

Georg Fischer Waga N.V.

+GF+

Product Catalogue

MULTIJOINT® 3000 PLUS · 15 YEARS QUALITY
GUARANTEE · 15 YEARS
15
YEARS

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, maintenance and repair.

For more information
visit our website:



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.

	Page
+ The Original	
Water and gas	2
Around the world	4
The right choice	6
+ Product range	
MULTI/JOINT® 3000 Plus DN50 - DN1025 (Restraint)	12
MULTI/JOINT® 3000 Plus DN50 - DN600 (Non restraint)	36
ST-System	55
Multi/Clamp	59
+ Technical information	
Terms and definitions	88
Pipe outside diameters	90
Pipe chart imperial	92
Material specifications	94
Coatings	96
Technical specification flanges	101
Insert stiffeners	104
MULTI/JOINT® 3000 Plus principle	106
Joint gap table	108
Multi/Clamp length selection	113
+ User manuals	
MULTI/JOINT® 3000 Plus DN50 - DN400	116
MULTI/JOINT® 3000 Plus DN425 - DN600	124
MULTI/JOINT® 3000 Plus DN625 - DN1025	132
ST-System	140
Multi/Clamp	147
Insert Stiffeners	154
+ Tender specifications	
MULTI/JOINT® 3000 Plus	160
ST-System	165
Multi/Clamp	166
+ Index and conditions	
Index	168
Conditions of sale	178

*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.*

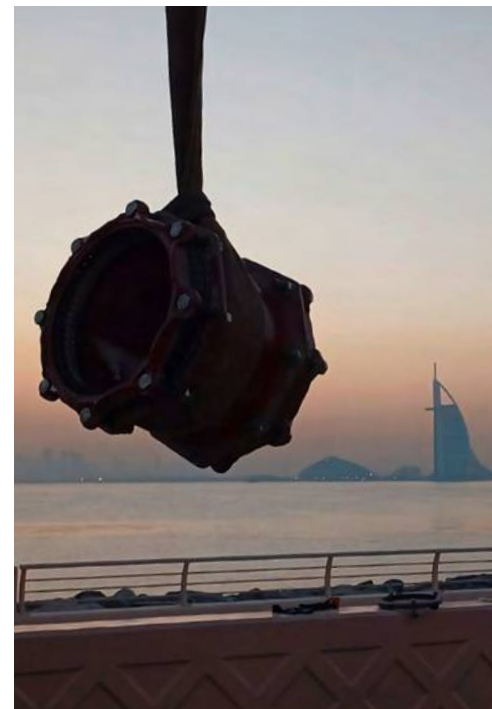
Water and gas



The Original

Maintenance and repair

Maintenance and repair in under and above ground piping systems for water and gas require 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 or repair, 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 and 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.

Distribution lines

Distribution lines ensure water and gas distribution to the end user. Through large diameter transport lines, via distribution and service lines, water and 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 can perfectly be installed or repaired.

House connections and service lines

The last stage of the distribution grid is through pipelines that supply water and 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 end caps.



Around the world

The Original

Our reference cases

Whether it is connecting or repairing 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

The Premiere of a DN825 MULTI/JOINT® Flange Adaptor

Zürich, Switzerland

More and more utility companies around the world get acquainted with their very first MULTI/JOINT® 3000 Plus big-sized fitting DN625 – DN825 (Big 5 family) for their water applications. Switzerland is no exception. Carmine Bencivenga, Product Manager, GF Switzerland, saw the big fitting being lifted into the trench and installed.



And Now for Something Completely Different

The Dutch armed forces

Customers only use MULTI/JOINT® within the water and gas business, right? Think again! For GF Waga, there was a customer from an unexpected quarter. It turns out none other than the Dutch army puts its trust in MULTI/JOINT® 3000 Plus during their missions.



The Night Shift in Action

Selm, Germany

GELSENWASSER Energienetze GmbH specializes in distribution lines of electricity, gas, and water. From heating installations to street lighting, this multi-utility company is responsible for 5,500 kilometers of gas pipes, 1,000 kilometers of water pipes, and 184 kilometers of electricity lines for 51 cities and municipalities of North Rhine-Westphalia. The wide range fitting MULTI/JOINT® 3000 Plus of GF Piping Systems was convincing as a repair solution for one of the water pipes that needed replacement.

