Montovat pouze na trubky určené pro transport médií.
RO Îndepărtati praful, crestările, murdaria, defectele precum și toate straturile de acoperire de pe teava. Se montează doar pe materialul conductei.
PL Usuń wszelkiego rodzaju uszkodzenia, zabrudzenia, zadrapania, rdzę i wierzchnie warstwy na długości rury pokrytej przez łącznik.
RUS Удалить любые загрязнения, ржавчину, задиры и наплысы, а так же покрытия с поверхности трубы. Устанавливать только на основной материал трубы.

DN625-DN825/08-20/ML

5

CHECK TABLE FOR MINIMUM INSERTION DEPTH (210 mm).



DN	Min. insertion depth (mm)*
DN625	
DN675	
DN700	210
DN800	
DN825	

* For maximum joint gap information; see our technical manual

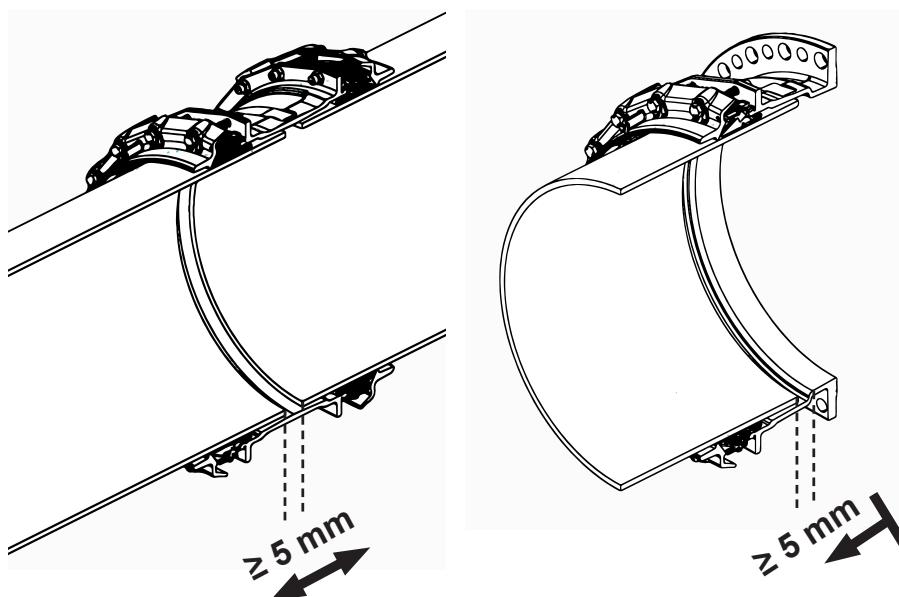


- D Aus der Tabelle die Einstechtiefe entnehmen (X).
NL Zie de tabel voor de minimale insteekdiepte (X).
F Vérifiez sur le tableau la profondeur d'insertion (X) correcte du tube.
NO Sjekk med tabell for korrekt innstikksdybde (X).
SE Kontrollera i tabellen korrekt insticksdjup (X).
DK Kontroller med tabellen for korrekt indstiksdybde (X).
FIN Tarkista taulukosta oikea asennus syvyys (X).
PT Ver na tabela a profundidade (X) de inserção do tubo no acessório.

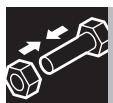
- ES Ver tabla para la profundidad de inserción minima (X).
IT Controllare sulla tabella la profondità di inserimento (X).
GR Συμβολεύετε τον πίνακα για την υπόδειξη του κατάλληλου βάθους εισαγωγής (X) του συνδέσμου στον αγωγό.
CZ Zkontrolovat v tabulce správnou hloubku zasunutí (X).
HU Ellenőrizze a táblázatot a megfelelő betolási mélység érdekében (X).
RO Se verifica in tabel adancimea corecta de inserare (X).
PL Korzystając z tabeli określ głębokość nasunięcia łącznika (X).
RUS Проверить по таблице значение глубины ввода трубы (X).

DN625-DN825/08-20/ML

6



DN625-DN825/08-20/ML



7
8
9

9°
10°
10°

INSTALLATION



EN:

When manoeuvring the product out of the packaging to the pipe surface, please ensure that the proper lifting procedures are followed. Ensure that local safety and lifting procedures are adopted. All lifting should be done by qualified personnel, with approved equipment.

NL:

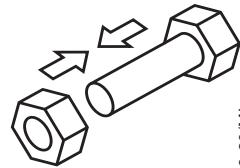
Zorg ervoor dat bij het manoevreren van het product vanuit de verpakking naar het buisoppervlak, de juiste hijsprocedures in acht worden genomen. U dient de lokale veiligheids- en hijsvoorschriften op te volgen. Het hijsen van producten dient te gebeuren met gekeurde hijsmiddelen en door gekwalificeerd personeel.

D:

Bitte stellen Sie eine ordnungsgemäße manuelle Handhabung sicher, wenn das Produkt aus seiner Verpackung entnommen, transportiert und am Rohr angebracht wird. Ist der Einsatz mechanischer Hebezeuge erforderlich, so muss gewährleistet werden, dass sichere Arbeitsverfahren angewendet werden, geprüfte und anerkannte Hebezeuge verwendet werden und von qualifiziertem Personal durchgeführt werden.

DU	Montage
NL	Montage
F	Installation
NO	Montering
SE	Installation
DK	Installation
FIN	Asennus
PT	Instalação

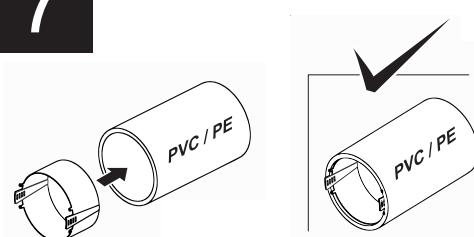
ES	Instalación
IT	Installazione
GR	Installazione
CZ	Instalace
HU	Felhelyezés
RO	Instalarea
PL	Montaż
RUS	Установка



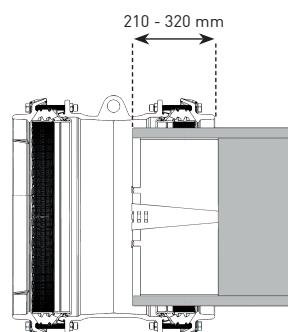
DN625-DN825/08-20/ML

7

PLASTIC PIPES

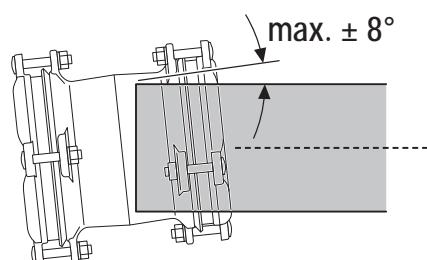


(Use insert stifferener wedge MJ DN625 - DN800
approved by Georg Fischer Waga N.V.)



8

NOMINAL ANGULARITY*

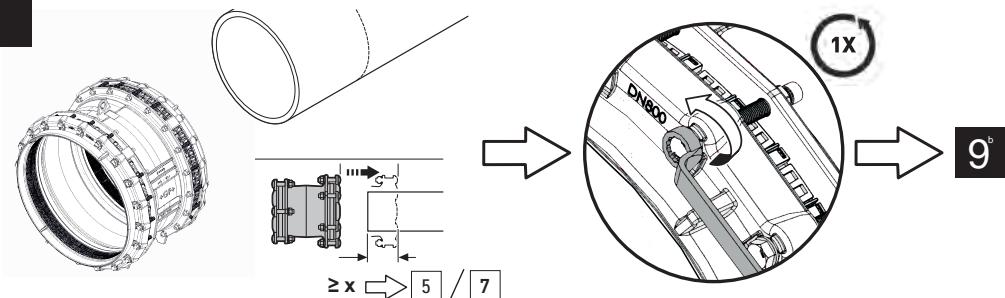


* Based on the middle of the range

DN625-DN825/08-20/ML

9^a

**SLIDE THE MULTI/JOINT® 3000 PLUS ONTO PIPE END
AND REMOVE TRANSPORT CLIP!**



D Den MULTI/JOINT® 3000 Plus auf das Rohrende schieben und den Transportclip entfernen!

NL Schuif de MULTI/JOINT® 3000 Plus op het buiseinde en verwijder de transportclips!

F Faites glisser le MULTI/JOINT® 3000 Plus sur l'extrémité du tuyau et retirez le clip de transport!

NO Skli MULTI/JOINT® 3000 Plus muffe innpå rørende og deretter fjern transportpinnen.

SE Skjut MULTI/JOINT® 3000 Plus kopplingen på röret och ta bort transportsäkringenarna (clip)!

DK Skub MULTI/JOINT® 3000 Plus på røret og fjern transportbeslaget!

FIN Liu'uta MULTI/JOINT® 3000 Plus putken päälle ja poista kuljetus klipsi!

PT Deslize o MULTI/JOINT® 3000 Plus na extremidade do tubo e remover o clipe de transporte!

ES Deslice el MULTI/JOINT® 3000 Plus sobre el extremo del tubo y retire el clip de transporte!

IT Inserire MULTI/JOINT® 3000 Plus sul tubo e successivamente rimuovere i fermi per il trasporto!

GR Εισαγετε το multi/joint® 3000 plus στο ακρο του αγωγου και αφαιρεστε το κουμπωμα μεταφορασ!

CZ Nasunout tvarovku MULTI/JOINT® 3000 Plus na konec trubky a teprve potom odstranit oranžové vymezovací díly!

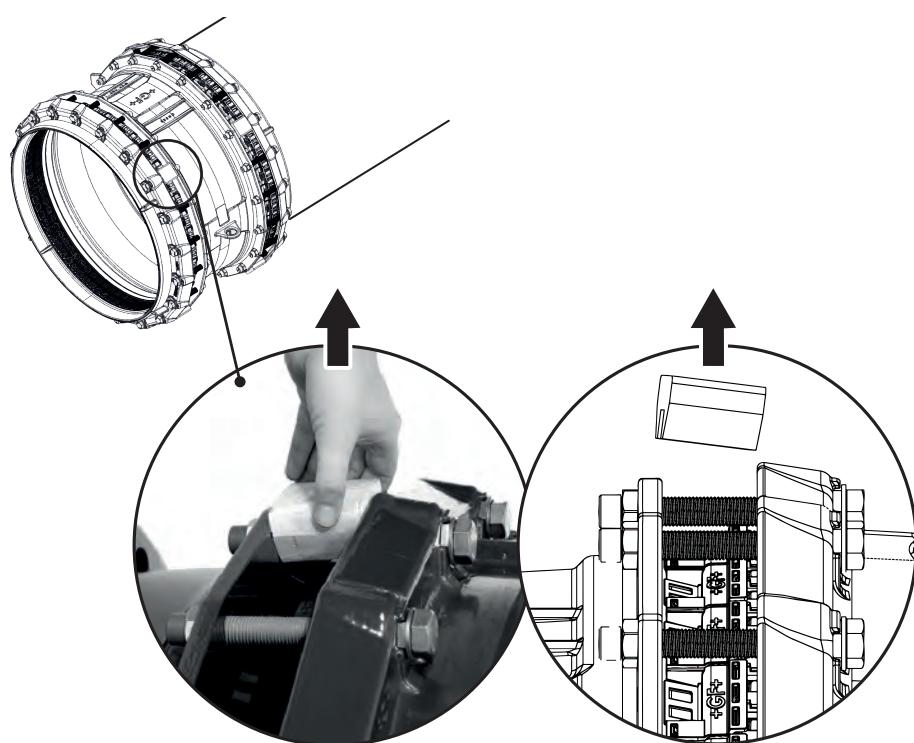
HU Csúsztassa a MULTI/JOINT® 3000 Plus kötőidomot a csővégre, és távolítsa el a szállítási rögzítőelemet!

RO Introduceti piesa MULTI/JOINT® 3000 Plus pe capatul conductei si inlaturati siguranta pentru transport!

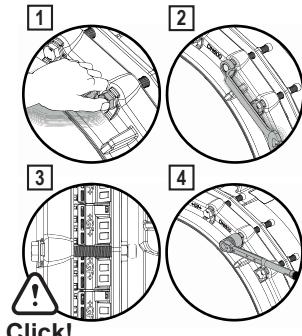
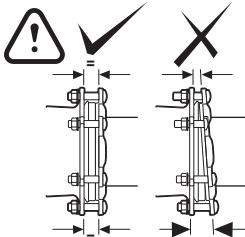
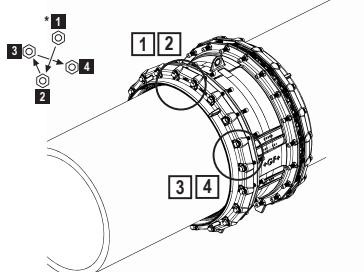
PL Nasuń łącznik MULTI/JOINT® 3000 Plus na rurę a następnie zdejmij zabezpieczenie transportowe!

RUS Установите MULTI/JOINT® 3000 Plus на конец трубы и удалите транспортировочный хомут!

DN625-DN825/08-20/ML

9^b

DN625-DN825/08-20/ML

10^a**TIGHTEN THE BOLTS WITH THE CORRECT TORQUE.****Click!**

D Der Tabelle das richtige Schraubendrehmoment entnehmen.

NL Zie de tabel voor het juiste aandraaimoment.

F Vérifiez dans les tableaux le couple de serrage à respecter.

NO Mutrene strammes i kryss, da man skal holde samme avstand mellom koblingshus og trykkflens(gland). Etterstram med en momentnøkkel ihht. Momenttabell.

SE Kontrollera i tabell korrekt åtdragningsmoment.

DK Det rigtige tilspændingsmoment findes i tabellen.

FIN Tarkista taulukosta oikea väntätmomentti.

PT Ver na tabela a força de aperto.

ES Ver tabla para el par de apriete.

IT Controllare la tabella per il serraggio.

GR Συμβουλευτείτε τον πίνακα για την επιλογή της κατάλληλης στρεπτικής ροπής που θα πρέπει να εφαρμοστεί στον σύνδεσμο, κατά την διαδικασία της σύσφιξης του στον αγωγό.

CZ Zkontrolovat v tabulce správný utahovací moment.

HU Ellenőrizze a táblázatot a megfelelő nyomaték érdekében.

RO Se verifica in tabel valoarea momentului de stangere.

PL Odczytaj z tabeli odpowiedni moment dokręcania śrub.

RUS Проверить по таблице соответствующий момент затяжки болтов.

DN625-DN825/01-21/ML

10^b**CHECK TABLE FOR INSTALLATION TORQUE AND PRESSURE RATING**.**

RESTRAINT		
MULTI/JOINT® 3000 Plus <u>with</u> Fikser		
(S)St, CU, DCI, GCI, AC*, GRP*, PVC, PE, PEX, PP-B, PP-H, ABS (* NO guarantee as quality varies!)		
DN	Torque (Nm)	
	Metal	Non metal
DN625	200	140
DN675		
DN700		
DN800		
DN825		

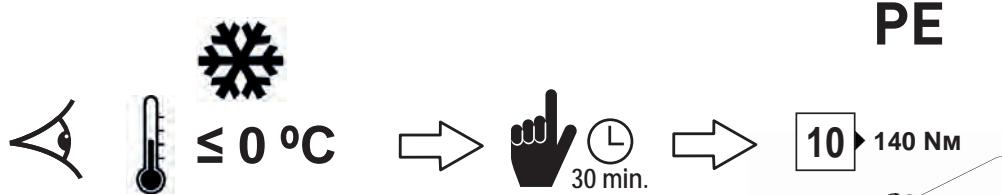
NON-RESTRAINT		
MULTI/JOINT® 3000 Plus <u>without</u> Fikser		
(S)St, CU, DCI, GCI, AC, GRP, PVC, PE, PEX, PP-B, PP-H, ABS		
DN	Torque (Nm)	
DN625		
DN675		
DN700		
DN800		
DN825		

** All fittings PN16 rated, see restraint table for pull out restraint forces

DN625-DN825/08-20/ML

11

$\leq 0 \text{ }^{\circ}\text{C}$ ONLY ON PE PIPE, APPLY TORQUE (PRESCRIBED UNDER 10) ONE MORE TIME AFTER 30 MINUTES.



- D Nur für Einsatz auf PE Rohren bei Temperaturen $\leq 0 \text{ }^{\circ}\text{C}$, das unter 11 ermittelte Schraubendrehmoment nach 30 Minuten noch einmal aufbringen.
NL Alleen bij montage op PE bij temperaturen onder $0 \text{ }^{\circ}\text{C}$, het (onder 11) voorgeschreven draaimoment na 30 minuten nog eenmaal aanbrengen.
F Répétez l'étape 11 après 30 minutes seulement sur des tubes en PE en temps glacial.



DN625-DN825/08-20/ML

**12**
13

TESTING



$$P_{\max} \leq 1,5 \times P_{FA}$$

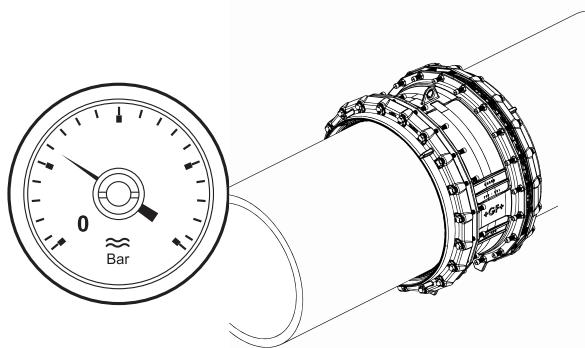
- D Dichtheitsprüfung
NL Testen
F Essais
NO Trykktesting
SE Testa
DK Prøvning
FIN Testi
PT Teste

- ES Probar
IT Test
GR Έλεγχος/ δοκιμές
CZ Zkouška
HU Tesztelés
RO Testarea
PL Testowanie
RUS Испытание

DN625-DN825/08-20/ML

12

CONDUCT A PRESSURE TEST.



D Dichtheitsprüfung durchführen.

NL Voer een druktest uit.

F Procédez à un essai de pression.

NO Utfør trykktest på hele installasjonen, med minimum det aktuelle driftstrykk før anlegget dekkes til. Trykktestinga må ikke overstige 1,5 x PFA (max arbeidstrykk) i henhold til tabellen.

SE Utför tryckprovning.

DK Gennemfør en trykprøvning.

FIN Aseta painetesti.

PT Efetuar teste de pressão.

ES Realizar un test de presión.

IT Fare test in pressione.

GR Για τον έλεγχο της στεγανότητας της σύνδεσης πραγματοποιείστε δοκιμή υπό πίεση στον αγωγό για τυχόν διαρροές.

CZ Prověst tlakovou zkoušku.

HU Hajtson végre nyomáspróbát.

RO Se realizeaza un test de presiune.

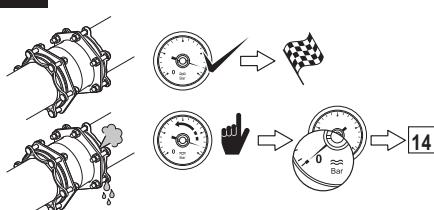
PL Przeprowadź próbę ciśnieniową.

RUS Провести опрессовку.

DN625-DN825/08-20/ML

13

IF PRESSURE TEST FAILS: REINSTALL FITTING. TEST OK → INSTALLATION FINISHED.



14 -17 → 1

D Falls die Dichtheitsprüfung eine Undichtheit aufzeigt, den Montagevorgang wiederholen - nach wiederholter, erfolgreicher Dichtheitsprüfung ist die Montage abgeschlossen.
Druktest negatief → opnieuw installeren. Test OK → installatie gereed.

NL Mauvais résultat d'essai, réinstallez le raccord. Essai réussi, l'installation est terminée.

F Trykprøving negativ → Re-installer kobling. Test OK → installasjon er utført.

SE Tryckprovning falerar → Ommontera rördelen. Test OK → installation avslutad.

DK Trykprøvning negativ → Re-installer kobling. Test OK → installationen er udført.

FIN Paine testi hylätty → asenna uudelleen. Testi OK → asennus suoritettu.

PT Teste de pressão falhou → Voltar a instalar o acessório → Teste OK → Instalação terminada.

ES Test de Presión Fallo → Reinstalar el accesorio TEST OK → Instalacion completada

IT Se test negativo → Reinstallare. Se test positivo → Installazione finita.

GR Σε περίπτωση που η εγκατάσταση αποτύχει και υπάρχει διαρροή στη σύνδεση → Επανα-εγκαταστήστε το σύνδεσμο. Σε περίπτωση που η δεν παρατηρήθει διαρροή στη σύνδεση → η εγκατάσταση του συνδέσμου επί του αγωγού έχει ολοκληρωθεί με επιτυχία.

CZ Tlaková zkouška není OK → tvarovku znova namontovat. Tlaková zkouška OK → konec instalace.

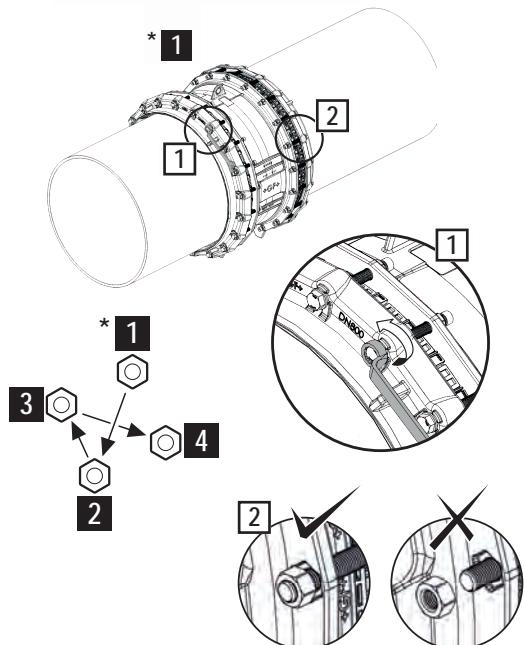
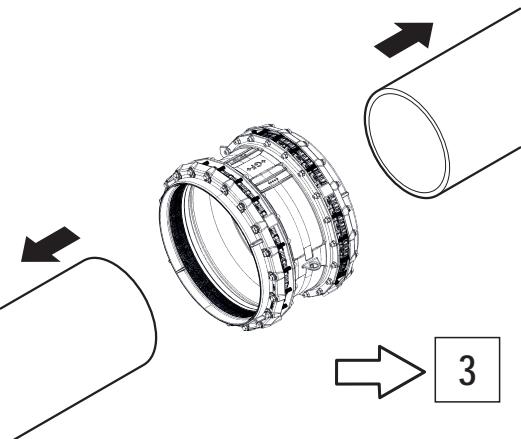
HU Nyomás próba sikertelen → végezz el újra az idom felhelyezését. Próba sikeres → felhelyezés befejezve.

RO Daca testul de presiune esueaza → Se reinstaleaza fittingul. Daca rezultatul testului este OK → Instalare terminata.

PL Niedana próba → Ponowny montaż łącznika. Udana próba → montaż zakończony.

RUS Опрессовка не пройдена → Установить фитинг снова. Опрессовка пройдена → Установка завершена.

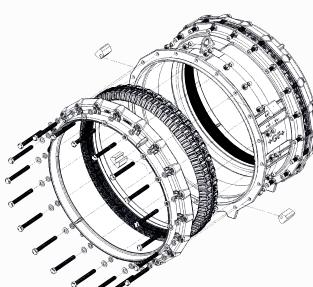
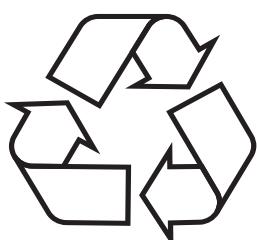
DN625-DN825/08-20/ML

14**DISASSEMBLY****15****DISASSEMBLY**

DN625-DN825/08-20/ML

16**17****REUSE**

ALWAYS CHECK WITH YOUR LOCAL SUPPLIER FOR DETAILED INFORMATION ON REUSE



* For MULTI/JOINT® 3000
Plus User Manual re-use,
replacing the Uni/Fiksring
of DN625 – DN825 see
our website www.gfps.com



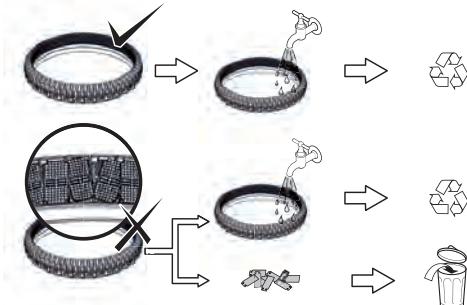
D	Wiederverwendung
NL	Hergebruik
F	Réutilisation
NO	Gjenbruk
SE	Återanvända
DK	Genbrug
FIN	Uudelleen käyttö
PT	Reutilização

ES	Reutilizar
IT	Riutilizzo
GR	Επαναχρησιμοποίηση
CZ	Opětovné použití
HU	Újra felhasználás
RO	Reutilizarea
PL	Ponowne użycie
RUS	Повторное использование

DN625-DN825/08-20/ML

16

CHECK "FIKSERS" AND GASKET CONDITION.

**DN625-825**

D Die Dichtung und die Fikser überprüfen, ob diese in unbeschädigten, neuwertigem Zustand sind.

NL Controleer de conditie van de "Fiksers" en de afdichtingsring.

F Vérifiez l'état des "Fiksers" et du joint.

NO Kontroller "Fikserne" og pakningens stand.

SE Kontrollera "Fiksers" och tätningars kondition.

DK Kontroller "Fiksernes" og tætningsringens tilstand.

FIN Tarkista "Fikseri" ja tiiviste kunto.

PT Ver o estado dos Fiksers" e do anel.

ES Revisar los "Fiksers" y la junta.

IT Controllare gli inserti antisfilo "Fiksers" e la guarnizione.

GR Ελέγχετε την κατάσταση στην οποία βρίσκονται τα εξαρτήματα αγκύρωσης που διαθέτει ο σύνδεσμος "Fiksers" και τα παρεμβόλατα.

CZ Zkontrolovat stav fixerů a těsnění.

HU Ellenőrizze a "Fikser"-ek és a tömítés állapotát.

RO Se verifica starea elementele de fixare "Fiksers" si a garniturilor.

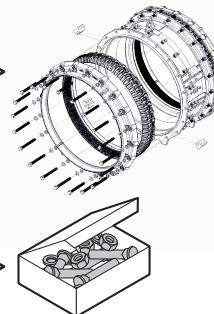
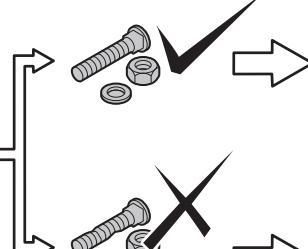
PL Sprawdź stan blaszek i uszczelki.

RUS Проверить состояние "Fiksers" (металлических фиксаторов) и резинового уплотнения.

DN625-DN825/08-20/ML

17

CHECK BOLTS, WASHERS AND NUTS.



D Die Schrauben, Unterlegscheiben und Muttern auf Gebrauchstauglichkeit überprüfen.

NL Controleer bouten, moeren en onderlegingen.

F Vérifiez l'état des vis, des rondelles et des écrous.

NO Kontroller skiver, mutter og bolter.

SE Kontrollera bultar, brickor och muttrar.

DK Kontroller bolte, skiver og møtrikker.

FIN Tarkista lukko, prikka ja mutteri.

PT Ver o estado dos parafusos, arruelas e porcas.

ES Revisar los tornillos, arandelas y tuercas.

IT Controllare viti, dadi e rondelle.

GR Ελέγχετε την κατάσταση των βιδών, των παξιμαδιών και των περικοχλίων αν έχουν εφαρμόσει σωστά.

CZ Zkontrolovat šrouby, podložky a matky.

HU Ellenőrizze a csavarokat, anyákat és alátéteket.

RO Se verifica suruburile si piuliile.

PL Sprawdź śruby, nakrętki i podkładki.

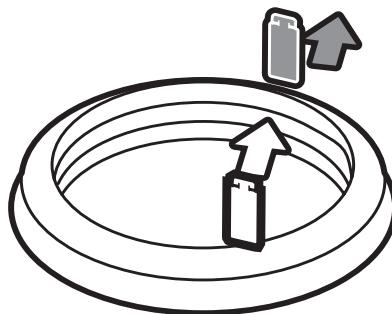
RUS Проверить наличие болтов, шайб и гаек.

DN625-DN825/08-20/ML



18
19
20

INSTALLATION/REMOVAL OF “FIKSERS”



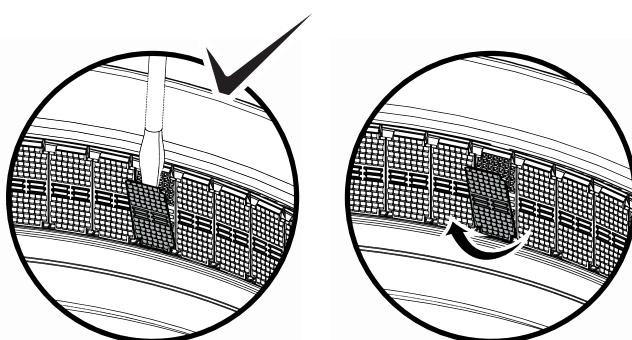
D	Montage/Demontage der Fikser
NL	Fiksers monteren/verwijderen
F	Mise en place / Dépose des “Fiksers”
NO	Montering/fjerning av “Fiksere”
SE	Installation/borttagande av “Fiksers”
DK	Installation/demontering af fiksers
FIN	“Fikserien” asennus / poisto
PT	Instalação/Retirar los Fikser

ES	Instalación/Retirar los Fikser
IT	Installazione/rimozione “Fiksers”
GR	Εγκατάσταση/απομάκρυνση των εξαρτημάτων αγκύρωσης “Fiksers”
CZ	Instalace/odstranění fixerů
HU	“Fikser”-ek behelyezése/eltávolítása
RO	Instalarea/Indepeartarea elementelor de fixare “Fiksers”
PL	Montaż/demontaż blaszek “Fiksers”
RUS	Установка/снятие фиксаторов

DN625-DN825/08-20/ML

18

INSTALLATION/REMOVAL OF “FIKSERS”.



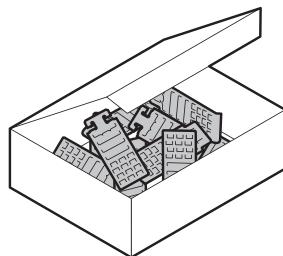
D	Montage/Demontage der Fikser
NL	Fiksers monteren/verwijderen
F	Mise en place / Dépose des “Fiksers”
NO	Montering/fjerning av “Fiksere”
SE	Installation/borttagande av “Fiksers”
DK	Installation/demontering af fiksers
FIN	“Fikserien” asennus / poisto
PT	Instalação/Retirar los Fikser

ES	Instalación/Retirar los Fikser
IT	Installazione/rimozione “Fiksers”
GR	Εγκατάσταση/απομάκρυνση των εξαρτημάτων αγκύρωσης “Fiksers”
CZ	Instalace/odstranění fixerů
HU	“Fikser”-ek behelyezése/eltávolítása
RO	Instalarea/Indepeartarea elementelor de fixare “Fiksers”
PL	Montaż/demontaż blaszek “Fiksers”
RUS	Установка/снятие фиксаторов

DN625-DN825/08-20/ML

19

CHECK TABLE FOR CORRECT NUMBER OF "FIKSERS" PER DN.



DN	Uni/Fikser
DN625	58
DN675	61
DN700	65
DN800	73
DN825	77

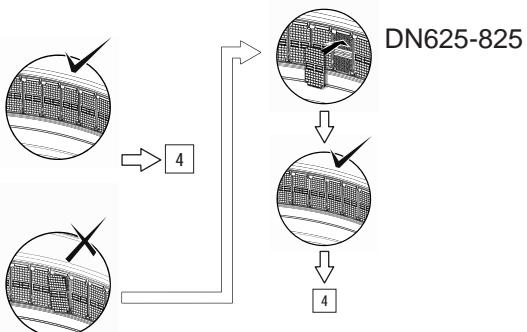
- D Die Anzahl (laut Tabelle) der Fikser überprüfen.
 NL Zie de tabel voor juiste aantal "Fiksers" per DN.
 F Vérifiez dans le tableau le nombre exact de "Fiksers" à installer par DN.
 NO Sjekk tabell vedrørende antall "Fiksere" mot DN.
 SE Kontroller i tabellen för korrekt antal "Fiksers" per DN.
 DK Kontroller det korrekta antal "Fiksers" pr. DN med tabellen.
 FIN Tarkista taulukosta oikea "Fikserien" lukumäärä per DN.
 PT Ver na tabela o numero de "Fiksers" para cada diâmetro.

- ES Ver Tabla para instalar el numero apropiado de Fiksers por DN.
 IT Controllare in tabella il numero di "Fiksers" per DN.
 GR Ελέγχετε από τον πίνακα αν ο σύνδεσμος διαθέτει τον κατάλληλο αριθμό εξαρτημάτων αγκύρωσης "Fiksers" ανάλογα με τη διάμετρο του (DN).
 CZ V tabulce zkontrolovat správny počet fixerú v závislosti na DN.
 HU Ellenőrizze a táblázatot a megfelelő számú "Fikser" per DN érdekében.
 RO Se verifica in tabel numarul recomandat de elemente de fixare "Fiksers" pentru un anumit DN
 PL Odczytaj z tabeli liczbę blaszek przypadających na daną wartość DN.
 RUS Проверить по таблице количество фиксаторов для данного DN.

DN625-DN825/08-20/ML

20

CHECK IF "FIKSERS" (METAL GRIPPERS) POSITION IS CORRECT.



- D Sicherstellen, dass alle Fikser richtig positioniert sind.
 NL Controleer de juiste positie van de "Fiksers".
 F Assurez-vous que les "Fiksers" (les mors métalliques) sont correctement positionnés.
 NO Kontroller at "Fikserne" er i riktig posisjon.
 SE Kontrollera om "Fiksers" position är korrekt.
 DK Kontroller om "Fikernes" placering er korrekt.
 FIN Tarkista "Fikseri", että asento on oikein.
 PT Ver se a posição dos "Fiksers" é correcta.

- ES Revise si los "Fiksers" se encuentran en la posición correcta.
 IT Controllare gli inserti antisfilo "Fiksers" sono OK.
 GR Ελέγχετε αν τα εξαρτήματα αγκύρωσης που διαθέτει ο σύνδεσμος "Fiksers" έχουν αγκυρώσει σωστά πάνω στον αγωγό.
 CZ Zkontrolovat správnou polohu fixerú.
 HU Ellenőrizze, hogy a "Fikser"-ek megfelelő helyzetben vannak-e.
 RO Se verifica daca pozitia elementelor de fixare "Fiksers" este corecta.
 PL Sprawdź poprawność ułożenia blaszek.
 RUS Убедиться в правильности установки "Fiksers" (металлических фиксаторов).

DN625-DN825/08-20/ML

User manual ST-System

Georg Fischer Waga N.V.



GB	User Manual
D	Montageanleitung
NL	Montagehandleiding
F	Manuel d'instruction
NO	Brukermanual
SE	Användarmanual
DK	Montagevejledning
FIN	Käyttömanuaali
ES	Manual de instalacion
PT	Manual de instalação
IT	Manuale D'uso
RO	Manualul utilizatorului
CZ	Návod k montáži
GR	Εγχειρίδιο χρήσης
HU	Szerelési utasítás
RUS	Руководство по установке
PL	Instrukcja Obsługi

ST-System DN40-DN2200



Georg Fischer Waga N.V.-P.O.Box 290-
8160 AG Epe-The Netherlands-www.waga.nl

User Manual ST-System/0418/ML

01

CHECK TABLE FOR MAX. RANGE OF DEDICATED FITTING.

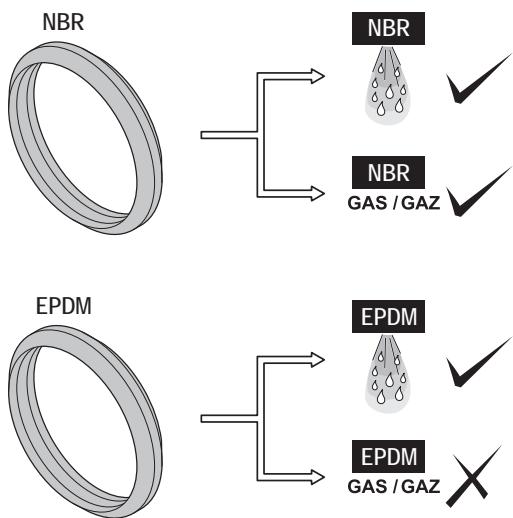
DN (mm)		Range (mm)	
DN40	-	DN80	+ 2 - 1
DN100	-	DN200	+ 2 - 1,5
DN250	-	DN500	+ 4 - 3
DN600	-	DN1100	+ 5 - 4
DN1200	-	DN1600	+ 5,5 - 5
DN1700	-	DN2200	on request



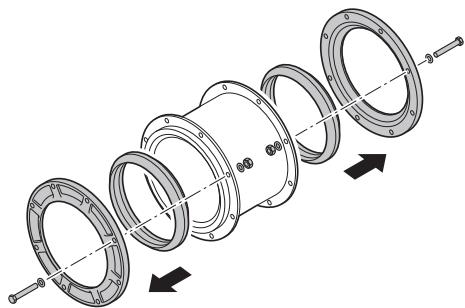
THE ST-SYSTEM IS A TAILOR MADE SOLUTION.
IT IS PRODUCED ON CUSTOMER SPECIFICATION ONLY.

User Manual ST-System/07-20

02



03



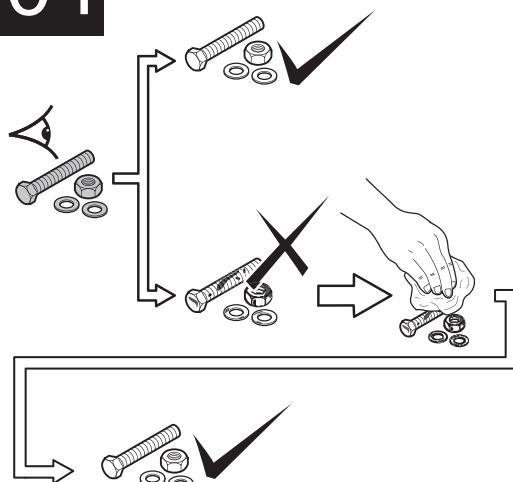
Water = 10, 16 or 25 bar*

Gas = 4 bar*

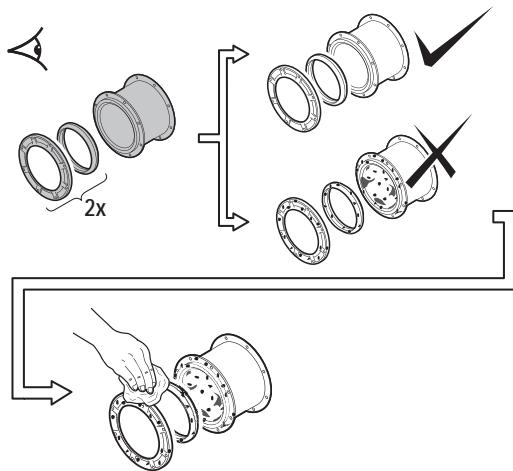
* Depends on ordered dedicated fitting.

User Manual ST-System/0418/ML

04



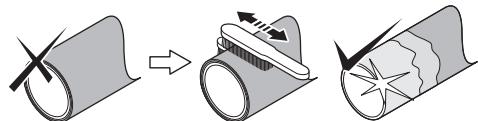
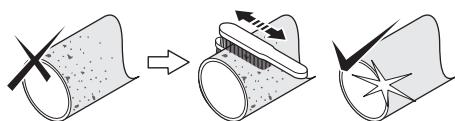
05



User Manual ST-System/0418/ML

06

REMOVE ALL RUST, DIRT, BURRS, DAMAGES AND ALL FINISHING LAYERS FROM THE PIPE. MOUNT ON MEDIUM CARRYING PIPE MATERIAL ONLY.



D

Von der drucktragenden Rohroberfläche allen Rost, Grat, Schmutz, Schäden und alle Beschichtungen entfernen.

NL

Verwijder alle roest, vuil, bramen, beschadigingen en buislagen. Monteer alleen op de mediumvoerende buis.

F

Eliminnez la rouille, la saleté, les boursoulets de soudure, les défauts de surface et toutes les couches de finition du tube.

NO

Fjern all rust, løs overflate samt skader på materialet og overflatebehandling.

SE

Avlägsna all rust, smuts, grader och eventuell ytbehandling från röret. Monter endast på mediabärande rörmaterial.

DK

Fjern al rust, snavs, spåner, beskadigelser og alle belægninger på røret. Monter kun på selve det mediebærende rør.

FIN

Poista kaikki ruoste, liika, taite, vauriot ja kasaumat putkesta. Asenna ainoastaan keskivahvalla putkelle.

PT

Remover oxidação, sujidade, rebarbas, e revestimento do tubo.

HU

Távolítsan el minden rozsdát, szennyeződést, sorját, sérülésekét és minden fedőréteget a csőről. Csak közvetlenül a közeg szállító csőanyagra helyezze fel az idomot.

ES

Retirar toda la suciedad, polvo, daños y etiquetas de la tubería. Montar solamente entre tubos.

IT

Rimuovere sporcizia, polvere, intagli e gli strati superficiali della tubazione. Il montaggio deve avvenire sullo strato a contatto del fluido trasportato.

GR

Kαθαρίστε όλα τα οξειδωμένα τιμήματα, τις επικαθίσεις, τις παραμορφώσεις και τις υλικές βλάβες της επιφάνειας του αγωγού καθώς και τις επιστρώσεις του αγωγού μέχρι τον αγωγό μεταφοράς του υλικού.

CZ

Odstranit všechny nečistoty, rez, otřepy a všechny dodatečné vrstvy z povrchu trubky. Montovat pouze na trubky určené pro transport médií.

RO

Indepartati praful, crestaturile, murdaria, defectele precum si toate straturile de acoperire de pe teava. Se monteaza doar pe materialul conductei.

PL

Usuń wszelkiego rodzaju uszkodzenia, zabrudzenia, zadrapania, rdzę i wierzchnie warstwy na długości rury pokrytej przez łącznik.

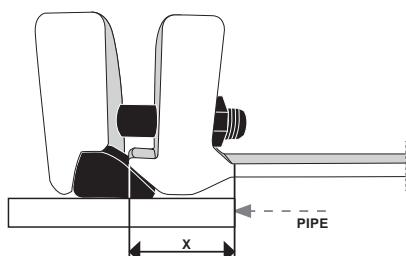
RUS

Удалить любые загрязнения, ржавчину, задиры и наплывы, а также покрытия с поверхности трубы. Устанавливать только на основной материал трубы.

User Manual ST-System/0418/ML

07

CHECK TABLE FOR MINIMUM INSERTION DEPTH (X).



DN	X min.insertion depth (mm)
DN100	30
DN125	30
DN150	35
DN200	35
DN250	45
DN300	45
DN350	45

DN	X min.insertion depth (mm)
DN400	45
DN500	50
DN600	60
DN700	60
DN800	70
DN900	70
DN1000	70

DN	X min.insertion depth (mm)
DN1200	90
DN1300	90
DN1400	95
DN1500	95
DN1600	100

D

Aus der Tabelle die Einstektkiefe entnehmen.

NL

Zie de tabel voor de minimale insteekdiepte (X).

F

Vérifiez sur le tableau la profondeur d'insertion correcte du tube.

NO

Sjekk med tabell for korrekt innstikksdybde (X).

SE

Kontrollera i tabellen korrekt insticksdjup (X).

DK

Kontroller med tabellen for korrekt indstiksdybde (X).

FIN

Tarkista taulukosta oikea asennus syvyys.

PT

Ver na tabela a profundidade (X) de inserção do tubo no acessório.

ES

Ver tabla para la profundidad de inserción mínima.

IT

Controllare sulla tabella la profondità di inserimento (X).

GR

Συμβουλευτείτε τον πίνακα για την υπόδειξη του κατάλληλου βάθους εισαγωγής (X) του συνδέσμου στον αγωγό.

CZ

Zkontrolovat v tabulce správnou hloubku zasunutí (X).

HU

Ellenőrizze a táblázatot a megfelelő betolásra mélység érdekében (X).

RO

Se verifica in tabel adancimea corecta de inserare (X).

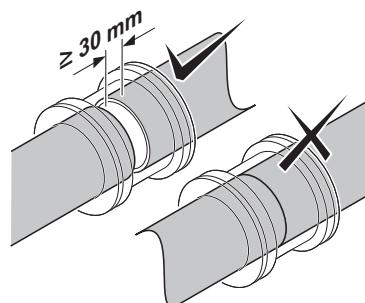
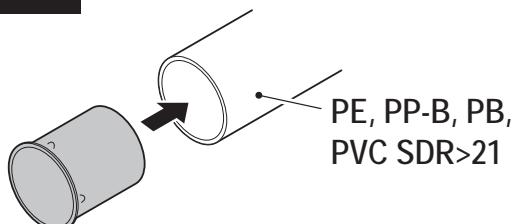
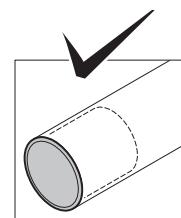
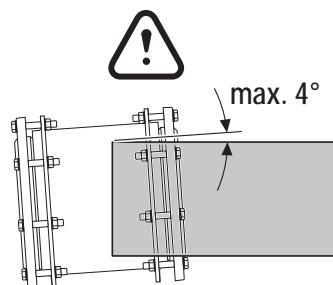
PL

Korzystając z tabeli określ głębokość nasunięcia łącznika (X).

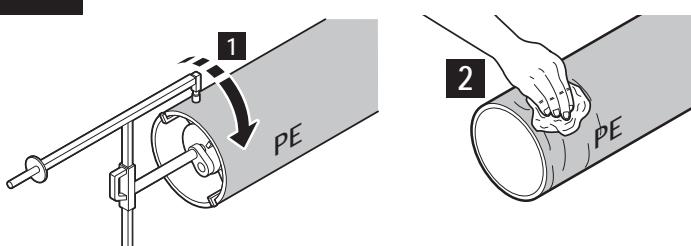
RUS

Проверить по таблице значение глубины ввода трубы (X).

User Manual ST-System/0418/ML

08**10****09**

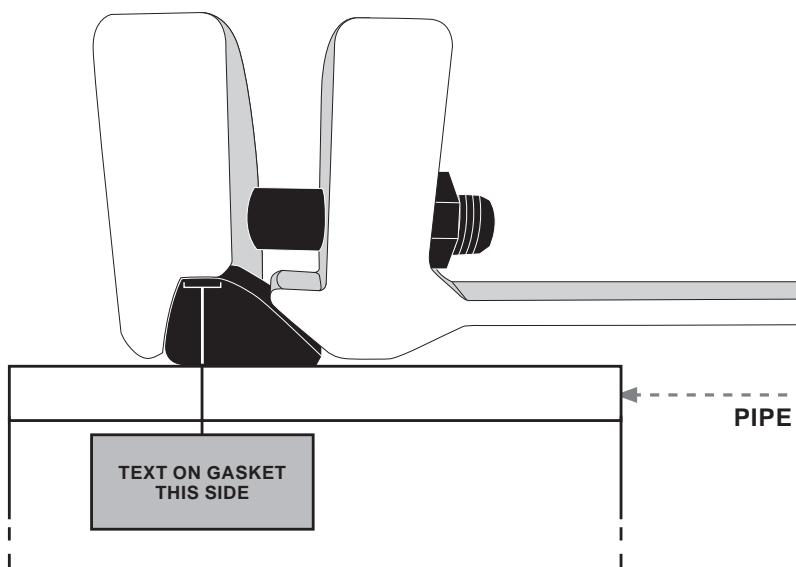
User Manual ST-System/0418/ML

11**USE AN (BY GEORG FISCHER) APPROVED SCRAPPING TOOL.****GAS / GAZ**

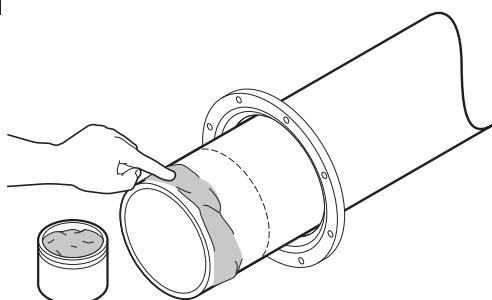
- D** Für PE-Rohre ist ein Georg Fischer Schälgerät zu verwenden.
- NL** Gebruik een door Georg Fischer goedgekeurde schiller.
- F** Utilisez un grattoir mécanique approuvé par Georg Fischer.
- NO** Bruk skrapeverktøy godkjent av Georg Fischer.
- SE** Använd ett (av Georg Fischer) godkänt skrapverktyg.
- DK** Brug et (af Georg Fischer) godkendt skrabeværktøj.
- FIN** Käytä (Georg Fischer) hyväksymää karhennus työkalua.
- PT** Usar uma ferramenta (Georg Fischer) adequada.

- ES** Utilizar un rascador circular Georg Fischer.
- IT** Utilizzare in raschiatore approvato da Georg Fischer.
- GR** Για τις εργασίες καθαρισμού και λείανσης χρησιμοποιείστε το κατάλληλο (από την GF) εργαλείο.
- CZ** Použít škrabku (schválenou Georg Fischer).
- HU** Használjon (GF által jóváhagyott) hántoló szerszámot.
- RO** Se va utiliza un dispozitiv de raschetat recomandat (de GF).
- PL** Użyj skrobaka (Georg Fischer) do przygotowania rury.
- RUS** Использовать только разрешенный (компанией Georg Fischer) инструмент для зачистки.

User Manual ST-System/0418/ML

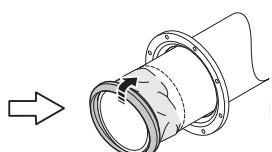
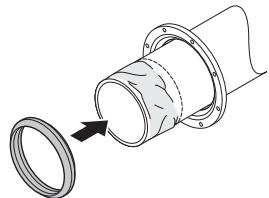
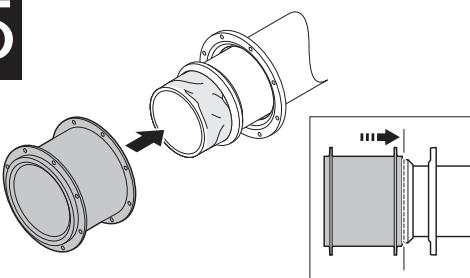
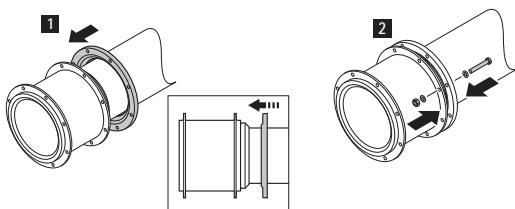
12**CORRECT POSITION OF THE CLAMP RING AND GASKET**

User Manual ST-System/0418/ML

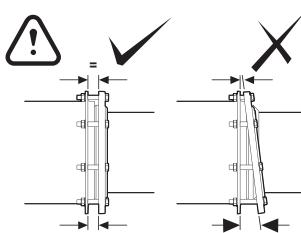
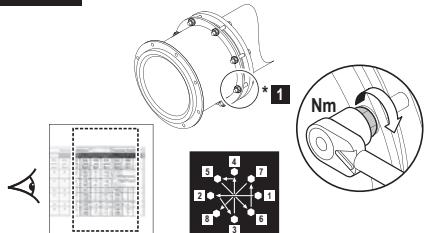
13**APPLY SUITABLE GREASE****GAS / GAZ**

D	Für die Gasanwendung den Dichtungsbereich ausreichend mit Gleitmittel versehen.	ES	Aplicar la grasa correspondiente.
NL	Smeer in met een geschikt glijmiddel.	IT	Applicare lubrificante opportuno.
F	Lubrifiez avec une graisse appropriée.	GR	Τοποθετήστε κατάλληλη ποσότητα λιπαντικής ουσίας στα μηχανικά μέρη του συνδέσμου.
NO	Bruk egnet glidemiddel.	CZ	Aplikovat vhodné mazivo.
SE	Applicera lämpligt smörjmedel.	HU	Használjon megfelelő kenőanyagot.
DK	Påfør egnet glidemiddel.	RO	Se aplica lubrifiant.
FIN	Lisää soveltuva rasva.	PL	Nalóż warstwę smaru.
PT	Aplicar lubrificante adequado (nunca de origem mineral).	RUS	Использовать только подходящую смазку.

User Manual ST-System/0418/ML

14**15****16**

User Manual ST-System/0418/ML

17**CHECK TABLE FOR CORRECT TORQUE.**

Bolts	Torque (Nm)
M16	55
M20	110
M24	190
M27	280
M30	380

D Der Tabelle das richtige Schraubendrehmoment entnehmen.

NL Zie de tabel voor het juiste aandraaimoment.

F Vérifiez dans les tableaux le couple de serrage à respecter.

NO Mutrene strammes i kryss, da man skal holde samme avstand mellom koblingshus og trykkflens(gland). Etter stram med en momentnøkkel iht. Momenttabell.

SE Kontrollera i tabell korrekt åtdragningsmoment.

DK Det rigtige tilspændingsmoment findes i tabellen.

FIN Tarkista taulukosta oikea väiantömomentti.

PT Ver na tabela a força de aperto.

ES Ver tabla para el par de apriete.

IT Controllare la tabella per il serraggio.

GR Συμβουλευτείτε τον πίνακα για την επιλογή της κατάλληλης στρεπτικής ροτίς που θα πρέπει να εφαρμοστεί στον σύνδεσμο, κατά την διαδικασία της σύσφιξης του στον αγωγό.

CZ Zkontrolovat v tabulce správný utahovací moment.

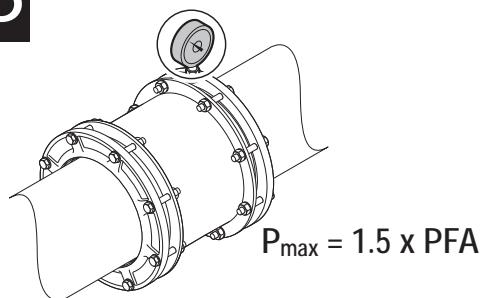
HU Ellenőrizze a táblázatot a megfelelő nyomaték érdekében.

RO Se verifica in tabel valoarea momentului de stangere.

PL Odczytaj z tabeli odpowiedni moment dokręcania śrub.

RUS Проверить по таблице соответствующий момент затяжки болтов.

User Manual ST-System/07-20

18**CONDUCT A PRESSURE TEST.**

Water = 10, 16 or 25 bar*
Gas = 4 bar*

* Depends on ordered dedicated fitting.



D Dichtheitsprüfung durchführen.

NL Voer een druktest uit.

F Procédez à un essai de pression.

NO Utfør trykktest på hele installasjonen, med minimum det aktuelle driftstrykk for anlegget dekkes til. Trykktestingene må ikke overstige 1,5 x PFA (max arbeidstrykk) i henhold til tabellen.

SE Utför tryckprovning.

DK Gennemfør en trykprøvning.

FIN Aseta painetesti.

PT Efectuar teste de pressão.

ES Realizar un test de presión.

IT Fare test in pressione.

GR Για τον έλεγχο της στεγανότητας της σύνδεσης πραγματοποιείστε δοκιμή υπό πίεση στον αγωγό για τυχόν διαρροές.

CZ Prověst tlakovou zkoušku.

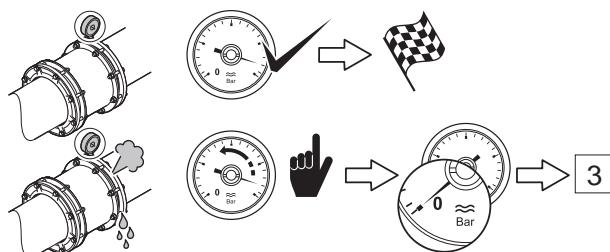
HU Hajtson végre nyomáspróbát.

RO Se realizeaza un test de presiune.

PL Przeprowadź próbę ciśnieniową.

RUS Провести опрессовку.

User Manual ST-System/0418/ML

19**PRESSURE TEST FAIL => REINSTALL FITTING. TEST OK => INSTALLATION FINISHED.**

D Falls die Dichtheitsprüfung eine Undichtheit aufzeigt, den Montagevorgang wiederholen - nach wiederholter, erfolgreicher Dichtheitsprüfung ist die Montage abgeschlossen. Druktest negatief => opnieuw installeren. Test OK => installatie gereed.

NL Mauvais résultat d'essai, réinstallez le raccord. Essai réussi, l'installation est terminée.

F Tryckprövning negativ => Re-installer kobling. Test OK => installationser er utført.

NO Trykktesting negativ => Ommontera rördelen. Test OK => installation avslutad.

SE Trykprøvning negativ => Re-installer kobling. Test OK => installationen er udført.

DK Paine testi hylätty=> asenna uudelleen. Testi OK => asennus suoritettu.

FIN Teste de pressão falhou => Voltar a instalar o acessório => Teste OK => Instalação terminada.

PT Teste de Presion Fallo => Reinstalar el accesorio TEST OK=> Instalacion completada

IT Se test negativo => Reinstallare. Se test positivo => Installazione finita.

GR Σε περίπτωση που η εγκατάσταση αποτύχει και υπάρχει διαρροή στη σύνδεση => Επανα-εγκαταστήσετε το σύνδεσμο. Σε περίπτωση που η δεν παρατηρείται διαρροή στη σύνδεση=> η εγκατάσταση του συνδέσμου επί του αγωγού έχει ολοκληρωθεί με επιτυχία.

CZ Tlaková zkouška není OK => tvarovku znovu namontovat. Tlaková zkouška OK => konec instalace.

HU Nyomás próba sikertelen => végezz el az idom felhelyezését. Próba sikeres => felhelyezés befejezve.

RO Daca testul de presiune esueaza => Se reinstaleaza fittingul. Daca rezultatul testului este OK => Instalare terminata.

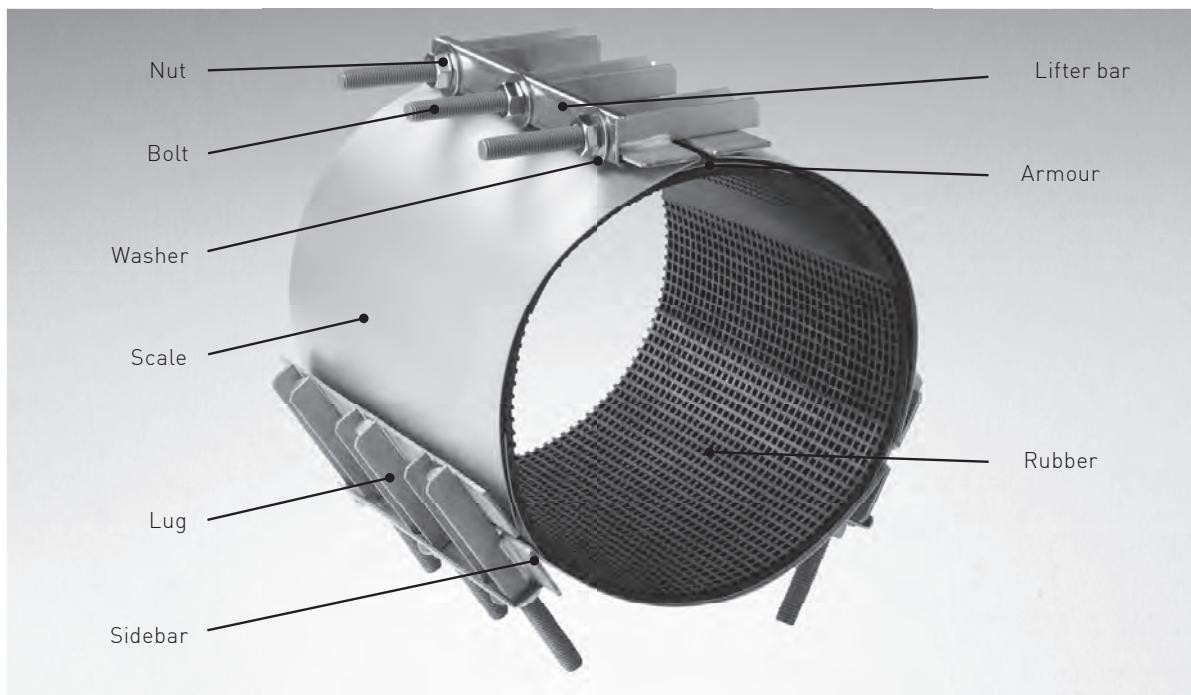
PL Nieudana próba => Ponowny montaż łącznika. Udana próba => montaż zakończony.

RUS Опрессовка не пройдена => Установить фитинг снова. Опрессовка пройдена => Установка завершена.

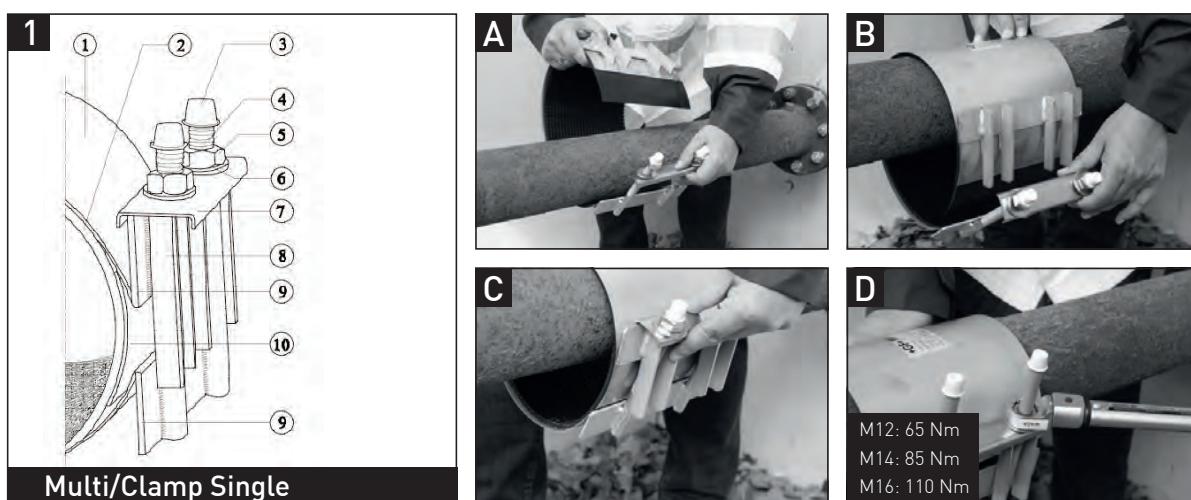
User Manual ST-System/0418/ML

User manual Multi/Clamp

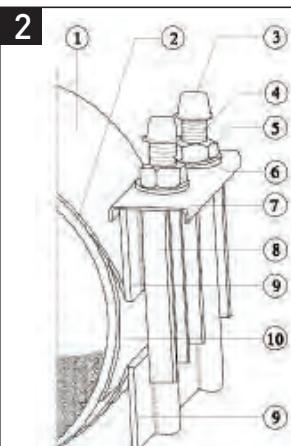
Multi/Clamp



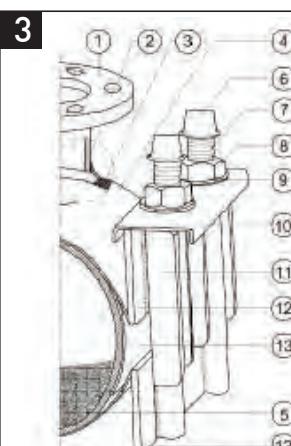
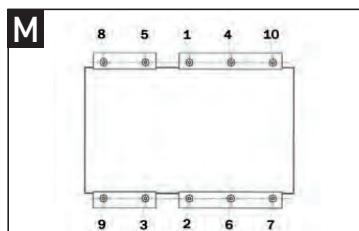
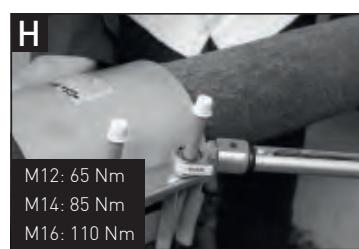
Multi/Clamp Single (1)



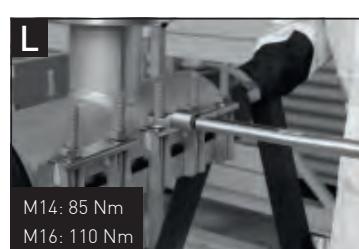
Double and Triple (2), Flange (3)



Multi/Clamp Double and Triple



Multi/Clamp Flange



Instruction Manual - Multi/Clamp Single (1), Double and Triple (2) EN

1. Prior to installation

 Check the outside diameter of the pipe and make sure that you use the correct clamp dimension.

 This clamp may only be installed by authorized installers.

 This manual must be read in full before using this product. Liability will be fully rejected by incorrect use or incorrect installation of this product.

2. Preparing the clamp

 Note the sequence of the pictures on the fold-out page. **1** + **2**

Explanation parts

1. Scale, 2. Rubber, 3. Bolt cap, 4. Bolt, 5. Nut, 6. Washer, 7. Lifter bar, 8. Lug, 9. Sidebar, 10. Armour

- Keep threads free of dust, dirt and any other material that could jeopardize proper tightening.

- Untighten nuts to the end of the bolts, but DO NOT REMOVE THEM.

 Apply a suitable lubricant to pipe and rubber in upper and lower scale. This is **NOT** necessary for use on plastic pipe. **DO NOT** use oil-based grease on the gasket or pipe. Do not grease the nuts and bolts.

 When installed on PVC or other plastic pipes reduce the recommended torque by 50% in order to avoid the gasket being pushed out.

 Always consult your supplier before using Multi/Clamp on plastic pipes. On PE and similar plastic pipes Multi/Clamp repair clamps should only be used as a short term repair solution.

3. Preparing the pipe(s)

- Clean the pipe by scraping the pipe and remove dirt and corrosion. The surface has to be smooth.
- Mark the pipe where the ends of the clamp will be. Make sure that the damaged area is located in the middle of the marked section. After installation use this mark to confirm that the clamp has been properly positioned.

4. Installation

Step 1

=> Multi/Clamp Single (1)

- Open up the clamp and wrap it around the pipe (A).
- Position the clamp in such a way that the bolts are conveniently placed for assembly and tightening.

=> Multi/Clamp Double and Triple (2)

- Place the lifter bar of the underscale over the lugs of the upperscale at one side (E).
- Pull the other side of the underscale over the upperscale (F).
- Position the clamp in such a way that the bolts are conveniently placed for assembly and tightening.
- Check the gasket edges along the sleeve top and bottom halves to be sure they overlap and are not folded.



Make sure that no material sticks to the gasket, which could jeopardize proper sealing as the gasket is wrapped and tightened around the pipe.



If during an under pressure installation the leakage pressure is too high, steps 1 and 2 can be performed beside the pipe fracture or damage.

Step 2

- Snap the lifter bar OVER the lugs (C+G). Do not use force. Make sure that the armour slides under the band and that the gasket tails are not folded under but are lying flat around the pipe.

=> Multi/Clamp Single (1)

- Tighten the nuts by hand first, and then use a torque wrench. The pressure on the bolts will slowly move the bridge plate into place over the sidebar edge.

Instruction Manual - Multi/Clamp Single (1), Double and Triple (2) EN

=> Multi/Clamp Double and Triple (2)

- Pull the sidebars towards each other and tighten the nuts by hand first, then use a torque wrench.

Step 3

- Tighten all nuts evenly in 20 Nm increments using a torque wrench (D+H+M) in specified order.
- Minimum torque: M12 (SW19): 65 Nm, M14 (SW22): 85 Nm, M16 (SW24): 110 Nm (PVC -50%).
- Maximum torque = 1,2 x minimum torque.
- The gap between the sleeve halves on either side should be the same when nuts are not fully torqued. Torque all nuts evenly (O).

Step 4

 After 20 minutes retighten with minimum torque.

5. Testing the installation

 Always take safety precautions.

- Always pressure test with no more than the intended working pressure before backfilling. If leakage occurs repeat step 2 and 3, retighten to proper torque according to step 3 and 4. Then pressure test again.
- Backfill carefully around the installed clamp.

1. Prior to installation

 Check the outside diameter of the pipe and make sure that you use the correct dimension of the clamp.

 This clamp may only be installed by authorized installers.

 This manual must be read in full before using this product. Liability will be fully rejected by incorrect use or incorrect installation of this product.

2. Preparing the clamp

 Note the sequence of the pictures on the fold-out page. **3**

Explanation parts

1. Flange, 2. Flange neck, 3. Sealing gasket, 4. Upper scale, 5. Clamp gasket, 6. Bolt cap,

7. Bolt, 8. Nut, 9. Washer, 10. lifter bar, 11. Lug, 12. Sidebar, 13. Armour

- Make sure that the sealing gasket (3) is fitted evenly around the outlet.

- Keep threads free of dust, dirt and any other material that could jeopardize proper tightening.

- Remove nuts, washers and bridge plates from the bolts.

 Apply a suitable lubricant to pipe and rubber in upper and lower scale. This is **NOT** necessary for use on plastic pipe. **DO NOT** use oil-based grease on the gasket or pipe. Do not grease the nuts and bolts.

 When installed on PVC pipe reduce the recommended torque by 50% in order to avoid the gasket being pushed out.

 Always consult your supplier before using Multi/Clamp on plastic pipes. **DO NOT** use Multi/Clamp Flange and Thread on PE and similar plastic pipes.

3. Preparing the pipe(s)

- Clean the pipe by scraping the pipe and remove dirt and corrosion. The surface has to be smooth.

- Mark the pipe where the ends of the clamp will be. After installation use this mark to hat the clamp has been properly positioned.

4. Installation

Step 1

- Place the outlet half of the sleeve on the pipe and move into position (I).

Step 2

- Place the underscale in position with the upperscale (J).
- Make sure that no material sticks to the gasket, which could jeopardize proper sealing as the gasket is wrapped and tightened around the pipe.
- Check the gasket edges along the sleeve top and bottom halves to be sure they overlap and are not folded.

Step 3

- Reinstall the lifter bar, washer and nuts and tighten the nuts by hand (K).
- Tighten all nuts evenly in 20 Nm increments using a torque wrench in the specified order (L+N).
- Minimum torque: M14 (SW22): 85 Nm
M16 (SW24): 110 Nm
- Maximum torque = 1,2 x minimum torque.
- The gap between the sleeve halves on either side should be the same when nuts are not fully torqued. Torque all nuts evenly (O).

Step 4

 After 20 minutes retighten with minimum torque.

- If necessary support the flange according to standard codes of practice when heavy accessories are attached to it.

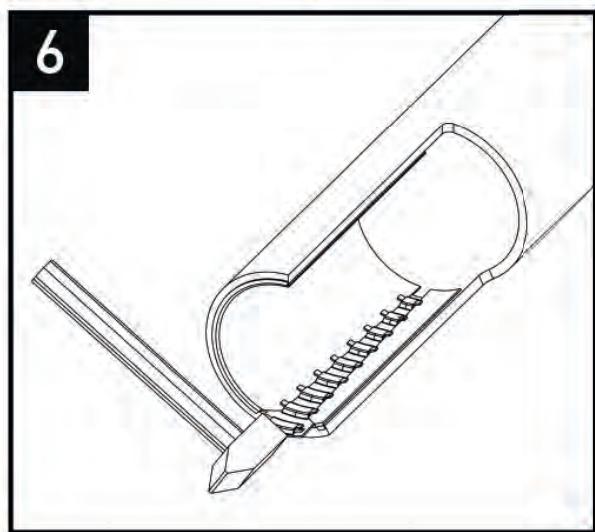
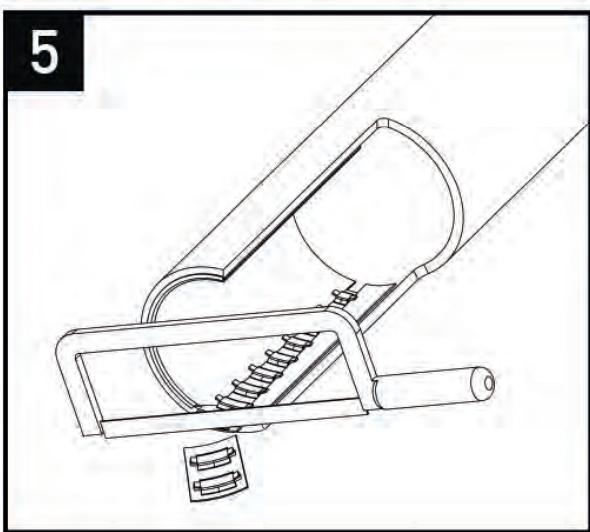
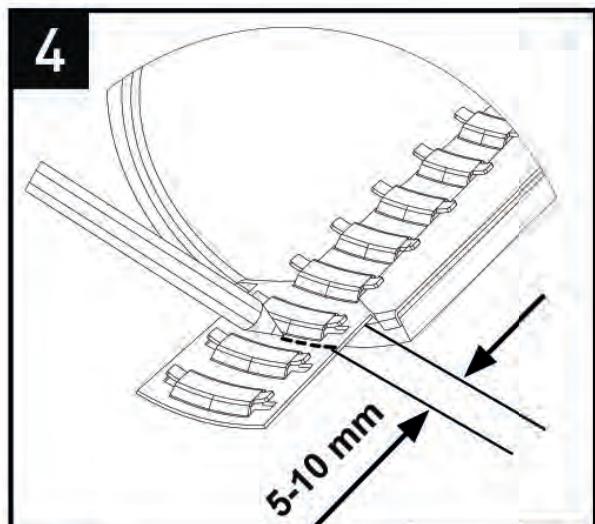
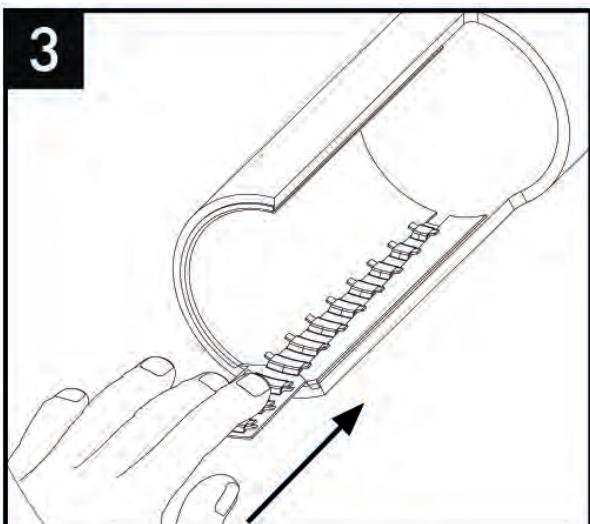
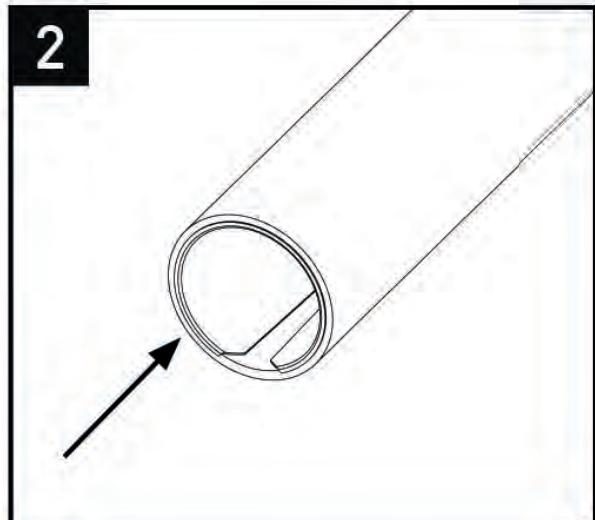
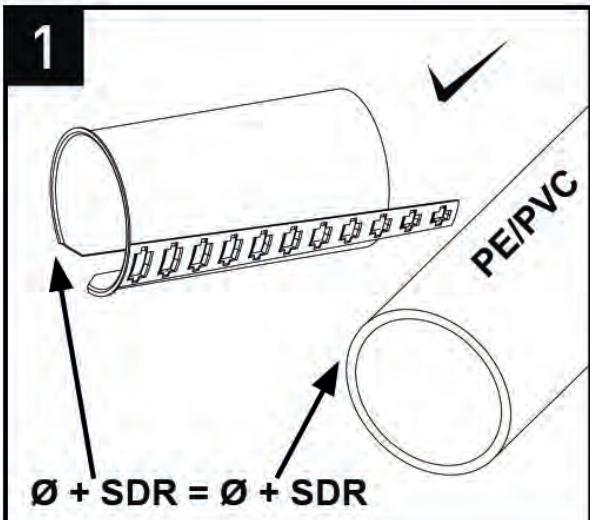
5. Testing the installation



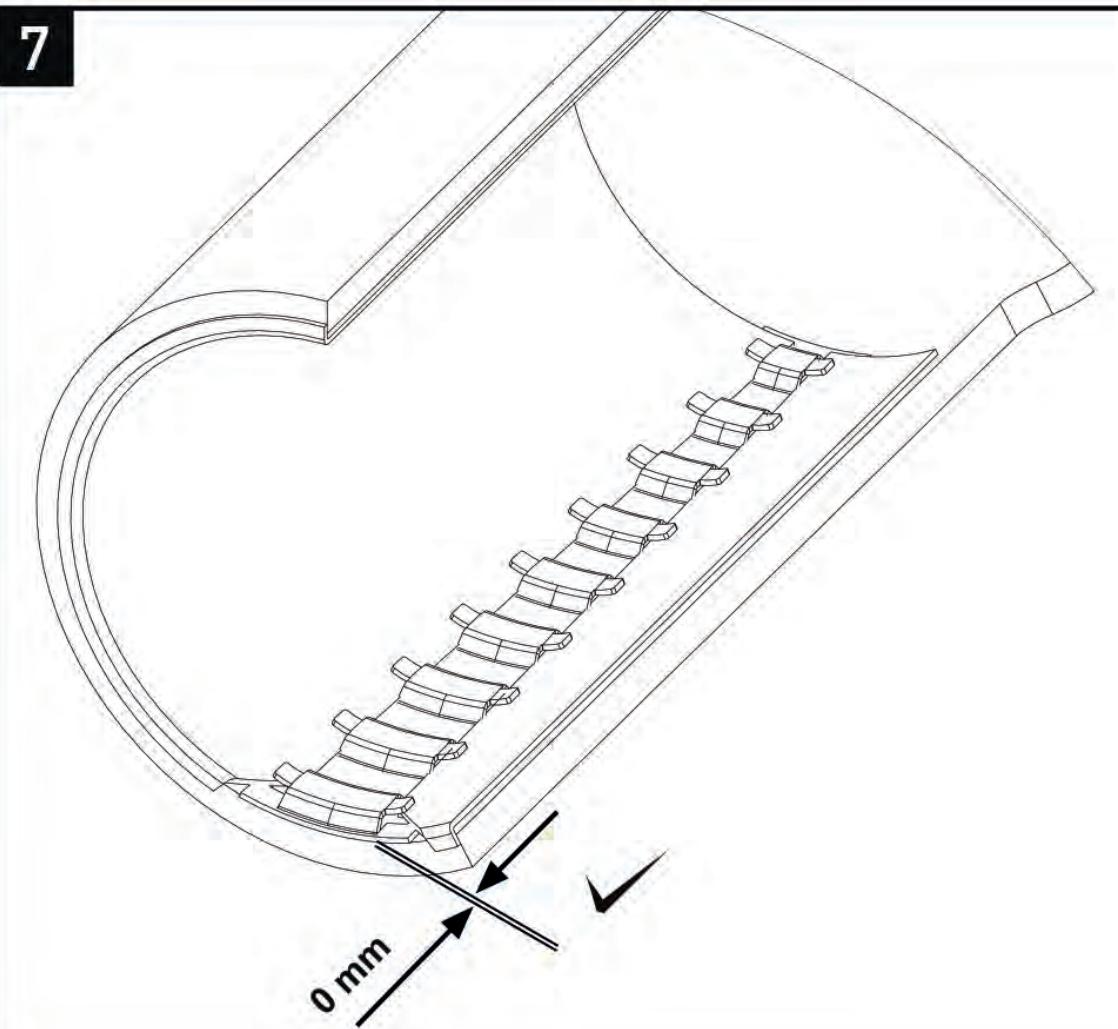
Always take safety precautions.

- Always pressure test with no more than the intended working pressure before backfilling the ditch. If leakage occurs repeat step 2 and 3, retighten to proper torque according to step 3 and 4. Then pressure test again.
- Backfill carefully around the installed clamp.

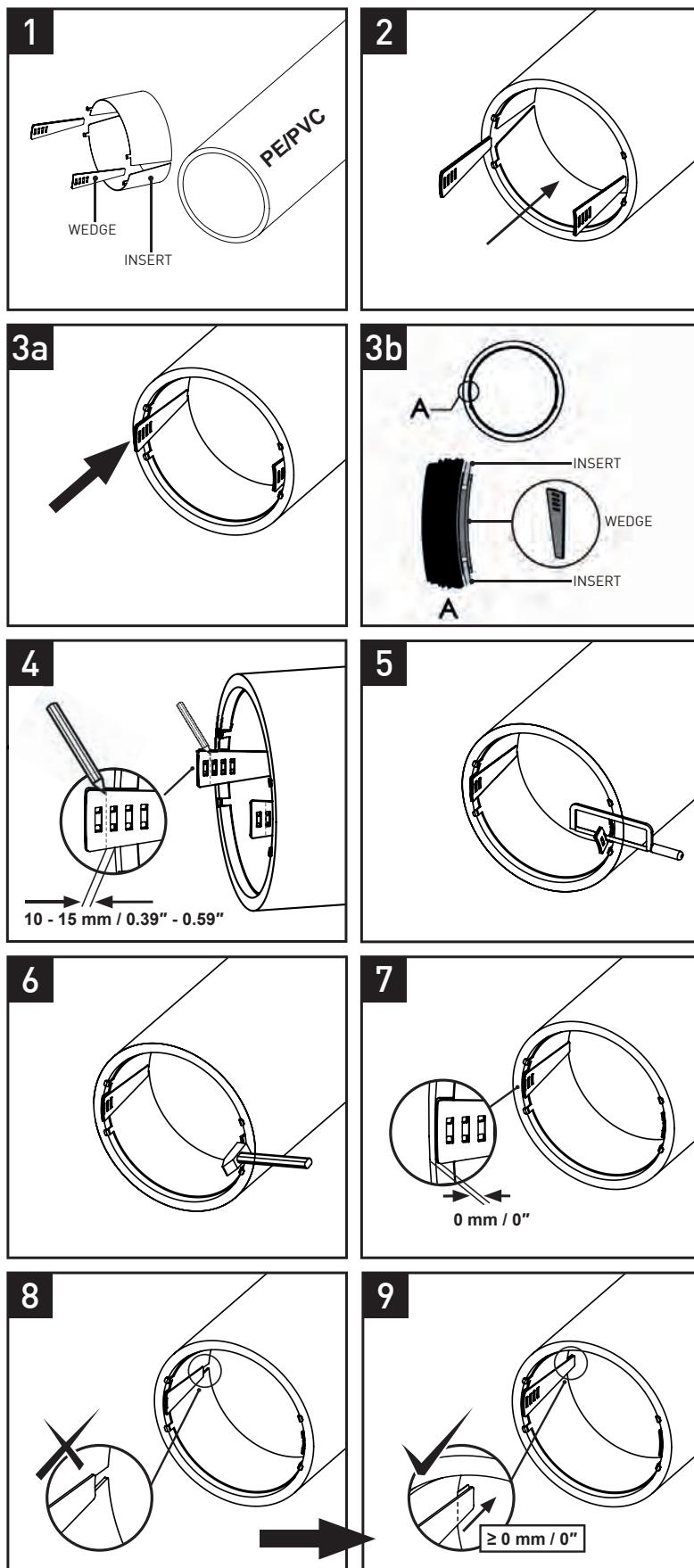
User manual Insert Stiffener with wedge



7



User manual Insert Stiffener with wedge MJ DN625 - DN800





When using a MULTI/JOINT® DN625 till DN800 on plastic pipes, the use of the insert stiffener MJ DN625 - DN800 is mandatory

Tender specifications

MULTI/Joint® 3000 Plus: tender specifications for water

Tender specification for large tolerance fittings for use in fluids like potable water and sewage & waste water; Georg Fischer WAGA MULTI/Joint® 3000 Plus or equal.

Scope

This tender specification specifies the requirements for large tolerance couplings, flange adaptors and other fittings (hereinafter called mechanical joints), restraint or non restraint, sized DN50 up to and including DN825, for conveying fluids like potable water, waste water and cooling water, suitable for fluid temperatures between -5°C and 50°C, suitable to be installed under and above ground, and inside and outside buildings.

The mechanical joints shall be constructed and certified in conformity with **EN 14525**.

Ranges

The mechanical joints shall be suitable **for all pipe materials**, both metal and non-metal, like PE, PVC, GRP, PB, asbestos cement, copper, steel, galvanized steel, stainless steel AISI 304 and AISI 316, grey cast iron, ductile cast iron and concrete.

Mechanical joints shall be designed to cover following pipe outside diameters per nominal diameter (see table below).

DN size	Min. range (mm)	Max. range (mm)	Min. length coupling (mm)	Min. length flange adaptor
50	46	71	206	165
65	63	90	215	170
80	84	105	218	170
100	104	132	228	173
125	132	155	240	192
150	154	192	278	211
200	192	232	303	221
225	230	268	350	216
250	267	310	377	264
300	315	356	384	293
350	352	393	380	291
400	392	433	380	297
425	432	464	460	330
450	450	482	460	330
475	481	513	460	360
500	500	532	460	332
550	548	580	460	330
600	605	637	480	339
625	630	662	657	446
675	665	697	660	509
700	709	741	667	434
800	799	831	667	431
825	837	869	667	455

Marking requirements

All mechanical joints shall be legibly and durably marked. **Marks shall be cast on the body** and shall bear at least the following information:

- The manufacturer's name or mark
- Identification of the year of manufacture
- Identification of ductile cast iron
- Identification of DN size
- Identification of the range of external diameters that the mechanical can connect

Marking requirements on rubber gasket

All rubber gaskets shall be legibly and durably marked. The rubber gasket shall bear at least the following information:

- The manufacturer's name or mark
- Identification of the year of manufacture
- Identification of the range of external diameters over which the mechanical joint works
- The type of gasket (EPDM or NBR)
- The EN-standard

Additional information to be supplied with the mechanical joint

The following information shall be supplied **on or with** each mechanical joint:

- Installation instructions
- Maximum joint gap
- Maximum allowable angular deflection (8° per side, based on middle of range)
- Pipe materials for which the mechanical joint is intended to be used with non restrained and restrained joints.
- Need for supporting sleeves (inserts)
- Bolt torque
- Information about reusability of the mechanical joint
- Code for traceability

Quality assurance

- The manufacturer's quality system shall conform to ISO 9001:2015
- The manufacturer's environmental system shall

conform to ISO 14001:2015

- The manufacturer's international occupational health and safety management system specification shall conform to ISO 45001:2018

Technical support

Product training and technical information.

- The manufacturer or the sales representative shall provide a specialized theoretical and active practical product training given by qualified instructors to enable installers of the above mentioned products to be able to understand and use the products and associated tooling correctly and efficiently under site conditions.
- In addition to the main subject matter all training courses shall additionally cover other associated distribution pipeline products as well as routine repair and maintenance procedures.
- Additional training courses for inspectors, group leaders and teaching staff are to be provided upon request.
- The manufacturer has to provide accurate and easy-to-understand operating instructions in at least one internationally recognized language, which can be used at any subsequent time for reference purposes.
- The manufacturer must have in-house test facilities to execute basic tests.

Hygienic packaging / protection from production to point of use

The manufacturer shall supply the product with a hygienic packaging / protection. The hygienic packaging / protection will be applied during the production / assembly process. The hygienic packaging / protection shall protect the product from dirt, dust and other contaminants during transport and storage till point of use where the hygienic packaging / protection will be removed.

Certification

Products shall bear the EN 14525 certificate of KIWA (BRL-775), ÖVGW (QS-W 503) and SVGW.

Products shall bear the NSF 61 certificate of NSF.

Products with NBR gasket shall bear the Watermark of KIWA for use in potable water.

Material specifications

Body & clamp rings:	All metal parts, except the gripping elements, shall be made of ductile cast iron in conformity with EN-GJS-450-10-HB200 .
Coating:	Coating shall be a Resicoat® RT9000R4 epoxy powder coating or equal, with a minimum layer thickness of 250 micron and chemical resistance of pH 2 up to pH 13. Coating shall be approved by an internationally accepted institute for potable water or other fluids (e.g. WRc, KIWA, DVGW) and shall be certified according the requirements of GSK (Association for Excellent Corrosion Protection with Epoxy resin powder coating) in accordance with DIN 3476 (P), DIN 30677-2 and EN 14901.
Bolts, Nuts, washers:	Bolts, nuts and washers shall be made of stainless steel A2-70 (AISI 304) or A4-80 (AISI 316). Bolts shall have a non-chemical dry anti-friction coating to prevent cold-welding due to fretting. Nuts are galvanized and passivated to prevent galling.
Rubber gasket:	EPDM according to EN 681-1 , for the type WA for cold potable water supply up to 50°C. NBR according to EN 682 for cold (non) potable water supply, drainage, sewerage and rainwater pipes (continuous flow up to 45°C) with oil resistance.
Gripping elements:	Gripping elements shall be made of stainless steel.
Flanges:	Flanges shall be constructed in such a way that they can be attached to flanges from which the dimensions and tolerances comply to EN 1092-2 . Flange face shall have concentric grooves. For optimal seal positioning and sealing.
Pressures:	Non restraint: Max. working pressure: 25 bar / 16 bar. Restraint: Max. working pressure: 16 bar / 10 bar. Depending on DN-size and / or pipe material.
Angular deflection:	8° per side, based on middle of range.

MULTI/JOINT® 3000 Plus: tender specifications for gas

Tender specification for large tolerance fittings for use in gas; Georg Fischer Waga
MULTI/JOINT® 3000 Plus or equal.

Scope

This tender specification specifies the requirements for large tolerance couplings, flange adaptors and other fittings (hereinafter called mechanical joints), restraint or non restraint, sized DN50 up to and including DN600, for conveying gaseous fuels (gas or natural gas), suitable for temperatures between -5° C and 50° C, suitable to be installed under and above ground and inside and outside buildings. The mechanical joints shall be constructed and certified in conformity with EN 14525.

Ranges

The mechanical joints shall be suitable for all pipe materials, both metal and non-metal, like PE, PVC, GRP, PB, asbestos cement, copper, steel, galvanized steel, stainless steel AISI 304 and AISI 316, grey cast iron, ductile cast iron and concrete. Mechanical joints shall be designed to cover pipe outside diameters per nominal diameter (see table).

Separated bolt sets

Couplings shall have separate, misaligned (DN50-DN200), bolt sets for each socket end, enabling connecting 1 pipe end at a time and ensuring optimal bolt torque at each pipe end.

Ranges

DN-size	Min. range (mm)	Max. range (mm)	Min. length coupling (mm)	Min. length flange adaptor (mm)
DN50	46	71	206	165
DN65	63	90	215	170
DN80	84	105	218	170
DN100	104	132	228	173
DN125	132	155	240	192
DN150	154	192	278	211
DN200	192	232	303	221
DN225	230	268	350	216
DN250	267	310	377	264
DN300	315	356	384	293
DN350	352	393	380	291
DN400	392	433	380	297
DN425	432	464	460	330
DN450	450	482	460	330
DN475	481	513	460	360
DN500	500	532	460	332
DN550	548	580	460	330
DN600	605	637	480	339

Possibility of changing configuration on the spot

The mechanical joint shall offer the possibility of changing the configuration from restraint to non restraint or vice versa at the time of installation, by either inserting or removing gripping elements on the spot.

Marking requirements

All mechanical joints shall be legibly and durably marked. Marks shall be cast on the body and shall bear at least the following information:

- The manufacturer's name or mark
- Identification of the year of manufacture
- Identification of ductile cast iron
- Identification of DN size
- Identification of the range of external diameters that the mechanical joint can connect

Marking requirements on rubber gasket

All rubber gaskets shall be legibly and durably marked. The rubber gasket shall bear at least the following information:

- The manufacturer's name or mark
- Identification of the year of manufacture
- Identification of the range of external diameters over which the mechanical joint works.

- The type of gasket (NBR)
- The EN-standard

Additional information to be supplied with the mechanical joint

The following information shall be supplied on or with each mechanical joint:

- Installation instructions
- Maximum joint gap
- Maximum allowable angular deflection (8° per joint side, based on middle of range)
- Pipe materials for which the mechanical joint is intended to be used with non-restrained and restrained joints
- Need for supporting sleeves (inserts)
- Bolt torque
- Information about re-usability of the mechanical joint
- Code of traceability

Quality assurance

- The manufacturer's quality system shall conform to ISO 9001:2015
- The manufacturer's environmental system shall conform to ISO 14001:2015
- The manufacturer's international occupational health and safety management system specification shall conform to ISO 45001:2018

Technical support

Product training and technical information.

- The manufacturer or the sales representative shall

provide a specialized theoretical and active practical product training given by qualified instructors to enable installers of the above mentioned products to be able to understand and use the products and associated tooling correctly and efficiently under site conditions.

- In addition to the main subject matter all training courses shall additionally cover other associated distribution pipeline products as well as routine repair and maintenance procedures.
- Additional training courses for inspectors, group leaders and teaching staff are to be provided upon request.
- The manufacturer has to provide accurate and easy-to-understand operating instructions in at least one internationally recognized language, which can be used at any subsequent time for reference purposes.
- The manufacturer must have in-house test facilities to execute basic tests.

Hygienic packaging / protection from production to point of use

- The manufacturer shall supply the product with a hygienic packaging / protection. The hygienic packaging / protection will be applied during the production / assembly process. The hygienic packaging / protection shall protect the product from dirt, dust and other contaminants during transport and storage till point of use where the hygienic packaging / protection will be removed.

Certification

Products shall bear the KIWA / GASTEQ AR 208 certificate.

Material specifications

Body & clamp rings:	All metal parts, except the gripping elements, shall be made of ductile cast iron in conformity with EN-GJS-450-10-HB200.
Coating:	Coating shall be a Resicoat® RT9000R4 epoxy powder coating or equal, with a minimum layer thickness of 250 micron and chemical resistance of pH 2 up to pH 13. Coating shall be approved by an internationally accepted institute for gas or other fluids (e.g. WRc, KIWA, DVGW) and shall be certified according the requirements of GSK (Association for Excellent Corrosion Protection with Epoxy resin powder coating) in accordance with DIN 3476 (P) and EN 14901.
Bolts, Nuts, washers:	Bolts, nuts and washers shall be made of stainless steel A2-70 (AISI 304) or A4-80 (AISI 316). Bolts shall have a non-chemical dry anti-friction coating to prevent cold-welding due to fretting. Nuts are galvanized and passivated to prevent galling.
Rubber gasket:	NBR according to EN 682 for gaseous fuel (type GB for hydrocarbon fluids and gaseous fuel).
Gripping elements:	Gripping elements shall be made of stainless steel.
Flanges	Flanges shall be constructed in such a way that they can be attached to flanges from which the dimensions and tolerances comply to EN 1092-2. Flange face shall have concentric grooves. For optimal seal positioning and sealing.
Pressures:	Non restraint: Max. working pressure: 8 bar. Restraint: Max. working pressure: 8 bar / 5 bar. Depending on DN-size and / or pipe material.
Angular deflection:	8° per side, based on middle of range.

ST-System: tender specifications for water & gas

Tender specification for dedicated-sized fittings for use in fluids like potable water, sewage & waste water and gas; Georg Fischer Waga ST-System or equal.

Scope

This tender specification specifies the requirements for dedicated sized couplings, flange adapters and other fittings (hereinafter called mechanical joints), sized DN40 up to and including DN2200, for conveying fluids like potable water, waste water, cooling water and gas, suitable for fluid temperatures between 0° C and 50° C, suitable to be installed under and above ground, and inside and outside buildings. The mechanical joints shall be constructed in conformity with ISO 2531.

Separated bolt sets

On each end of the coupling a separated bolt set will provide an optimal connection to every pipe material.

Quality assurance

- The manufacturer's quality system shall conform to ISO 9001:2015.
- The manufacturer's environmental system shall conform to ISO 14001:2015.
- The manufacturer's international occupational health and safety management system specification shall conform to ISO 45001:2018.

Technical support

- The manufacturer must be able to give technical support and product training by qualified personnel.
- The manufacturer must have in-house test facilities to execute basic tests.

Material specifications

Body & clamp rings:	Steel ST 37-2 (S 235 JR G2) acc. DIN/EN 17100.
Coating:	Coating shall be a Resicoat® RT 9000 R4 epoxy powder coating or equal, with a minimum layer thickness of 250 micron and chemical resistance of pH 2 up to pH 13. Coating shall be approved by an internationally accepted institute for potable water or other fluids (e.g. WRc, KIWA, DVGW) and shall fulfill the requirements of GSK (European quality association for heavy duty corrosion protection).
Bolts, Nuts:	Stainless steel A2 (AISI 304).
Rubber gasket:	NBR (Perbunan) for usage in water and gas. EPDM for usage in potable water. Rubber should be approved by an internationally accepted institute for portable water (e.g. DVGW, WRc).
Flanges	Flanges shall be constructed in such a way that they may be attached to flanges whose dimensions and tolerances comply with EN1092-2.
Pressures:	Max. working pressure: 10, 16 bar or 25 bar for water. Max. working pressure: 4 bar for gas.
Minimum built-in length:	300 mm for all sizes.

Multi/Clamp: tender specifications for water & gas

Tender specification for stainless steel repair clamps, tapping tees and tapping saddles for use in water and gas.

Scope

This tender specification specifies the requirements for repair clamps, tapping tees and tapping saddles for outside pipe diameters 15mm - 1000mm for pipes conveying fluids like potable water, waste water and gas, suitable for fluid temperatures between -10°C and 70°C, suitable to be installed under and above ground, and inside and outside buildings.

Quality assurance

- The manufacturer's quality system shall conform to ISO 9001.
- The manufacturer's environmental system shall conform to ISO 14001.

Certification

ACS (France), WRAS (United Kingdom).

Material specifications

Material:	All metal parts are stainless steel AISI 304 or stainless steel AISI 316L. All metal parts are deburred and passivated after the welding process to restore the corrosion resistance to its original state.
Bolts, Nuts and washers:	Bolts, nuts and washers shall be made of stainless steel AISI 304 or AISI 316. Bolts shall have no anti-friction coating. Nuts are galvanized and passivated to prevent cold-welding due to fretting. Plastic caps on thread to prevent nuts and washers falling off during transport. Stainless steel washer AISI 304 or AISI 316 between nut and lifter bar to prevent galling.
Rubber gasket:	Potable water: EPDM according to EN 681-1 (-10°C up to +55°C). Water and gas: NBR according to EN 682 (-10°C up to +70°C). The rubber is tapered with a waffle profile and is fully circled. Seamless rubber lining for every clamp diameter. Rubber is fixed to the stainless steel clamp with special tape. This tape is flexible and reinforced with glass fiber to withstand hot and humid conditions and guarantee a long storage capability.
Armour:	Vulcanized into the rubber gasket.
Lifter bar:	U shaped. Bolt holes in the lifter bar are adjusted to the bolt size, no oversize bolts.
Thread:	According BSP (ISO 228).
Flanges:	Flanges shall be constructed in such a way that they can be attached to flanges from which the dimensions and tolerances comply to EN 1092-2.
Pressures:	Max. working pressure: up to 16 bar water. Max. working pressure: up to 8 bar gas.



Product range



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MULTI/JOINT® 3000 Plus

MULTI/JOINT® 3000 Plus (DN50 - DN825)



**MULTI/JOINT® 3000 Plus Wide Range
Coupling, non restraint**

Model:

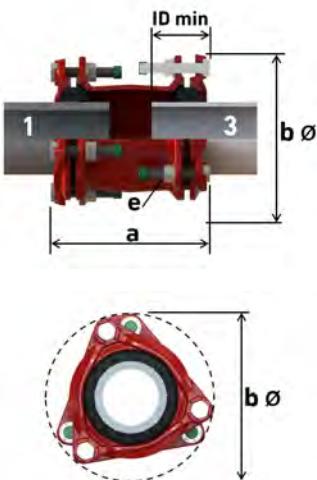
- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For all plastic pipes, the use of an insert stiffener (see accessories) is recommended and in some cases mandatory. Check our technical information.

Note:

ID min. = minimum insertion depth



DN (mm)	Range 1 (mm)	Range 3 (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50	46 - 71	46 - 71	709 301 210	709 301 610	709 301 010	709 301 310	4.900
65	63 - 90	63 - 90	709 301 212	709 301 612	709 301 012	709 301 312	5.800
80	84 - 105	84 - 105	709 301 214	709 301 614	709 301 014	709 301 314	7.500
100	104 - 132	104 - 132	709 301 216	709 301 616	709 301 016	709 301 316	9.200
125	132 - 155	132 - 155	709 301 218	709 301 618	709 301 018	709 301 318	12.100
150	154 - 192	154 - 192	709 301 220	709 301 620	709 301 020	709 301 320	17.400
200	192 - 232	192 - 232	709 301 224	709 301 624	709 301 024	709 301 324	29.800
225	230 - 268	230 - 268	709 301 226	709 301 626	709 301 026	709 301 326	40.000
250	267 - 310	267 - 310	709 301 228	709 301 628	709 301 028	709 301 328	44.200
300	315 - 356	315 - 356	709 301 232	709 301 632	709 301 032	709 301 332	57.400
350	352 - 393	352 - 393	709 301 236	709 301 636	709 301 036	709 301 336	74.000
400	392 - 433	392 - 433	709 301 240	709 301 640	709 301 040	709 301 340	72.400
425	432 - 464	432 - 464	709 301 242	709 301 642	709 301 042	709 301 342	96.800
450	450 - 482	450 - 482	709 301 272	709 301 672	709 301 072	709 301 372	100.200
475	481 - 513	481 - 513	709 301 273	709 301 673	709 301 073	709 301 373	105.400
500	500 - 532	500 - 532	709 301 274	709 301 674	709 301 074	709 301 374	99.900
550	548 - 580	548 - 580	709 301 276	709 301 676	709 301 076	709 301 376	121.800
600	605 - 637	605 - 637	709 301 278	709 301 678	709 301 078	709 301 378	146.000

DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)
50	206 - 250	170	84	3xM12	25	8
65	215 - 261	191	84	3xM12	25	8
80	218 - 262	210	84	3xM12	25	8
100	228 - 280	241	90	3xM16	25	8
125	240 - 286	270	90	4xM16	25	8
150	278 - 352	312	110	4xM16	25	8
200	303 - 377	371	110	6xM16	25	8
225	350 - 426	415	125	6xM20	25	8
250	377 - 462	445	130	6xM20	25	8
300	384 - 460	495	130	8xM20	25	8
350	380 - 470	534	130	8xM20	25	8
400	380 - 470	574	135	10xM20	25	8
425	460 - 535	623	160	10xM20	16	8
450	460 - 535	641	160	10xM20	16	8

table continued on the next page

DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)
475	460 - 535	672	160	10xM20	16	8
500	460 - 535	691	160	10xM20	16	8
550	460 - 535	739	160	12xM20	16	8
600	480 - 555	796	170	14xM20	16	8



MULTI/JOINT® 3007 Plus Wide Range Coupling, restraint, Uni/Fiksers

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

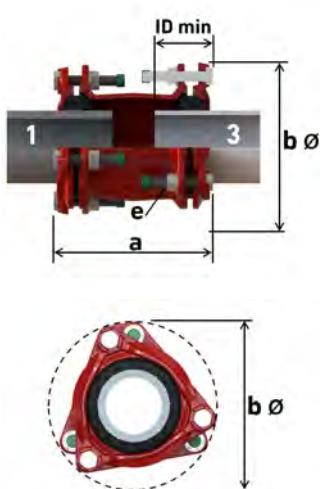
Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information
- Please note, when using a MULTI/JOINT® DN625 till DN800 on plastic pipes, the use of the insert stiffener MJ DN625 - DN800 (see accessories) is mandatory
- * DN350 & DN400 for plastic pipe materials = PN 10 bar water / MOP 5 bar gas

Note:

ID min. = minimum insertion depth

DN625 - DN825 sales release from Q1/2021 (for water applications)



DN (mm)	Range 1 (mm)	Range 3 (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)	
50	46 - 71	46 - 71	709 305 210	709 305 610	709 305 010	709 305 310	4.900	
65	63 - 90	63 - 90	709 305 212	709 305 612	709 305 012	709 305 312	5.800	
80	84 - 105	84 - 105	709 305 214	709 305 614	709 305 014	709 305 314	7.500	
100	104 - 132	104 - 132	709 305 216	709 305 616	709 305 016	709 305 316	9.200	
125	132 - 155	132 - 155	709 305 218	709 305 618	709 305 018	709 305 318	12.100	
150	154 - 192	154 - 192	709 305 220	709 305 620	709 305 020	709 305 320	17.400	
200	192 - 232	192 - 232	709 305 224	709 305 624	709 305 024	709 305 324	29.800	
225	230 - 268	230 - 268	709 305 226	709 305 626	709 305 026	709 305 326	40.000	
250	267 - 310	267 - 310	709 305 228	709 305 628	709 305 028	709 305 328	44.200	
300	315 - 356	315 - 356	709 305 232	709 305 632	709 305 032	709 305 332	57.400	
350	352 - 393	352 - 393	709 305 236	709 305 636	709 305 036	709 305 336	74.000	
400	392 - 433	392 - 433	709 305 240	709 305 640	709 305 040	709 305 340	72.400	
425	432 - 464	432 - 464	709 305 242	709 305 642	709 305 042	709 305 342	96.800	
450	450 - 482	450 - 482	709 305 272	709 305 672	709 305 072	709 305 372	100.200	
475	481 - 513	481 - 513	709 305 273	709 305 673	709 305 073	709 305 373	105.400	
500	500 - 532	500 - 532	709 305 274	709 305 674	709 305 074	709 305 374	99.900	
550	548 - 580	548 - 580	709 305 276	709 305 676	709 305 076	709 305 376	121.800	
600	605 - 637	605 - 637	709 305 278	709 305 678	709 305 078	709 305 378	146.000	
625	630 - 662	630 - 662				709 305 280	709 305 680	221.000
675	665 - 697	655 - 697				709 305 281	709 305 681	231.000
700	709 - 741	709 - 741				709 305 282	709 305 682	246.000
800	799 - 831	799 - 831				709 305 283	709 305 683	276.000
825	837 - 869	837 - 869				709 305 284	709 305 684	287.000

DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)
50	206 - 250	170	84	3xM12	16	8
65	215 - 261	191	84	3xM12	16	8
80	218 - 262	210	84	3xM12	16	8
100	228 - 280	241	90	3xM16	16	8

table continued on the next page

DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)
125	240 - 286	270	90	4xM16	16	8
150	278 - 352	312	110	4xM16	16	8
200	303 - 377	371	110	6xM16	16	8
225	350 - 426	415	125	6xM20	16	8
250	377 - 462	445	130	6xM20	16	8
300	384 - 460	495	130	8xM20	16	8
350	380 - 470	534	130	8xM20	16*	8*
400	380 - 470	574	135	10xM20	16*	8*
425	460 - 535	623	160	10xM20	10	5
450	460 - 535	641	160	10xM20	10	5
475	460 - 535	672	160	10xM20	10	5
500	460 - 535	691	160	10xM20	10	5
550	460 - 535	739	160	12xM20	10	5
600	480 - 555	796	170	14xM20	10	5
625	657 - 717	860	210	14xM20	10	-
675	660 - 720	895	210	14xM20	10	-
700	667 - 727	940	210	16xM20	10	-
800	667 - 727	1030	210	20xM20	10	-
825	667 - 727	1070	210	20xM20	10	-

MULTI/JOINT® 3050 Plus Wide Range Flange adaptor, non restraint



Model:

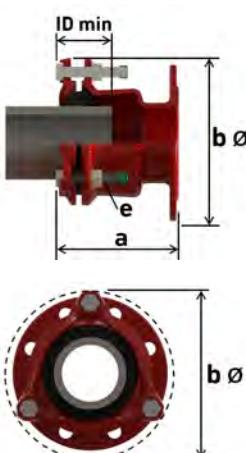
- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For all plastic pipes, the use of an insert stiffener (see accessories) is recommended and in some cases mandatory. Check our technical information.

Note:

ID min. = minimum insertion depth



DN (mm)	Range 1 (mm)	Flange 3 (mm)	Drilling pat- tern
50	46 - 71	50	PN16
65	63 - 90	60/65	PN16
80	84 - 105	80	PN16
100	104 - 132	100	PN16
125	132 - 155	125	PN16
150	154 - 192	150	PN16
200	192 - 232	200	PN10
200	192 - 232	200	PN16
250	267 - 310	250	PN10
250	267 - 310	250	PN16
300	315 - 356	300	PN10
300	315 - 356	300	PN16
350	352 - 393	350	PN10
350	352 - 393	350	PN16
400	392 - 433	400	PN10

table continued on the next page

DN (mm)	Range 1 (mm)	Flange 3 (mm)	Drilling pattern
400	392 - 433	400	PN16
450	450 - 482	450	PN10/PN16
500	500 - 532	500	PN10/PN16
600	605 - 637	600	PN10/PN16

DN (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50	709 351 210	709 351 610	709 351 010	709 351 310	4.800
65	709 351 212	709 351 612	709 351 012	709 351 312	5.400
80	709 351 214	709 351 614	709 351 014	709 351 314	6.700
100	709 351 216	709 351 616	709 351 016	709 351 316	8.000
125	709 351 218	709 351 618	709 351 018	709 351 318	10.800
150	709 351 220	709 351 620	709 351 020	709 351 320	14.800
200	709 351 224	709 351 624	709 351 024	709 351 324	23.600
200	709 351 225	709 351 625	709 351 025	709 351 325	23.400
250	709 351 228	709 351 628	709 351 028	709 351 328	33.200
250	709 351 229	709 351 629	709 351 029	709 351 329	35.200
300	709 351 232	709 351 632	709 351 032	709 351 332	48.800
300	709 351 233	709 351 633	709 351 033	709 351 333	48.400
350	709 351 236	709 351 636	709 351 036	709 351 336	56.600
350	709 351 237	709 351 637	709 351 037	709 351 337	55.200
400	709 351 238	709 351 638	709 351 038	709 351 338	70.800
400	709 351 239	709 351 639	709 351 039	709 351 339	68.800
450	709 351 272	709 351 672	709 351 072	709 351 372	70.000
500	709 351 274	709 351 674	709 351 074	709 351 374	91.000
600	709 351 278	709 351 678	709 351 078	709 351 378	126.200

DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)	No. of bolt holes flange
50	165 - 187	170	84	3xM12	25	8	4
65	170 - 193	191	84	3xM12	25	8	4
80	170 - 192	210	84	3xM12	25	8	8
100	173 - 199	241	90	3xM16	25	8	8
125	192 - 215	270	90	4xM16	25	8	8
150	211 - 248	312	110	4xM16	25	8	8
200	221 - 258	371	110	6xM16	25	8	8
200	221 - 258	371	110	6xM16	25	8	12
250	264 - 307	445	130	6xM20	25	8	12
250	264 - 307	445	130	6xM20	25	8	12
300	293 - 331	495	130	8xM20	25	8	12
300	293 - 331	495	130	8xM20	25	8	12
350	291 - 336	534	130	8xM20	25	8	16
350	291 - 336	534	130	8xM20	25	8	16
400	297 - 342	580	135	10xM20	25	8	16
400	297 - 342	580	135	10xM20	25	8	16
450	330 - 367	641	160	10xM20	16	8	20
500	332 - 369	715	160	10xM20	16	8	20
600	339 - 377	840	170	14xM20	16	8	20

MULTI/JOINT® 3057 Plus Wide Range Flange adaptor, restraint, Uni/Fiksers



Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

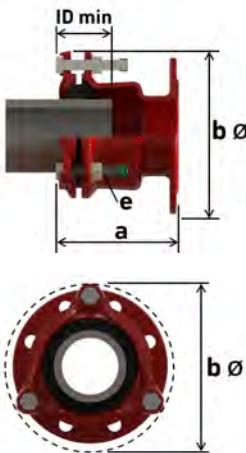
Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information
- Please note, when using a MULTI/JOINT® DN625 till DN800 on plastic pipes, the use of the insert stiffener MJ DN625 - DN800 (see accessories) is mandatory
- * DN350 & DN400 for plastic pipe materials = PN 10 bar water / MOP 5 bar gas

Note:

ID min. = minimum insertion depth

DN25 - DN825 sales release from Q1/2021 (for water applications)



DN (mm)	Range 1 (mm)	Flange 3 (mm)	Drilling pattern
50	46 - 71	50	PN16
65	63 - 90	60/65	PN16
80	84 - 105	80	PN16
100	104 - 132	100	PN16
125	132 - 155	125	PN16
150	154 - 192	150	PN16
200	192 - 232	200	PN10
200	192 - 232	200	PN16
250	267 - 310	250	PN10
250	267 - 310	250	PN16
300	315 - 356	300	PN10
300	315 - 356	300	PN16
350	352 - 393	350	PN10
350	352 - 393	350	PN16
400	392 - 433	400	PN10
400	392 - 433	400	PN16
450	450 - 482	450	PN10/PN16
500	500 - 532	500	PN10/PN16
600	605 - 637	600	PN10/PN16
700	709 - 741	700	PN10/PN16
800	799 - 831	800	PN10/PN16

DN (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50	709 355 210	709 355 610	709 355 010	709 355 310	4.800
65	709 355 212	709 355 612	709 355 012	709 355 312	5.400
80	709 355 214	709 355 614	709 355 014	709 355 314	6.700
100	709 355 216	709 355 616	709 355 016	709 355 316	8.000
125	709 355 218	709 355 618	709 355 018	709 355 318	10.800
150	709 355 220	709 355 620	709 355 020	709 355 320	14.800
200	709 355 224	709 355 624	709 355 024	709 355 324	23.600
200	709 355 225	709 355 625	709 355 025	709 355 325	23.400
250	709 355 228	709 355 628	709 355 028	709 355 328	33.200
250	709 355 229	709 355 629	709 355 029	709 355 329	35.200
300	709 355 232	709 355 632	709 355 032	709 355 332	48.800
300	709 355 233	709 355 633	709 355 033	709 355 333	48.400
350	709 355 236	709 355 636	709 355 036	709 355 336	56.600
350	709 355 237	709 355 637	709 355 037	709 355 337	55.200
400	709 355 238	709 355 638	709 355 038	709 355 338	70.800

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DN (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
400	709 355 239	709 355 639	709 355 039	709 355 339	68.800
450	709 355 272	709 355 672	709 355 072	709 355 372	70.000
500	709 355 274	709 355 674	709 355 074	709 355 374	91.000
600	709 355 278	709 355 678	709 355 078	709 355 378	126.200
700			709 355 282	709 355 682	181.000
800			709 355 283	709 355 683	209.000

DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)	No. of bolt holes flange
50	165 - 187	170	84	3xM12	16	8	4
65	170 - 193	191	84	3xM12	16	8	4
80	170 - 192	210	84	3xM12	16	8	8
100	173 - 199	241	90	3xM16	16	8	8
125	192 - 215	270	90	4xM16	16	8	8
150	211 - 248	312	110	4xM16	16	8	8
200	221 - 258	371	110	6xM16	16	8	8
200	221 - 258	371	110	6xM16	16	8	12
250	264 - 307	445	130	6xM20	16	8	12
250	264 - 307	445	130	6xM20	16	8	12
300	293 - 331	495	130	8xM20	16	8	12
300	293 - 331	495	130	8xM20	16	8	12
350	291 - 336	534	130	8xM20	16*	8*	16
350	291 - 336	534	130	8xM20	16*	8*	16
400	297 - 342	580	135	10xM20	16*	8*	16
400	297 - 342	580	135	10xM20	16*	8*	16
450	330 - 367	641	160	10xM20	10	5	20
500	332 - 369	715	160	10xM20	10	5	20
600	339 - 377	840	170	14xM20	10	5	20
700	434 - 464	940	210	16xM20	10	-	24
800	431 - 461	1030	210	20xM20	10	-	24



MULTI/JOINT® 3057 / 3157 Plus Wide Range Flange adaptor acc. to AWWA C110, restraint, Uni/Fiksers

Model:

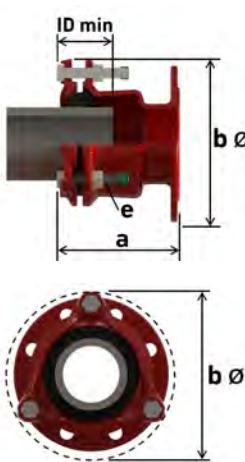
- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information

Note:

ID min. = minimum insertion depth



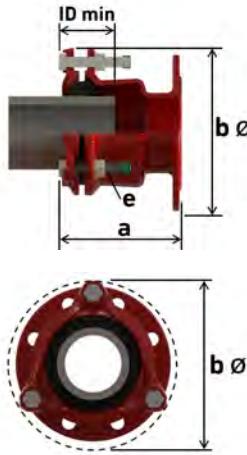
	DN (mm)	DN (inch)	Range 1 (mm)	Range 1 (inch)	Flange 3 (mm)	Flange 3 (inch)
NEW	50	2	46 - 71	1.811 - 2.795	50	2
NEW	65	2 1/2	63 - 90	2.480 - 3.543	65	2 1/2
	80	3	84 - 105	3.307 - 4.133	80	3
	100	4	104 - 132	4.094 - 5.196	100	4
	150	6	154 - 192	6.062 - 7.559	150	6
	200	8	192 - 232	7.559 - 9.133	200	8
	250	10	267 - 310	10.500 - 12.204	250	10

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	DN (mm)	DN (inch)	Range 1 (mm)	Range 1 (inch)	Flange 3 (mm)	Flange 3 (inch)
	300	12	315 - 356	12.401 - 14.015	300	12
	400	16	392 - 433	15.433 - 17.047	400	16
reduced	425	17	432 - 464	17.000 - 18.267	400	16
reduced	475	19	481 - 513	18.937 - 20.196	400	16

	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
NEW	709 355 211	709 355 611	709 355 011	709 355 311	4.800
NEW	709 355 213	709 355 613	709 355 013	709 355 313	5.400
	709 355 240	709 355 640	709 355 040	709 355 340	6.700
	709 355 242	709 355 642	709 355 042	709 355 342	8.000
	709 355 244	709 355 644	709 355 044	709 355 344	14.800
	709 355 246	709 355 646	709 355 046	709 355 346	23.400
	709 355 248	709 355 648	709 355 048	709 355 348	33.200
	709 355 250	709 355 650	709 355 050	709 355 350	48.800
	709 455 294	709 455 694	709 455 094	709 455 394	70.800
reduced	709 455 289	709 455 689	709 455 089	709 455 389	73.800
reduced	709 455 291	709 455 691	709 455 091	709 455 391	86.600

	a (inch)	b (inch)	ID min. (inch)	e (inch)	PSI Water (psi)	No. of bolt holes flange
NEW	6.496 - 7.362	6.457	3.307	3xM12	232	4
NEW	6.693 - 7.598	7.323	3.307	3xM12	232	4
	6.693 - 7.559	8.031	3.307	3xM12	232	4
	6.811 - 7.835	9.291	3.543	3xM16	232	8
	8.307 - 9.764	11.969	4.331	4xM16	232	8
	8.700 - 10.157	13.937	4.331	6xM16	232	8
	10.394 - 12.087	17.008	5.118	6xM20	232	12
	11.535 - 13.032	19.488	5.118	8xM20	232	12
	11.693 - 13.465	20.630	5.315	10xM20	150	16
reduced	12.992 - 14.449	24.528	6.229	10xM20	150	16
reduced	14.173 - 15.630	26.457	6.229	10xM20	150	16



MULTI/JOINT® 3057 / 3157 Plus Wide Range (reduced) Flange adaptor acc. to Table D, restraint, Uni/Fiksers

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information

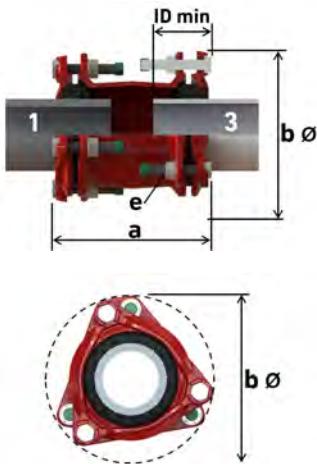
Note:

ID min. = minimum insertion depth

DN (mm)	Range 1 (mm)	Flange 3 (mm)	EPDM / A4 Code	Weight (kg)
50	46 - 71	50	709 355 510	5.600
65	63 - 90	65	709 355 512	6.500
80	84 - 105	80	709 355 514	6.500
100	104 - 132	100	709 355 517	8.600
150	154 - 192	150	709 355 521	14.000
200	192 - 232	200	709 355 526	21.700
250	267 - 310	250	709 355 529	31.100
300	315 - 356	300	709 355 533	10.500
reduced	125	132 - 155	100	709 455 533
reduced	125	132 - 155	150	709 455 539
reduced	225	230 - 268	200	709 455 559
reduced	225	230 - 268	250	709 455 581

a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)	No. of bolt holes flange
165 - 187	170	84	3xM12	16	8	4
170 - 193	191	84	3xM12	16	8	4
170 - 192	210	84	3xM12	16	8	4
173 - 199	241	90	3xM16	16	8	4
211 - 248	312	110	4xM16	16	8	8
221 - 258	371	110	6xM16	16	8	8
264 - 307	445	130	6xM20	16	8	8
293 - 331	495	130	8xM20	16	8	12
reduced	187 - 210	270	90	4xM16	16	8
reduced	187 - 210	285	90	4xM16	16	8
reduced	250 - 288	415	125	6xM20	16	8
reduced	216 - 254	415	125	6xM20	16	8

MULTI/JOINT® 3100 Plus Wide Range Reduced Coupling, non restraint



Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For all plastic pipes, the use of an insert stiffener (see accessories) is recommended and in some cases mandatory. Check our technical information.

Note:

ID min. = minimum insertion depth

	DN-DN (mm)	Range 1 (mm)	Range 3 (mm)
	50 - 65	46 - 71	63 - 90
	65 - 80	63 - 90	84 - 105
	80 - 100	84 - 105	104 - 132
	100 - 125	104 - 132	132 - 155
	100 - 150	104 - 132	154 - 192
	125 - 150	132 - 155	154 - 192
	150 - 200	154 - 192	192 - 232
	200 - 225	192 - 232	230 - 268
Coming soon	200 - 250	192 - 232	267 - 310
	225 - 250	230 - 268	267 - 310
	250 - 300	267 - 310	315 - 356
	300 - 350	315 - 356	352 - 393
	350 - 400	352 - 393	392 - 433
	300 - 400	315 - 356	392 - 433
	400 - 425	392 - 433	432 - 464
	400 - 450	392 - 433	450 - 482
	425 - 475	432 - 464	481 - 513
	450 - 500	450 - 482	500 - 532
	500 - 550	500 - 532	548 - 580
	550 - 600	548 - 580	605 - 637

	DN-DN (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
	50 - 65	709 401 218	709 401 618	709 401 018	709 401 318	5.500
	65 - 80	709 401 220	709 401 620	709 401 020	709 401 320	6.700
	80 - 100	709 401 224	709 401 624	709 401 024	709 401 324	8.000
	100 - 125	709 401 232	709 401 632	709 401 032	709 401 332	11.600
	100 - 150	709 401 236	709 401 636	709 401 036	709 401 336	15.200
	125 - 150	709 401 238	709 401 638	709 401 038	709 401 338	16.700
	150 - 200	709 401 248	709 401 648	709 401 048	709 401 348	24.800
	200 - 225	709 401 278	709 401 678	709 401 078	709 401 378	37.000
Coming soon	200 - 250	709 401 281	709 401 681	709 401 081	709 401 381	37.400
	225 - 250	709 401 282	709 401 682	709 401 082	709 401 382	44.200
	250 - 300	709 401 286	709 401 686	709 401 086	709 401 386	55.000
	300 - 350	709 401 288	709 401 688	709 401 088	709 401 388	67.400
	350 - 400	709 401 290	709 401 690	709 401 090	709 401 390	78.000
	300 - 400	709 401 289	709 401 689	709 401 089	709 401 389	69.260
	400 - 425	709 401 293	709 401 693	709 401 093	709 401 393	92.400
	400 - 450	709 401 292	709 401 692	709 401 092	709 401 392	92.000

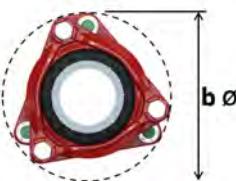
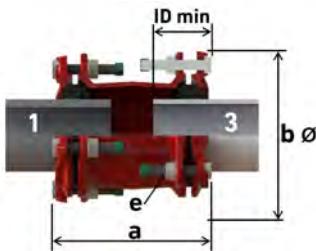
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DN-DN (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
425 - 475	709 401 295	709 401 695	709 401 095	709 401 395	99.700
450 - 500	709 401 294	709 401 694	709 401 094	709 401 394	106.700
500 - 550	709 401 296	709 401 696	709 401 096	709 401 396	112.900
550 - 600	709 401 297	709 401 697	709 401 097	709 401 397	130.000

DN-DN (mm)	a (mm)	b (mm)	ID min. side 1 (mm)	ID min. side 3 (mm)	e (mm)
50 - 65	209 - 254	191	84	84	3xM12/3xM12
65 - 80	223 - 267	210	84	84	3xM12/3xM12
80 - 100	222 - 270	241	84	90	3xM12/3xM16
100 - 125	228 - 277	270	90	90	3xM16/4xM16
100 - 150	286 - 353	312	90	110	4xM16/4xM16
125 - 150	286 - 346	312	90	110	4xM16/4xM16
150 - 200	290 - 364	371	110	110	4xM16/6xM16
200 - 225	349 - 420	415	110	125	6xM16/6xM20
Coming soon	200 - 250	364 - 443	445	110	130
	225 - 250	368 - 450	445	125	130
	250 - 300	405 - 486	495	130	130
	300 - 350	443 - 527	534	130	130
	350 - 400	472 - 561	574	130	135
	300 - 400	469 - 552	574	130	135
	400 - 425	437 - 520	623	135	160
	400 - 450	437 - 520	641	135	160
	425 - 475	483 - 558	672	160	160
	450 - 500	483 - 558	691	160	160
	500 - 550	478 - 553	739	160	160
	550 - 600	488 - 563	796	160	170

DN-DN (mm)	PN Water (bar)	MOP Gas (bar)
50 - 65	25	8
65 - 80	25	8
80 - 100	25	8
100 - 125	25	8
100 - 150	25	8
125 - 150	25	8
150 - 200	25	8
200 - 225	25	8
Coming soon	200 - 250	8
	225 - 250	8
	250 - 300	8
	300 - 350	8
	350 - 400	8
	300 - 400	8
	400 - 425	8
	400 - 450	8
	425 - 475	8
	450 - 500	8
	500 - 550	8
	550 - 600	8

MULTI/JOINT® 3107 Plus Wide Range Reduced Coupling, restraint, Uni/Fiksers



Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information
- Please note, when using a MULTI/JOINT® DN625 till DN800 on plastic pipes, the use of the insert stiffener MJ DN625 - DN800 (see accessories) is mandatory
- * DN350 & DN400 for plastic pipe materials = PN 10 bar water / MOP 5 bar gas

Note:

ID min. = minimum insertion depth

DN625 - DN825 sales release from Q1/2021 (for water applications)

	DN-DN (mm)	Range 1 (mm)	Range 3 (mm)
	50 - 65	46 - 71	63 - 90
	65 - 80	63 - 90	84 - 105
	80 - 100	84 - 105	104 - 132
	100 - 125	104 - 132	132 - 155
	100 - 150	104 - 132	154 - 192
	125 - 150	132 - 155	154 - 192
	150 - 200	154 - 192	192 - 232
	200 - 225	192 - 232	230 - 268
Coming soon	200 - 250	192 - 232	267 - 310
	225 - 250	230 - 268	267 - 310
	250 - 300	267 - 310	315 - 356
	300 - 350	315 - 356	352 - 393
	300 - 400	315 - 356	392 - 433
	350 - 400	352 - 393	392 - 433
	400 - 425	392 - 433	432 - 464
	400 - 450	392 - 433	450 - 482
	425 - 475	432 - 464	481 - 513
	450 - 500	450 - 482	500 - 532
	500 - 550	500 - 532	548 - 580
	550 - 600	548 - 580	605 - 637
	600 - 625	605 - 637	630 - 662
	600 - 675	605 - 637	665 - 697
	600 - 700	605 - 637	709 - 741

	DN-DN (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
	50 - 65	709 405 218	709 405 618	709 405 018	709 405 318	5.500
	65 - 80	709 405 220	709 405 620	709 405 020	709 405 320	6.700
	80 - 100	709 405 224	709 405 624	709 405 024	709 405 324	8.000
	100 - 125	709 405 232	709 405 632	709 405 032	709 405 332	11.600
	100 - 150	709 405 236	709 405 636	709 405 036	709 405 336	15.200
	125 - 150	709 405 238	709 405 638	709 405 038	709 405 338	16.700
	150 - 200	709 405 248	709 405 648	709 405 048	709 405 348	24.800
	200 - 225	709 405 278	709 405 678	709 405 078	709 405 378	37.000
Coming soon	200 - 250	709 405 281	709 405 681	709 405 081	709 405 381	37.400
	225 - 250	709 405 282	709 405 682	709 405 082	709 405 382	44.200
	250 - 300	709 405 286	709 405 686	709 405 086	709 405 386	55.000
	300 - 350	709 405 288	709 405 688	709 405 088	709 405 388	67.400
	300 - 400	709 405 289	709 405 689	709 405 089	709 405 389	69.680

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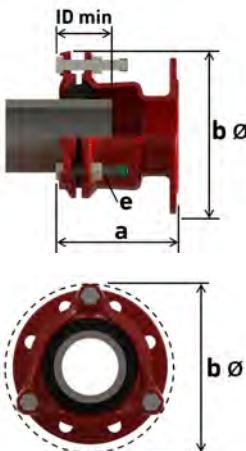
	DN-DN (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
	350 - 400	709 405 290	709 405 690	709 405 090	709 405 390	78.000
	400 - 425	709 405 293	709 405 693	709 405 093	709 405 393	92.400
	400 - 450	709 405 292	709 405 692	709 405 092	709 405 392	92.000
	425 - 475	709 405 295	709 405 695	709 405 095	709 405 395	100.300
	450 - 500	709 405 294	709 405 694	709 405 094	709 405 394	107.200
	500 - 550	709 405 296	709 405 696	709 405 096	709 405 396	113.500
	550 - 600	709 405 297	709 405 697	709 405 097	709 405 397	130.000
	600 - 625			709 405 298	709 405 698	182.000
	600 - 675			709 405 299	709 405 699	190.000
	600 - 700			709 405 300	709 405 700	203.000

	DN-DN (mm)	a (mm)	b (mm)	ID min. side 1 (mm)	ID min. side 3 (mm)	e (mm)
	50 - 65	209 - 254	191	84	84	3xM12/3xM12
	65 - 80	223 - 267	210	84	84	3xM12/3xM12
	80 - 100	222 - 270	241	84	90	3xM12/3xM16
	100 - 125	228 - 277	270	90	90	3xM16/4xM16
	100 - 150	286 - 353	312	90	110	3xM16/4xM16
	125 - 150	286 - 346	312	90	110	4xM16/4xM16
	150 - 200	290 - 364	371	110	110	4xM16/6xM16
	200 - 225	349 - 420	415	110	125	6xM16/6xM20
Coming soon	200 - 250	364 - 443	445	110	130	6xM16/6xM20
	225 - 250	368 - 450	445	125	130	6xM20/6xM20
	250 - 300	405 - 486	495	130	130	6xM20/8xM20
	300 - 350	443 - 527	534	130	130	8xM20/8xM20
	300 - 400	469 - 552	574	130	135	8xM20/10xM20
	350 - 400	472 - 561	574	130	135	8xM20/10xM20
	400 - 425	437 - 520	623	135	160	10xM20/10xM20
	400 - 450	437 - 520	641	135	160	10xM20/10xM20
	425 - 475	483 - 558	672	160	160	10xM20/10xM20
	450 - 500	483 - 558	691	160	160	10xM20/10xM20
	500 - 550	478 - 553	739	160	160	10xM20/12xM20
	550 - 600	488 - 563	796	160	170	12xM20/14xM20
	600 - 625	576 - 644	860	170	210	14xM20/14xM20
	600 - 675	582 - 650	895	170	210	14xM20/14xM20
	600 - 700	594 - 662	940	170	210	14xM20/16xM20

	DN-DN (mm)	PN Water (bar)	MOP Gas (bar)
	50 - 65	16	8
	65 - 80	16	8
	80 - 100	16	8
	100 - 125	16	8
	100 - 150	16	8
	125 - 150	16	8
	150 - 200	16	8
	200 - 225	16	8
Coming soon	200 - 250	16	8
	225 - 250	16	8
	250 - 300	16	8
	300 - 350	16*	8*
	300 - 400	16*	8*
	350 - 400	16*	8*
	400 - 425	10	5
	400 - 450	10	5
	425 - 475	10	5
	450 - 500	10	5
	500 - 550	10	5

table continued on the next page

	DN-DN (mm)	PN Water (bar)	MOP Gas (bar)
	550 - 600	10	5
	600 - 625	10	-
	600 - 675	10	-
	600 - 700	10	-



MULTI/JOINT® 3150 Plus Wide Range Reduced flange adaptor, non restraint

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For all plastic pipes, the use of an insert stiffener (see accessories) is recommended and in some cases mandatory. Check our technical information.

Note:

ID min. = minimum insertion depth

DN-DN (mm)	Range 1 (mm)	Flange 3 (mm)	Drilling pattern
50 - 40	46 - 71	40	PN16
65 - 80	63 - 90	80	PN16
100 - 80	104 - 132	80	PN16
125 - 100	132 - 155	100	PN16
125 - 150	132 - 155	150	PN16
150 - 100	154 - 192	100	PN16
200 - 150	192 - 232	150	PN16
225 - 200	230 - 268	200	PN10
225 - 200	230 - 268	200	PN16
225 - 250	230 - 268	250	PN10
225 - 250	230 - 268	250	PN16
300 - 250	315 - 356	250	PN10
300 - 250	315 - 356	250	PN16
350 - 300	352 - 393	300	PN10
350 - 300	352 - 393	300	PN16
425 - 400	432 - 464	400	PN10/PN16
450 - 400	450 - 482	400	PN10/PN16
475 - 400	481 - 513	400	PN10/PN16
550 - 500	548 - 580	500	PN10/PN16

DN-DN (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50 - 40	709 451 208	709 451 608	709 451 008	709 451 308	4.400
65 - 80	709 451 218	709 451 618	709 451 018	709 451 318	6.700
100 - 80	709 451 224	709 451 624	709 451 024	709 451 324	7.900
125 - 100	709 451 232	709 451 632	709 451 032	709 451 332	9.800
125 - 150	709 451 238	709 451 638	709 451 038	709 451 338	11.400
150 - 100	709 451 236	709 451 636	709 451 036	709 451 336	13.700
200 - 150	709 451 239	709 451 639	709 451 039	709 451 339	21.000
225 - 200	709 451 278	709 451 678	709 451 078	709 451 378	30.200
225 - 200	709 451 279	709 451 679	709 451 079	709 451 379	29.000
225 - 250	709 451 280	709 451 680	709 451 080	709 451 380	29.200
225 - 250	709 451 281	709 451 681	709 451 081	709 451 381	28.800
300 - 250	709 451 286	709 451 686	709 451 086	709 451 386	13.300

table continued on the next page

DN-DN (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
300 - 250	709 451 287	709 451 687	709 451 087	709 451 387	46.600
350 - 300	709 451 284	709 451 684	709 451 084	709 451 384	48.100
350 - 300	709 451 285	709 451 685	709 451 085	709 451 385	51.200
425 - 400	709 451 288	709 451 688	709 451 088	709 451 388	73.800
450 - 400	709 451 292	709 451 692	709 451 092	709 451 392	77.600
475 - 400	709 451 290	709 451 690	709 451 090	709 451 390	86.600
550 - 500	709 351 276	709 351 676	709 351 076	709 351 376	96.500

DN-DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)	No. of bolt holes flange
50 - 40	176 - 198	170	84	3xM12	25	8	4
65 - 80	170 - 193	200	84	3xM12	25	8	8
100 - 80	182 - 208	241	90	3xM16	25	8	8
125 - 100	187 - 210	270	90	4xM16	25	8	8
125 - 150	187 - 210	285	90	4xM16	25	8	8
150 - 100	236 - 273	312	110	4xM16	25	8	8
200 - 150	246 - 283	371	110	6xM16	25	8	8
225 - 200	250 - 288	415	125	6xM20	25	8	8
225 - 200	250 - 288	415	125	6xM20	25	8	12
225 - 250	216 - 254	415	125	6xM20	25	8	12
225 - 250	216 - 254	415	125	6xM20	25	8	12
300 - 250	330 - 368	495	130	8xM20	25	8	12
300 - 250	330 - 368	495	130	8xM20	25	8	12
350 - 300	302 - 347	580	130	8xM20	25	8	12
350 - 300	302 - 347	580	130	8xM20	25	8	12
425 - 400	330 - 367	623	160	10xM20	16	8	16
450 - 400	330 - 367	641	160	10xM20	16	8	16
475 - 400	360 - 397	672	160	10xM20	16	8	16
550 - 500	330 - 367	739	160	12xM20	16	8	20



**MULTI/JOINT® 3157 Plus Wide Range
Reduced flange adaptor, restraint,
Uni/Fiksers**

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

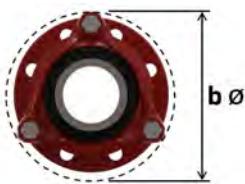
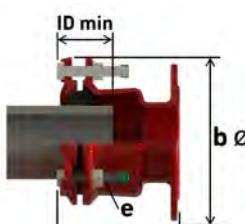
Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information
- Please note, when using a MULTI/JOINT® DN625 till DN800 on plastic pipes, the use of the insert stiffener MJ DN625 - DN800 (see accessories) is mandatory
- * DN350 & DN400 for plastic pipe materials = PN 10 bar water / MOP 5 bar gas

Note:

ID min. = minimum insertion depth

DN625 - DN825 sales release from Q1/2021 (for water applications)



DN-DN (mm)	Range 1 (mm)	Flange 3 (mm)	Drilling pat- tern
50 - 40	46 - 71	40	PN16
65 - 80	63 - 90	80	PN16
100 - 80	104 - 132	80	PN16

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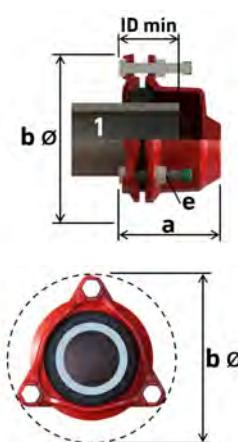
DN-DN (mm)	Range 1 (mm)	Flange 3 (mm)	Drilling pat- tern
125 - 100	132 - 155	100	PN16
125 - 150	132 - 155	150	PN16
150 - 100	154 - 192	100	PN16
200 - 150	192 - 232	150	PN16
225 - 200	230 - 268	200	PN10
225 - 200	230 - 268	200	PN16
225 - 250	230 - 268	250	PN10
225 - 250	230 - 268	250	PN16
300 - 250	315 - 356	250	PN10
300 - 250	315 - 356	250	PN16
350 - 300	352 - 393	300	PN10
350 - 300	352 - 393	300	PN16
425 - 400	432 - 464	400	PN10/PN16
450 - 400	450 - 482	400	PN10/PN16
475 - 400	481 - 513	400	PN10/PN16
550 - 500	548 - 580	500	PN10/PN16
625 - 600	630 - 662	600	PN10/PN16
675 - 600	665 - 697	600	PN10/PN16
825 - 800	837 - 869	800	PN10/PN16

DN-DN (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50 - 40	709 455 208	709 455 608	709 455 008	709 455 308	4.400
65 - 80	709 455 218	709 455 618	709 455 018	709 455 318	6.700
100 - 80	709 455 224	709 455 624	709 455 024	709 455 324	7.900
125 - 100	709 455 232	709 455 632	709 455 032	709 455 332	9.800
125 - 150	709 455 238	709 455 638	709 455 038	709 455 338	11.400
150 - 100	709 455 236	709 455 636	709 455 036	709 455 336	13.700
200 - 150	709 455 239	709 455 639	709 455 039	709 455 339	21.000
225 - 200	709 455 278	709 455 678	709 455 078	709 455 378	30.200
225 - 200	709 455 279	709 455 679	709 455 079	709 455 379	29.000
225 - 250	709 455 280	709 455 680	709 455 080	709 455 380	29.200
225 - 250	709 455 281	709 455 681	709 455 081	709 455 381	28.800
300 - 250	709 455 286	709 455 686	709 455 086	709 455 386	46.600
300 - 250	709 455 287	709 455 687	709 455 087	709 455 387	46.600
350 - 300	709 455 284	709 455 684	709 455 084	709 455 384	48.100
350 - 300	709 455 285	709 455 685	709 455 085	709 455 385	51.200
425 - 400	709 455 288	709 455 688	709 455 088	709 455 388	73.800
450 - 400	709 455 292	709 455 692	709 455 092	709 455 392	77.600
475 - 400	709 455 290	709 455 690	709 455 090	709 455 390	86.600
550 - 500	709 355 276	709 355 676	709 355 076	709 355 376	96.800
625 - 600			709 455 295	709 455 695	168.000
675 - 600			709 455 296	709 455 696	184.000
825 - 800			709 455 297	709 455 697	222.000

DN-DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)	No. of bolt holes flange
50 - 40	176 - 198	170	84	3xM12	16	8	4
65 - 80	170 - 193	200	84	3xM12	16	8	8
100 - 80	182 - 208	241	90	3xM16	16	8	8
125 - 100	187 - 210	270	90	4xM16	16	8	8
125 - 150	187 - 210	285	90	4xM16	16	8	8
150 - 100	236 - 273	312	110	4xM16	16	8	8
200 - 150	246 - 283	371	110	6xM16	16	8	8
225 - 200	250 - 288	415	125	6xM20	16	8	8
225 - 200	250 - 288	415	125	6xM20	16	8	12
225 - 250	216 - 254	415	125	6xM20	16	8	12
225 - 250	216 - 254	415	125	6xM20	16	8	12
300 - 250	330 - 368	495	130	8xM20	16	8	12
300 - 250	330 - 368	495	130	8xM20	16	8	12
350 - 300	302 - 347	580	130	8xM20	16*	8*	12
350 - 300	302 - 347	580	130	8xM20	16*	8*	12

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DN-DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)	No. of bolt holes flange
425 - 400	330 - 367	623	160	10xM20	10	5	16
450 - 400	330 - 367	641	160	10xM20	10	5	16
475 - 400	360 - 397	672	160	10xM20	10	5	16
550 - 500	330 - 367	739	160	12xM20	10	5	20
625 - 600	446 - 476	860	210	14xM20	10	-	20
675 - 600	509 - 539	895	210	14xM20	10	-	20
825 - 800	455 - 485	1070	210	20xM20	10	-	24



MULTI/JOINT® 3207 Plus Wide Range end cap blind, restraint, Uni/Fiksers

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information
- * DN350 & DN400 for plastic pipe materials = PN 10 bar water / MOP 5 bar gas

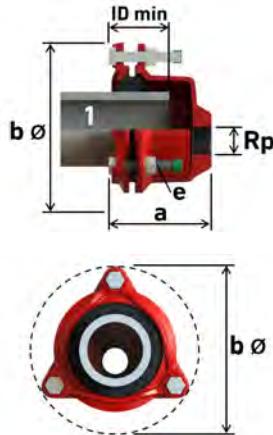
Note:

ID min. = minimum insertion depth

DN (mm)	Range 1 (mm)	NBR / A2 Code	EPDM / A2 Code	Weight (kg)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50	46 - 71	709 375 210	709 375 610	2.950	709 375 010	709 375 310	2.950
65	63 - 90	709 375 212	709 375 612	3.100	709 375 012	709 375 312	3.100
80	84 - 105	709 375 214	709 375 614	4.700	709 375 014	709 375 314	4.700
100	104 - 132	709 375 216	709 375 616	5.800	709 375 016	709 375 316	5.800
125	132 - 155	709 375 218	709 375 618	7.400	709 375 018	709 375 318	7.400
150	154 - 192	709 375 220	709 375 620	10.700	709 375 020	709 375 320	10.700
200	192 - 232	709 375 224	709 375 624	11.200	709 375 024	709 375 324	11.200
225	230 - 268	709 375 226	709 375 626	17.800	709 375 026	709 375 326	17.800
250	267 - 310	709 375 228	709 375 628	28.000	709 375 028	709 375 328	28.000
300	315 - 356	709 375 232	709 375 632	35.600	709 375 032	709 375 332	35.600
400	392 - 433	709 375 234	709 375 634	48.400	709 375 034	709 375 334	48.400

DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)
50	125 - 147	170	84	3xM12	16	8
65	133 - 156	191	84	3xM12	16	8
80	135 - 157	210	84	3xM12	16	8
100	143 - 169	241	90	3xM16	16	8
125	149 - 172	270	90	4xM16	16	8
150	169 - 206	312	110	4xM16	16	8
200	183 - 220	371	110	6xM16	16	8
225	216 - 254	415	125	6xM20	16	8
250	225 - 268	445	130	6xM20	16	8
300	238 - 276	495	130	8xM20	16	8
400	261 - 303	580	135	10xM20	16*	8*

MULTI/JOINT® 3207 Plus Wide Range end cap threaded, restraint, Uni/Fiksers/A2



Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information
- * DN350 & DN400 for plastic pipe materials = PN 10 bar water / MOP 5 bar gas

Note:

ID min. = minimum insertion depth

DN (mm)	Thread Type	Size (inch)	Range 1 (mm)	NBR / A2 Code	EPDM / A2 Code	Weight (kg)
50	Rp	1/4	46 - 71	709 385 204	709 385 604	3.500
50	Rp	1	46 - 71	709 385 205	709 385 605	3.500
50	Rp	1 1/4	46 - 71	709 385 206	709 385 606	3.500
50	Rp	1 1/2	46 - 71	709 385 207	709 385 607	3.500
50	Rp	2	46 - 71	709 385 208	709 385 608	3.500
65	Rp	1/4	63 - 90	709 385 209	709 385 609	4.100
65	Rp	1	63 - 90	709 385 210	709 385 610	4.100
65	Rp	1 1/4	63 - 90	709 385 211	709 385 611	4.100
65	Rp	1 1/2	63 - 90	709 385 212	709 385 612	4.100
65	Rp	2	63 - 90	709 385 213	709 385 613	4.100
80	Rp	1/4	84 - 105	709 385 214	709 385 614	5.100
80	Rp	1	84 - 105	709 385 215	709 385 615	5.100
80	Rp	1 1/4	84 - 105	709 385 216	709 385 616	5.100
80	Rp	1 1/2	84 - 105	709 385 217	709 385 617	5.100
80	Rp	2	84 - 105	709 385 218	709 385 618	5.100
100	Rp	1/4	104 - 132	709 385 219	709 385 619	6.500
100	Rp	1	104 - 132	709 385 220	709 385 620	6.500
100	Rp	1 1/4	104 - 132	709 385 221	709 385 621	6.500
100	Rp	1 1/2	104 - 132	709 385 222	709 385 622	6.500
100	Rp	2	104 - 132	709 385 223	709 385 623	6.500
125	Rp	1/4	132 - 155	709 385 224	709 385 624	7.800
125	Rp	1	132 - 155	709 385 225	709 385 625	7.800
125	Rp	1 1/4	132 - 155	709 385 226	709 385 626	7.800
125	Rp	1 1/2	132 - 155	709 385 227	709 385 627	7.800
125	Rp	2	132 - 155	709 385 228	709 385 628	7.800
150	Rp	1/4	154 - 192	709 385 229	709 385 629	9.600
150	Rp	1	154 - 192	709 385 230	709 385 630	9.600
150	Rp	1 1/4	154 - 192	709 385 231	709 385 631	9.600
150	Rp	1 1/2	154 - 192	709 385 232	709 385 632	9.600
150	Rp	2	154 - 192	709 385 233	709 385 633	9.600
200	Rp	1/4	192 - 232	709 385 234	709 385 634	18.300
200	Rp	1 1/4	192 - 232	709 385 235	709 385 635	18.300
200	Rp	1 1/2	192 - 232	709 385 236	709 385 636	18.300
200	Rp	2	192 - 232	709 385 237	709 385 637	18.300
200	Rp	1/4	230 - 268	709 385 238	709 385 638	18.300
225	Rp	1/4	230 - 268	709 385 249	709 385 649	20.900
225	Rp	1	230 - 268	709 385 250	709 385 650	20.900
225	Rp	1 1/4	230 - 268	709 385 251	709 385 651	20.900
225	Rp	1 1/2	230 - 268	709 385 252	709 385 652	20.900
225	Rp	2	230 - 268	709 385 253	709 385 653	20.900
250	Rp	1/4	267 - 310	709 385 239	709 385 639	27.100
250	Rp	1	267 - 310	709 385 240	709 385 640	27.100

table continued on the next page

DN (mm)	Thread Type	Size (inch)	Range 1 (mm)	NBR / A2 Code	EPDM / A2 Code	Weight (kg)
250	Rp	1 1/4	267 - 310	709 385 241	709 385 641	27.100
250	Rp	1 1/2	267 - 310	709 385 242	709 385 642	27.100
250	Rp	2	267 - 310	709 385 243	709 385 643	27.100
300	Rp	3/4	315 - 356	709 385 244	709 385 644	34.400
300	Rp	1	315 - 356	709 385 245	709 385 645	34.400
300	Rp	1 1/4	315 - 356	709 385 246	709 385 646	34.400
300	Rp	1 1/2	315 - 356	709 385 247	709 385 647	34.400
300	Rp	2	315 - 356	709 385 248	709 385 648	34.400
400	Rp	3/4	392 - 433	709 385 254	709 385 654	43.100
400	Rp	1	392 - 433	709 385 255	709 385 655	43.100
400	Rp	1 1/4	392 - 433	709 385 256	709 385 656	43.100
400	Rp	1 1/2	392 - 433	709 385 257	709 385 657	43.100
400	Rp	2	392 - 433	709 385 258	709 385 658	43.100

DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)
50	125 - 147	170	84	3xM12	16	8
50	125 - 147	170	84	3xM12	16	8
50	125 - 147	170	84	3xM12	16	8
50	125 - 147	170	84	3xM12	16	8
50	125 - 147	170	84	3xM12	16	8
65	133 - 156	191	84	3xM12	16	8
65	133 - 156	191	84	3xM12	16	8
65	133 - 156	191	84	3xM12	16	8
65	133 - 156	191	84	3xM12	16	8
65	133 - 156	191	84	3xM12	16	8
80	135 - 157	210	84	3xM12	16	8
80	135 - 157	210	84	3xM12	16	8
80	135 - 157	210	84	3xM12	16	8
80	135 - 157	210	84	3xM12	16	8
100	143 - 169	241	90	3xM16	16	8
100	143 - 169	241	90	3xM16	16	8
100	143 - 169	241	90	3xM16	16	8
100	143 - 169	241	90	3xM16	16	8
100	143 - 169	241	90	3xM16	16	8
100	143 - 169	241	90	3xM16	16	8
100	143 - 169	241	90	3xM16	16	8
125	149 - 172	270	90	4xM16	16	8
125	149 - 172	270	90	4xM16	16	8
125	149 - 172	270	90	4xM16	16	8
125	149 - 172	270	90	4xM16	16	8
125	149 - 172	270	90	4xM16	16	8
150	169 - 206	312	110	4xM16	16	8
150	169 - 206	312	110	4xM16	16	8
150	169 - 206	312	110	4xM16	16	8
150	169 - 206	312	110	4xM16	16	8
150	169 - 206	312	110	4xM16	16	8
200	183 - 220	371	110	6xM16	16	8
200	183 - 220	371	110	6xM16	16	8
200	183 - 220	371	110	6xM16	16	8
200	183 - 220	371	110	6xM16	16	8
200	183 - 220	371	110	6xM16	16	8
225	216 - 254	415	125	6xM20	16	8
225	216 - 254	415	125	6xM20	16	8
225	216 - 254	415	125	6xM20	16	8
225	216 - 254	415	125	6xM20	16	8
225	216 - 254	415	125	6xM20	16	8
250	225 - 268	445	130	6xM20	16	8
250	225 - 268	445	130	6xM20	16	8
250	225 - 268	445	130	6xM20	16	8
250	225 - 268	445	130	6xM20	16	8
250	225 - 268	445	130	6xM20	16	8
300	238 - 276	495	130	8xM20	16	8
300	238 - 276	495	130	8xM20	16	8

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DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)
300	238 - 276	495	130	8xM20	16	8
300	238 - 276	495	130	8xM20	16	8
300	238 - 276	495	130	8xM20	16	8
400	261 - 303	580	135	10xM20	16*	8*
400	261 - 303	580	135	10xM20	16*	8*
400	261 - 303	580	135	10xM20	16*	8*
400	261 - 303	580	135	10xM20	16*	8*
400	261 - 303	580	135	10xM20	16*	8*

MULTI/JOINT® 3207 Plus Wide Range end cap threaded, restraint, Uni/Fiksers/A4

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information
- * DN350 & DN400 for plastic pipe materials = PN 10 bar water / MOP 5 bar gas

Note:

ID min. = minimum insertion depth



DN (mm)	Thread Type	Size (inch)	Range 1 (mm)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50	Rp	3/4	46 - 71	709 385 004	709 385 304	3.500
50	Rp	1	46 - 71	709 385 005	709 385 305	3.500
50	Rp	1 1/4	46 - 71	709 385 006	709 385 306	3.500
50	Rp	1 1/2	46 - 71	709 385 007	709 385 307	3.500
50	Rp	2	46 - 71	709 385 008	709 385 308	3.500
65	Rp	3/4	63 - 90	709 385 009	709 385 309	4.100
65	Rp	1	63 - 90	709 385 010	709 385 310	4.100
65	Rp	1 1/4	63 - 90	709 385 011	709 385 311	4.100
65	Rp	1 1/2	63 - 90	709 385 012	709 385 312	4.100
65	Rp	2	63 - 90	709 385 013	709 385 313	4.100
80	Rp	3/4	84 - 105	709 385 014	709 385 314	5.100
80	Rp	1	84 - 105	709 385 015	709 385 315	5.100
80	Rp	1 1/4	84 - 105	709 385 016	709 385 316	5.100
80	Rp	1 1/2	84 - 105	709 385 017	709 385 317	5.100
80	Rp	2	84 - 105	709 385 018	709 385 318	5.100
100	Rp	3/4	104 - 132	709 385 019	709 385 319	6.500
100	Rp	1	104 - 132	709 385 020	709 385 320	6.500
100	Rp	1 1/4	104 - 132	709 385 021	709 385 321	6.500
100	Rp	1 1/2	104 - 132	709 385 022	709 385 322	6.500
100	Rp	2	104 - 132	709 385 023	709 385 323	6.500
125	Rp	3/4	132 - 155	709 385 024	709 385 324	7.800
125	Rp	1	132 - 155	709 385 025	709 385 325	7.800
125	Rp	1 1/4	132 - 155	709 385 026	709 385 326	7.800
125	Rp	1 1/2	132 - 155	709 385 027	709 385 327	7.800
125	Rp	2	132 - 155	709 385 028	709 385 328	7.800
150	Rp	3/4	154 - 192	709 385 029	709 385 329	9.600
150	Rp	1	154 - 192	709 385 030	709 385 330	9.600
150	Rp	1 1/4	154 - 192	709 385 031	709 385 331	9.600
150	Rp	1 1/2	154 - 192	709 385 032	709 385 332	9.600

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DN (mm)	Thread Type	Size (inch)	Range 1 (mm)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
150	Rp	2	154 - 192	709 385 033	709 385 333	9.600
200	Rp	¾	192 - 232	709 385 034	709 385 334	18.300
200	Rp	1	192 - 232	709 385 035	709 385 335	18.300
200	Rp	1 ¼	192 - 232	709 385 036	709 385 336	18.300
200	Rp	1 ½	192 - 232	709 385 037	709 385 337	18.300
200	Rp	2	192 - 232	709 385 038	709 385 338	18.300
225	Rp	¾	230 - 268	709 385 049	709 385 349	20.900
225	Rp	1	230 - 268	709 385 050	709 385 350	20.900
225	Rp	1 ¼	230 - 268	709 385 051	709 385 351	20.900
225	Rp	1 ½	230 - 268	709 385 052	709 385 352	20.900
225	Rp	2	230 - 268	709 385 053	709 385 353	20.900
250	Rp	¾	267 - 310	709 385 039	709 385 339	27.100
250	Rp	1	267 - 310	709 385 040	709 385 340	27.100
250	Rp	1 ¼	267 - 310	709 385 041	709 385 341	27.100
250	Rp	1 ½	267 - 310	709 385 042	709 385 342	27.100
250	Rp	2	267 - 310	709 385 043	709 385 343	27.100
300	Rp	¾	315 - 356	709 385 044	709 385 344	34.400
300	Rp	1	315 - 356	709 385 045	709 385 345	34.400
300	Rp	1 ¼	315 - 356	709 385 046	709 385 346	34.400
300	Rp	1 ½	315 - 356	709 385 047	709 385 347	34.400
300	Rp	2	315 - 356	709 385 048	709 385 348	34.400
400	Rp	¾	392 - 433	709 385 054	709 385 354	43.100
400	Rp	1	392 - 433	709 385 055	709 385 355	43.100
400	Rp	1 ¼	392 - 433	709 385 056	709 385 356	43.100
400	Rp	1 ½	392 - 433	709 385 057	709 385 357	43.100
400	Rp	2	392 - 433	709 385 058	709 385 358	43.100

DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)
50	125 - 147	170	84	3xM12	16	8
50	125 - 147	170	84	3xM12	16	8
50	125 - 147	170	84	3xM12	16	8
50	125 - 147	170	84	3xM12	16	8
50	125 - 147	170	84	3xM12	16	8
65	133 - 156	191	84	3xM12	16	8
65	133 - 156	191	84	3xM12	16	8
65	133 - 156	191	84	3xM12	16	8
65	133 - 156	191	84	3xM12	16	8
65	133 - 156	191	84	3xM12	16	8
65	133 - 156	191	84	3xM12	16	8
80	135 - 157	210	84	3xM12	16	8
80	135 - 157	210	84	3xM12	16	8
80	135 - 157	210	84	3xM12	16	8
80	135 - 157	210	84	3xM12	16	8
80	135 - 157	210	84	3xM12	16	8
80	135 - 157	210	84	3xM12	16	8
100	143 - 169	241	90	3xM16	16	8
100	143 - 169	241	90	3xM16	16	8
100	143 - 169	241	90	3xM16	16	8
100	143 - 169	241	90	3xM16	16	8
100	143 - 169	241	90	3xM16	16	8
125	149 - 172	270	90	4xM16	16	8
125	149 - 172	270	90	4xM16	16	8
125	149 - 172	270	90	4xM16	16	8
125	149 - 172	270	90	4xM16	16	8
125	149 - 172	270	90	4xM16	16	8
150	169 - 206	312	110	4xM16	16	8
150	169 - 206	312	110	4xM16	16	8
150	169 - 206	312	110	4xM16	16	8
150	169 - 206	312	110	4xM16	16	8
200	183 - 220	371	110	6xM16	16	8
200	183 - 220	371	110	6xM16	16	8
200	183 - 220	371	110	6xM16	16	8
200	183 - 220	371	110	6xM16	16	8

table continued on the next page

DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)
200	183 - 220	371	110	6xM16	16	8
225	216 - 254	415	125	6xM20	16	8
225	216 - 254	415	125	6xM20	16	8
225	216 - 254	415	125	6xM20	16	8
225	216 - 254	415	125	6xM20	16	8
225	216 - 254	415	125	6xM20	16	8
250	225 - 268	445	130	6xM20	16	8
250	225 - 268	445	130	6xM20	16	8
250	225 - 268	445	130	6xM20	16	8
250	225 - 268	445	130	6xM20	16	8
250	225 - 268	445	130	6xM20	16	8
300	238 - 276	495	130	8xM20	16	8
300	238 - 276	495	130	8xM20	16	8
300	238 - 276	495	130	8xM20	16	8
300	238 - 276	495	130	8xM20	16	8
400	261 - 303	580	135	10xM20	16*	8*
400	261 - 303	580	135	10xM20	16*	8*
400	261 - 303	580	135	10xM20	16*	8*
400	261 - 303	580	135	10xM20	16*	8*
400	261 - 303	580	135	10xM20	16*	8*

MULTI/JOINT® 3400 Plus Wide Range Bend, non restraint

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

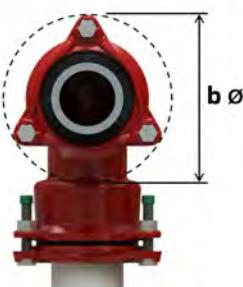
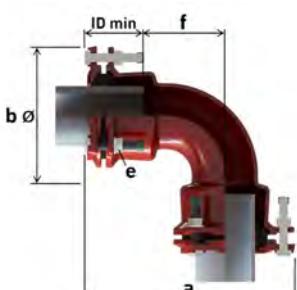
- Read the user manual
- For all plastic pipes, the use of an insert stiffener (see accessories) is recommended and in some cases mandatory. Check our technical information.

Note:

ID min. = minimum insertion depth

DN (mm)	Range 1 (mm)	Range 3 (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
80	84 - 105	84 - 105	709 471 214	709 471 614	709 471 014	709 471 314	9.200
100	104 - 132	104 - 132	709 471 216	709 471 616	709 471 016	709 471 316	13.400
150	154 - 192	154 - 192	709 471 220	709 471 620	709 471 020	709 471 320	26.300

DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	f (mm)	PN Water (bar)	MOP Gas (bar)
80	300 - 322	210	84	3xM12	100	25	8
100	359 - 385	241	90	3xM16	125	25	8
150	441 - 478	312	110	4xM16	175	25	8

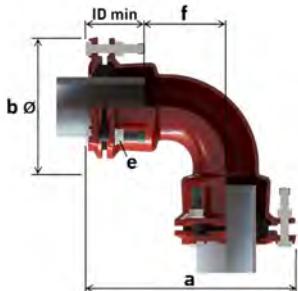




MULTI/JOINT® 3407 Plus Wide Range Bend, restraint, Uni/Fiksers

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825



Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information

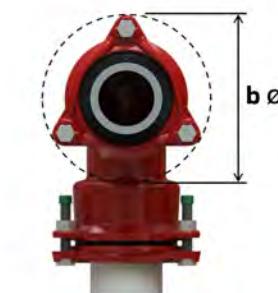
Note:

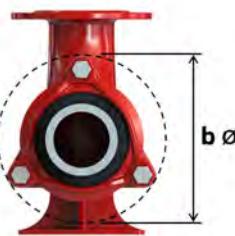
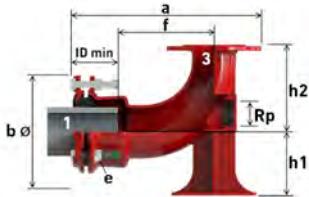
ID min. = minimum insertion depth

DN (mm)	Range 1 (mm)	Range 3 (mm)	NBR / A2 Code	EPDM / A2 Code	Weight (kg)
80	84 - 105	84 - 105	709 475 214	709 475 614	9.200
100	104 - 132	104 - 132	709 475 216	709 475 616	13.400
150	154 - 192	154 - 192	709 475 220	709 475 620	26.300

DN (mm)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
80	709 475 014	709 475 314	9.200
100	709 475 016	709 475 316	13.400
150	709 475 020	709 475 320	26.300

DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	f (mm)	PN Water (bar)	MOP Gas (bar)
80	300 - 322	210	84	3xM12	100	16	8
100	359 - 385	241	90	3xM16	125	16	8
150	441 - 478	312	110	4xM16	175	16	8





MULTI/JOINT® 3557 Plus Wide Range Reduced duckfoot, restraint, Uni/Fiksers

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Threaded outlet 2 inch
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information

Note:

ID min. = minimum insertion depth

Thread Type	Size (inch)	DN (mm)	DN-DN (mm)	Range 1 (mm)	Flange 3 (mm)	Drilling pattern
Rp	2	50	50 - 80	46 - 71	80	PN16
Rp	2	65	65 - 80	63 - 90	80	PN10
Rp	2	65	65 - 80	63 - 90	80	PN16
Rp	2	100	100 - 80	104 - 132	80	PN16
Rp	2	125	125 - 80	132 - 155	80	PN10
Rp	2	125	125 - 80	132 - 155	80	PN16
Rp	2	150	150 - 80	154 - 192	80	PN10
Rp	2	150	150 - 80	154 - 192	80	PN16

NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
709 495 218	709 495 618	709 495 018	709 495 318	12.700
709 495 236	709 495 636	709 495 036	709 495 336	14.600
709 495 230	709 495 630	709 495 030	709 495 330	14.600
709 495 223	709 495 623	709 495 023	709 495 323	15.800
709 495 261	709 495 661	709 495 061	709 495 361	19.400
709 495 248	709 495 648	709 495 048	709 495 348	19.400
709 495 273	709 495 673	709 495 073	709 495 373	19.800
709 495 267	709 495 667	709 495 067	709 495 367	19.800

a (mm)	b (mm)	ID min. (mm)	e (mm)	f (mm)	h1 (mm)	h2 (mm)	PN Water (bar)	No. of bolt holes flange
342 - 364	170	84	3xM12	140	90	174	16	8
386 - 408	191	84	3xM12	170	90	180	16	4
386 - 408	191	84	3xM12	170	90	180	16	8
404 - 430	241	90	3xM16	190	135	184	16	8
389 - 412	270	90	4xM16	170	135	184	16	4
389 - 412	270	90	4xM16	170	135	184	16	8
418 - 455	312	110	4xM16	180	160	184	16	4
418 - 455	312	110	4xM16	180	160	184	16	8



MULTI/JOINT® 3067 Plus Wide Range PE adaptor, restraint, Uni/Fiksers

Model:

- Suitable for all kinds of pipe material (MULTI/JOINT® 3067 part)
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- PE: PE100 SDR11
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information

Note:

ID min. = minimum insertion depth

DN (mm)	Range 1 (mm)	PE outlet (mm)	NBR / A2 Code	EPDM / A2 Code	Weight (kg)
50	46 - 71	50	709 365 209	709 365 609	3.600
50	46 - 71	63	709 365 210	709 365 610	4.000
65	63 - 90	63	709 365 211	709 365 611	4.400
65	63 - 90	75	709 365 212	709 365 612	4.900
80	84 - 105	90	709 365 214	709 365 614	5.400
80	84 - 105	110	709 365 215	709 365 615	6.000
100	104 - 132	90	709 465 216	709 465 616	6.900
100	104 - 132	110	709 365 216	709 365 616	8.300
100	104 - 132	125	709 465 217	709 465 617	6.900
125	132 - 155	110	709 465 218	709 465 618	8.900
125	132 - 155	125	709 365 218	709 365 618	11.200
125	132 - 155	140	709 465 219	709 465 619	8.900
125	132 - 155	160	709 465 221	709 465 621	12.300
150	154 - 192	160	709 365 220	709 365 620	15.300
150	154 - 192	180	709 465 220	709 465 620	18.600
200	192 - 232	200	709 365 224	709 365 624	27.600
200	192 - 232	225	709 465 224	709 465 624	29.000
250	267 - 310	250	709 365 228	709 365 628	44.200
250	267 - 310	280	709 465 228	709 465 628	41.900
300	315 - 356	315	709 365 232	709 365 632	63.400

DN (mm)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50	709 365 009	709 365 309	3.600
50	709 365 010	709 365 310	4.000
65	709 365 011	709 365 311	4.400
65	709 365 012	709 365 312	4.900
80	709 365 014	709 365 314	5.400
80	709 365 015	709 365 315	6.000
100	709 465 016	709 465 316	6.900
100	709 365 016	709 365 316	8.300
100	709 465 017	709 465 317	6.900
125	709 465 018	709 465 318	8.900
125	709 365 018	709 365 318	11.200
125	709 465 019	709 465 319	8.900
125	709 465 021	709 465 321	12.300
150	709 365 020	709 365 320	15.300
150	709 465 020	709 465 320	18.600
200	709 365 024	709 365 324	27.600

table continued on the next page

DN (mm)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
200	709 465 024	709 465 324	29.000
250	709 365 028	709 365 328	44.200
250	709 465 028	709 465 328	41.900
300	709 365 032	709 365 332	63.400

DN (mm)	a (mm)	b (mm)	c (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)
50	615 - 637	170	429.0	84	3xM12	16	8
50	615 - 637	170	464.0	84	3xM12	16	8
65	621 - 644	191	429.0	84	3xM12	16	8
65	621 - 644	191	460.7	84	3xM12	16	8
80	622 - 644	210	457.8	84	3xM12	16	8
80	622 - 644	210	461.0	84	3xM12	16	8
100	624 - 650	241	397.0	90	3xM16	16	8
100	624 - 650	241	397.0	90	3xM16	16	8
100	628 - 654	241	445.5	90	3xM16	16	8
125	637 - 660	270	390.0	90	4xM16	16	8
125	637 - 660	270	390.0	90	4xM16	16	8
125	635 - 658	270	443.0	90	4xM16	16	8
125	507 - 530	270	445.0	90	4xM16	16	8
150	657 - 694	312	364.0	110	4xM16	16	8
150	655 - 692	312	430.0	110	4xM16	16	8
200	671 - 708	371	333.0	110	6xM16	16	8
200	671 - 708	371	422.0	110	6xM16	16	8
250	720 - 763	445	294.0	130	6xM20	16	8
250	716 - 759	445	408.2	130	6xM20	16	8
300	747 - 785	495	400.3	130	8xM20	16	8

MULTI/JOINT® 3080 Plus Wide Range Spigot end, non restraint

Model:

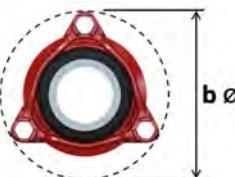
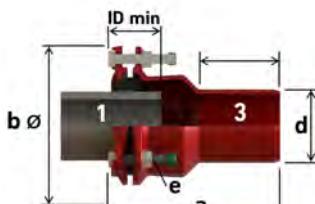
- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For all plastic pipes, the use of an insert stiffener (see accessories) is recommended and in some cases mandatory. Check our technical information.

Note:

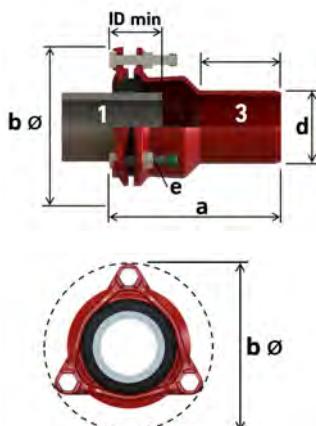
ID min. = minimum insertion depth



DN (mm)	d3 (mm)	Range 1 (mm)	NBR / A2 Code	EPDM / A2 Code	Weight (kg)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50	63	46 - 71	709 331 210	709 331 610	3.800	709 331 010	709 331 310	3.800
100	110	104 - 132	709 331 216	709 331 616	7.400	709 331 016	709 331 316	7.400
150	160	154 - 192	709 331 220	709 331 620	13.800	709 331 020	709 331 320	13.800
200	200	192 - 232	709 331 229	709 331 629	14.070	709 331 029	709 331 329	14.070

table continued on the next page

DN (mm)	d3 (mm)	a (mm)	b (mm)	ID min. (mm)	d (mm)	e (mm)	L (mm)	PN Water (bar)	MOP Gas (bar)
50	63	225 - 247	170	84	100	3xM12	75	25	8
100	110	257 - 283	241	90	110	3xM16	120	25	8
150	160	307 - 344	312	110	120	4xM16	135	25	8
200	200	333 - 370	371	110	140	6xM16	145	25	8



MULTI/JOINT® 3087 Plus Wide Range Spigot end, restraint, Uni/Fiksers

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information

Note:

ID min. = minimum insertion depth

DN (mm)	d3 (mm)	Range 1 (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50	63	46 - 71	709 335 210	709 335 610	709 335 010	709 335 310	3.800
100	110	104 - 132	709 335 216	709 335 616	709 335 016	709 335 316	7.400
150	160	154 - 192	709 335 220	709 335 620	709 335 020	709 335 320	13.800
200	200	192 - 232	709 335 229	709 335 629	709 335 029	709 335 329	14.070

DN (mm)	d3 (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	L (mm)	PN Water (bar)	MOP Gas (bar)
50	63	225 - 247	170	84	3xM12	75	16	8
100	110	257 - 283	241	90	3xM16	120	16	8
150	160	307 - 344	312	110	4xM16	135	16	8
200	200	333 - 370	371	110	6xM16	145	16	8



MULTI/JOINT® 3180 Plus Wide Range Reduced spigot end, non restraint

Model:

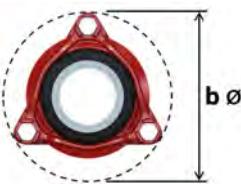
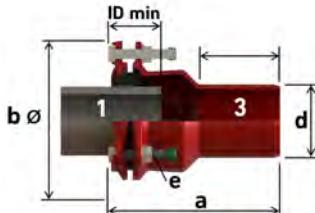
- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For all plastic pipes, the use of an insert stiffener (see accessories) is recommended and in some cases mandatory. Check our technical information.

Note:

ID min. = minimum insertion depth



DN (mm)	d3 (mm)	Range 1 (mm)	NBR / A2 Code	EPDM / A2 Code	Weight (kg)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
80	110	84 - 105	709 341 224	709 341 624	5.700	709 341 024	709 341 324	5.700

DN (mm)	d3 (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	l (mm)	PN Water (bar)	MOP Gas (bar)
80	110	242 - 264	210	84	3xM12	120	25	8



MULTI/JOINT® 3187 Plus Wide Range Reduced spigot end, restraint, Uni/Fiksers

Model:

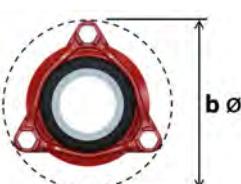
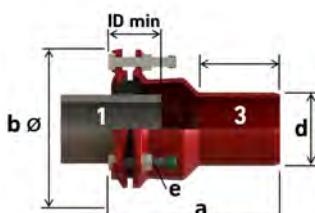
- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information

Note:

ID min. = minimum insertion depth



DN (mm)	d3 (mm)	Range 1 (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
80	110	84 - 105	709 345 224	709 345 624	709 345 024	709 345 324	5.700

DN (mm)	d3 (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	l (mm)	PN Water (bar)	MOP Gas (bar)
80	110	242 - 264	210	84	3xM12	120	16	8

MULTI/JOINT® Accessories

MULTI/JOINT® Accessories



Insert stiffener Economy

Model:

- Suitable for PE and PVC pipes
- Stainless steel A2 quality (AISI 304), optional A4 quality (AISI 316)
- For pipe sizes > d355 use an insert stiffener with wedge
- Other pipe sizes < d355 available on request

d x e (mm)	SDR	L (mm)	Code	Weight (kg)
40 x 3,7	11.0	100	709 026 391	0.100
40 x 2,3	17.6 / 17.0	100	709 026 392	0.100
50 x 4,6	11.0	100	709 026 203	0.130
50 x 2,9	17.6 / 17.0	100	709 026 206	0.130
63 x 5,8	11.0	100	709 026 211	0.160
63 x 3,6	17.6 / 17.0	100	709 026 214	0.160
63 x 2,0	33	100	709 026 217	0.160
63 x 1,5	41	100	709 026 415	0.160
75 x 6,8	11.0	100	709 026 220	0.190
75 x 4,3	17.6 / 17.0	100	709 026 223	0.190
75 x 1,9	41	100	709 026 227	0.190
90 x 8,2	11.0	120	709 026 230	0.270
90 x 5,2	17.6 / 17.0	120	709 026 233	0.270
90 x 2,8	33	120	709 026 236	0.270
90 x 2,2	41	120	709 026 238	0.270
110 x 10,0	11.0	120	709 026 242	0.330
110 x 6,3	17.6 / 17.0	120	709 026 245	0.330
110 x 3,4	33	120	709 026 248	0.330
110 x 2,7	41	120	709 026 250	0.330
125 x 11,4	11.0	120	709 026 254	0.380
125 x 7,2	17.6 / 17.0	120	709 026 257	0.380
140 x 12,7	11.0	140	709 026 266	0.490
140 x 8,0	17.6 / 17.0	140	709 026 269	0.490
160 x 14,6	11.0	140	709 026 278	0.850
160 x 9,1	17.6 / 17.0	140	709 026 281	0.850
160 x 4,9	33	140	709 026 284	0.850
160 x 4,0	41	140	709 026 286	0.850
180 x 16,4	11.0	140	709 026 290	0.950
180 x 10,7	17.6	140	709 026 408	0.950
180 x 10,3	17.6	140	709 026 293	0.950
200 x 18,2	11.0	160	709 026 302	1.210
200 x 11,9	17.6	160	709 026 409	1.210
200 x 11,4	17.6	160	709 026 305	1.210
200 x 6,1	33	160	709 026 308	1.210
200 x 4,9	41	160	709 026 310	1.210
225 x 20,5	11.0	160	709 026 314	1.360
225 x 13,4	17.6	160	709 026 410	1.360
225 x 12,8	17.6	160	709 026 317	1.360
250 x 22,8	11.0	160	709 026 326	2.010
250 x 14,8	17.6	160	709 026 411	2.010
250 x 14,3	17.6	160	709 026 329	2.010
250 x 7,6	33	160	709 026 332	2.010
250 x 6,1	41	160	709 026 334	2.010
280 x 25,5	11.0	160	709 026 338	2.250
280 x 16,6	17.6	160	709 026 340	2.250
280 x 16,0	17.6	160	709 026 341	2.250
315 x 28,7	11.0	160	709 026 350	2.530
315 x 18,7	17.6	160	709 026 413	2.530
315 x 17,9	17.6	160	709 026 353	2.530
315 x 9,6	33	160	709 026 356	2.530

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d x e (mm)	SDR	L (mm)	Code	Weight (kg)
315 x 7,7	41	160	709 026 358	2.530
355 x 32,3	11.0	160	709 026 362	2.850
355 x 21,1	17.0	160	709 026 414	2.850
355 x 20,2	17.6	160	709 026 365	2.850



Insert stiffener with Wedge

Model:

- Suitable for PE and PVC pipes
- Stainless steel A2 quality (AISI 304), optional A4 quality (AISI 316)
- Other pipe sizes available on request
- For MULTI/JOINT® DN625 till DN800 please see MJ DN625 - DN800 insert stiffeners

d x e (mm)	SDR	L (mm)	Code	Weight (kg)
63 x 3.6	17.6 / 17.0	175	709 026 012	0.220
63 x 5.8	11.0	175	709 026 016	0.210
63 x 8.7	7.5	175	709 026 018	0.190
75 x 4.3	17.6 / 17.0	175	709 026 022	0.260
75 x 6.9	11.0	175	709 026 026	0.240
90 x 5.1	17.6 / 17.0	175	709 026 032	0.310
90 x 8.2	11.0	175	709 026 036	0.290
90 x 12.5	7.5	175	709 026 038	0.260
110 x 6.3	17.6 / 17.0	175	709 026 042	0.450
110 x 10.0	11.0	175	709 026 046	0.420
110 x 15.2	7.5	175	709 026 048	0.370
125 x 7.1	17.6 / 17.0	175	709 026 052	0.510
125 x 11.4	11.0	175	709 026 056	0.470
140 x 8.0	17.6 / 17.0	175	709 026 062	0.560
140 x 12.8	11.0	175	709 026 066	0.520
160 x 4.8	33.0	200	709 026 070	0.920
160 x 9.1	17.6 / 17.0	200	709 026 072	0.870
160 x 14.6	11.0	200	709 026 076	0.800
180 x 10.2	17.6 / 17.0	200	709 026 082	0.980
180 x 16.4	11.0	200	709 026 086	0.900
200 x 11.4	17.6 / 17.0	200	709 026 092	1.150
200 x 18.2	11.0	200	709 026 096	1.020
225 x 12.8	17.6 / 17.0	225	709 026 102	1.660
225 x 20.5	11.0	225	709 026 106	1.530
250 x 14.2	17.6 / 17.0	225	709 026 115	1.850
250 x 22.8	11.0	225	709 026 116	1.700
280 x 16.6	17.6 / 17.0	225	709 026 127	2.070
280 x 25.5	11.0	225	709 026 126	1.920
315 x 17.9	17.6	225	709 026 125	2.340
315 x 28.7	11.0	225	709 026 124	2.160
355 x 10.8	33.0	225	709 026 132	3.760
355 x 20.1	17.6	225	709 026 129	2.710
355 x 32.3	11.0	225	709 026 128	2.510
400 x 15.4	26.0	225	709 026 140	3.170
400 x 22.7	17.6	225	709 026 139	3.050
400 x 36.4	11.0	225	709 026 138	2.820
450 x 25.5	17.6	225	709 026 149	4.200
450 x 41.0	11.0	225	709 026 148	4.200
500 x 28.3	17.6	225	709 026 159	4.660
500 x 45.5	11.0	225	709 026 158	4.660
560 x 31.7	17.6	225	709 026 169	5.230
560 x 51.0	11.0	225	709 026 168	5.230
630 x 35.7	17.6	225	709 026 179	5.870
630 x 57.3	11.0	225	709 026 178	5.870
710 x 40.2	17.6	225	709 026 189	6.620
710 x 64.5	11.0	225	709 026 188	6.620

table continued on the next page

d x e (mm)	SDR	L (mm)	Code	Weight (kg)
710 x 64.5	11.0	225	709 026 188	6.620
800 x 45.3	17.6	225	709 026 199	7.460
800 x 72.7	11.0	225	709 026 198	7.460
900 x 51.2	17.6	225	709 026 183	8.390
900 x 81.8	11.0	225	709 026 182	8.390
1000 x 56.8	17.6	225	709 026 191	9.330
1000 x 90.9	11.0	225	709 026 192	9.330
1200 x 109.1	11.0	225	709 026 184	11.190
1400 x 79.6	17.6	225	709 026 187	13.060
1400 x 127.3	11.0	225	709 026 186	13.060
1600 x 90.9	17.6	225	709 026 196	14.920
1600 x 145.5	11.0	225	709 026 195	14.920

Insert stiffener with wedge MJ DN625 - DN800

Model:

- Suitable for PE and PVC pipes
- Stainless steel A2 quality (AISI 304), optional A4 quality (AISI 316)
- Other pipe sizes available on request



d x e (mm)	SDR	L (mm)	Code	Weight (kg)
630 x 57.3	11	300	709 026 450	17.000
630 x 37.1	17	300	709 026 451	18.500
630 x 35.7	17.6	300	709 026 452	18.500
630 x 24.1	26	300	709 026 453	19.000
710 x 64.5	11	300	709 026 455	19.000
710 x 41.8	17	300	709 026 456	21.000
710 x 40.2	17.6	300	709 026 457	21.000
710 x 33.8	21	300	709 026 458	23.000
710 x 27.3	26	300	709 026 459	23.000
710 x 21.5	33	300	709 026 460	24.000
800 x 72.7	11	300	709 026 465	22.000
800 x 47.0	17	300	709 026 466	23.000
800 x 45.3	17.6	300	709 026 467	23.000
800 x 38.1	21	300	709 026 468	24.000
800 x 30.7	26	300	709 026 469	24.000
800 x 24.2	33	300	709 026 470	25.000



Uni/Fleks ring

Model:

- Consists of a segmented plastic ring and Varioseal (gasket)
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- non restraint

DN (mm)	Range (mm)	NBR Code	EPDM Code	Weight (kg)
50	46 - 71	709 390 030	709 390 130	0.192
65	63 - 90	709 390 032	709 390 132	3.840
80	84 - 105	709 390 034	709 390 134	0.267
100	104 - 132	709 390 036	709 390 136	0.001
125	132 - 155	709 390 038	709 390 138	0.627
150	154 - 192	709 390 040	709 390 140	0.838
200	192 - 232	709 390 043	709 390 143	0.987
225	230 - 268	709 390 046	709 390 146	1.100
250	267 - 310	709 390 048	709 390 148	1.300
300	315 - 356	709 390 053	709 390 153	1.700
350	352 - 393	709 390 054	709 390 154	2.000
400	392 - 433	709 390 056	709 390 156	2.200
425	432 - 464	709 390 082	709 390 182	4.000
450	450 - 482	709 390 078	709 390 178	2.400
475	481 - 513	709 390 083	709 390 183	4.400
500	500 - 532	709 390 079	709 390 179	2.600
550	548 - 580	709 390 080	709 390 180	2.800
600	605 - 637	709 390 081	709 390 181	3.000



Uni/Fiks ring with Uni/Fiksers

Model:

- Consists of a segmented plastic ring and Varioseal (gasket) + Uni/Fiksers
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Restraint on all pipe materials
- For AC and GRP pipes please contact us

Note:

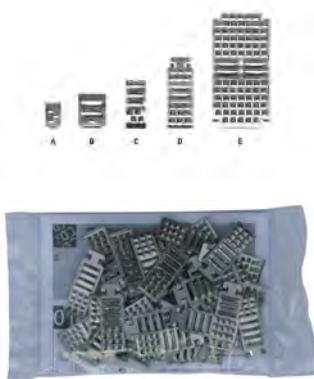
DN625 - DN825 sales release from Q1/2021 (for water applications)

DN (mm)	Range (mm)	NBR Code	EPDM Code	Weight (kg)
50	46 - 71	709 597 230	709 597 630	0.200
65	63 - 90	709 597 232	709 597 632	3.840
80	84 - 105	709 597 234	709 597 634	0.027
100	104 - 132	709 597 236	709 597 636	0.036
125	132 - 155	709 597 238	709 597 638	0.627
150	154 - 192	709 597 240	709 597 640	0.894
200	192 - 232	709 597 243	709 597 643	1.054
225	230 - 268	709 597 246	709 597 646	1.300
250	267 - 310	709 597 248	709 597 648	1.500
300	315 - 356	709 597 253	709 597 653	1.700
350	352 - 393	709 597 254	709 597 654	2.000
400	392 - 433	709 597 256	709 597 656	2.200
425	432 - 464	709 597 282	709 597 682	4.000
450	450 - 482	709 597 278	709 597 678	2.400
475	481 - 513	709 597 283	709 597 683	4.200
500	500 - 532	709 597 279	709 597 679	2.600
550	548 - 580	709 597 280	709 597 680	2.800
600	605 - 637	709 597 281	709 597 681	3.000
NEW	630 - 662	709 597 290	709 597 690	10.200

table continued on the next page

	DN (mm)	Range (mm)	NBR Code	EPDM Code	Weight (kg)
NEW	675	665 - 697	709 597 291	709 597 691	11.000
NEW	700	709 - 741	709 597 292	709 597 692	11.400
NEW	800	799 - 831	709 597 293	709 597 693	12.900
NEW	825	837 - 869	709 597 294	709 597 694	13.700

Uni/Fikser set MULTI/Joint® 3000 Plus



Model:

- For each MULTI/Joint® 3000 Plus Uni/Fiks ring / socket, 1 set is needed
- Stainless steel A4 quality (AISI 316) Fiksers

Type	DN (mm)	Range (mm)	Fiksers (qty)	Code	Weight (kg)
A	50	46 - 71	16	709 597 258	0.036
A	65	63 - 90	19	709 597 259	0.046
A	80	84 - 105	22	709 597 260	0.048
B	100	104 - 132	15	709 597 261	0.054
B	125	132 - 155	18	709 597 262	0.048
C	150	154 - 192	40	709 597 263	0.082
C	200	192 - 232	48	709 597 264	0.224
D	225	230 - 267	45	709 597 266	0.164
D	250	267 - 310	53	709 597 268	0.156
D	300	315 - 356	63	709 597 272	0.210
D	350	352 - 393	68	709 597 274	0.240
D	400	392 - 433	74	709 597 276	0.240
D	425	432 - 464	84	709 597 288	0.220
D	450	450 - 482	88	709 597 284	0.270
D	475	481 - 513	93	709 597 289	0.250
D	500	500 - 532	97	709 597 285	0.291
D	550	548 - 580	105	709 597 286	0.318
D	600	605 - 637	115	709 597 287	0.348
E	625	630 - 662	58	709 597 295	0.580
E	675	665 - 697	63	709 597 296	0.630
E	700	709 - 741	65	709 597 297	0.650
E	800	799 - 831	73	709 597 298	0.730
E	825	837 - 869	77	709 597 299	0.770



Bolts set Hexagon MULTI/Joint® 3000 Plus - A2 quality

Model:

- Set consisting of bolts, nuts and washers
- For each MULTI/Joint® 3000 socket, 1 set is needed
- Stainless steel A2 quality (AISI 304) bolts, nuts and washers

DN (mm)	DN-DN (mm)	M	Code	Weight (kg)
	50 - 80	3xM12	700 618 953	0.350
100		3xM16	700 618 954	0.700
	125 - 150	4xM16	700 618 955	0.900
200		6xM16	700 618 956	1.200
	225 - 250	6xM20	700 618 957	2.000
	300 - 350	8xM20	700 618 958	2.600
400		10xM20	700 618 959	5.000
	425 - 500	10xM20	700 618 960	4.030
550		12xM20	700 618 961	4.836
600		14xM20	700 618 962	5.642



Bolts set hexagon MULTI/JOINT® 3000 Plus - A4 quality

Model:

- Set consisting of bolts, nuts and washers
- For each MULTI/JOINT® 3000 socket, 1 set is needed
- Stainless steel A4 quality (AISI 316) bolts, nuts and washers

DN (mm)	DN-DN (mm)	M	Code	Weight (kg)
	50 - 80	3xM12	700 618 923	0.350
100		3xM16	700 618 924	0.700
	125 - 150	4xM16	700 618 925	0.900
200		6xM16	700 618 926	1.200
	225 - 250	6xM20	700 618 927	2.000
	300 - 350	8xM20	700 618 928	2.600
400		10xM20	700 618 929	5.000
	425 - 500	10xM20	700 618 933	4.030
550		12xM20	700 618 934	4.836
600		14xM20	700 618 935	5.642
	625 - 675	14xM20	700 618 963	7.700
700		16xM20	700 618 964	8.800
	800 - 825	20xM20	700 618 965	11.000



RESICOAT® repair set

Model:

- To repair the coating of the fitting

Contents	Code	Weight (kg)
30cc	709 900 000	1.000



Ratchet spanner

Model:

- For easy nut tightening
- M12 for MULTI/JOINT® DN50, DN65 and DN80
- M16 for MULTI/JOINT® DN100, DN125 and DN150

Description	Code	Weight (kg)
17x19 mm / M12	700 619 010	0.360
22x24 mm / M16	700 619 012	0.420



Torque key wrench set

Model:

- 4 wrench keys sizes: 19, 22, 24 and 30
- 1 torque key 20-200 Nm
- robust metal case
- 4 ring spanners sizes: 19, 22, 24 and 30

Code	Weight	description
(kg)		
200 008 083	9.000	basic set



Adaptor set

Model:

- compatible with the torque key set
- 3 adaptors sizes: 19, 24 and 30
- 1 ratchet key 20-200 Nm

Code	description
200 008 084	adaptor set + ratchet key

ST-System Fittings

ST-System



Coupling, non restraint

Model:

- Body and clamping ring(s): steel (ST 37-2)
- Bolts and nuts: standard stainless steel A2 (AISI 304), others on request
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- Gaskets NBR or EPDM
- Working pressures: Water: 10 bar, 16 bar or 25 bar; Gas: 4
- Ranges: DN40 - DN80 (+2 / -1), DN100 - DN200 (+2 / -1,5), DN250 - DN500 (+4 / -3), DN600 - DN1100 (+5 / -4), DN1200 - DN1600 (+5,5 / -5)
- Angular deflection of max. 4° per socket at installation (based on the middle of the range)
- All kinds of dimensions from DN40 up to DN2200 are possible on request and different lengths and pressure classes are also possible by mentioning exact outside diameter

Installation instruction:

- For all plastic pipes, the use of an insert stiffener (see accessories) is recommended and in some cases mandatory. Check our technical information.

DN (mm)	Length (mm)	Code
40	300	DN40C-N
50	300	DN50C-N
65	300	DN65C-N
80	300	DN80C-N
100	300	DN100C-N
200	300	DN200C-N
250	300	DN250C-N
300	300	DN300C-N
350	300	DN350C-N
400	300	DN400C-N
450	300	DN450C-N
500	300	DN500C-N
550	300	DN550C-N
600	300	DN600C-N
650	300	DN650C-N
700	300	DN700C-N
800	300	DN800C-N
900	300	DN900C-N
1000	300	DN1000C-N
1100	300	DN1100C-N
1200	300	DN1200C-N
1300	300	DN1300C-N
1400	300	DN1400C-N
1500	300	DN1500C-N
1600	300	DN1600C-N
1700	300	DN1700C-N
1800	300	DN1800C-N
1900	300	DN1900C-N
2000	300	DN2000C-N
2100	300	DN2100C-N
2200	300	DN2200C-N



Flange Adaptor, non restraint

Model:

- Body and clamping ring(s): steel (ST 37-2)
- Bolts and nuts: standard stainless steel A2 (AISI 304), others on request
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- Gaskets NBR or EPDM
- Working pressures: Water: 10 bar, 16 bar or 25 bar; Gas: 4
- Ranges: DN40 - DN80 (+2 / -1), DN100 - DN200 (+2 / -1,5), DN250 - DN500 (+4 / -3), DN600 - DN1100 (+5 / -4), DN1200 - DN1600 (+5,5 / -5)
- Angular deflection of max. 4° per socket at installation (based on the middle of the range)
- All kinds of dimensions from DN40 up to DN2200 are possible on request and different lengths and pressure classes are also possible by mentioning exact outside diameter
- Flange drilling: PN10, PN16, PN25; others on request

Installation instruction:

- For all plastic pipes, the use of an insert stiffener (see accessories) is recommended and in some cases mandatory. Check our technical information.

DN (mm)	DN flange (mm)	Length (mm)	Code
40	40	300	DN40F-N
50	50	300	DN50F-N
65	65	300	DN65F-N
80	80	300	DN80F-N
100	100	300	DN100F-N
200	200	300	DN200F-N
250	250	300	DN250F-N
300	300	300	DN300F-N
350	350	300	DN350F-N
400	400	300	DN400F-N
450	450	300	DN450F-N
500	500	300	DN500F-N
550	550	300	DN550F-N
600	600	300	DN600F-N
650	650	300	DN650F-N
700	700	300	DN700F-N
800	800	300	DN800F-N
900	900	300	DN900F-N
1000	1000	300	DN1000F-N
1100	1100	300	DN1100F-N
1200	1200	300	DN1200F-N
1300	1300	300	DN1300F-N
1400	1400	300	DN1400F-N
1500	1500	300	DN1500F-N
1600	1600	300	DN1600F-N
1700	1700	300	DN1700F-N
1800	1800	300	DN1800F-N
1900	1900	300	DN1900F-N
2000	2000	300	DN2000F-N
2100	2100	300	DN2100F-N
2200	2200	300	DN2200F-N



Reduction Coupling, non restraint

Model:

- Body and clamping ring(s): steel (ST 37-2)
- Bolts and nuts: standard stainless steel A2 (AISI 304), others on request
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- Gaskets NBR or EPDM
- Working pressures: Water: 10 bar, 16 bar or 25 bar; Gas: 4
- Ranges: DN40 - DN80 (+2 / -1), DN100 - DN200 (+2 / -1,5), DN250 - DN500 (+4 / -3), DN600 - DN1100 (+5 / -4), DN1200 - DN1600 (+5,5 / -5)
- Angular deflection of max. 4° per socket at installation (based on the middle of the range)
- All kinds of dimensions from DN40 up to DN2200 are possible on request and different lengths and pressure classes are also possible by mentioning exact outside diameter

Installation instruction:

- For all plastic pipes, the use of an insert stiffener (see accessories) is recommended and in some cases mandatory. Check our technical information.

DN (mm)	Length (mm)	Code
40	300	DN40RC-N
50	300	DN50RC-N
65	300	DN65RC-N
80	300	DN80RC-N
100	300	DN100RC-N
200	300	DN200RC-N
250	300	DN250RC-N
300	300	DN300RC-N
350	300	DN350RC-N
400	300	DN400RC-N
450	300	DN450RC-N
500	300	DN500RC-N
550	300	DN550RC-N
600	300	DN600RC-N
650	300	DN650RC-N
700	300	DN700RC-N
800	300	DN800RC-N
900	300	DN900RC-N
1000	300	DN1000RC-N
1100	300	DN1100RC-N
1200	300	DN1200RC-N
1300	300	DN1300RC-N
1400	300	DN1400RC-N
1500	300	DN1500RC-N
1600	300	DN1600RC-N
1700	300	DN1700RC-N
1800	300	DN1800RC-N
1900	300	DN1900RC-N
2000	300	DN2000RC-N
2100	300	DN2100RC-N
2200	300	DN2200RC-N



Reduction Flange Adaptor, non restraint

Model:

- Body and clamping ring(s): steel (ST 37-2)
- Bolts and nuts: standard stainless steel A2 (AISI 304), others on request
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- Gaskets NBR or EPDM
- Working pressures: Water: 10 bar, 16 bar or 25 bar; Gas: 4
- Ranges: DN40 - DN80 (+2 / -1), DN100 - DN200 (+2 / -1,5), DN250 - DN500 (+4 / -3), DN600 - DN1100 (+5 / -4), DN1200 - DN1600 (+5,5 / -5)
- Angular deflection of max. 4° per socket at installation (based on the middle of the range)
- All kinds of dimensions from DN40 up to DN2200 are possible on request and different lengths and pressure classes are also possible by mentioning exact outside diameter
- Flange drilling: PN10, PN16, PN25; others on request

Installation instruction:

- For all plastic pipes, the use of an insert stiffener (see accessories) is recommended and in some cases mandatory. Check our technical information.

DN (mm)	DN flange (mm)	Length (mm)	Code
40	80 - 40	300	DN40RF-N
50	80 - 50	300	DN50RF-N
65	80 - 65	300	DN65RF-N
80	80 - 2200	300	DN80RF-N
100	80 - 2200	300	DN100RF-N
200	80 - 2200	300	DN200RF-N
250	80 - 2200	300	DN250RF-N
300	80 - 2200	300	DN300RF-N
350	80 - 2200	300	DN350RF-N
400	80 - 2200	300	DN400RF-N
450	80 - 2200	300	DN450RF-N
500	80 - 2200	300	DN500RF-N
550	80 - 2200	300	DN550RF-N
600	80 - 2200	300	DN600RF-N
650	80 - 2200	300	DN650RF-N
700	80 - 2200	300	DN700RF-N
800	80 - 2200	300	DN800RF-N
900	80 - 2200	300	DN900RF-N
1000	80 - 2200	300	DN1000RF-N
1100	80 - 2200	300	DN1100RF-N
1200	80 - 2200	300	DN1200RF-N
1300	80 - 2200	300	DN1300RF-N
1400	80 - 2200	300	DN1400RF-N
1500	80 - 2200	300	DN1500RF-N
1600	80 - 2200	300	DN1600RF-N
1700	80 - 2200	300	DN1700RF-N
1800	80 - 2200	300	DN1800RF-N
1900	80 - 2200	300	DN1900RF-N
2000	80 - 2200	300	DN2000RF-N
2100	80 - 2200	300	DN2100RF-N
2200	80 - 2200	300	DN2200RF-N

Multi/Clamp

Multi/Clamp



**Multi/Clamp Snap
length 75 mm**

Model:

- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- Lugs are made of ductile cast iron
- The rubber gasket is available in NBR (EPDM on request)
- The rubber gasket is clamped and partially covers the inside of the band
- The Multi/Clamp Snap is only suitable for above ground use
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- Suitable for use on steel, (ductile) cast iron and copper pipes
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
15 - 22	16.0	724 208 010	1.000
21 - 25	16.0	724 208 019	0.245
26 - 30	16.0	724 208 028	1.000
33 - 37	16.0	724 208 037	1.000
37 - 41	16.0	724 208 046	1.000
42 - 45	16.0	724 208 055	0.318
48 - 51	16.0	724 208 064	1.000
50 - 54	16.0	724 208 073	1.000
55 - 58	16.0	724 208 082	1.000
60 - 64	16.0	724 208 091	0.365
62 - 66	16.0	724 208 100	1.000
65 - 69	16.0	724 208 109	1.000
69 - 73	16.0	724 208 118	1.000
71 - 76	16.0	724 208 127	1.000
74 - 80	16.0	724 208 136	1.000
87 - 93	16.0	724 208 145	0.500
94 - 100	16.0	724 208 154	1.000
99 - 104	16.0	724 208 163	1.000
105 - 111	16.0	724 208 172	1.000
112 - 117	10.0	724 208 181	1.000
115 - 121	10.0	724 208 190	1.000
120 - 126	10.0	724 208 199	1.000
126 - 131	10.0	724 208 208	1.000
131 - 136	10.0	724 208 217	1.000
139 - 145	10.0	724 208 226	1.000
149 - 155	10.0	724 208 235	1.000
156 - 162	10.0	724 208 244	1.000
167 - 173	10.0	724 208 253	1.000
173 - 179	10.0	724 208 262	1.000
200 - 206	10.0	724 208 271	1.000
217 - 223	10.0	724 208 280	1.000
223 - 229	10.0	724 208 289	1.000
272 - 278	6.0	724 208 298	1.000
323 - 329	6.0	724 208 307	1.000



Multi/Clamp Snap
length 150 mm

Model:

- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- Lugs are made of ductile cast iron
- The rubber gasket is available in NBR (EPDM on request)
- The rubber gasket is clamped and partially covers the inside of the band
- The Multi/Clamp Snap is only suitable for above ground use
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- Suitable for use on steel, (ductile) cast iron and copper pipes
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
15 - 22	16.0	724 208 011	1.000
21 - 25	16.0	724 208 020	1.000
26 - 30	16.0	724 208 029	1.000
33 - 37	16.0	724 208 038	1.000
37 - 41	16.0	724 208 047	0.613
42 - 45	16.0	724 208 056	1.000
48 - 51	16.0	724 208 065	1.000
50 - 54	16.0	724 208 074	0.681
55 - 58	16.0	724 208 083	1.000
60 - 64	16.0	724 208 092	1.000
62 - 66	16.0	724 208 101	1.000
65 - 69	16.0	724 208 110	1.000
69 - 73	16.0	724 208 119	1.000
71 - 76	16.0	724 208 128	1.000
74 - 80	16.0	724 208 137	1.000
87 - 93	16.0	724 208 146	1.000
94 - 100	16.0	724 208 155	1.000
99 - 104	16.0	724 208 164	1.000
105 - 111	16.0	724 208 173	1.000
112 - 117	10.0	724 208 182	1.000
115 - 121	10.0	724 208 191	1.000
120 - 126	10.0	724 208 200	1.000
126 - 131	10.0	724 208 209	1.000
131 - 136	10.0	724 208 218	1.000
139 - 145	10.0	724 208 227	1.000
149 - 155	10.0	724 208 236	1.000
156 - 162	10.0	724 208 245	1.000
167 - 173	10.0	724 208 254	1.000
173 - 179	10.0	724 208 263	1.000
200 - 206	10.0	724 208 272	1.000
217 - 223	10.0	724 208 281	1.000
223 - 229	10.0	724 208 290	1.000
272 - 278	6.0	724 208 299	1.000
323 - 329	6.0	724 208 308	1.000



Multi/Clamp Snap length 225 mm

Model:

- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- Lugs are made of ductile cast iron
- The rubber gasket is available in NBR (EPDM on request)
- The rubber gasket is clamped and partially covers the inside of the band
- The Multi/Clamp Snap is only suitable for above ground use
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- Suitable for use on steel, (ductile) cast iron and copper pipes
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
15 - 22	16.0	724 208 012	1.000
21 - 25	16.0	724 208 021	1.000
26 - 30	16.0	724 208 030	1.000
33 - 37	16.0	724 208 039	1.000
37 - 41	16.0	724 208 048	1.000
42 - 45	16.0	724 208 057	1.000
48 - 51	16.0	724 208 066	1.000
50 - 54	16.0	724 208 075	1.000
55 - 58	16.0	724 208 084	1.000
60 - 64	16.0	724 208 093	1.000
62 - 66	16.0	724 208 102	1.000
65 - 69	16.0	724 208 111	1.000
69 - 73	16.0	724 208 120	1.000
71 - 76	16.0	724 208 129	1.000
74 - 80	16.0	724 208 138	1.000
87 - 93	16.0	724 208 147	1.000
94 - 100	16.0	724 208 156	1.000
99 - 104	16.0	724 208 165	1.000
105 - 111	16.0	724 208 174	1.000
112 - 117	10.0	724 208 183	1.000
115 - 121	10.0	724 208 192	1.000
120 - 126	10.0	724 208 201	1.000
126 - 131	10.0	724 208 210	1.000
131 - 136	10.0	724 208 219	1.000
139 - 145	10.0	724 208 228	1.000
149 - 155	10.0	724 208 237	1.000
156 - 162	10.0	724 208 246	1.000
167 - 173	10.0	724 208 255	1.000
173 - 179	10.0	724 208 264	1.000
200 - 206	10.0	724 208 273	1.000
217 - 223	10.0	724 208 282	1.000
223 - 229	10.0	724 208 291	1.000
272 - 278	6.0	724 208 300	1.000
323 - 329	6.0	724 208 309	1.000



Multi/Clamp Midi length 100 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Single band clamp with partial gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
19 - 23	16.0	724 209 010	1.000
25 - 29	16.0	724 209 019	1.000
32 - 36	16.0	724 209 028	1.000
38 - 42	16.0	724 209 037	1.000
44 - 51	16.0	724 209 046	1.000
48 - 55	16.0	724 209 055	1.000
54 - 58	16.0	724 209 064	1.000
60 - 64	16.0	724 209 073	1.000
63 - 70	16.0	724 209 082	1.000
67 - 74	16.0	724 209 091	1.000
70 - 77	16.0	724 209 100	1.000
73 - 80	16.0	724 209 109	1.000
75 - 83	16.0	724 209 118	1.000
82 - 90	16.0	724 209 127	1.000
87 - 97	16.0	724 209 136	1.000
95 - 104	16.0	724 209 145	1.000
98 - 108	16.0	724 209 154	1.000
102 - 112	16.0	724 209 163	1.000
108 - 118	16.0	724 209 172	1.000
113 - 123	16.0	724 209 181	1.000
118 - 128	16.0	724 209 190	1.000
120 - 131	16.0	724 209 199	1.000



Multi/Clamp Midi length 150 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Single band clamp with partial gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
54 - 58	16.0	724 209 065	1.000
60 - 64	16.0	724 209 074	1.000
63 - 70	16.0	724 209 083	1.000
67 - 74	16.0	724 209 092	1.000
70 - 77	16.0	724 209 101	1.000
73 - 80	16.0	724 209 110	1.000
75 - 83	16.0	724 209 119	1.000
82 - 90	16.0	724 209 128	1.000
87 - 97	16.0	724 209 137	1.000
95 - 104	16.0	724 209 146	1.000
98 - 108	16.0	724 209 155	1.000

table continued on the next page

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
102 - 112	16.0	724 209 164	1.000
108 - 118	16.0	724 209 173	1.000
113 - 123	16.0	724 209 182	1.000
118 - 128	16.0	724 209 191	1.000
120 - 131	16.0	724 209 200	1.000
125 - 135	16.0	724 209 209	1.000
133 - 144	16.0	724 209 218	1.000
139 - 150	16.0	724 209 227	1.000
145 - 155	16.0	724 209 236	1.000
151 - 161	16.0	724 209 245	1.000
159 - 170	16.0	724 209 254	1.000
165 - 175	16.0	724 209 263	1.000
168 - 180	16.0	724 209 272	1.000
176 - 186	10.0	724 209 281	1.000



Multi/Clamp Midi
length 200 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Single band clamp with partial gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
95 - 104	16.0	724 209 147	1.000
98 - 108	16.0	724 209 156	1.000
102 - 112	16.0	724 209 165	1.000
108 - 118	16.0	724 209 174	1.000
113 - 123	16.0	724 209 183	1.000
118 - 128	16.0	724 209 192	1.000
120 - 131	16.0	724 209 201	1.000
125 - 135	16.0	724 209 210	1.000
133 - 144	16.0	724 209 219	1.000
139 - 150	16.0	724 209 228	1.000
145 - 155	16.0	724 209 237	1.000
151 - 161	16.0	724 209 246	1.000
159 - 170	16.0	724 209 255	1.000
165 - 175	16.0	724 209 264	1.000
168 - 180	16.0	724 209 273	1.000
176 - 186	10.0	724 209 282	1.000
180 - 191	10.0	724 209 291	1.000
193 - 203	10.0	724 209 300	1.000
200 - 210	10.0	724 209 309	1.000
209 - 220	10.0	724 209 318	1.000



Multi/Clamp Single length 75 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Single band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
19 - 23	16.0	724 211 010	1.000
25 - 29	16.0	724 211 026	1.000
32 - 36	16.0	724 211 042	1.000
38 - 42	16.0	724 211 058	1.000



Multi/Clamp Single length 150 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Single band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
19 - 23	16.0	724 211 011	1.000
25 - 29	16.0	724 211 027	1.000
32 - 36	16.0	724 211 043	1.000
38 - 42	16.0	724 211 059	1.000
44 - 51	16.0	724 211 075	1.000
48 - 55	16.0	724 211 091	1.000
52 - 59	16.0	724 211 107	1.000
57 - 64	16.0	724 211 123	1.000
60 - 67	16.0	724 211 139	1.000
63 - 70	16.0	724 211 155	1.000
67 - 74	16.0	724 211 171	1.000
70 - 77	16.0	724 211 187	1.000
73 - 80	16.0	724 211 203	1.000
75 - 83	16.0	724 211 219	1.000
82 - 90	16.0	724 211 235	1.000
87 - 97	16.0	724 211 251	1.000
95 - 104	16.0	724 211 267	1.000
98 - 108	16.0	724 211 283	1.000
102 - 112	16.0	724 211 299	1.000
108 - 118	16.0	724 211 315	1.000
113 - 123	16.0	724 211 331	1.000
118 - 128	16.0	724 211 347	1.000
120 - 131	16.0	724 211 363	1.000
125 - 135	16.0	724 211 379	1.000
133 - 144	16.0	724 211 395	1.000
139 - 150	16.0	724 211 411	1.000
145 - 155	16.0	724 211 427	1.000

table continued on the next page

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
151 - 161	16.0	724 211 443	1.000
159 - 170	16.0	724 211 459	1.000
165 - 175	16.0	724 211 475	1.000
168 - 180	16.0	724 211 491	1.000



**Multi/Clamp Single
length 200 mm**

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Single band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
44 - 51	16.0	724 211 076	1.000
48 - 55	16.0	724 211 092	1.000
52 - 59	16.0	724 211 108	1.000
57 - 64	16.0	724 211 124	1.000
60 - 67	16.0	724 211 140	1.000
63 - 70	16.0	724 211 156	1.000
67 - 74	16.0	724 211 172	1.000
70 - 77	16.0	724 211 188	1.000
73 - 80	16.0	724 211 204	1.000
75 - 83	16.0	724 211 220	1.000
82 - 90	16.0	724 211 236	1.000
87 - 97	16.0	724 211 252	1.000
95 - 104	16.0	724 211 268	1.000
98 - 108	16.0	724 211 284	1.000
102 - 112	16.0	724 211 300	1.000
108 - 118	16.0	724 211 316	1.000
113 - 123	16.0	724 211 332	1.000
118 - 128	16.0	724 211 348	1.000
120 - 131	16.0	724 211 364	1.000
125 - 135	16.0	724 211 380	1.000
133 - 144	16.0	724 211 396	1.000
139 - 150	16.0	724 211 412	1.000
145 - 155	16.0	724 211 428	1.000
151 - 161	16.0	724 211 444	1.000
159 - 170	16.0	724 211 460	1.000
165 - 175	16.0	724 211 476	1.000
168 - 180	16.0	724 211 492	1.000
176 - 186	10.0	724 211 508	1.000
180 - 191	10.0	724 211 524	1.000
193 - 203	10.0	724 211 540	1.000
200 - 210	10.0	724 211 556	1.000
209 - 220	10.0	724 211 572	1.000
215 - 226	10.0	724 211 588	1.000
219 - 230	10.0	724 211 604	1.000
222 - 233	10.0	724 211 620	1.000
228 - 240	10.0	724 211 636	1.000
243 - 253	10.0	724 211 652	1.000
252 - 262	10.0	724 211 668	1.000
261 - 271	10.0	724 211 684	1.000
271 - 281	10.0	724 211 700	1.000
280 - 290	10.0	724 211 716	1.000

table continued on the next page

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
294 - 304	10.0	724 211 732	1.000
300 - 310	10.0	724 211 748	1.000
310 - 320	10.0	724 211 764	1.000
315 - 326	10.0	724 211 780	1.000
320 - 330	10.0	724 211 796	1.000
324 - 334	10.0	724 211 812	1.000
335 - 346	10.0	724 211 828	1.000



**Multi/Clamp Single
length 250 mm**

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Single band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
60 - 67	16.0	724 211 141	1.000
63 - 70	16.0	724 211 157	1.000
67 - 74	16.0	724 211 173	1.000
70 - 77	16.0	724 211 189	1.000
73 - 80	16.0	724 211 205	1.000
75 - 83	16.0	724 211 221	1.000
82 - 90	16.0	724 211 237	1.000
87 - 97	16.0	724 211 253	1.000
95 - 104	16.0	724 211 269	1.000
98 - 108	16.0	724 211 285	1.000
102 - 112	16.0	724 211 301	1.000
108 - 118	16.0	724 211 317	1.000
113 - 123	16.0	724 211 333	1.000
118 - 128	16.0	724 211 349	1.000
120 - 131	16.0	724 211 365	1.000
125 - 135	16.0	724 211 381	1.000
133 - 144	16.0	724 211 397	1.000
139 - 150	16.0	724 211 413	1.000
145 - 155	16.0	724 211 429	1.000
151 - 161	16.0	724 211 445	1.000
159 - 170	16.0	724 211 461	1.000
165 - 175	16.0	724 211 477	1.000
168 - 180	16.0	724 211 493	1.000
176 - 186	10.0	724 211 509	1.000
180 - 191	10.0	724 211 525	1.000
193 - 203	10.0	724 211 541	1.000
200 - 210	10.0	724 211 557	1.000
209 - 220	10.0	724 211 573	1.000
215 - 226	10.0	724 211 589	1.000
219 - 230	10.0	724 211 605	1.000
222 - 233	10.0	724 211 621	1.000
228 - 240	10.0	724 211 637	1.000
243 - 253	10.0	724 211 653	1.000
252 - 262	10.0	724 211 669	1.000
261 - 271	10.0	724 211 685	1.000
271 - 281	10.0	724 211 701	1.000
280 - 290	10.0	724 211 717	1.000
294 - 304	10.0	724 211 733	1.000

table continued on the next page

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
300 - 310	10.0	724 211 749	1.000
310 - 320	10.0	724 211 765	1.000
315 - 326	10.0	724 211 781	1.000
320 - 330	10.0	724 211 797	1.000
324 - 334	10.0	724 211 813	1.000
335 - 346	10.0	724 211 829	1.000



Multi/Clamp Single length 300 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Single band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
60 - 67	16.0	724 211 142	1.000
63 - 70	16.0	724 211 158	1.000
67 - 74	16.0	724 211 174	1.000
70 - 77	16.0	724 211 190	1.000
73 - 80	16.0	724 211 206	1.000
75 - 83	16.0	724 211 222	1.000
82 - 90	16.0	724 211 238	1.000
87 - 97	16.0	724 211 254	1.000
95 - 104	16.0	724 211 270	1.000
98 - 108	16.0	724 211 286	1.000
102 - 112	16.0	724 211 302	1.000
108 - 118	16.0	724 211 318	1.000
113 - 123	16.0	724 211 334	1.000
118 - 128	16.0	724 211 350	1.000
120 - 131	16.0	724 211 366	1.000
125 - 135	16.0	724 211 382	1.000
133 - 144	16.0	724 211 398	1.000
139 - 150	16.0	724 211 414	1.000
145 - 155	16.0	724 211 430	1.000
151 - 161	16.0	724 211 446	1.000
159 - 170	16.0	724 211 462	1.000
165 - 175	16.0	724 211 478	1.000
168 - 180	16.0	724 211 494	1.000
176 - 186	10.0	724 211 510	1.000
180 - 191	10.0	724 211 526	1.000
193 - 203	10.0	724 211 542	1.000
200 - 210	10.0	724 211 558	1.000
209 - 220	10.0	724 211 574	1.000
215 - 226	10.0	724 211 590	1.000
219 - 230	10.0	724 211 606	1.000
222 - 233	10.0	724 211 622	1.000
228 - 240	10.0	724 211 638	1.000
243 - 253	10.0	724 211 654	1.000
252 - 262	10.0	724 211 670	1.000
261 - 271	10.0	724 211 686	1.000
271 - 281	10.0	724 211 702	1.000
280 - 290	10.0	724 211 718	1.000
294 - 304	10.0	724 211 734	1.000
300 - 310	10.0	724 211 750	1.000

table continued on the next page

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
310 - 320	10.0	724 211 766	1.000
315 - 326	10.0	724 211 782	1.000
320 - 330	10.0	724 211 798	1.000
324 - 334	10.0	724 211 814	1.000
335 - 346	10.0	724 211 830	1.000



**Multi/Clamp Single
length 400 mm**

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Single band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
63 - 70	16.0	724 211 159	1.000
67 - 74	16.0	724 211 175	1.000
70 - 77	16.0	724 211 191	1.000
73 - 80	16.0	724 211 207	1.000
75 - 83	16.0	724 211 223	1.000
82 - 90	16.0	724 211 239	1.000
87 - 97	16.0	724 211 255	1.000
95 - 104	16.0	724 211 271	1.000
98 - 108	16.0	724 211 287	1.000
102 - 112	16.0	724 211 303	1.000
108 - 118	16.0	724 211 319	1.000
113 - 123	16.0	724 211 335	1.000
118 - 128	16.0	724 211 351	1.000
120 - 131	16.0	724 211 367	1.000
125 - 135	16.0	724 211 383	1.000
133 - 144	16.0	724 211 399	1.000
139 - 150	16.0	724 211 415	1.000
145 - 155	16.0	724 211 431	1.000
151 - 161	16.0	724 211 447	1.000
159 - 170	16.0	724 211 463	1.000
165 - 175	16.0	724 211 479	1.000
168 - 180	16.0	724 211 495	1.000
176 - 186	10.0	724 211 511	1.000
180 - 191	10.0	724 211 527	1.000
193 - 203	10.0	724 211 543	1.000
200 - 210	10.0	724 211 559	1.000
209 - 220	10.0	724 211 575	1.000
215 - 226	10.0	724 211 591	1.000
219 - 230	10.0	724 211 607	1.000
222 - 233	10.0	724 211 623	1.000
228 - 240	10.0	724 211 639	1.000
243 - 253	10.0	724 211 655	1.000
252 - 262	10.0	724 211 671	1.000
261 - 271	10.0	724 211 687	1.000
271 - 281	10.0	724 211 703	1.000
280 - 290	10.0	724 211 719	1.000
294 - 304	10.0	724 211 735	1.000
300 - 310	10.0	724 211 751	1.000
310 - 320	10.0	724 211 767	1.000

table continued on the next page

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
315 - 326	10.0	724 211 783	1.000
320 - 330	10.0	724 211 799	1.000
324 - 334	10.0	724 211 815	1.000
335 - 346	10.0	724 211 831	1.000



**Multi/Clamp Single
length 500 mm**

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Single band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
108 - 118	16.0	724 211 320	1.000
113 - 123	16.0	724 211 336	1.000
118 - 128	16.0	724 211 352	1.000
120 - 131	16.0	724 211 368	1.000
125 - 135	16.0	724 211 384	1.000
133 - 144	16.0	724 211 400	1.000
139 - 150	16.0	724 211 416	1.000
145 - 155	16.0	724 211 432	1.000
151 - 161	16.0	724 211 448	1.000
159 - 170	16.0	724 211 464	1.000
165 - 175	16.0	724 211 480	1.000
168 - 180	16.0	724 211 496	1.000
176 - 186	10.0	724 211 512	1.000
180 - 191	10.0	724 211 528	1.000
193 - 203	10.0	724 211 544	1.000
200 - 210	10.0	724 211 560	1.000
209 - 220	10.0	724 211 576	1.000
215 - 226	10.0	724 211 592	1.000
219 - 230	10.0	724 211 608	1.000
222 - 233	10.0	724 211 624	1.000
228 - 240	10.0	724 211 640	1.000
243 - 253	10.0	724 211 656	1.000
252 - 262	10.0	724 211 672	1.000
261 - 271	10.0	724 211 688	1.000
271 - 281	10.0	724 211 704	1.000
280 - 290	10.0	724 211 720	1.000
294 - 304	10.0	724 211 736	1.000
300 - 310	10.0	724 211 752	1.000
310 - 320	10.0	724 211 768	1.000
315 - 326	10.0	724 211 784	1.000
320 - 330	10.0	724 211 800	1.000
324 - 334	10.0	724 211 816	1.000
335 - 346	10.0	724 211 832	1.000



Multi/Clamp Single length 600 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Single band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
222 - 233	10.0	724 211 625	1.000
228 - 240	10.0	724 211 641	1.000
243 - 253	10.0	724 211 657	1.000
252 - 262	10.0	724 211 673	1.000
261 - 271	10.0	724 211 689	1.000
271 - 281	10.0	724 211 705	1.000
280 - 290	10.0	724 211 721	1.000
294 - 304	10.0	724 211 737	1.000
300 - 310	10.0	724 211 753	1.000
310 - 320	10.0	724 211 769	1.000
315 - 326	10.0	724 211 785	1.000
320 - 330	10.0	724 211 801	1.000
324 - 334	10.0	724 211 817	1.000
335 - 346	10.0	724 211 833	1.000



Multi/Clamp Double length 200 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Double band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
88 - 110	16.0	724 212 058	2.770
108 - 128	16.0	724 212 074	3.400
112 - 134	16.0	724 212 090	2.920
120 - 140	16.0	724 212 106	3.400
133 - 155	16.0	724 212 122	3.800
138 - 160	16.0	724 212 138	3.630
158 - 180	16.0	724 212 154	4.400
168 - 190	16.0	724 212 170	4.400
190 - 210	10.0	724 212 186	4.070
195 - 217	10.0	724 212 202	4.700
210 - 230	10.0	724 212 218	4.900
216 - 238	10.0	724 212 234	4.900
225 - 246	10.0	724 212 250	5.100
238 - 260	10.0	724 212 266	5.100
251 - 271	10.0	724 212 282	5.300

table continued on the next page

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
260 - 280	10.0	724 212 298	5.300
269 - 289	10.0	724 212 314	5.300
273 - 293	10.0	724 212 330	5.300
295 - 315	10.0	724 212 346	5.300



**Multi/Clamp Double
length 250 mm**

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Double band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
88 - 110	16.0	724 212 059	4.500
108 - 128	16.0	724 212 075	4.700
112 - 134	16.0	724 212 091	4.700
120 - 140	16.0	724 212 107	4.700
133 - 155	16.0	724 212 123	5.200
138 - 160	16.0	724 212 139	5.200
158 - 180	16.0	724 212 155	5.120
168 - 190	16.0	724 212 171	6.000
190 - 210	10.0	724 212 187	6.400
195 - 217	10.0	724 212 203	6.400
210 - 230	10.0	724 212 219	6.600
216 - 238	10.0	724 212 235	6.600
225 - 246	10.0	724 212 251	6.900
238 - 260	10.0	724 212 267	6.900
251 - 271	10.0	724 212 283	7.200
260 - 280	10.0	724 212 299	7.200
269 - 289	10.0	724 212 315	7.200
273 - 293	10.0	724 212 331	7.200
295 - 315	10.0	724 212 347	7.200
314 - 335	10.0	724 212 363	7.400
322 - 344	10.0	724 212 379	7.400
334 - 354	10.0	724 212 395	7.400
340 - 360	10.0	724 212 411	7.400



Multi/Clamp Double length 300 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Double band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
88 - 110	16.0	724 212 060	4.180
108 - 128	16.0	724 212 076	4.440
112 - 134	16.0	724 212 092	5.300
120 - 140	16.0	724 212 108	5.300
133 - 155	16.0	724 212 124	5.800
138 - 160	16.0	724 212 140	5.500
158 - 180	16.0	724 212 156	5.790
168 - 190	16.0	724 212 172	5.880
190 - 210	10.0	724 212 188	6.190
195 - 217	10.0	724 212 204	7.100
210 - 230	10.0	724 212 220	7.500
216 - 238	10.0	724 212 236	7.500
225 - 246	10.0	724 212 252	7.800
238 - 260	10.0	724 212 268	7.800
251 - 271	10.0	724 212 284	8.900
260 - 280	10.0	724 212 300	8.900
269 - 289	10.0	724 212 316	8.900
273 - 293	10.0	724 212 332	8.900
295 - 315	10.0	724 212 348	8.900
314 - 335	10.0	724 212 364	9.500
322 - 344	10.0	724 212 380	9.500
334 - 354	10.0	724 212 396	9.500
340 - 360	10.0	724 212 412	9.500
348 - 368	10.0	724 212 428	10.200
365 - 385	10.0	724 212 444	10.200
376 - 396	10.0	724 212 460	10.200
382 - 402	10.0	724 212 476	10.200
390 - 410	10.0	724 212 492	10.200
404 - 424	10.0	724 212 508	11.000
420 - 440	10.0	724 212 524	11.000



Multi/Clamp Double length 400 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Double band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
88 - 110	16.0	724 212 061	6.600
108 - 128	16.0	724 212 077	6.900
112 - 134	16.0	724 212 093	6.900

table continued on the next page

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
120 - 140	16.0	724 212 109	6.900
133 - 155	16.0	724 212 125	7.600
138 - 160	16.0	724 212 141	7.600
158 - 180	16.0	724 212 157	8.800
168 - 190	16.0	724 212 173	8.800
190 - 210	10.0	724 212 189	9.400
195 - 217	10.0	724 212 205	9.400
210 - 230	10.0	724 212 221	9.800
216 - 238	10.0	724 212 237	9.800
225 - 246	10.0	724 212 253	10.200
238 - 260	10.0	724 212 269	10.200
251 - 271	10.0	724 212 285	11.500
260 - 280	10.0	724 212 301	11.500
269 - 289	10.0	724 212 317	11.500
273 - 293	10.0	724 212 333	11.500
295 - 315	10.0	724 212 349	11.500
314 - 335	10.0	724 212 365	12.300
322 - 344	10.0	724 212 381	12.300
334 - 354	10.0	724 212 397	12.300
340 - 360	10.0	724 212 413	12.300
348 - 368	10.0	724 212 429	13.200
365 - 385	10.0	724 212 445	13.200
376 - 396	10.0	724 212 461	13.200
382 - 402	10.0	724 212 477	13.200
390 - 410	10.0	724 212 493	13.200
404 - 424	10.0	724 212 509	14.200
420 - 440	10.0	724 212 525	14.200
440 - 460	10.0	724 212 541	14.200
457 - 477	10.0	724 212 557	14.800
468 - 488	10.0	724 212 573	14.800
488 - 508	10.0	724 212 589	14.800
500 - 520	10.0	724 212 605	15.900
520 - 540	6.0	724 212 621	15.900
527 - 547	6.0	724 212 637	15.900
545 - 565	6.0	724 212 653	15.900
555 - 570	6.0	724 212 669	15.900
568 - 588	6.0	724 212 685	15.900
586 - 606	6.0	724 212 701	15.900
600 - 620	6.0	724 212 717	17.700
625 - 645	6.0	724 212 733	17.700
650 - 670	6.0	724 212 749	17.700



Multi/Clamp Double length 500 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Double band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
88 - 110	16.0	724 212 062	8.400
108 - 128	16.0	724 212 078	8.800
112 - 134	16.0	724 212 094	8.800
120 - 140	16.0	724 212 110	8.800

table continued on the next page

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
133 - 155	16.0	724 212 126	9.600
138 - 160	16.0	724 212 142	9.600
158 - 180	16.0	724 212 158	11.200
168 - 190	16.0	724 212 174	11.200
190 - 210	10.0	724 212 190	12.100
195 - 217	10.0	724 212 206	12.100
210 - 230	10.0	724 212 222	12.500
216 - 238	10.0	724 212 238	12.500
225 - 246	10.0	724 212 254	13.000
238 - 260	10.0	724 212 270	13.000
251 - 271	10.0	724 212 286	15.200
260 - 280	10.0	724 212 302	15.200
269 - 289	10.0	724 212 318	15.200
273 - 293	10.0	724 212 334	15.200
295 - 315	10.0	724 212 350	15.200
314 - 335	10.0	724 212 366	16.100
322 - 344	10.0	724 212 382	16.100
334 - 354	10.0	724 212 398	16.100
340 - 360	10.0	724 212 414	16.100
348 - 368	10.0	724 212 430	17.200
365 - 385	10.0	724 212 446	17.200
376 - 396	10.0	724 212 462	17.200
382 - 402	10.0	724 212 478	17.200
390 - 410	10.0	724 212 494	17.200
404 - 424	10.0	724 212 510	18.700
420 - 440	10.0	724 212 526	18.700
440 - 460	10.0	724 212 542	18.700
457 - 477	10.0	724 212 558	19.200
468 - 488	10.0	724 212 574	19.200
488 - 508	10.0	724 212 590	19.200
500 - 520	10.0	724 212 606	20.700
520 - 540	6.0	724 212 622	20.700
527 - 547	6.0	724 212 638	20.700
545 - 565	6.0	724 212 654	20.700
555 - 570	6.0	724 212 670	20.700
568 - 588	6.0	724 212 686	20.700
586 - 606	6.0	724 212 702	20.700
600 - 620	6.0	724 212 718	22.900
625 - 645	6.0	724 212 734	22.900
650 - 670	6.0	724 212 750	22.900



**Multi/Clamp Double
length 600 mm**

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Double band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
314 - 335	10.0	724 212 367	19.000
322 - 344	10.0	724 212 383	19.000
334 - 354	10.0	724 212 399	19.000
340 - 360	10.0	724 212 415	19.000
348 - 368	10.0	724 212 431	20.500

table continued on the next page

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
365 - 385	10.0	724 212 447	20.500
376 - 396	10.0	724 212 463	20.500
382 - 402	10.0	724 212 479	20.500
390 - 410	10.0	724 212 495	20.500
404 - 424	10.0	724 212 511	21.800
420 - 440	10.0	724 212 527	21.800
440 - 460	10.0	724 212 543	21.800
457 - 477	10.0	724 212 559	23.000
468 - 488	10.0	724 212 575	23.000
488 - 508	10.0	724 212 591	23.000
500 - 520	10.0	724 212 607	24.500
520 - 540	6.0	724 212 623	24.500
527 - 547	6.0	724 212 639	24.500
545 - 565	6.0	724 212 655	24.500
555 - 570	6.0	724 212 671	24.500
568 - 588	6.0	724 212 687	24.500
586 - 606	6.0	724 212 703	24.500
600 - 620	6.0	724 212 719	27.200
625 - 645	6.0	724 212 735	27.200
650 - 670	6.0	724 212 751	27.200
705 - 725	4.0	724 212 767	19.700
730 - 750	4.0	724 212 783	29.200
755 - 775	4.0	724 212 799	29.200
805 - 825	3.0	724 212 815	30.500
835 - 855	3.0	724 212 831	31.500



Multi/Clamp Double length 750 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Double band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
420 - 440	10.0	724 212 528	26.300
440 - 460	10.0	724 212 544	26.300
457 - 477	10.0	724 212 560	28.500
468 - 488	10.0	724 212 576	28.500
488 - 508	10.0	724 212 592	28.500
500 - 520	10.0	724 212 608	30.900
520 - 540	6.0	724 212 624	30.900
527 - 547	6.0	724 212 640	30.900
545 - 565	6.0	724 212 656	30.900
555 - 570	6.0	724 212 672	30.900
568 - 588	6.0	724 212 688	30.900
586 - 606	6.0	724 212 704	30.900
600 - 620	6.0	724 212 720	34.500
625 - 645	6.0	724 212 736	34.500
650 - 670	6.0	724 212 752	34.500
705 - 725	4.0	724 212 768	24.900

table continued on the next page

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
730 - 750	4.0	724 212 784	36.500
755 - 775	4.0	724 212 800	36.500
805 - 825	3.0	724 212 816	38.000
835 - 855	3.0	724 212 832	39.000



**Multi/Clamp Triple
length 300 mm**

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Triple band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
267 - 297	10.0	724 213 060	1.000
300 - 330	10.0	724 213 076	1.000
323 - 353	10.0	724 213 092	1.000
352 - 382	10.0	724 213 108	1.000
378 - 408	10.0	724 213 124	1.000
402 - 432	10.0	724 213 140	1.000
429 - 459	10.0	724 213 156	1.000
456 - 486	10.0	724 213 172	1.000
490 - 520	10.0	724 213 188	1.000
520 - 550	10.0	724 213 204	1.000



**Multi/Clamp Triple
length 400 mm**

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Triple band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
267 - 297	10.0	724 213 061	1.000
300 - 330	10.0	724 213 077	1.000
323 - 353	10.0	724 213 093	1.000
352 - 382	10.0	724 213 109	1.000
378 - 408	10.0	724 213 125	1.000
402 - 432	10.0	724 213 141	1.000
429 - 459	10.0	724 213 157	1.000
456 - 486	10.0	724 213 173	1.000
490 - 520	10.0	724 213 189	1.000

table continued on the next page

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
520 - 550	10.0	724 213 205	1.000
532 - 562	6.0	724 213 221	1.000
545 - 575	6.0	724 213 237	1.000
570 - 600	6.0	724 213 253	1.000



**Multi/Clamp Triple
length 500 mm**

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Triple band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
352 - 382	10.0	724 213 110	1.000
378 - 408	10.0	724 213 126	1.000
402 - 432	10.0	724 213 142	1.000
429 - 459	10.0	724 213 158	1.000
456 - 486	10.0	724 213 174	1.000
490 - 520	10.0	724 213 190	1.000
520 - 550	10.0	724 213 206	29.000
532 - 562	6.0	724 213 222	1.000
545 - 575	6.0	724 213 238	1.000
570 - 600	6.0	724 213 254	1.000
586 - 616	6.0	724 213 270	1.000
609 - 639	6.0	724 213 286	1.000
615 - 645	6.0	724 213 302	1.000
633 - 663	4.0	724 213 318	1.000
640 - 670	4.0	724 213 334	1.000
654 - 684	4.0	724 213 350	1.000



**Multi/Clamp Triple
length 600 mm**

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Triple band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
456 - 486	10.0	724 213 175	1.000
490 - 520	10.0	724 213 191	1.000
520 - 550	10.0	724 213 207	1.000
532 - 562	6.0	724 213 223	1.000
545 - 575	6.0	724 213 239	1.000
570 - 600	6.0	724 213 255	1.000
586 - 616	6.0	724 213 271	1.000

table continued on the next page

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
609 - 639	6.0	724 213 287	1.000
615 - 645	6.0	724 213 303	1.000
633 - 663	4.0	724 213 319	1.000
640 - 670	4.0	724 213 335	1.000
654 - 684	4.0	724 213 351	1.000
670 - 700	4.0	724 213 367	1.000
702 - 732	4.0	724 213 383	1.000
711 - 741	4.0	724 213 399	1.000
729 - 759	4.0	724 213 415	1.000
747 - 777	4.0	724 213 431	1.000
780 - 815	4.0	724 213 447	1.000
800 - 830	4.0	724 213 463	1.000
813 - 843	3.0	724 213 479	1.000
830 - 860	3.0	724 213 495	1.000
852 - 882	2.0	724 213 511	1.000
864 - 894	2.0	724 213 527	1.000
900 - 930	2.0	724 213 543	1.000
925 - 955	2.0	724 213 559	1.000
945 - 975	2.0	724 213 575	1.000
970 - 1000	2.0	724 213 591	1.000



Multi/Clamp Triple length 750 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Triple band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	PN Water (bar)	NBR Code	Weight (kg)
545 - 575	6.0	724 213 240	1.000
570 - 600	6.0	724 213 256	1.000
586 - 616	6.0	724 213 272	1.000
609 - 639	6.0	724 213 288	1.000
615 - 645	6.0	724 213 304	1.000
633 - 663	4.0	724 213 320	1.000
640 - 670	4.0	724 213 336	1.000
654 - 684	4.0	724 213 352	1.000
670 - 700	4.0	724 213 368	1.000
702 - 732	4.0	724 213 384	48.000
711 - 741	4.0	724 213 400	1.000
729 - 759	4.0	724 213 416	1.000
747 - 777	4.0	724 213 432	1.000
780 - 815	4.0	724 213 448	1.000
800 - 830	4.0	724 213 464	1.000
813 - 843	3.0	724 213 480	1.000
830 - 860	3.0	724 213 496	1.000
852 - 882	2.0	724 213 512	1.000
864 - 894	2.0	724 213 528	1.000
900 - 930	2.0	724 213 544	1.000
925 - 955	2.0	724 213 560	1.000
945 - 975	2.0	724 213 576	1.000
970 - 1000	2.0	724 213 592	1.000



Multi/Clamp Thread (surcharge)

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- The Multi/Clamp single, double and triple can be equipped with a threaded outlet
- To obtain the total product price please take the surcharge for the threaded outlet and the price of the repair clamp
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- Female threaded outlet (other threads or combinations on request)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Size (inch)	min. pipe OD	Length	Code
1/2	from 48 mm	min. length 150 mm	thread1/2
3/4	from 48 mm	min. length 150 mm	thread3/4
1	from 54 mm	min. length 150 mm	thread1
1 1/4	from 76 mm	min. length 150 mm	thread1.1/4
1 1/2	from 82 mm	min. length 200 mm	thread1.1/2
2	from 87 mm	min. length 200 mm	thread2
2 1/2	from 110 mm	min. length 200 mm	thread2.1/2
3	from 130 mm	min. length 300 mm	thread3
4	from 155 mm	min. length 400 mm	thread4



Multi/Clamp Saddle Studs threaded outlet 1/2

Model:

- Saddle with threaded outlet
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Outlet dimension up to 4" available on request
- Lower shell half is without gasket (available on request)
- Other sizes available on request
- Not suitable for the use on plastic pipes
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.

Range (mm)	PN Water (bar)	NBR Code
68 - 78	16.0	724 201 061
88 - 110	16.0	724 201 073
108 - 134	16.0	724 201 097
133 - 155	16.0	724 201 133
159 - 181	16.0	724 201 169
168 - 190	16.0	724 201 193
190 - 212	16.0	724 201 205
216 - 238	16.0	724 201 217
238 - 260	16.0	724 201 241
267 - 289	16.0	724 201 253



Multi/Clamp Saddle Studs threaded outlet 3/4

Model:

- Saddle with threaded outlet
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Outlet dimension up to 4" available on request
- Lower shell half is without gasket (available on request)
- Other sizes available on request
- Not suitable for the use on plastic pipes
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.

Range (mm)	PN Water (bar)	NBR Code
68 - 78	16.0	724 201 062
88 - 110	16.0	724 201 074
108 - 134	16.0	724 201 098
133 - 155	16.0	724 201 134
159 - 181	16.0	724 201 170
168 - 190	16.0	724 201 194
190 - 212	16.0	724 201 206
216 - 238	16.0	724 201 218
238 - 260	16.0	724 201 242
267 - 289	16.0	724 201 254



Multi/Clamp Saddle Studs threaded outlet 1

Model:

- Saddle with threaded outlet
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Outlet dimension up to 4" available on request
- Lower shell half is without gasket (available on request)
- Other sizes available on request
- Not suitable for the use on plastic pipes
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.

Range (mm)	PN Water (bar)	NBR Code
68 - 78	16.0	724 201 063
88 - 110	16.0	724 201 075
108 - 134	16.0	724 201 099
133 - 155	16.0	724 201 135
159 - 181	16.0	724 201 171
168 - 190	16.0	724 201 195
190 - 212	16.0	724 201 207
216 - 238	16.0	724 201 219
238 - 260	16.0	724 201 243
267 - 289	16.0	724 201 255



Multi/Clamp Saddle Studs threaded outlet 1 1/4

Model:

- Saddle with threaded outlet
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Outlet dimension up to 4" available on request
- Lower shell half is without gasket (available on request)
- Other sizes available on request
- Not suitable for the use on plastic pipes
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.

Range (mm)	PN Water (bar)	NBR Code
88 - 110	16.0	724 201 076
108 - 134	16.0	724 201 100
133 - 155	16.0	724 201 136
159 - 181	16.0	724 201 172
168 - 190	16.0	724 201 196
190 - 212	16.0	724 201 208
216 - 238	16.0	724 201 220
238 - 260	16.0	724 201 244
267 - 289	16.0	724 201 256



Multi/Clamp Saddle Studs threaded outlet 1 1/2

Model:

- Saddle with threaded outlet
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Outlet dimension up to 4" available on request
- Lower shell half is without gasket (available on request)
- Other sizes available on request
- Not suitable for the use on plastic pipes
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.

Range (mm)	PN Water (bar)	NBR Code
108 - 134	16.0	724 201 101
133 - 155	16.0	724 201 137
159 - 181	16.0	724 201 173
168 - 190	16.0	724 201 197
190 - 212	16.0	724 201 209
216 - 238	16.0	724 201 221
238 - 260	16.0	724 201 245
267 - 289	16.0	724 201 257



Multi/Clamp Saddle Studs threaded outlet 2

Model:

- Saddle with threaded outlet
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Outlet dimension up to 4" available on request
- Lower shell half is without gasket (available on request)
- Other sizes available on request
- Not suitable for the use on plastic pipes
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.

Range (mm)	PN Water (bar)	NBR Code
108 - 134	16.0	724 201 102
133 - 155	16.0	724 201 138
159 - 181	16.0	724 201 174
168 - 190	16.0	724 201 198
190 - 212	16.0	724 201 210
216 - 238	16.0	724 201 222
238 - 260	16.0	724 201 246
267 - 289	16.0	724 201 258



Multi/Clamp Flange (tapping sleeve) length 300 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Double band saddle with flanged outlet
- Full circle construction for optimal pipe support
- To obtain the total product price, please take the price of the tapping sleeve and add the price for the flange outlet
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	DN (mm)	PN Water (bar)	NBR Code
95 - 104		16.0	95-104L300N
98 - 108		16.0	98-108L300N
108 - 128		16.0	108-128L300N
118 - 138		16.0	118-138L300N
133 - 153		16.0	133-153L300N
143 - 163		16.0	143-163L300N
160 - 180		16.0	160-180L300N
180 - 200		16.0	180-200L300N
190 - 210		16.0	190-210L300N
210 - 230		16.0	210-230L300N
230 - 250		16.0	230-250L300N
240 - 260		16.0	240-260L300N
250 - 270		16.0	250-270L300N
270 - 290		16.0	270-290L300N
290 - 310		16.0	290-310L300N
315 - 335		16.0	315-335L300N
335 - 355		16.0	335-355L300N
-	350	16.0	DN350L300N



Multi/Clamp Flange (tapping sleeve) length 400 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Double band saddle with flanged outlet
- Full circle construction for optimal pipe support
- To obtain the total product price, please take the price of the tapping sleeve and add the price for the flange outlet
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	DN (mm)	PN Water (bar)	NBR Code
95 - 104		16.0	95-104L400N
98 - 108		16.0	98-108L400N
108 - 128		16.0	108-128L400N
118 - 138		16.0	118-138L400N
133 - 153		16.0	133-153L400N
143 - 163		16.0	143-163L400N
160 - 180		16.0	160-180L400N
180 - 200		16.0	180-200L400N
190 - 210		16.0	190-210L400N
210 - 230		16.0	210-230L400N
230 - 250		16.0	230-250L400N
240 - 260		16.0	240-260L400N
250 - 270		16.0	250-270L400N
270 - 290		16.0	270-290L400N
290 - 310		16.0	290-310L400N
315 - 335		16.0	315-335L400N
335 - 355		16.0	335-355L400N
-	350	16.0	DN350L400N
-	400	16.0	DN400L400N
-	450	16.0	DN450L400N
-	500	16.0	DN500L400N
-	600	10.0	DN600L400N
-	700		DN700L400N



Multi/Clamp Flange (tapping sleeve) length 500 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Double band saddle with flanged outlet
- Full circle construction for optimal pipe support
- To obtain the total product price, please take the price of the tapping sleeve and add the price for the flange outlet
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	DN (mm)	PN Water (bar)	NBR Code
95 - 104		16.0	95-104L500N
98 - 108		16.0	98-108L500N
108 - 128		16.0	108-128L500N
118 - 138		16.0	118-138L500N

table continued on the next page

Range (mm)	DN (mm)	PN Water (bar)	NBR Code
133 - 153		16.0	133-153L500N
143 - 163		16.0	143-163L500N
160 - 180		16.0	160-180L500N
180 - 200		16.0	180-200L500N
190 - 210		16.0	190-210L500N
210 - 230		16.0	210-230L500N
230 - 250		16.0	230-250L500N
240 - 260		16.0	240-260L500N
250 - 270		16.0	250-270L500N
270 - 290		16.0	270-290L500N
290 - 310		16.0	290-310L500N
315 - 335		16.0	315-335L500N
335 - 355		16.0	335-355L500N
-	350	16.0	DN350L500N
-	400	16.0	DN400L500N
-	450	16.0	DN450L500N
-	500	16.0	DN500L500N
-	600	10.0	DN600L500N
-	700		DN700L500N
-	750		DN750L500N
-	800		DN800L500N



**Multi/Clamp Flange (tapping sleeve)
length 600 mm**

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Double band saddle with flanged outlet
- Full circle construction for optimal pipe support
- To obtain the total product price, please take the price of the tapping sleeve and add the price for the flange outlet
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

Range (mm)	DN (mm)	PN Water (bar)	NBR Code
315 - 335		16.0	315-335L600N
335 - 355		16.0	335-355L600N
-	350	16.0	DN350L600N
-	400	16.0	DN400L600N
-	450	16.0	DN450L600N
-	500	16.0	DN500L600N
-	600	10.0	DN600L600N
-	700		DN700L600N
-	750		DN750L600N
-	800		DN800L600N



Multi/Clamp Flange (tapping sleeve) length 750 mm

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Double band saddle with flanged outlet
- Full circle construction for optimal pipe support
- To obtain the total product price, please take the price of the tapping sleeve and add the price for the flange outlet
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.
- To choose the correct length of Multi/Clamp check our technical information

DN (mm)	PN Water (bar)	NBR Code
400	16.0	DN400L750N
450	16.0	DN450L750N
500	16.0	DN500L750N
600	10.0	DN600L750N
700		DN700L750N
750		DN750L750N
800		DN800L750N

Multi/Clamp Flange (flange outlet)

Model:

- To obtain the total product price please add the price of the tapping sleeve
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- To choose the correct length of Multi/Clamp check our technical information

DN (mm)	Drilling pat- tern	required body length	Total height of the branch and flange (mm)	Code
50	PN 10/16	300 mm	80	flangeDN50
65	PN 10/16	300 mm	80	flangeDN65
80	PN 10/16	300 mm (400 mm if pipe OD > 300)	100	flangeDN80
100	PN 10/16	400 mm	100	flangeDN100
125	PN 10/16	400 mm	120	flangeDN125
150	PN 10/16	400 mm	130	flangeDN150
200	PN 10	500 mm	140	flangeDN200
250	PN 10	600 mm	165	flangeDN250
300	PN 10	750 mm	165	flangeDN300



**Multi/Clamp Combi Box
length 400 mm**

Model:

- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- A combination of either two or more shell sections enables you to repair pipes from OD 91 mm up to OD 1146 mm
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: NBR according to EN 682 (-10°C up to +70°C); potable water: EPDM according to EN 681-1 (-10°C up to +55°C)
- For working pressures in GAS please consult Georg Fischer Waga N.V.

Description	NBR Code	Weight (kg)	EPDM Code
Repair set complete (all shell sections + wooden box)	724 213 730	35.000	724 233 730
Shell section A	724 213 746	1.000	724 233 746
Shell section B	724 213 762	5.234	724 233 762
Shell section C	724 213 778	5.572	724 233 778
Shell section D	724 213 794	6.150	724 233 794
Shell section E	724 213 810	6.704	724 233 810
Wooden box separate	724 213 826	1.000	

Range [mm]	description	PN water [bar]
91 - 98	A	16
111 - 121	B	16
131 - 141	C	16
162 - 172	D	16
193 - 203	E	16
<u>Shell sections to combine with 1 Multi/Clamp Combi Box:</u>		
213 - 233	A B	16
233 - 253	A C	16
253 - 273	B C	10
284 - 284	A D	10
284 - 304	B D	10
295 - 315	A E	10
304 - 324	C D	10
314 - 334	B E	10
335 - 355	C E	10
354 - 384	A B C	10
386 - 416	A B D	10
406 - 436	A C D	10
416 - 446	A B E	10
426 - 456	B C D	10
436 - 466	A C E	10
456 - 486	B C E	10
487 - 497	A D E	10
487 - 517	B D E	10
508 - 538	C D E	10
527 - 567	A B C D	6
558 - 598	A B C E	6
589 - 629	A B D E	6
609 - 649	A C D E	4
629 - 669	B C D E	4
730 - 780	A B C D E	2
<u>Shell sections to combine with 2 Multi/Clamp Combi Boxes:</u>		
661 - 701	B D D E	2
720 - 770	E E B A A	2
761 - 811	E E C B A	2
833 - 883	E E D C B	2
853 - 903	E E D C C	2
934 - 994	E E D C B A	2
965 - 1025	E E D D B A	1
1026 - 1086	E E D D C C	1
1076 - 1146	E E D C C B A	1

W400/W410 drilling devices

W400 drilling device (3/4" - 2")



**Basic Drilling Device W400
including ratchet and drill shaft 620 mm (accessories to be added)**

Model:

- Including: hex key 3 mm, hex key 6 mm and screwdriver

Description	Code	Weight (kg)
basic device including ratchet and drill shaft	709 700 000	8.000



Male threaded adaptors for W400 drilling device

Model:

- Suitable to connect to saddles

Description	Code	Weight (kg)
male threaded adaptor 3/4	709 702 257	1.440
male threaded adaptor 1	709 702 258	1.720
male threaded adaptor 1 1/4	709 702 259	1.760
male threaded adaptor 1 1/2	709 702 260	1.800
male threaded adaptor 2	709 702 261	1.440



Mandrel combined with pilot drill

Model:

- mandrel including special pilot drill 6mm with dual retention wires

Description	Code	Weight (kg)
hole saw mandrel 9/16 inch - 1 3/16 inch with retain pilot drill	709 701 260	1.000
hole saw mandrel 1 1/4 inch - 6 inch with retain pilot drill	709 701 261	1.000



Cup drill HSS

Model:

- Suitable for steel and (ductile) cast iron

Inch (inch)	Description	Code	Weight (kg)
11/16	HSS bi-metal cutter 17,5 mm	709 810 511	0.300
3/4	HSS bi-metal cutter 19,1 mm	709 810 512	0.300
7/8	HSS bi-metal cutter 22,2 mm	709 810 514	0.300
15/16	HSS bi-metal cutter 23,8 mm	709 810 515	0.300
1	HSS bi-metal cutter 25,4 mm	709 810 516	0.300
1 1/8	HSS bi-metal cutter 28,6 mm	709 810 518	0.300
1 3/16	HSS bi-metal cutter 30,2 mm	709 810 519	0.300
1 1/4	HSS bi-metal cutter 31,8 mm	709 810 520	0.300
1 3/8	HSS bi-metal cutter 34,9 mm	709 810 522	0.300

table continued on the next page

Inch (inch)	Description	Code	Weight (kg)
1 7/16	HSS bi-metal cutter 36,5 mm	709 810 523	0.300
1 1/2	HSS bi-metal cutter 38,1 mm	709 810 524	0.300
1 3/4	HSS bi-metal cutter 44,5 mm	709 810 528	0.300
2	HSS bi-metal cutter 50,8 mm	709 810 532	0.300



Cup drill HSS carbide tipped

Model:

- Suitable for abrasive materials such as asbestos cement and cement lined (ductile) iron pipes

Inch (inch)	Description	Code	Weight (kg)
3/4	carbide tipped HSS bi-metal cutter 19,1 mm	709 810 612	0.300
7/8	carbide tipped HSS bi-metal cutter 22,2 mm	709 810 614	0.300
1	carbide tipped HSS bi-metal cutter 25,4 mm	709 810 616	0.300
1 1/8	carbide tipped HSS bi-metal cutter 28,6 mm	709 810 618	0.300
1 1/4	carbide tipped HSS bi-metal cutter 31,8 mm	709 810 620	0.300
1 3/8	carbide tipped HSS bi-metal cutter 34,9 mm	709 810 622	0.300
1 1/2	carbide tipped HSS bi-metal cutter 38,1 mm	709 810 624	0.300
1 3/4	carbide tipped HSS bi-metal cutter 44,5 mm	709 810 628	0.300
2	carbide tipped HSS bi-metal cutter 50,8 mm	709 810 632	0.300



Pilot drill

Model:

- pilot drill 6 mm with dual retention wires

Description	Code	Weight (kg)
pilot drill 6 mm with dual retention wires	709 800 006	0.010



Cup drill PRO-FIT (other sizes on request)

Model:

- Suitable for PE and PVC pipes

Inch (inch)	Description	Code	Weight (kg)
11/16	PRO-FIT PE/PVC cutter 17,5 mm	709 810 711	0.030
3/4	PRO-FIT PE/PVC cutter 19,1 mm	709 810 712	0.034
7/8	PRO-FIT PE/PVC cutter 22,2 mm	709 810 714	0.046
1	PRO-FIT PE/PVC cutter 25,4 mm	709 810 716	0.056
1 1/4	PRO-FIT PE/PVC cutter 31,8 mm	709 810 720	0.096
1 1/2	PRO-FIT PE/PVC cutter 38,1 mm	709 810 724	0.104
1 3/4	PRO-FIT PE/PVC cutter 44,5 mm	709 810 728	0.120
1 7/8	PRO-FIT PE/PVC cutter 48,2 mm	709 810 730	0.128



Heavy duty transport / storage box for W400 drilling device

Model:

- Outside dimension transport case: 80 x 40 x 20 cm

Description	Code	Weight (kg)
Heavy duty transport / storage box for W400 drilling device	709 706 416	8.100

W410 drilling device (3/4" - 8")



**Basic Drilling Device W410
including ratchet
(all accessories to be added)**

Model:

- Including: hex key 3 mm, hex key 6 mm and screwdriver

Description	Code	Weight (kg)
basic device including ratchet	709 700 100	7.800



Drill shafts

Model:

- Drill shafts to be selected depending on build up length of your configuration

Description	Code	Weight (kg)
drill shaft 620 mm	709 700 010	1.200
drill shaft 775 mm	709 700 021	1.500
drill shaft 1070 mm	709 700 023	2.070



Mandrel combined with pilot drill

Model:

- mandrel including special pilot drill 6mm with dual retention wires

Description	Code	Weight (kg)
hole saw mandrel 9/16 inch - 1 3/16 inch with retain pilot drill	709 701 260	1.000
hole saw mandrel 1 1/4 inch - 6 inch with retain pilot drill	709 701 261	1.000



Flange adaptors

Model:

- Suitable for flange to flange connections
- Not included flange bolts / gasket
- Flange adaptor for W410
- Suitable for MULTI/JOINT® flange adaptor / connection to PE spigot

Description	Drilling pat- tern	Code	Weight (kg)
flange adaptor DN50	PN16	709 702 045	1.850
flange adaptor DN65	PN16	709 702 046	2.250
flange adaptor DN80	PN16	709 702 047	3.090
flange adaptor DN100	PN16	709 702 048	3.840
flange adaptor DN150	PN16	709 702 050	6.530
flange adaptor DN200	PN10	709 702 051	8.800



Pilot drill

Model:

- pilot drill 6 mm with dual retention wires

Description	Code	Weight (kg)
pilot drill 6 mm with dual retention wires	709 800 006	0.010



Cup drill

PE chipless Ø45, Ø60, Ø63, Ø80 and Ø84 mm

Model:

- Maximum PE pipe d630 SDR11
- Suitable for under pressure drilling
- Push rod for coupon release out of the cup drill
- For demanding drillings on PE

Description	Code	Weight (kg)
PE cup drill chipless 45 mm x 60 mm	709 810 410	0.510
PE cup drill chipless 60 mm x 60 mm	709 810 412	0.580
PE cup drill chipless 63 mm x 60 mm	709 810 414	0.590
PE cup drill chipless 80 mm x 60 mm	709 810 415	0.880
PE cup drill chipless 84 mm x 60 mm	709 810 416	0.910
PE cup drill chipless 45 mm x 120 mm	709 810 420	0.800
PE cup drill chipless 60 mm x 120 mm	709 810 422	0.890
PE cup drill chipless 63 mm x 120 mm	709 810 424	0.890
PE cup drill chipless 80 mm x 120 mm	709 810 425	1.340
PE cup drill chipless 84 mm x 120 mm	709 810 426	1.370
PE cup drill push rod	709 700 024	0.400



MULTI/JOINT® 3057 Plus Wide Range Flange adaptor, restraint, Uni/Fiksers

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas
- Ductile cast iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Angular deflection of max. 8° per socket at installation (based on the middle of the range)
- Stainless steel A4 quality (AISI 316) Uni/Fiksers
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN825

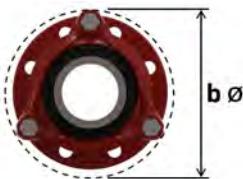
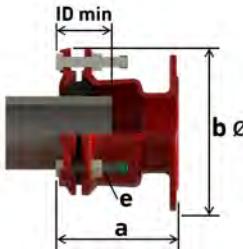
Installation instruction:

- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information
- Please note, when using a MULTI/JOINT® DN625 till DN800 on plastic pipes, the use of the insert stiffener MJ DN625 - DN800 (see accessories) is mandatory
- * DN350 & DN400 for plastic pipe materials = PN 10 bar water / MOP 5 bar gas

Note:

ID min. = minimum insertion depth

DN625 - DN825 sales release from Q1/2021 (for water applications)



DN (mm)	Range 1 (mm)	Flange 3 (mm)	Drilling pat- tern	NBR / A2 Code
50	46 - 71	50	PN16	709 355 210
65	63 - 90	60/65	PN16	709 355 212
80	84 - 105	80	PN16	709 355 214
100	104 - 132	100	PN16	709 355 216
150	154 - 192	150	PN16	709 355 220
200	192 - 232	200	PN10	709 355 224

DN (mm)	a (mm)	b (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)	No. of bolt holes flange
50	165 - 187	170	84	3xM12	16	8	4
65	170 - 193	191	84	3xM12	16	8	4
80	170 - 192	210	84	3xM12	16	8	8
100	173 - 199	241	90	3xM16	16	8	8
150	211 - 248	312	110	4xM16	16	8	8
200	221 - 258	371	110	6xM16	16	8	8



Heavy duty transport / storage box for W410 drilling device

Model:

- Outside dimension transport / warehouse box: 120 x 40 x 40 cm

Description	Code	Weight (kg)
Heavy duty transport / storage box for W410 drilling device	709 706 414	15.500

UNI-Coupling - stainless steel couplings

UNI-Coupling

UNI-Grip



UNI-Grip L PN16

Model:

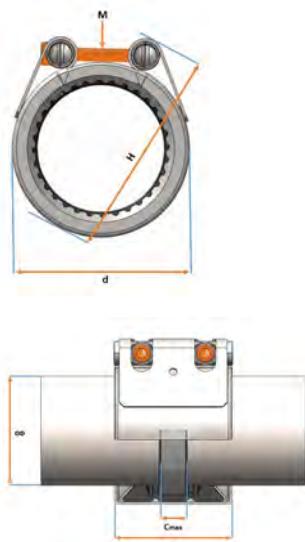
- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Attention:

- The difference between the different pipe outside diameters OD1<OD2 is 1% or max. 3 mm.



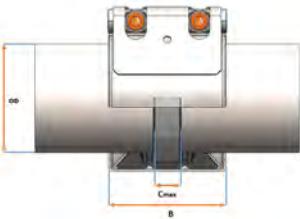
PN (bar)	EPDM Code	SP	Weight (kg)	NBR Code
16	779 724 001	0	0.2	779 721 001
16	779 724 002	0	0.2	779 721 002
16	779 724 003	0	0.2	779 721 003
16	779 724 004	0	0.2	779 721 004
16	779 724 005	0	0.4	779 721 005
16	779 724 006	0	0.4	779 721 006
16	779 724 007	0	0.4	779 721 007
16	779 724 008	0	0.4	779 721 008
16	779 724 009	0	0.6	779 721 009
16	779 724 010	0	0.6	779 721 010
16	779 724 011	0	1.4	779 721 011
16	779 724 012	0	1.4	779 721 012
16	779 724 013	0	1.6	779 721 013
16	779 724 014	0	1.6	779 721 014
16	779 724 015	0	1.7	779 721 015
16	779 724 016	0	1.7	779 721 016
16	779 724 017	0	1.9	779 721 017
16	779 724 018	0	1.9	779 721 018
16	779 724 019	0	3.4	779 721 019
16	779 724 020	0	3.5	779 721 020
16	779 724 021	0	3.6	779 721 021
16	779 724 022	0	3.7	779 721 022
16	779 724 023	0	3.8	779 721 023

M	WP (bar)	C max. (mm)	OD min. (mm)	OD nominal (mm) (mm)	OD max. (mm)	OD1 < OD2	d (mm)	B (mm)	H (mm)	Torque (N/m)
M6	70	10	21.0	21.0 - 24.0	24.0	1	46	45	76	7
M6	70	10	25.0	25.0 - 29.0	29.0	1	46	45	76	7
M6	70	10	29.0	29.0 - 32.0	32.0	1	54	45	84	7
M6	70	10	33.0	33.0 - 36.0	36.0	1	54	45	84	7
M8	60	15	36.0	36.0 - 39.0	39.0	2	66	60	104	25
M8	50	15	39.0	39.0 - 43.0	43.0	2	66	60	104	25
M8	50	15	43.0	43.0 - 47.5	47.5	2	74	60	112	25
M8	50	15	47.5	47.5 - 52.5	52.5	2	74	60	112	25
M8	50	25	52.5	52.5 - 58.0	58.0	2	85	75	125	25
M8	40	25	58.0	58.0 - 64.0	64.0	3	85	75	125	25
M10	40	30	64.0	64.0 - 72.0	72.0	3	108	95	164	40
M10	40	30	72.0	72.0 - 80.0	80.0	3	108	95	164	40
M10	35	30	80.0	80.0 - 88.0	88.0	3	124	95	170	40
M10	35	30	88.0	88.0 - 96.0	96.0	3	124	95	170	40
M10	35	30	97.0	97.0 - 105.0	105.0	3	141	95	187	40
M10	35	30	104.0	104.0 - 112.0	112.0	3	141	95	187	40
M10	35	30	112.0	112.0 - 120.0	120.0	3	158	95	202	40
M10	32	30	122.0	122.0 - 130.0	130.0	3	158	95	202	40

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M	WP	C max.	OD min	OD nominal (mm)	OD max.	OD1 < OD2	d	B	H	Torque
	(bar)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(N/m)
M12	32	40	129.0	129.0 - 137.0	137.0	3	178	110	230	65
M12	32	40	137.0	137.0 - 145.0	145.0	3	186	110	238	65
M12	32	40	149.0	149.0 - 157.0	157.0	3	197	110	249	65
M12	32	40	157.0	157.0 - 165.0	165.0	3	205	110	255	65
M12	32	40	164.0	164.0 - 172.0	172.0	3	212	110	262	65



UNI-Grip LE PN10

Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

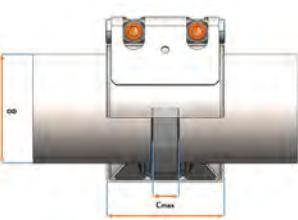
- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Attention:

- The difference between the different pipe outside diameters OD1<OD2 is 1% or max. 3 mm.

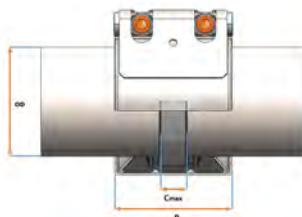
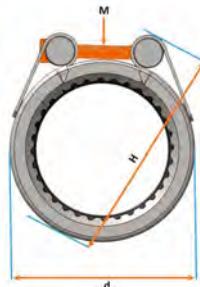


PN (bar)	EPDM Code	SP	Weight (kg)	NBR Code
10	779 724 411	0	1.0	779 721 411
10	779 724 412	0	1.0	779 721 412
10	779 724 413	0	1.0	779 721 413
10	779 724 414	0	1.0	779 721 414
10	779 724 415	0	1.1	779 721 415
10	779 724 416	0	1.1	779 721 416
10	779 724 417	0	1.2	779 721 417
10	779 724 418	0	1.2	779 721 418
10	779 724 419	0	2.1	779 721 419
10	779 724 420	0	2.2	779 721 420
10	779 724 421	0	2.3	779 721 421
10	779 724 422	0	2.3	779 721 422
10	779 724 423	0	2.4	779 721 423



M	WP	C max.	OD min	OD nominal (mm)	OD max.	OD1 < OD2	d	B	H	Torque
	(bar)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(N/m)
M10	16	30	64	64 - 72	72	3	108	95	164	40
M10	16	30	72	72 - 80	80	3	108	95	164	40
M10	16	30	80	80 - 88	88	3	124	95	170	40
M10	16	30	88	88 - 96	96	3	124	95	170	40
M10	16	30	97	97 - 105	105	3	141	95	187	40
M10	16	30	104	104 - 112	112	3	141	95	187	40
M10	16	30	112	112 - 120	120	3	158	95	202	40
M10	16	30	122	122 - 130	130	3	158	95	202	40
M12	16	40	129	129 - 137	137	3	178	110	230	65
M12	16	40	137	137 - 145	145	3	186	110	238	65
M12	16	40	149	149 - 157	157	3	197	110	249	65
M12	16	40	157	157 - 165	165	3	205	110	255	65
M12	16	40	164	164 - 172	172	3	212	110	262	65

UNI-Grip S PN16



Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Option:

- Sealing type Viton (FKM) for OD nominal \geq 185 mm on request

*Restricted working conditions for CuNiFe tubes with a wall thickness \leq 4 mm. For pipe dimensions with an asterisk, these may only be loaded with max PN 2,5.

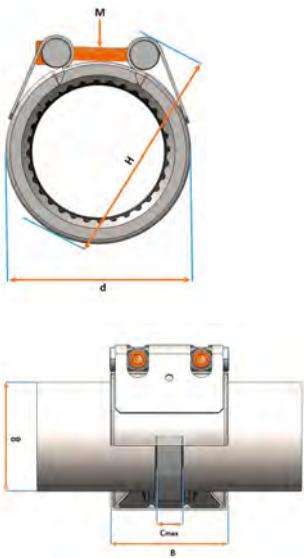
Attention:

- The difference between the different pipe outside diameters $OD1 < OD2$ is 1% or max. 3 mm.

PN (bar)	OD nominal (mm) (mm)	EPDM Code	SP	Weight (kg)	NBR Code	
16	21.0 - 24.0	779 764 001	0	0.2	779 762 001	
16	25.0 - 29.0	779 764 002	0	0.2	779 762 002	
16	29.0 - 32.0	779 764 003	0	0.2	779 762 003	
16	33.0 - 36.0	779 764 004	0	0.2	779 762 004	
16	36.0 - 39.0	779 764 005	0	0.4	779 762 005	
16	39.0 - 43.0	779 764 006	0	0.4	779 762 006	
16	43.0 - 47.5	779 764 007	0	0.4	779 762 007	
16	47.5 - 52.5	779 764 008	0	0.4	779 762 008	
16	52.5 - 58.0	779 764 009	0	0.6	779 762 009	
16	58.0 - 64.0	779 764 010	0	0.6	779 762 010	
16	64.0 - 72.0	779 764 011	0	1.4	779 762 011	
16	72.0 - 80.0	779 764 012	0	1.4	779 762 012	
16	80.0 - 88.0	779 764 013	0	1.6	779 762 013	
16	88.0 - 96.0	779 764 014	0	1.6	779 762 014	
16	97.0 - 105.0	779 764 015	0	1.7	779 762 015	
16	104.0 - 112.0	779 764 016	0	1.7	779 762 016	
16	112.0 - 120.0	779 764 017	0	1.9	779 762 017	
16	122.0 - 130.0	779 764 018	0	1.9	779 762 018	
16	129.0 - 137.0	779 764 019	0	3.4	779 762 019	
16	137.0 - 145.0	779 764 020	0	3.5	779 762 020	
16	149.0 - 157.0	779 764 021	0	3.6	779 762 021	
16	157.0 - 165.0	779 764 022	0	3.7	779 762 022	
16	164.0 - 172.0	779 764 023	0	3.8	779 762 023	
16	185.0 - 198.0	779 764 024	0	6.5	779 762 024	
16	198.0 - 211.0	779 764 025	0	6.7	779 762 025	
16	210.0 - 223.0	779 764 026	0	9.2	779 762 026	
16	221.0 - 234.0	779 764 027	0	9.5	779 762 027	
16	234.0 - 247.0	779 764 028	0	9.8	779 762 028	
16	247.0 - 260.0	779 764 029	0	10.1	779 762 029	
*	16	263.0 - 276.0	779 764 030	0	10.5	779 762 030
	16	277.0 - 290.0	779 764 031	0	10.9	779 762 031

M (bar)	WP (bar)	C max. (mm)	OD min. (mm)	OD max. (mm)	OD1 < OD2 (mm)	d (mm)	B (mm)	H (mm)	Torque (N/m)
M6	70	10	21.0	24.0	1	46	45	76	7
M6	70	10	25.0	29.0	1	46	45	76	7
M6	70	10	29.0	32.0	1	54	45	84	7
M6	70	10	33.0	36.0	1	54	45	84	7
M8	60	15	36.0	39.0	2	66	60	104	25
M8	50	15	39.0	43.0	2	66	60	104	25
M8	50	15	43.0	47.5	2	74	60	112	25
M8	50	15	47.5	52.5	2	74	60	112	25
M8	50	25	52.5	58.0	2	85	75	125	25
M8	40	25	58.0	64.0	3	85	75	125	25
M10	40	30	64.0	72.0	3	108	95	164	40
M10	40	30	72.0	80.0	3	108	95	164	40
M10	35	30	80.0	88.0	3	124	95	170	40
M10	35	30	88.0	96.0	3	124	95	170	40

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M	WP (bar)	C max. (mm)	OD min (mm)	OD max. (mm)	OD1 < OD2 (mm)	d (mm)	B (mm)	H (mm)	Torque (N/m)	
M10	35	30	97.0	105.0	3	141	95	187	40	
M10	35	30	104.0	112.0	3	141	95	187	40	
M10	35	30	112.0	120.0	3	158	95	202	40	
M10	32	30	122.0	130.0	3	158	95	202	40	
M12	32	40	129.0	137.0	3	178	110	230	65	
M12	32	40	137.0	145.0	3	186	110	238	65	
M12	32	40	149.0	157.0	3	197	110	249	65	
M12	32	40	157.0	165.0	3	205	110	255	65	
M12	32	40	164.0	172.0	3	212	110	262	65	
M16	25	40	185.0	198.0	3	236	138	262	160	
M16	25	40	198.0	211.0	3	249	138	275	160	
M16	25	40	210.0	223.0	3	261	140	287	160	
M16	25	40	221.0	234.0	3	272	140	298	160	
M16	25	40	234.0	247.0	3	285	140	311	160	
M16	25	40	247.0	260.0	3	298	140	324	160	
*	M16	25	40	263.0	276.0	3	314	140	340	160
*	M16	25	40	277.0	290.0	3	328	142	354	160

UNI-Grip S PN10

Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

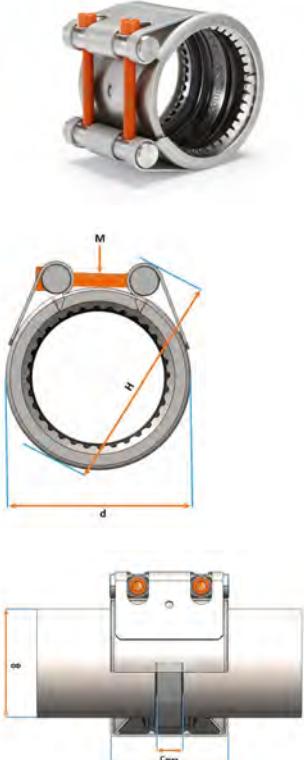
Option:

- Sealing type Viton (FKM) on request

- *Restricted working conditions for CuNiFe tubes with a wall thickness ≤ to 4 mm. For pipe dimensions with an asterisk, these may only be loaded with max PN 2,5.

Attention:

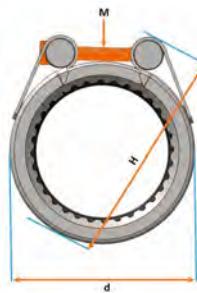
- The difference between the different pipe outside diameters OD1<OD2 is 1% or max. 3 mm.



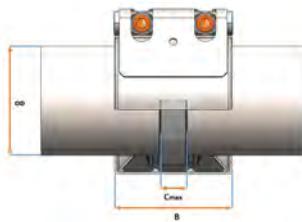
PN (bar)	EPDM Code	SP Weight (kg)	NBR Code
10	779 764 126	0	779 762 126
10	779 764 127	0	779 762 127
10	779 764 128	0	779 762 128
10	779 764 129	0	779 762 129
*	10	779 764 130	0
*	10	779 764 131	0
*	10	779 764 132	0
*	10	779 764 133	0
*	10	779 764 134	0
*	10	779 764 135	0
*	10	779 764 136	0
*	10	779 764 137	0
*	10	779 764 138	0

M	WP (bar)	C max. (mm)	OD min (mm)	OD nominal (mm)	OD max. (mm)	OD1 < OD2 (mm)	d (mm)	B (mm)	H (mm)
M16	16	40	210	210 - 223	223	3	261	138	287
M16	16	40	221	221 - 234	234	3	272	138	298
M16	16	40	234	234 - 247	247	3	285	138	311
M16	16	40	247	247 - 260	260	3	298	138	324
*	M16	16	263	263 - 276	276	3	314	138	340
*	M16	16	277	277 - 290	290	3	328	140	354
*	M16	16	288	288 - 301	301	3	339	140	365
*	M16	16	301	301 - 314	314	3	352	140	378
*	M16	16	315	315 - 328	328	3	366	140	392

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M	WP (bar)	C max. (mm)	OD min (mm)	OD nominal (mm)	OD max. (mm)	OD1 < OD2 (mm)	d (mm)	B (mm)	H (mm)	
*	M16	16	40	327	327 - 340	340	3	378	140	404
*	M16	16	40	340	340 - 353	353	3	391	140	417
*	M16	16	40	350	350 - 363	363	3	401	140	427
*	M16	16	40	361	361 - 374	374	3	412	142	438



UNI-Plastgrip



UNI-Plastgrip L PN10

Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

- Operating temperature EPDM: -30°C to 125°C
 - Operating temperature NBR: -20°C to 80°C

Remark:

- For safe installation on PVC-, ABS-, PE-, PP- and PB-pipes, insert stiffeners are mandatory.

For Sale

- The difference between the different pipe outside diameters $OD1 < OD2$ is 1% or max. 3 mm.



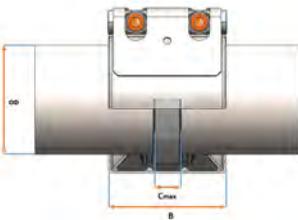
PN (bar)	EPDM Code	SP	Weight (kg)	NBR Code
10	779 732 006	0	0.4	779 729 006
10	779 732 008	0	0.5	779 729 008
10	779 732 010	0	0.6	779 729 010
10	779 732 012	0	1.4	779 729 012
10	779 732 014	0	1.5	779 729 014
10	779 732 016	0	1.7	779 729 016
10	779 732 018	0	1.8	779 729 018
10	779 732 020	0	3.5	779 729 020
10	779 732 022	0	3.7	779 729 022

M	WP (bar)	C max. (mm)	OD min (mm)	OD nominal (mm)	OD max. (mm)	OD1 < OD2 (mm)	d (mm)	B (mm)	H (mm)	Torque (N/m)
M8	16	15	39.0	40	43.0	2	66	60	104	25
M8	16	15	47.5	50	52.5	2	74	60	112	25
M8	16	25	58.0	63	64.0	3	85	75	125	25
M10	16	30	72.0	75	80.0	3	108	95	164	40
M10	16	30	88.0	90	96.0	3	124	95	170	40

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M	WP (bar)	C max. (mm)	OD min (mm)	OD nominal (mm)	OD max. (mm)	OD1 < OD2 (mm)	d (mm)	B (mm)	H (mm)	Torque (N/m)
M10	16	30	104.0	110	112.0	3	141	95	187	40
M10	16	30	122.0	125	130.0	3	158	95	202	40
M12	16	40	137.0	140	145.0	3	186	110	238	65
M12	16	40	157.0	160	165.0	3	205	110	255	65



UNI-Plastgrip S PN10



Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Option:

- Sealing type Viton (FKM) on request

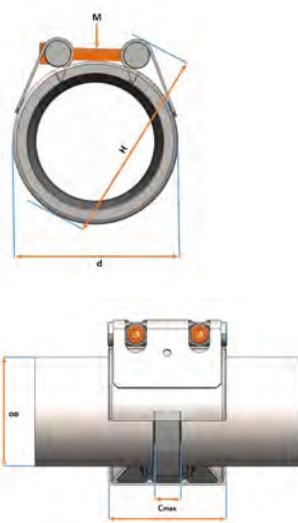
Remark:

- For safe installation on PVC-, ABS-, PE-, PP- and PB-pipes insert stiffeners are mandatory**

Attention:

- The difference between the different pipe outside diameters **OD1<OD2** is 1% or max. 3 mm.

PN (bar)	OD nominal (mm) (mm)	EPDM Code	SP	Weight (kg)	NBR Code
10	180	779 712 024	0	6.0	779 709 024
10	200	779 712 025	0	6.6	779 709 025
10	225	779 712 027	0	7.0	779 709 027
10	250	779 712 029	0	7.5	779 709 029
10	280	779 712 030	0	8.7	779 709 030
10	315	779 712 031	0	11.1	779 709 031
10	355	779 712 032	0	12.2	779 709 032



M	WP (bar)	C max. (mm)	OD min (mm)	OD max. (mm)	OD1 < OD2 (mm)	d (mm)	B (mm)	H (mm)	Torque (N/m)
M16	16	40	172	185	3	223	138	259	160
M16	16	40	195	208	3	246	138	272	160
M16	16	40	215	228	3	272	138	298	160
M16	16	40	247	260	3	298	138	324	160
M16	16	40	269	282	3	320	142	346	160
M16	16	40	312	325	3	363	146	389	160
M16	16	40	350	363	3	401	146	427	160

UNI-Combigrasp



UNI-Combigrasp L PN10

Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

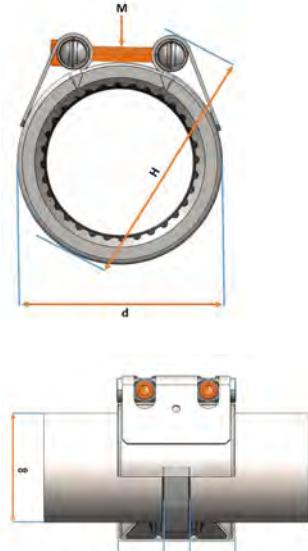
- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Remark:

- For safe installation on PVC-, ABS-, PE-, PP- and PB-pipes insert stiffeners are mandatory**

Attention:

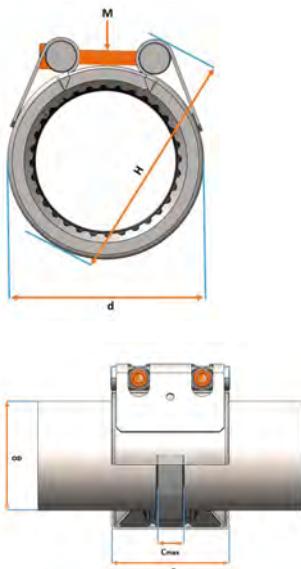
- The difference between the different pipe outside diameters OD1<OD2 is 1% or max. 3 mm.



PN (bar)	EPDM Code	SP	Weight (kg)	NBR Code
10	779 740 006	0	0.4	779 737 006
10	779 740 008	0	0.5	779 737 008
10	779 740 010	0	0.6	779 737 010
10	779 740 012	0	1.4	779 737 012
10	779 740 014	0	1.5	779 737 014
10	779 740 016	0	1.7	779 737 016
10	779 740 017	0	1.7	779 737 017
10	779 740 018	0	1.8	779 737 018
10	779 740 020	0	3.5	779 737 020
10	779 740 022	0	3.7	779 737 022
10	779 740 024	0	3.8	779 737 024

M	WP	C max.	OD min	OD nominal (mm) (mm)	OD max. (mm)	OD1 < OD2 (mm)	d	B	H	Torque (N/m)
M8	16	15	39.0	39.0 - 43.0	43.0	2	66	60	104	25
M8	16	15	47.5	47.5 - 52.5	52.5	2	74	60	112	25
M8	16	25	58.0	58.0 - 64.0	64.0	3	85	75	125	25
M10	16	30	72.0	72.0 - 80.0	80.0	3	108	95	164	40
M10	16	30	88.0	88.0 - 96.0	96.0	3	124	95	170	40
M10	16	30	104.0	104.0 - 112.0	112.0	3	141	95	187	40
M10	16	30	108.0	108.0 - 115.0	115.0	5	141	95	187	40
M10	16	30	122.0	122.0 - 130.0	130.0	3	158	95	202	40
M12	16	40	137.0	137.0 - 145.0	145.0	3	186	110	238	65
M12	16	40	157.0	157.0 - 165.0	165.0	3	205	110	255	65
M12	16	40	164.0	164.0 - 172.0	172.0	1	212	110	262	65

UNI-Combigrasp S PN10 EPDM



Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Option:

- Sealing type Viton (FKM) on request

Remark:

- For safe installation on PVC-, ABS-, PE-, PP- and PB-pipes insert stiffeners are mandatory**

Attention:

- The difference between the different pipe outside diameters OD1<OD2 is 1% or max. 3 mm.**

PN (bar)	OD nominal (mm) (mm)	EPDM Code	SP	Weight (kg)	NBR Code
10	172 - 185	779 724 924	0	6.2	779 721 924
10	195 - 208	779 724 925	0	6.6	779 721 925
10	215 - 228	779 724 926	0	7.3	779 721 926
10	247 - 260	779 724 927	0	8.1	779 721 927
10	269 - 282	779 724 928	0	8.7	779 721 928
10	312 - 325	779 724 929	0	11.1	779 721 929
10	350 - 363	779 724 930	0	12.2	779 721 930

M	WP (bar)	C max. (mm)	OD min (mm)	OD max. (mm)	d (mm)	B (mm)	H (mm)	Torque (N/m)
M16	16	40	172	185	223	142	249	160
M16	16	40	195	208	246	142	272	160
M16	16	40	215	228	266	142	292	160
M16	16	40	247	260	298	142	324	160
M16	16	40	269	282	320	142	346	160
M16	16	40	312	325	363	142	389	160
M16	16	40	350	363	401	142	427	160

UNI-Flex



UNI-Flex L PN16

Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

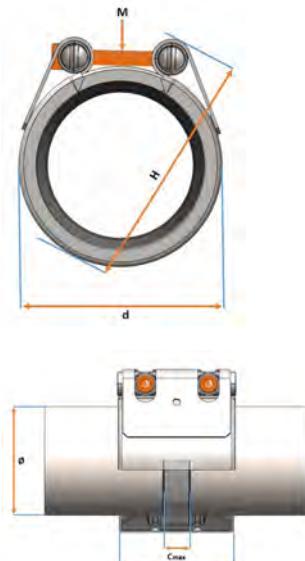
- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Remark:

- For safe installation on PVC-, ABS-, PE-, PP- and PB-pipes insert stiffeners are mandatory**

Attention:

- The difference between the different pipe outside diameters $OD1 < OD2$ is 1% or max. 3 mm.



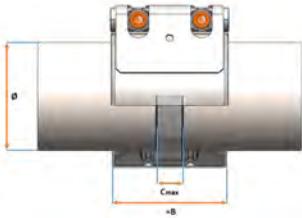
PN (bar)	EPDM Code	SP	Weight (kg)	NBR Code
16	779 812 001	0	0.2	779 809 001
16	779 812 002	0	0.2	779 809 002
16	779 812 003	0	0.2	779 809 003
16	779 812 004	0	0.2	779 809 004
16	779 812 005	0	0.4	779 809 005
16	779 812 006	0	0.4	779 809 006
16	779 812 007	0	0.4	779 809 007
16	779 812 008	0	0.4	779 809 008
16	779 812 009	0	0.6	779 809 009
16	779 812 010	0	0.6	779 809 010
16	779 812 011	0	1.0	779 809 011
16	779 812 012	0	1.0	779 809 012
16	779 812 013	0	1.0	779 809 013
16	779 812 014	0	1.0	779 809 014
16	779 812 015	0	1.1	779 809 015
16	779 812 016	0	1.1	779 809 016
16	779 812 017	0	1.2	779 809 017
16	779 812 018	0	1.2	779 809 018
16	779 812 019	0	2.1	779 809 019
16	779 812 020	0	2.2	779 809 020
16	779 812 021	0	2.3	779 809 021
16	779 812 022	0	2.3	779 809 022
16	779 812 023	0	2.4	779 809 023

M	WP (bar)	C max. (mm)	OD min (mm)	OD nominal (mm)	OD max. (mm)	OD1 < OD2 (mm)	d (mm)	B (mm)	H (mm)	Torque (N/m)
M6	25	10	21.0	21.0 - 24.0	24.0	1	46	45	76	3.0
M6	25	10	25.0	25.0 - 29.0	29.0	1	46	45	76	3.0
M6	25	10	29.0	29.0 - 32.0	32.0	1	54	45	84	3.0
M6	25	10	33.0	33.0 - 36.0	36.0	1	54	45	84	3.0
M8	25	15	36.0	36.0 - 39.0	39.0	2	66	60	104	5.0
M8	25	15	39.0	39.0 - 43.0	43.0	2	66	60	104	5.0
M8	25	15	43.0	43.0 - 47.5	47.5	2	74	60	112	5.0
M8	25	15	47.5	47.5 - 52.5	52.5	2	74	60	112	5.0
M8	25	25	52.5	52.5 - 58.0	58.0	2	85	75	125	5.0
M8	25	25	58.0	58.0 - 64.0	64.0	3	85	75	125	5.0
M10	25	30	64.0	64.0 - 72.0	72.0	3	108	95	164	10.0
M10	25	30	72.0	72.0 - 80.0	80.0	3	108	95	164	10.0
M10	25	30	80.0	80.0 - 88.0	88.0	3	124	95	170	10.0
M10	25	30	88.0	88.0 - 96.0	96.0	3	124	95	170	10.0
M10	25	30	97.0	97.0 - 105.0	105.0	3	141	95	187	10.0
M10	25	30	104.0	104.0 - 112.0	112.0	3	141	95	187	10.0
M10	25	30	112.0	112.0 - 120.0	120.0	3	158	95	202	12.5
M10	25	30	122.0	122.0 - 130.0	130.0	3	158	95	202	12.5
M12	25	40	129.0	129.0 - 137.0	137.0	3	178	110	230	20.0

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M	WP	C max.	OD min	OD nominal (mm)	OD max.	OD1 < OD2	d	B	H	Torque (N/m)
	(bar)	(mm)	(mm)		(mm)	(mm)	(mm)	(mm)	(mm)	
M12	25	40	137.0	137.0 - 145.0	145.0	3	186	110	238	25.0
M12	25	40	149.0	149.0 - 157.0	157.0	3	197	110	249	30.0
M12	25	40	157.0	157.0 - 165.0	165.0	3	205	110	255	30.0
M12	25	40	164.0	164.0 - 172.0	172.0	3	212	110	262	30.0



UNI-Flex S PN16



Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Option:

- Sealing type Viton (FKM) on request

Remark:

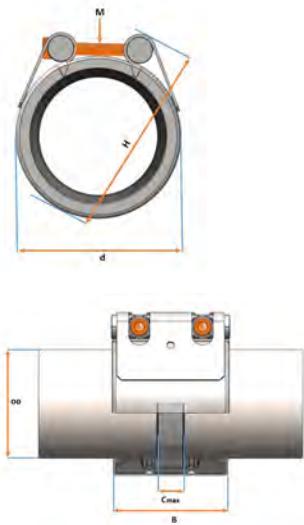
- For safe installation on PVC-, ABS-, PE-, PP- and PB-pipes insert stiffeners are mandatory**

Attention:

- The difference between the different pipe outside diameters OD1<OD2 is 1% or max. 3 mm.**

PN (bar)	EPDM Code	SP	Weight (kg)	NBR Code
16	779 864 025	0	5.2	779 862 025
16	779 864 026	0	5.3	779 862 026
16	779 864 027	0	5.5	779 862 027
16	779 864 028	0	5.6	779 862 028
16	779 864 029	0	5.8	779 862 029
16	779 864 030	0	6.0	779 862 030
16	779 864 024	0	5.0	779 862 024
16	779 864 031	0	7.6	779 862 031
16	779 864 032	0	7.8	779 862 032
16	779 864 033	0	8.0	779 862 033
16	779 864 034	0	8.2	779 862 034
16	779 864 035	0	8.4	779 862 035
16	779 864 036	0	8.6	779 862 036
16	779 864 037	0	8.8	779 862 037
16	779 864 038	0	12.6	779 862 038
16	779 864 039	0	12.9	779 862 039
16	779 864 040	0	13.3	779 862 040
16	779 864 041	0	13.6	779 862 041
16	779 864 042	0	13.9	779 862 042
16	779 864 043	0	14.1	779 862 043
16	779 864 044	0	14.5	779 862 044
16	779 864 045	0	14.9	779 862 045
16	779 864 046	0	15.1	779 862 046
16	779 864 047	0	15.5	779 862 047
16	779 864 048	0	15.8	779 862 048
16	779 864 049	0	16.2	779 862 049

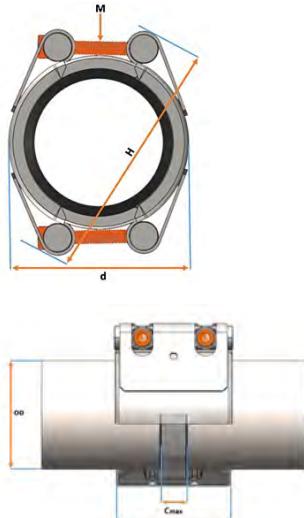
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PN (bar)	EPDM Code	SP	Weight (kg)	NBR Code
16	779 864 050	0	16.6	779 862 050
16	779 864 051	0	16.9	779 862 051
16	779 864 052	0	17.2	779 862 052
16	779 864 053	0	17.5	779 862 053
16	779 864 054	0	17.9	779 862 054
16	779 864 055	0	18.6	779 862 055
16	779 864 056	0	18.9	779 862 056
16	779 864 057	0	19.3	779 862 057
16	779 864 058	0	19.8	779 862 058
16	779 864 059	0	20.5	779 862 059
16	779 864 060	0	20.8	779 862 060
16	779 864 061	0	21.1	779 862 061
16	779 864 062	0	21.5	779 862 062
16	779 864 063	0	21.9	779 862 063

M	WP	C max.	OD min	OD nominal	OD max.	OD1 < OD2	d	B	H	Torque
	(bar)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)	(mm)	(N/m)
M12	25	40	198	198 - 211	211	3	249	140	275	30
M12	25	40	210	210 - 223	223	3	261	140	287	30
M12	25	40	221	221 - 234	234	3	272	140	298	30
M12	25	40	234	234 - 247	247	3	285	140	311	30
M12	25	40	247	247 - 260	260	3	298	140	324	30
M12	25	40	263	263 - 276	276	3	314	140	340	30
M12	25	40	185	185 - 198	198	3	236	140	262	30
M16	25	40	277	277 - 290	290	3	328	142	354	30
M16	25	40	288	288 - 301	301	3	339	142	365	30
M16	25	40	301	301 - 314	314	3	352	142	378	30
M16	25	40	315	315 - 328	328	3	366	142	392	30
M16	25	40	327	327 - 340	340	3	378	142	404	50
M16	25	40	340	340 - 353	353	3	391	142	417	50
M16	25	40	350	350 - 363	363	3	401	142	427	50
M16	25	40	361	361 - 374	374	3	412	146	438	50
M16	25	40	374	374 - 387	387	3	425	146	451	50
M16	25	40	387	387 - 400	400	3	438	146	464	50
M16	25	40	400	400 - 413	413	3	451	146	477	50
M16	25	40	412	412 - 425	425	3	463	146	489	50
M16	25	40	422	422 - 435	435	3	473	146	499	50
M16	25	40	438	438 - 451	451	3	489	146	515	50
M16	25	40	451	451 - 464	464	3	502	146	528	50
M16	25	40	460	460 - 473	473	3	511	146	537	50
M16	25	40	476	476 - 489	489	3	527	146	553	50
M16	25	40	488	488 - 501	501	3	539	146	565	50
M16	25	40	503	503 - 516	516	3	554	146	580	50
M16	25	40	520	520 - 533	533	3	575	146	603	60
M16	25	40	531	531 - 544	544	3	586	146	614	60
M16	25	40	546	546 - 559	559	3	601	146	629	60
M16	25	40	557	557 - 570	570	3	612	146	640	60
M16	25	40	571	571 - 584	584	3	626	146	654	60
M16	25	40	600	600 - 613	613	3	655	146	683	60
M16	25	40	610	610 - 623	623	3	665	146	693	70
M16	25	40	628	628 - 641	641	3	683	146	711	70
M16	25	40	648	648 - 661	661	3	703	146	731	70
M16	25	40	676	676 - 689	689	3	731	146	759	70
M16	25	40	688	688 - 701	701	3	743	146	771	70
M16	25	40	700	700 - 713	713	3	755	146	783	70
M16	25	40	717	717 - 730	730	3	772	146	800	70
M16	25	40	732	732 - 745	745	3	787	146	815	70

UNI-Flex S2 PN16



Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Option:

- Sealing type Viton (FKM) on request

Remark:

- For safe installation on PVC-, ABS-, PE-, PP- and PB-pipes insert stiffeners are mandatory**

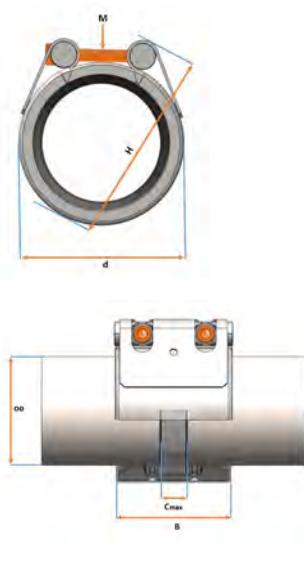
Attention:

- The difference between the different pipe outside diameters OD1<OD2 is 1% or max. 3 mm.**

PN (bar)	OD nominal (mm) (mm)	EPDM Code	SP	Weight (kg)	NBR Code
16	756 - 782	779 864 064	0	26.1	779 862 064
16	782 - 808	779 864 065	0	26.7	779 862 065
16	806 - 832	779 864 066	0	27.3	779 862 066
16	828 - 854	779 864 067	0	27.9	779 862 067
16	856 - 882	779 864 068	0	28.6	779 862 068
16	882 - 908	779 864 069	0	29.2	779 862 069
16	904 - 930	779 864 070	0	29.8	779 862 070

M	WP (bar)	C max. (mm)	OD min (mm)	OD max. (mm)	OD1 < OD2 (mm)	d (mm)	B (mm)	H (mm)	Torque (N/m)
M16	25	40	756	782	3	824	146	852	70
M16	25	40	782	808	3	850	146	878	70
M16	25	40	806	832	3	874	146	902	70
M16	25	40	828	854	3	896	146	924	80
M16	25	40	856	882	3	924	146	952	80
M16	25	40	882	908	3	950	146	978	80
M16	25	40	904	930	3	972	146	1000	80

UNI-Flex S PN10



Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Option:

- Sealing type Viton (FKM) on request

Remark:

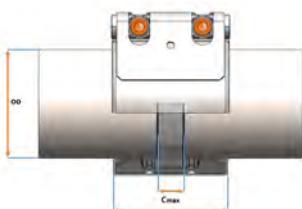
- For safe installation on PVC-, ABS-, PE-, PP- and PB-pipes insert stiffeners are mandatory**

Attention:

- The difference between the different pipe outside diameters OD1<OD2 is 1% or max. 3 mm.**

PN (bar)	OD nominal (mm) (mm)	EPDM Code	SP	Weight (kg)	NBR Code
10	185 - 198	779 864 124	0	3.9	779 862 124
10	198 - 211	779 864 125	0	4.0	779 862 125
10	210 - 223	779 864 126	0	4.1	779 862 126
10	221 - 234	779 864 127	0	4.2	779 862 127
10	234 - 247	779 864 128	0	4.3	779 862 128
10	247 - 260	779 864 129	0	4.4	779 862 129
10	263 - 276	779 864 130	0	4.6	779 862 130
10	277 - 290	779 864 131	0	6.1	779 862 131
10	288 - 301	779 864 132	0	6.3	779 862 132
10	301 - 314	779 864 133	0	6.4	779 862 133

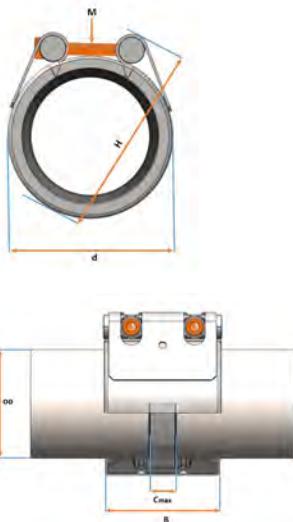
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PN (bar)	OD nominal (mm) (mm)	EPDM Code	SP Code	Weight (kg)	NBR Code
10	315 - 328	779 864 134	0	6.6	779 862 134
10	327 - 340	779 864 135	0	6.8	779 862 135
10	340 - 353	779 864 136	0	6.9	779 862 136
10	350 - 363	779 864 137	0	7.0	779 862 137
10	361 - 374	779 864 138	0	8.9	779 862 138
10	374 - 387	779 864 139	0	9.1	779 862 139
10	387 - 400	779 864 140	0	9.4	779 862 140
10	400 - 413	779 864 141	0	9.6	779 862 141
10	412 - 425	779 864 142	0	9.8	779 862 142
10	422 - 435	779 864 143	0	9.9	779 862 143
10	438 - 451	779 864 144	0	10.2	779 862 144
10	451 - 464	779 864 145	0	10.4	779 862 145
10	460 - 473	779 864 146	0	10.5	779 862 146
10	476 - 489	779 864 147	0	10.8	779 862 147
10	488 - 501	779 864 148	0	11.0	779 862 148
10	503 - 516	779 864 149	0	11.2	779 862 149
10	520 - 533	779 864 150	0	11.5	779 862 150
10	531 - 544	779 864 151	0	11.7	779 862 151
10	546 - 559	779 864 152	0	11.9	779 862 152
10	557 - 570	779 864 153	0	12.1	779 862 153
10	571 - 584	779 864 154	0	12.3	779 862 154
10	600 - 613	779 864 155	0	12.8	779 862 155
10	610 - 623	779 864 156	0	12.9	779 862 156
10	628 - 641	779 864 157	0	13.2	779 862 157
10	648 - 661	779 864 158	0	13.5	779 862 158
10	676 - 689	779 864 159	0	14.0	779 862 159
10	688 - 701	779 864 160	0	14.2	779 862 160
10	700 - 713	779 864 161	0	14.4	779 862 161
10	717 - 730	779 864 162	0	14.7	779 862 162
10	732 - 745	779 864 163	0	14.9	779 862 163

M	WP (bar)	C max. (mm)	OD min (mm)	OD max. (mm)	OD1 < OD2	d (mm)	B (mm)	H (mm)	Torque (N/m)
M12	16	40	185	198	3	236	138	262	30
M12	16	40	198	211	3	249	138	275	30
M12	16	40	210	223	3	261	138	287	30
M12	16	40	221	234	3	272	138	298	30
M12	16	40	234	247	3	285	138	311	30
M12	16	40	247	260	3	298	138	324	30
M12	16	40	263	276	3	314	138	340	30
M12	16	40	277	290	3	328	140	354	30
M12	16	40	288	301	3	339	140	365	30
M12	16	40	301	314	3	352	140	378	30
M12	16	40	315	328	3	366	140	392	30
M12	16	40	327	340	3	378	140	404	40
M12	16	40	340	353	3	391	140	417	40
M12	16	40	350	363	3	401	140	427	40
M12	16	40	361	374	3	412	142	438	40
M12	16	40	374	387	3	425	142	451	40
M12	16	40	387	400	3	438	142	464	40
M12	16	40	400	413	3	451	142	477	40
M12	16	40	412	425	3	463	142	489	40
M12	16	40	422	435	3	473	142	499	40
M12	16	40	438	451	3	489	142	515	40
M12	16	40	451	464	3	502	142	528	40
M12	16	40	460	473	3	511	142	537	40
M12	16	40	476	489	3	527	142	553	40
M12	16	40	488	501	3	539	142	565	40
M12	16	40	503	516	3	554	142	580	40
M16	16	40	520	533	3	575	142	603	50
M16	16	40	531	544	3	586	142	614	50
M16	16	40	546	559	3	601	142	629	50

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M	WP	C max.	OD min	OD max.	OD1 < OD2	d	B	H	Torque
	(bar)	(mm)	(mm)	(mm)		(mm)	(mm)	(mm)	(N/m)
M16	16	40	557	570	3	612	142	640	50
M16	16	40	571	584	3	626	142	654	50
M16	16	40	600	613	3	655	142	683	50
M16	16	40	610	623	3	665	142	693	60
M16	16	40	628	641	3	683	142	711	60
M16	16	40	648	661	3	703	142	731	60
M16	16	40	676	689	3	731	142	759	60
M16	16	40	688	701	3	743	142	771	60
M16	16	40	700	713	3	755	142	783	60
M16	16	40	717	730	3	772	142	800	60
M16	16	40	732	745	3	787	142	815	60

UNI-Flex S2/S3 PN10

Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Option:

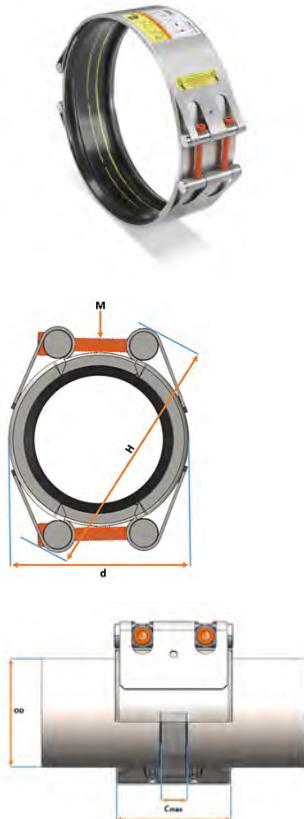
- Sealing type Viton (FKM) on request

Remark:

- For safe installation on PVC-, ABS-, PE-, PP- and PB-pipes insert stiffeners are mandatory**

Attention:

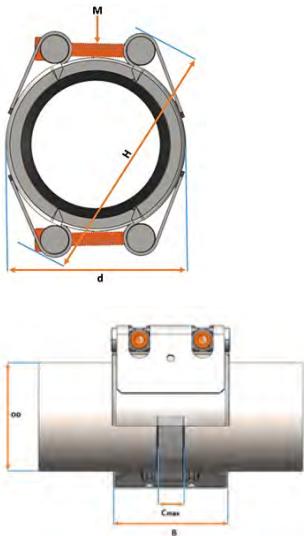
- The difference between the different pipe outside diameters OD1<OD2 is 1% or max. 3 mm.



PN	OD nominal (mm) (bar)	EPDM Code	SP	Weight (kg)	NBR Code
10	756 - 782	779 864 164	0	18.4	779 862 164
10	782 - 808	779 864 165	0	18.8	779 862 165
10	806 - 832	779 864 166	0	19.2	779 862 166
10	828 - 854	779 864 167	0	19.6	779 862 167
10	856 - 882	779 864 168	0	20.0	779 862 168
10	882 - 908	779 864 169	0	20.4	779 862 169
10	904 - 930	779 864 170	0	20.8	779 862 170
10	936 - 962	779 864 171	0	30.6	779 862 171
10	961 - 987	779 864 172	0	31.2	779 862 172
10	984 - 1010	779 864 173	0	31.8	779 862 173
10	1004 - 1030	779 864 174	0	32.3	779 862 174
10	1044 - 1070	779 864 175	0	33.3	779 862 175
10	1076 - 1102	779 864 176	0	34.1	779 862 176
10	1104 - 1130	779 864 177	0	34.8	779 862 177
10	1138 - 1177	779 864 178	0	39.2	779 862 178
10	1192 - 1231	779 864 179	0	40.6	779 862 179
10	1241 - 1280	779 864 180	0	41.8	779 862 180
10	1331 - 1370	779 864 181	0	44.1	779 862 181
10	1413 - 1452	779 864 182	0	46.1	779 862 182

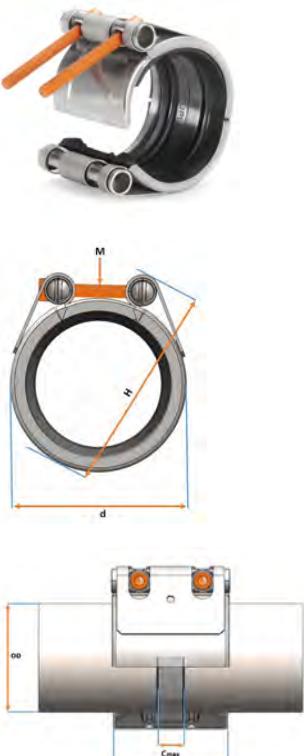
M	WP	C max.	OD min	OD max.	OD1 < OD2	d	B	H	Torque
	(bar)	(mm)	(mm)	(mm)		(mm)	(mm)	(mm)	(N/m)
M16	16	40	756	782	3	824	142	852	60
M16	16	40	782	808	3	850	142	878	60
M16	16	40	806	832	3	874	142	902	60
M16	16	40	828	854	3	896	142	924	60
M16	16	40	856	882	3	924	142	952	60

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M	WP	C max.	OD min	OD max.	OD1 < OD2	d	B	H	Torque
	(bar)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(N/m)
M16	16	40	882	908	3	950	142	978	60
M16	16	40	904	930	3	972	142	1000	60
M16	16	40	936	962	3	1004	146	1032	60
M16	16	40	961	987	3	1029	146	1057	60
M16	16	40	984	1010	3	1052	146	1080	60
M16	16	40	1004	1030	3	1072	146	1100	60
M16	16	40	1044	1070	3	1116	146	1146	80
M16	16	40	1076	1102	3	1148	146	1178	80
M16	16	40	1104	1130	3	1176	146	1206	80
M16	16	40	1138	1177	3	1223	146	1253	80
M16	16	40	1192	1231	3	1277	146	1307	80
M16	16	40	1241	1280	3	1326	146	1356	80
M16	16	40	1331	1370	3	1416	146	1446	80
M16	16	40	1413	1452	3	1498	146	1528	80

UNI-Rep



UNI-Rep L PN16

Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

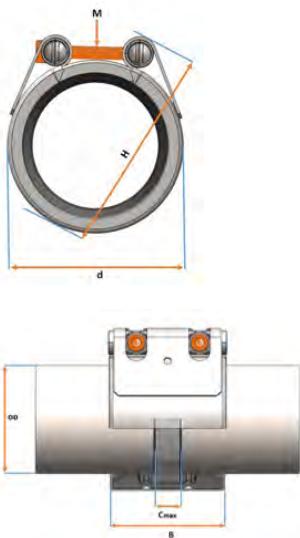
Attention:

- The difference between the different pipe outside diameters OD1<OD2 is 1% or max. 3 mm.

PN (bar)	OD nominal (mm) (mm)	EPDM Code	SP Weight (kg)	NBR Code
16	36.0 - 39.0	779 912 005	0	0.4
16	39.0 - 43.0	779 912 006	0	0.4
16	43.0 - 47.5	779 912 007	0	0.4
16	47.5 - 52.5	779 912 008	0	0.4
16	52.5 - 58.0	779 912 009	0	0.6
16	58.0 - 64.0	779 912 010	0	0.6
16	64.0 - 72.0	779 912 011	0	1.0
16	72.0 - 80.0	779 912 012	0	1.0
16	80.0 - 88.0	779 912 013	0	1.0
16	88.0 - 96.0	779 912 014	0	1.0
16	97.0 - 105.0	779 912 015	0	1.1
16	104.0 - 112.0	779 912 016	0	1.1
16	112.0 - 120.0	779 912 017	0	1.2
16	122.0 - 130.0	779 912 018	0	1.2
16	129.0 - 137.0	779 912 019	0	2.1
16	137.0 - 145.0	779 912 020	0	2.2
16	149.0 - 157.0	779 912 021	0	2.3
16	157.0 - 165.0	779 912 022	0	2.3
16	164.0 - 172.0	779 912 023	0	2.4

M	WP	C max.	OD min	OD max.	OD1 < OD2	d	B	H	Torque
	(bar)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(N/m)
M8	60	15	36.0	39.0	2	66	60	104	5.0
M8	50	15	39.0	43.0	2	66	60	104	5.0
M8	50	15	43.0	47.5	2	74	60	112	5.0
M8	50	15	47.5	52.5	2	74	60	112	5.0
M8	50	25	52.5	58.0	2	85	75	125	5.0

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M	WP (bar)	C max. (mm)	OD min (mm)	OD max. (mm)	OD1 < OD2 (mm)	d (mm)	B (mm)	H (mm)	Torque (N/m)
M8	40	25	58.0	64.0	3	85	75	125	5.0
M10	40	30	64.0	72.0	3	108	95	164	10.0
M10	40	30	72.0	80.0	3	108	95	164	10.0
M10	35	30	80.0	88.0	3	124	95	170	10.0
M10	35	30	88.0	96.0	3	124	95	170	10.0
M10	35	30	97.0	105.0	3	141	95	187	10.0
M10	35	30	104.0	112.0	3	141	95	187	10.0
M10	35	30	112.0	120.0	3	158	95	202	12.5
M10	32	30	122.0	130.0	3	158	95	202	12.5
M12	32	40	129.0	137.0	3	178	110	230	20.0
M12	32	40	137.0	145.0	3	186	110	238	25.0
M12	32	40	149.0	157.0	3	197	110	249	30.0
M12	32	40	157.0	165.0	3	205	110	255	30.0
M12	32	40	164.0	172.0	3	212	110	262	30.0

UNI-Rep S2 PN16

Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

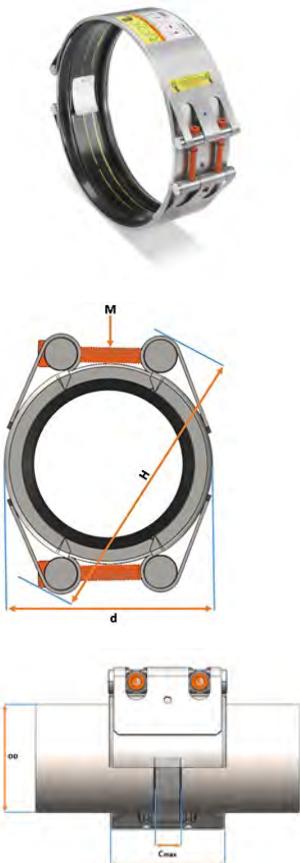
- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Option:

- Sealing type Viton (FKM) on request

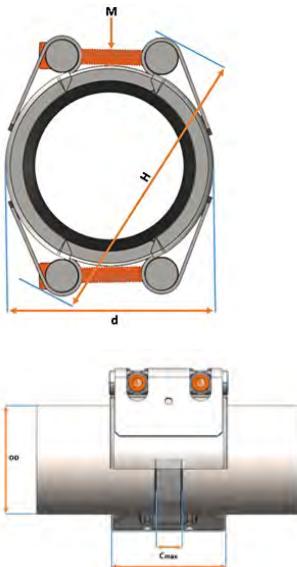
Attention:

- The difference between the different pipe outside diameters OD1<OD2 is 1% or max. 3 mm.



PN (bar)	OD nominal (mm) (mm)	EPDM Code	SP	Weight (kg)	NBR Code
16	172 - 198	779 964 024	0	7.8	779 962 024
16	197 - 223	779 964 026	0	8.1	779 962 026
16	221 - 247	779 964 028	0	8.4	779 962 028
16	250 - 276	779 964 030	0	8.7	779 962 030
16	275 - 301	779 964 032	0	10.8	779 962 032
16	302 - 328	779 964 034	0	11.3	779 962 034
16	327 - 353	779 964 036	0	11.7	779 962 036
16	348 - 374	779 964 038	0	16.1	779 962 038
16	374 - 400	779 964 040	0	16.8	779 962 040
16	399 - 425	779 964 042	0	17.4	779 962 042
16	425 - 451	779 964 044	0	18.0	779 962 044
16	447 - 473	779 964 046	0	18.6	779 962 046
16	475 - 501	779 964 048	0	19.3	779 962 048
16	490 - 516	779 964 049	0	19.7	779 962 049
16	507 - 533	779 964 050	0	20.1	779 962 050
16	558 - 584	779 964 054	0	21.4	779 962 054
16	533 - 559	779 964 052	0	20.7	779 962 052
16	587 - 613	779 964 055	0	22.1	779 962 055
16	615 - 641	779 964 057	0	22.8	779 962 057
16	635 - 661	779 964 058	0	23.3	779 962 058
16	663 - 689	779 964 059	0	24.0	779 962 059
16	687 - 713	779 964 061	0	24.6	779 962 061
16	704 - 730	779 964 062	0	25.0	779 962 062
16	719 - 745	779 964 063	0	25.4	779 962 063

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M	WP (bar)	C max. (mm)	OD min (mm)	OD max. (mm)	OD1 < OD2 (mm)	d (mm)	B (mm)	H (mm)	Torque (N/m)
M12	25	40	172	198	3	236	140	262	30
M12	25	40	197	223	3	261	140	287	30
M12	25	40	221	247	3	285	140	311	30
M12	25	40	250	276	3	314	140	340	30
M16	25	40	275	301	3	339	142	365	30
M16	25	40	302	328	3	366	142	392	30
M16	25	40	327	353	3	391	142	417	50
M16	25	40	348	374	3	412	146	438	50
M16	25	40	374	400	3	438	146	464	50
M16	25	40	399	425	3	463	146	489	50
M16	25	40	425	451	3	489	146	515	50
M16	25	40	447	473	3	511	146	537	50
M16	25	40	475	501	3	539	146	565	50
M16	25	40	490	516	3	554	146	580	50
M16	25	40	523	533	3	575	146	603	60
M16	25	40	558	584	3	626	146	654	60
M16	25	40	533	559	3	601	146	629	60
M16	25	40	587	613	3	655	146	683	60
M16	25	40	615	641	3	683	146	711	70
M16	25	40	635	661	3	703	146	731	70
M16	25	40	663	689	3	731	146	759	70
M16	25	40	687	713	3	755	146	783	70
M16	25	40	704	730	3	772	146	800	70
M16	25	40	719	745	3	787	146	815	70

UNI-Rep S2 PN10

Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

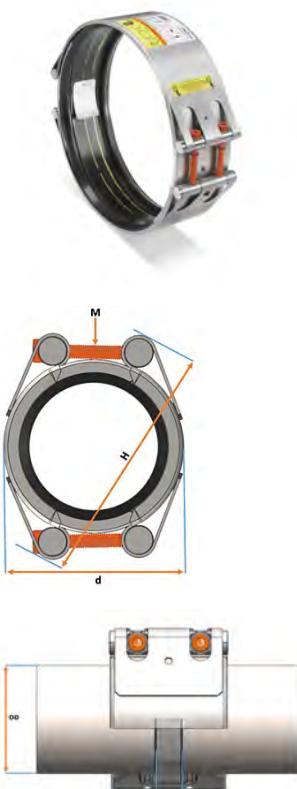
- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Option:

- Sealing type Viton (FKM) on request

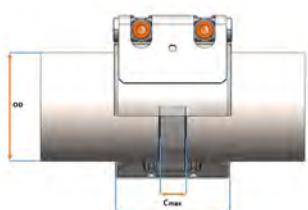
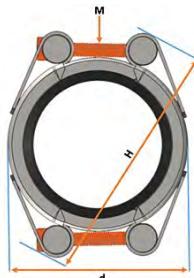
Attention:

- The difference between the different pipe outside diameters OD1<OD2 is 1% or max. 3 mm.



PN (bar)	OD nominal (mm) (mm)	EPDM Code	SP Weight (kg)	NBR Code
10	172 - 198	779 964 124	0	6.4
10	197 - 223	779 964 126	0	6.6
10	221 - 247	779 964 128	0	6.8
10	250 - 276	779 964 130	0	7.0
10	275 - 301	779 964 132	0	9.0
10	302 - 328	779 964 134	0	9.4
10	327 - 353	779 964 136	0	9.7
10	348 - 374	779 964 138	0	12.0
10	374 - 400	779 964 140	0	12.4
10	399 - 425	779 964 142	0	12.8
10	425 - 451	779 964 144	0	13.2
10	447 - 473	779 964 146	0	13.6
10	475 - 501	779 964 148	0	14.1
10	490 - 516	779 964 149	0	14.3
10	507 - 533	779 964 150	0	14.6
10	533 - 559	779 964 152	0	15.0
10	558 - 584	779 964 154	0	15.4
10	587 - 613	779 964 155	0	15.9
10	615 - 641	779 964 157	0	16.3
10	635 - 661	779 964 158	0	16.6

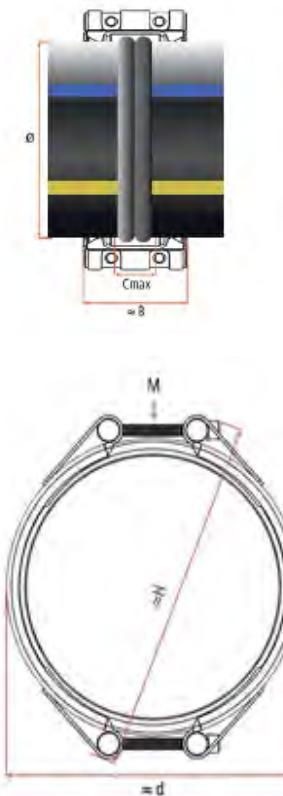
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PN (bar)	OD nominal (mm) (mm)	EPDM Code	SP	Weight (kg)	NBR Code
10	663 - 689	779 964 159	0	17.1	779 962 159
10	687 - 713	779 964 161	0	17.5	779 962 161
10	704 - 730	779 964 162	0	17.7	779 962 162
10	719 - 745	779 964 163	0	18.0	779 962 163

M	WP (bar)	C max. (mm)	OD min (mm)	OD max. (mm)	OD1 < OD2 (mm)	d (mm)	B (mm)	H (mm)	Torque (N/m)
M12	16	40	172	198	3	236	138	262	30
M12	16	40	197	223	3	261	138	287	30
M12	16	40	221	247	3	285	138	311	30
M12	16	40	250	276	3	314	138	340	30
M12	16	40	275	301	3	339	140	365	30
M12	16	40	302	328	3	366	140	392	30
M12	16	40	327	353	3	391	140	417	40
M12	16	40	348	374	3	412	142	438	40
M12	16	40	374	400	3	438	142	464	40
M12	16	40	399	425	3	463	142	489	40
M12	16	40	425	451	3	489	142	515	40
M12	16	40	447	473	3	511	142	537	40
M12	16	40	475	501	3	539	142	565	40
M12	16	40	490	516	3	554	142	580	40
M16	16	40	507	533	3	575	142	603	50
M16	16	40	533	559	3	601	142	629	50
M16	16	40	558	584	3	626	142	654	50
M16	16	40	587	613	3	655	142	683	50
M16	16	40	615	641	3	683	142	711	60
M16	16	40	635	661	3	703	142	731	60
M16	16	40	663	689	3	731	142	759	60
M16	16	40	687	713	3	755	142	783	60
M16	16	40	704	730	3	772	142	800	60
M16	16	40	719	745	3	787	142	815	60

UNI-Rep 5 S2 PN10/16



Model:

- Housing, Bars and Strip insert (option): Stainless Steel W5 (1.4571) Quality

Temperature/Pressure:

- Operating temperature EPDM: -30°C to 125°C
- Operating temperature NBR: -20°C to 80°C

Option:

- Sealing type Viton (FKM) on request

Attention:

- The difference between the different pipe outside diameters OD1<OD2 is 1% or max. 3 mm.

OD nominal (mm) (mm)	EPDM Code	SP	Weight (kg)	NBR Code
200	779 964 064	0	24.31	779 962 064
225	779 964 065	0	25.18	779 962 065
250	779 964 066	0	26.23	779 962 066
280	779 964 067	0	27.14	779 962 067
315	779 964 068	0	28.11	779 962 068
355	779 964 069	0	36.03	779 962 069
400	779 964 070	0	38.49	779 962 070
450	779 964 071	0	40.81	779 962 071
500	779 964 072	0	42.88	779 962 072
560	779 964 073	0	46.16	779 962 073
	779 964 074	0	47.56	779 962 074
630	779 964 075	0	48.91	779 962 075
	779 964 076	0	49.88	779 962 076
710	779 964 077	0	53.21	779 962 077
	779 964 078	0	55.24	779 962 078
800	779 964 079	0	56.49	779 962 079
	779 964 080	0	57.65	779 962 080
900	779 964 081	0	61.31	779 962 081
	779 964 082	0	62.38	779 962 082
1000	779 964 083	0	95.37	779 962 083
	779 964 084	0	99.89	779 962 084
1200	779 964 085	0	121.70	779 962 085

OD nominal (mm) (mm)	M	PN (bar)	WP (bar)	C max. (mm)	OD min (mm)	OD max. (mm)	OD1 < OD2 (mm)	d (mm)	B (mm)	H (mm)
200	M12	16	25	300	197	223	3	287	420	261
225	M12	16	25	300	221	247	3	311	420	285
250	M12	16	25	300	250	276	3	340	420	314
280	M12	10	16	300	275	301	3	365	420	339
315	M12	10	16	300	302	328	3	392	420	366
355	M16	10	16	300	348	374	3	438	420	412
400	M16	10	16	300	399	425	3	489	420	463
450	M16	10	16	300	447	473	3	537	420	511
500	M16	10	16	300	490	516	3	580	420	554
560	M16	10	16	300	558	584	3	654	420	626
	M16	10	16	300	587	613	3	683	420	655
630	M16	10	16	300	615	641	3	711	420	683
	M16	10	16	300	635	661	3	731	420	703
710	M16	10	16	300	704	730	3	800	420	772
	M16	10	16	300	756	782	3	852	420	824
800	M16	10	16	300	782	808	3	878	420	850
	M16	10	16	300	806	832	3	902	420	874
900	M16	10	16	300	882	908	3	978	420	950
	M16	10	16	300	904	930	3	1000	420	972
1000	M16	10	16	300	984	1010	3	1080	420	1052
	M16	10	16	300	1044	1070	3	1146	420	1116
1200	M16	10	16	300	1192	1231	3	1307	420	1277

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OD nominal (mm) (mm)	Torque (N/m)
200	30
225	30
250	30
280	30
315	30
355	40
400	40
450	40
500	40
560	50
	50
630	60
	60
710	60
	60
800	60
	60
900	60
	60
1000	60
	80
1200	80

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108-128L400N	170	700 618 957	139	709 026 191	137	709 026 452	137
108-128L500N	170	700 618 958	139	709 026 192	137	709 026 453	137
118-138L300N	169	700 618 959	139	709 026 195	137	709 026 455	137
118-138L400N	170	700 618 960	139	709 026 196	137	709 026 456	137
118-138L500N	170	700 618 961	139	709 026 199	137	709 026 457	137
133-153L300N	169	700 618 962	139	709 026 203	135	709 026 458	137
133-153L400N	170	700 618 963	140	709 026 206	135	709 026 459	137
133-153L500N	170	700 618 964	140	709 026 211	135	709 026 460	137
143-163L300N	169	700 618 965	140	709 026 214	135	709 026 465	137
143-163L400N	170	700 619 010	140	709 026 217	135	709 026 466	137
143-163L500N	171	700 619 012	140	709 026 220	135	709 026 467	137
160-180L300N	169	709 026 012	136	709 026 223	135	709 026 468	137
160-180L400N	170	709 026 016	136	709 026 227	135	709 026 469	137
160-180L500N	171	709 026 018	136	709 026 230	135	709 026 470	137
180-200L300N	169	709 026 022	136	709 026 233	135	709 026 472	137
180-200L400N	170	709 026 026	136	709 026 236	135	709 026 473	137
180-200L500N	171	709 026 032	136	709 026 238	135	709 026 474	137
190-210L300N	169	709 026 036	136	709 026 242	135	709 026 475	137
190-210L400N	170	709 026 038	136	709 026 245	135	709 026 477	137
190-210L500N	171	709 026 042	136	709 026 248	135	709 026 478	137
200 008 083	140	709 026 046	136	709 026 250	135	709 026 479	137
200 008 084	141	709 026 048	136	709 026 254	135	709 026 480	137
210-230L300N	169	709 026 052	136	709 026 257	135	709 026 481	137
210-230L400N	170	709 026 056	136	709 026 262	135	709 026 482	137
210-230L500N	171	709 026 062	136	709 026 269	135	709 026 487	137
230-250L300N	169	709 026 066	136	709 026 278	135	709 026 488	137
230-250L400N	170	709 026 070	136	709 026 281	135	709 026 489	137
230-250L500N	171	709 026 072	136	709 026 284	135	709 026 490	137
240-260L300N	169	709 026 076	136	709 026 286	135	709 026 491	137
240-260L400N	170	709 026 082	136	709 026 290	135	709 026 492	137
240-260L500N	171	709 026 086	136	709 026 293	135	709 301 010	108
250-270L300N	169	709 026 092	136	709 026 302	135	709 301 012	108
250-270L400N	170	709 026 096	136	709 026 305	135	709 301 014	108
250-270L500N	171	709 026 102	136	709 026 308	135	709 301 016	108
270-290L300N	169	709 026 106	136	709 026 310	135	709 301 018	108
270-290L400N	170	709 026 115	136	709 026 314	135	709 301 020	108
270-290L500N	171	709 026 116	136	709 026 317	135	709 301 024	108
290-310L300N	169	709 026 124	136	709 026 326	135	709 301 026	108
290-310L400N	170	709 026 125	136	709 026 329	135	709 301 028	108
290-310L500N	171	709 026 126	136	709 026 332	135	709 301 032	108
315-335L300N	169	709 026 127	136	709 026 334	135	709 301 036	108
315-335L400N	170	709 026 128	136	709 026 338	135	709 301 040	108
315-335L500N	171	709 026 129	136	709 026 340	135	709 301 042	108
315-335L600N	171	709 026 132	136	709 026 341	135	709 301 072	108
335-355L300N	169	709 026 138	136	709 026 350	135	709 301 073	108
335-355L400N	170	709 026 139	136	709 026 353	135	709 301 074	108
335-355L500N	171	709 026 140	136	709 026 356	135	709 301 076	108
335-355L600N	171	709 026 148	136	709 026 358	136	709 301 078	108
700 618 923	140	709 026 149	136	709 026 362	136	709 301 210	108
700 618 924	140	709 026 158	136	709 026 365	136	709 301 212	108
700 618 925	140	709 026 159	136	709 026 391	135	709 301 214	108
700 618 926	140	709 026 168	136	709 026 392	135	709 301 216	108
700 618 927	140	709 026 169	136	709 026 408	135	709 301 218	108
700 618 928	140	709 026 178	136	709 026 409	135	709 301 220	108
700 618 929	140	709 026 179	136	709 026 410	135	709 301 224	108
700 618 933	140	709 026 182	137	709 026 411	135	709 301 226	108
700 618 934	140	709 026 183	137	709 026 413	135	709 301 228	108
700 618 935	140	709 026 184	137	709 026 414	136	709 301 232	108
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709 301 342	108	709 305 282	109	709 335 029	133	709 351 310	111
709 301 372	108	709 305 283	109	709 335 210	133	709 351 312	111
709 301 373	108	709 305 284	109	709 335 216	133	709 351 314	111
709 301 374	108	709 305 310	109	709 335 220	133	709 351 316	111
709 301 376	108	709 305 312	109	709 335 229	133	709 351 318	111
709 301 378	108	709 305 314	109	709 335 310	133	709 351 320	111
709 301 610	108	709 305 316	109	709 335 316	133	709 351 324	111
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709 301 614	108	709 305 320	109	709 335 329	133	709 351 328	111
709 301 616	108	709 305 324	109	709 335 610	133	709 351 329	111
709 301 618	108	709 305 326	109	709 335 616	133	709 351 332	111
709 301 620	108	709 305 328	109	709 335 620	133	709 351 333	111
709 301 624	108	709 305 332	109	709 335 629	133	709 351 336	111
709 301 626	108	709 305 336	109	709 341 024	134	709 351 337	111
709 301 628	108	709 305 340	109	709 341 224	134	709 351 338	111
709 301 632	108	709 305 342	109	709 341 324	134	709 351 339	111
709 301 636	108	709 305 372	109	709 341 624	134	709 351 372	111
709 301 640	108	709 305 373	109	709 345 024	134	709 351 374	111
709 301 642	108	709 305 374	109	709 345 224	134	709 351 376	121
709 301 672	108	709 305 376	109	709 345 324	134	709 351 378	111
709 301 673	108	709 305 378	109	709 345 624	134	709 351 610	111
709 301 674	108	709 305 610	109	709 351 010	111	709 351 612	111
709 301 676	108	709 305 612	109	709 351 012	111	709 351 614	111
709 301 678	108	709 305 614	109	709 351 014	111	709 351 616	111
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709 305 042	109	709 305 674	109	709 351 039	111	709 351 672	111
709 305 072	109	709 305 676	109	709 351 072	111	709 351 674	111
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709 355 046	114	709 355 374	113	709 365 224	131	709 375 614	123
709 355 048	114	709 355 376	122	709 365 228	131	709 375 616	123
709 355 050	114	709 355 378	113	709 365 232	131	709 375 618	123
709 355 072	113	709 355 510	115	709 365 309	131	709 375 620	123
709 355 074	113	709 355 512	115	709 365 310	131	709 375 624	123
709 355 076	122	709 355 514	115	709 365 311	131	709 375 626	123
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709 355 225	112	709 355 616	112	709 365 610	131	709 385 011	126
709 355 228	112	709 355 618	112	709 365 611	131	709 385 012	126
709 355 229	112	709 355 620	112	709 365 612	131	709 385 013	126
709 355 232	112	709 355 624	112	709 365 614	131	709 385 014	126
709 355 233	112	709 355 625	112	709 365 615	131	709 385 015	126
709 355 236	112	709 355 628	112	709 365 616	131	709 385 016	126
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709 355 240	114	709 355 636	112	709 365 628	131	709 385 020	126
709 355 242	114	709 355 637	112	709 365 632	131	709 385 021	126
709 355 244	114	709 355 638	112	709 375 010	123	709 385 022	126
709 355 246	114	709 355 639	113	709 375 012	123	709 385 023	126
709 355 248	114	709 355 640	114	709 375 014	123	709 385 024	126
709 355 250	114	709 355 642	114	709 375 016	123	709 385 025	126
709 355 272	113	709 355 644	114	709 375 018	123	709 385 026	126
709 355 274	113	709 355 646	114	709 375 020	123	709 385 027	126
709 355 276	122	709 355 648	114	709 375 024	123	709 385 028	126
709 355 278	113	709 355 650	114	709 375 026	123	709 385 029	126
709 355 282	113	709 355 672	113	709 375 028	123	709 385 030	126
709 355 283	113	709 355 674	113	709 375 032	123	709 385 031	126
709 355 310	112	709 355 676	122	709 375 034	123	709 385 032	126
709 355 311	114	709 355 678	113	709 375 210	123	709 385 033	127
709 355 312	112	709 355 682	113	709 375 212	123	709 385 034	127
709 355 313	114	709 355 683	113	709 375 214	123	709 385 035	127
709 355 314	112	709 365 009	131	709 375 216	123	709 385 036	127
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709 401 381	116	709 405 286	118	709 451 039	120	709 451 687	121
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709 401 386	116	709 405 289	118	709 451 079	120	709 451 690	121
709 401 388	116	709 405 290	119	709 451 080	120	709 451 692	121
709 401 389	116	709 405 292	119	709 451 081	120	709 455 008	122
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709 401 397	117	709 405 299	119	709 451 092	121	709 455 078	122
709 401 618	116	709 405 300	119	709 451 208	120	709 455 079	122
709 401 620	116	709 405 318	118	709 451 218	120	709 455 080	122
709 401 624	116	709 405 320	118	709 451 224	120	709 455 081	122
709 401 632	116	709 405 324	118	709 451 232	120	709 455 084	122
709 401 636	116	709 405 332	118	709 451 236	120	709 455 085	122
709 401 638	116	709 405 336	118	709 451 238	120	709 455 086	122
709 401 648	116	709 405 338	118	709 451 239	120	709 455 087	122
709 401 678	116	709 405 348	118	709 451 278	120	709 455 088	122
709 401 681	116	709 405 378	118	709 451 279	120	709 455 089	114
709 401 682	116	709 405 381	118	709 451 280	120	709 455 090	122
709 401 686	116	709 405 382	118	709 451 281	120	709 455 091	114
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Article I – General

1. In case of any difference of opinion regarding the contents, purpose and intention of any provision in these general conditions of sale, the most obvious interpretation, based on the Dutch version thereof, shall prevail. Any reference by principal to his own general conditions in any phase of making the agreement with us, is explicitly rejected. Insofar as our conditions are conflicting with principal's conditions of purchase or tender or other conditions, our conditions shall prevail, except in case that and insofar as principal's conditions have explicitly been accepted by us in writing.

2. In these general conditions the following terms that be understood to mean the following:

"Principal": any natural person or legal entity who purchases products from us or to whom we submit offers.

"We" or "us": contractor who has received an order from principal or has entered into an agreement with the letter or he who refers to these general conditions in his offer.

"Products": all objects which are the subject of an agreement, including all results of services rendered by us, such as contracting work, mounting, installation, advice, etc.

Article II – Offers; creation of agreements

1. All our offers or quotations are free of engagement, unless explicitly stated otherwise in writing. Each offer or quotation from us is based on the assumption that we can carry out the order in normal conditions and during regular working hours. An agreement shall only be created if and insofar as we accept an order from principal in writing or if we commence carrying out an order. The date on which the agreement is created shall be the date of dispatch of our written confirmation of the order respectively the first day on which we actually commence carrying out the order.

2. If at principal's request we make any performance priori to the agreement being created, we shall have the right to demand payment for such performance in conformity with the rates then applied by us, unless explicitly otherwise agreed upon in writing.

3. In case of acceptance by us in writing, we shall have no further obligations than those accepted by us in writing. Principal shall be deemed to be bound by his order, for as long as the order has not been refused by us.

4. Stipulations in the order which are additional to or deviating from our offer or quotation shall at all times only be binding for us if and insofar as such stipulations have been explicitly accepted by us in writing.

5. All specifications or figures, measurements, weights and/or other descriptions of the products have been drawn up with due care, but we cannot guarantee that no deviations will occur. Samples, drawings or models, etc. shown or provided shall at all times only be indications of the relevant products.

Article III – Prices

1. Unless explicitly otherwise agreed upon in writing, our prices shall be ex works, which means excluding transport and/or forwarding, packaging, insurance, etc. and excluding duties and taxes and other levies, if any, imposed by the public authorities as well as any costs related to objects made available by principal in the scope of the execution of the order. If delivery free domicile has been agreed upon, expenses involved in special or express transport shall nevertheless be charged to principal separately.

In addition, we shall have the right to charge a small-order surcharge to principal in case of small deliveries.

2. In case that the prices of materials, equipment, components, raw materials, wages, salaries, social security contributions and levies imposed by the public authorities are increased after the date when the agreement was created in conformity with article II clause 1 and before the order has been fully executed, we shall have the right to increase our prices accordingly.

3. We shall have the right to invoice additional work carried out by us separately, also when the additional work has not been ordered in writing and/or the price thereof has not been agreed upon in advance. For calculating the price for additional work, the provisions in the preceding clauses of this article shall be analogously applicable. Applicability of 7a: 1464 Dutch Civil Code is explicitly excluded.

4. If mounting or installation of products delivered is explicitly included in our confirmation of the order and is therefore part of the agreement entered into with principal, the price referred to in this article shall have been calculated so as to include mounting or installation of the products and completing the products ready for operation at the location specified in the agreement. The costs and financial consequences of obligations of principal referred to separately in article VI shall not be included in this price, except if and insofar as they have been explicitly included in our confirmation of the order.

Article IV – Packaging

Unless explicitly agreed upon otherwise in writing, the products shall be provided with a type of packaging – if necessary and at our exclusive discretion – in which they are customarily sold, duly observing the provision in article III clause 1. Unless otherwise agreed upon in writing with principal, we shall not take back the packaging materials.

Article V – Documents, appliances and advice

1. Cost estimates, plans, drawings, statements of measurements and weights or other documents as well as appliances such as models, moulds, stamps, dies and tools pertaining to offers or deliveries drawn up, manufactured or made available shall remain our property at all times – also if the cost of manufacturing has been charged to principal – and shall be returned to us at our first request.

2. Except when we have given our consent in writing, principal undertakes that the documents, appliances and information provided by us as referred to in the preceding clause shall not be copied or imitated or made available for inspection to or put at the disposal of third parties, whether force rendering them or not. We shall have the right to demand from principal that he gives his cooperation to a declaration of secrecy submitted to him by us.

3. Duly observing the provision in article II, clause 5, we shall only be bound by any advice, calculation, information and specification provided by us if regarding capacities, results and/or performance to be expected of products to be supplied by us or operations to be carried out by us, and insofar as such particulars have been included in our written confirmation of the order or from part of the written agreement entered into separately with us and principal.

Article VI – Mounting; installation

1. Principal shall ensure that necessary facilities, provisions and conditions for the mounting or installation operations to be carried out by us have been or are compiled with timely and properly. Such facilities and other activities to be conducted in this scope shall be for the account and at the risk of principal at all times.

2. Principal shall ensure for his account and at his risk that our engineers are enabled to carry out their operations. He provides the appliances required, duly observing necessary safety regulations and other precautions and gives the assistance required, either personally or by his helpers made available by him. Principal shall ensure that suitable accommodation and other personal facilities are available to our engineers.

3. Travelling expenses shall be charged to principal separately. In deviation from the provision in article III, clause 4, we reserve the right to charge additional labour costs in case that in our opinion, in deviation from the assumption referred to in article II, clause 1, we are necessitated to carry out the operations outside regular working hours and/or in special conditions.

4. The provision in article VII regarding the period of delivery is analogously applicable to the mounting or installation period agreed upon. A period during which machineries, installations, etc. are running in is not included in the mounting or installation period agreed upon with us. Duly observing the provisions in this article, that which has been provided in the relevant articles of these conditions shall be applicable to price, delivery, risk and warranty in respect of mounting or installation.

Article VII – Period of delivery

1. The period of delivery, which is also understood to be the period for the operations to be carried out by us, shall commence on the day stated in our confirmation of the order. If certain details, drawings, etc. are needed or certain formalities are required to be fulfilled for the execution of the order, the period of delivery shall commence on the date being the date on which all details, drawings, etc. are in our possession or the date on which the formalities required have been fulfilled. In case that an advance payment is demanded by us when the order is placed, the period of delivery shall commence on a later date that the date of the written acceptance of the order or the date of receipt of said documents, this later date being the date on which we receive said payment.

2. Periods of delivery stated by us shall not constitute a deadline and are always free of engagement. Solely expiration thereof does not result in our being in default. We shall make every effort to observe the periods of delivery stated as exactly as possible. Except for willfulness or gross negligence, our exceeding the period of delivery does not give principal the right to demand compensation, to refuse to take receipt of the product or to full or partial rescission of the agreement.

Article VIII – Force majeure

1. Force majeure on our part shall be understood to mean: any circumstance independent from our will due to which fulfillment of our obligations to principal is fully or partly prevented or due to which fulfillment of our obligations cannot be demanded from us in reason, irrespective of whether this circumstance was foreseeable at the time when the agreement was entered into. We shall notify principal of a situation constituting force majeure as soon as possible.

2. In any case all situations constituting force majeure, such as war, threat of war, civil war, riot, taking of hostages, war risk, fire, damage caused by water and flooding, strike, occupation of the company, lock-out, lack of labour or raw materials, defects in machines or installations, disruptions in energy supply, all and any both in our company and in that of third parties from whom we have to buy all or part of the required materials, parts, components, tools, exchange of carriage, transport, where we ourselves or others are furthermore due to other causes that have arisen, in which we cannot be blamed, in which we arise through no fault of ours, shall relieve us from any obligation to fulfill our obligations, including the period of delivery, for as long as the situation preventing us from doing so continues to exist. Claims for compensation due to partial or total non-fulfillment shall also be excluded in the above mentioned cases.

3. When the situation constituting force majeure has continued for two months, we shall have the right to rescind the agreement in part or full. In such case principal shall not be entitled to any compensation.

Article IX – Delivery

When the relevant products have left our factory or when we have notified principal in writing that the products are ready to be dispatched, they shall be deemed to have been delivered, without prejudice to the provision in article XI and irrespective of our obligation, if any, to fulfill mounting and/or installation obligations. Consequently, the place of delivery is our factory, even if delivery free domicile and/or free transport has been agreed upon by us. In case that the order is delivered in parts, the separate batches as such shall be deemed to have been delivered.

Article X – Risk

1. The risk shall be transferred to principal at the time of delivery in the sense of article IX. In case of damage to products caused by destruction of the packaging, too, the provision in the preceding sentence shall be in full force and effect.

2. If the products are not, timely or not properly taken by principal, principal shall be in default without any notice of default being required. We shall then have the right to store the products for the account and at the risk of principal or to sell them to a third party. The selling price, increased by the interest on all expenses, shall remain payable by principal; however, as the case arises, the net proceeds of the sale to a third party shall be deducted.

3. Unless otherwise agreed upon with principal in writing, dispatch and/or transport of the products, if such operations are arranged by us, shall be for the account and at the risk of principal and the products shall not be insured against transport risks by us. Even if we have given a declaration to the carrier that any damage during transport shall be for our account, transport risks shall nevertheless be for the account of principal and we are not obliged to take steps to recover any damage. If desired, we may transfer our rights in respect of the carrier to principal.

4. Except in case that such has been explicitly otherwise agreed upon in writing, products which have been provided to us for treatment, repair or inspection shall be held by us at the risk of principal. We undertake to hold and treat the products provided to us by principal with due care.

Article XI – Reservation of ownership

1. The ownership of the products shall only be transferred to principal when he has fulfilled all obligations ensuing from the relevant agreement or from any agreement related thereto. Obligations shall be understood to include, in addition to payment of the purchase price, the operations conducted or to be conducted in respect of the products as well as payment of all surcharges, interest rates, taxes and costs, etc. in respect thereof pursuant to the agreement.

2. It shall not be permitted to principal to alienate, raise a loan on or pledge the products or contribute the products to a mortgage or to transfer the products to third parties in any other manner. It shall be permitted to principal to treat, process or use the products in the scope of normal business operations.

3. Principal shall be entitled to take back the products, without any notice of default or legal intervention being required. Without prejudice to the other rights to which we are entitled, we are irrevocably authorized by principal now, in case the occasion arises, to dislodge and take into our possession the products supplied by us and fixed to movable or immovable objects, in the event that principal does not, timely or not properly fulfill his (financial) obligations contracted to us, without any notice of default or legal intervention being required.

4. Principal shall be obliged to notify us in writing without delay of the fact that third parties (possibly) exercise rights on the products on

which our reservation of ownership is resting. In the event that principal appears not to have complied with this obligation, he shall forfeit a penalty of 15% of the unpaid part of the amounts payable by him to which the reservation of ownership is applicable, without prejudice to the other rights in respect of said amounts payable by him to which we are entitled.

5. Each payment we receive from principal shall in the first instance serve as payment of amounts receivable by us from principal regarding which a reservation of ownership in the sense of clause 1 of this article is not applicable (any longer).

Article XII – Credit surcharge

The invoice amount may be increased by us by a credit surcharge which is stated separately on the invoice. When the invoice amount is paid within thirty days from the invoice date, said surcharge does not have to be included in the payment.

Article XIII – Payment

1. Unless otherwise agreed upon in writing, payment of the purchase price and/or the price agreed upon for operations to be carried out or carried out by us shall be made, at our discretion, either cash on delivery or within thirty days from the date of delivery in accordance with the provision in article IX. All payments shall be made without any deduction of discount or of amounts receivable from us. In case that principal fails to pay the amount due within the period of time agreed upon, he shall be liable to pay interest on the amount of the debt.

2. Payment of additional work shall be effected as soon as we have invoked such work to principal.

3. We shall have the right, if at any time we entertain reasonable doubts about principal's creditworthiness, to demand, before proceeding with (any further) performance, full or partial prepayment of the purchase price or that principal gives adequate security, for example by means of a bank guarantee or secret pledging of products supplied by us. In such case we shall also have the right to dispatch products exclusively subject to the condition cash on delivery.

4. In case that we have agreed with principal that payment shall be effected through a bank or where security is given by means of documentary credit or bank guarantee, principal undertakes that such transaction shall take place through a first-class bank at all times. If we hold reasonable doubts about said qualification, we shall have the right to reject the bank proposed and to designate another bank.

5. Solely due to any term of payment having expired, principal shall be in default by the operation of the law. In that case all amounts payable by principal to us shall fall fully and immediately due, without prejudice to the other rights to which we are entitled.

6. On all amounts which have not been paid on the last day of the term of payment at the latest, interest shall be payable by principal, without any notice of default being required, as from that day, equal to the legal interest rate then applicable in The Netherlands increased by a 2% surcharge. Every time, after expiration of a year the amount on which interest is charged is increased by the interest payable for that year. If principal has not paid the amount and interest payable after expiration of another term of payment stated in writing, principal shall be obliged to compensate us for all expenses incurred in our out of pocket, which are determined at 15% of the outstanding amount payable and will amount to € 250,- minimum, excluding VAT, at all times.

7. We shall have the right to keep in our possession objects of principal which have been put at our disposal in connection with the order granted to us and to defer returning such objects until principal has fulfilled all his financial obligations to us.

Article XIV – Rescission

1. In case that principal does not, not timely or not properly fulfill any of his obligations ensuing from the agreement entered into with us, he shall be in default and we shall have the right, without any notice of default or legal intervention being required:

- to suspend performance of the agreement and the agreements directly related thereto until adequate security has been given for payment; and/or

- to rescind full or partly the agreement and the agreements directly related thereto;

all and any without prejudice to the other rights to which we are entitled and without our being obliged to give any compensation.

2. In case of bankruptcy or a moratorium of principal's business or his business being shut down or liquidated, all agreements with principal shall be rescinded by the operation of the law, unless we notify principal within a reasonable period that we wish (part of) the relevant agreement(s) to be performed, in which case we shall have the right, without any notice of default being required:

- to suspend performance of the relevant agreements until adequate security has been given for payment; and/or

- to suspend all our financial obligations, if any, on whatever account to principal;

all and any without prejudice to the other rights to which we are entitled and without our being obliged to give any compensation.

3. If an event occurs as referred to in clause 1 or clause 2 of this article, all amounts payable by principal to us shall fall immediately and fully due and we shall have the right to take back the products involved. In that case we shall have the right to enter the sites and buildings of principal for the purpose of taking the products into our possession. Principal shall be obliged to take measures required for providing the opportunity to us to exercise our rights.

Article XV – Cancellation

1. If principal wishes to cancel the order placed with us and we have agreed thereto in writing, principal shall be obliged – except for a written agreement regarding delivery – to take over from us the materials and raw materials bought by us, whether on the basis of a forward contract or not, whether treated or processed or not, at the price paid by us, including labour costs, and to compensate us for such losses as loss of profit by paying 15% of the price agreed upon; all and any without prejudice to any other rights to which we are entitled. In case that we have entered into a currency ensuring from the cancellation.

2. Principal shall be obliged at all times to indemnify us against claims of third parties ensuing from the cancellation of the order.

Article XVI – Inspection and complaints

1. Principal shall be obliged to inspect the products or cause the products to be inspected carefully immediately after their arrival at the place of destination or after completion of the operations carried out by us or – if this happens earlier – after receipt by himself or by a third party acting on his instructions. Any complaints about defects to the products owing to defects in materials or manufacture, as well as deviations as regards quantity, weight, composition or quality between the products delivered and the description previously provided in the confirmation of the order and/or the invoices, shall be notified to us in writing within fourteen days from the date of arrival of the products or from the date of completion of the operations. Without prejudice to the provision in clause 3 of this article. However, if a test or inspection has been conducted at our factory, no complaints shall be admitted during such an inspection or confirmed in writing.

2. Any defects which in reason cannot be established within the period stipulated hereinafter shall be notified to us in writing immediately when they have been established but within the applicable warranty period at the latest. Complaints about invoices shall exclusively be submitted in writing within fourteen days from the date of receipt of the invoices, the date of receipt being determined as being the day following the date of the relevant invoice.

3. Slight deviations with the customary tolerances shall not constitute any grounds for principal to complain, apply for compensation or request cancellation of the order.

4. If complaints are not submitted within the periods stipulated in this article, any claim of principal pertaining to such defects shall be null and void.

5. When principal discovers any defect, he shall be obliged to discontinue the application, treatment, processing or installation of the relevant products immediately and he shall give his full cooperation required by us for investigating the complaint, which includes giving us the opportunity to conduct an on-site investigation into the conditions of treatment, processing, installation and/or application or cause such investigation to be conducted.

6. Principal shall not have the right to complain about products in respect of which we cannot verify the complaint. Principal shall not be forced to return the products before we have agreed thereto in writing.

Article XVII – Warranty

1. We guarantee against defects in materials and manufacture for twelve months from delivery by principal to end user, however, for eight months from maximum delivery in the sense of article IX. Our warranty comprises our repairing the defects at our expense or – at our exclusive discretion – taking back the relevant products fully or partly and replacing them by new products. If we replace (components of) products supplied so as to fulfill our warranty obligations, the replaced (components of) products shall become our property.

All expenses exceeding the obligation referred to hereinbefore in this article shall be for the account of principal; such expenses including carriage, travelling expenses and costs of dismounting and mounting. In case that we carry out repairs to products supplied to fulfill our warranty obligations, the relevant products shall fully remain at the risk of principal.

2. Our warranty shall not be effective:

A. if the defects have resulted from injudicious application or from causes other than defective materials or manufacture;

B. if we deliver used materials or used products in accordance with the order;

C. if the cause of the defects cannot be clearly demonstrated;

D. if not all instructions provided for using the products and other specifically applicable warranty instructions have been complied with strictly and fully.

3. If products are provided for treatment, repair, etc. warranty shall only be granted for the good quality of the execution of the treatments ordered. On components which we do not manufacture ourselves, warranty shall be restricted to the warranty granted to us by our suppliers.

If we have undertaken to mount or install the products, our warranty obligation in respect thereof shall only be applicable in case of defective mounting or installation. In such case the warranty granted by us shall commence on the day when mounting or installation has been completed in our opinion, on the understanding that in that case the warranty period shall expire in any case nine months from delivery in the sense of article IX.

4. Our warranty shall not be valid and null and void if:

A. the relevant defects are the result or regulations issued by public authorities related to the quality or the nature of the materials used or manufactured;

B. principal makes modifications and/or repairs to the products supplied, or causes modifications and/or repairs to be made, at his own initiative during the warranty period;

C. principal does not, not timely or not properly fulfill any obligation ensuing from this agreement or any other agreement related thereto, such as the obligations regarding inspection and complaints stipulated in these conditions.

5. Unless explicitly otherwise agreed upon, we shall be exclusively obliged to comply with the warranty obligations stipulated in this article within the scope of the relevant regulations.

Within the relevant regulations, principal undertakes to inform his customers in writing of said regulations at all times.

Article XVIII – Liability

1. Our liability shall be limited to complying with the warranty obligation described in article XVII.

2. Except in case of our own willfulness or gross negligence and except for our warranty obligations, we shall at no time be liable for any damage suffered by principal, including consequential damage, emotional injury, loss or profits or damage to the environment or damage resulting from liability to third parties.

3. In the event that and insofar as we are still held liable in any case by the competent court, despite the provision in clauses 1 and 2 of this article, our liability to principal on whatever account shall be limited for each event (in which a related series of events shall be considered to be one event) in cases to the size of the relevant contractual price excluding VAT.

4. Principal shall be obliged to inform us for all expenses, losses and interests which might have arisen for us as a consequence of acts or omissions during or in the scope of the execution of the order for which, pursuant to these conditions, we are not liable to principal.

5. We shall not be liable for violation of any patents, licences or other rights of third parties by using information which has been made available to us by or on behalf of principal for the execution of the order. If in the written agreement entered into with principal or in our confirmation of the order we refer to technical, safety, quality and/or other regulations pertaining to the products, principal shall be deemed to be acquainted with such regulations, unless he notifies us of the contrary without delay. We shall then give him further information on said regulations. Principal undertakes to inform his customers in writing of said regulations at all times.

Article XIX – Applicable law; competent court

1. Dutch law shall be applicable to all agreements entered into with us, of which these conditions are a part, either in full or in part. Parties shall be deemed to elect domicile at the place where we are established.

2. Any disputes arising from agreements entered into with us or these general conditions shall be subjected, insofar as not laid down otherwise by the law, to the decision of the competent court whose jurisdiction includes the place where we are established, unless explicitly otherwise agreed upon by parties.

3. The applicability of the Viennese Contract of Sale is excluded, unless parties have explicitly otherwise agreed upon.

Article XX – Filing

These General Terms and Conditions are filed at the Chamber of Commerce at Oost Nederland at Enschede dated 1 January 1994 under no. 080 58749.

Article XI – Registration

Georg Fischer Waga N.V. +GF+ has been registered under the Business Names Act with the Chamber of Commerce at Oost Nederland at Enschede under no. 080 58749.

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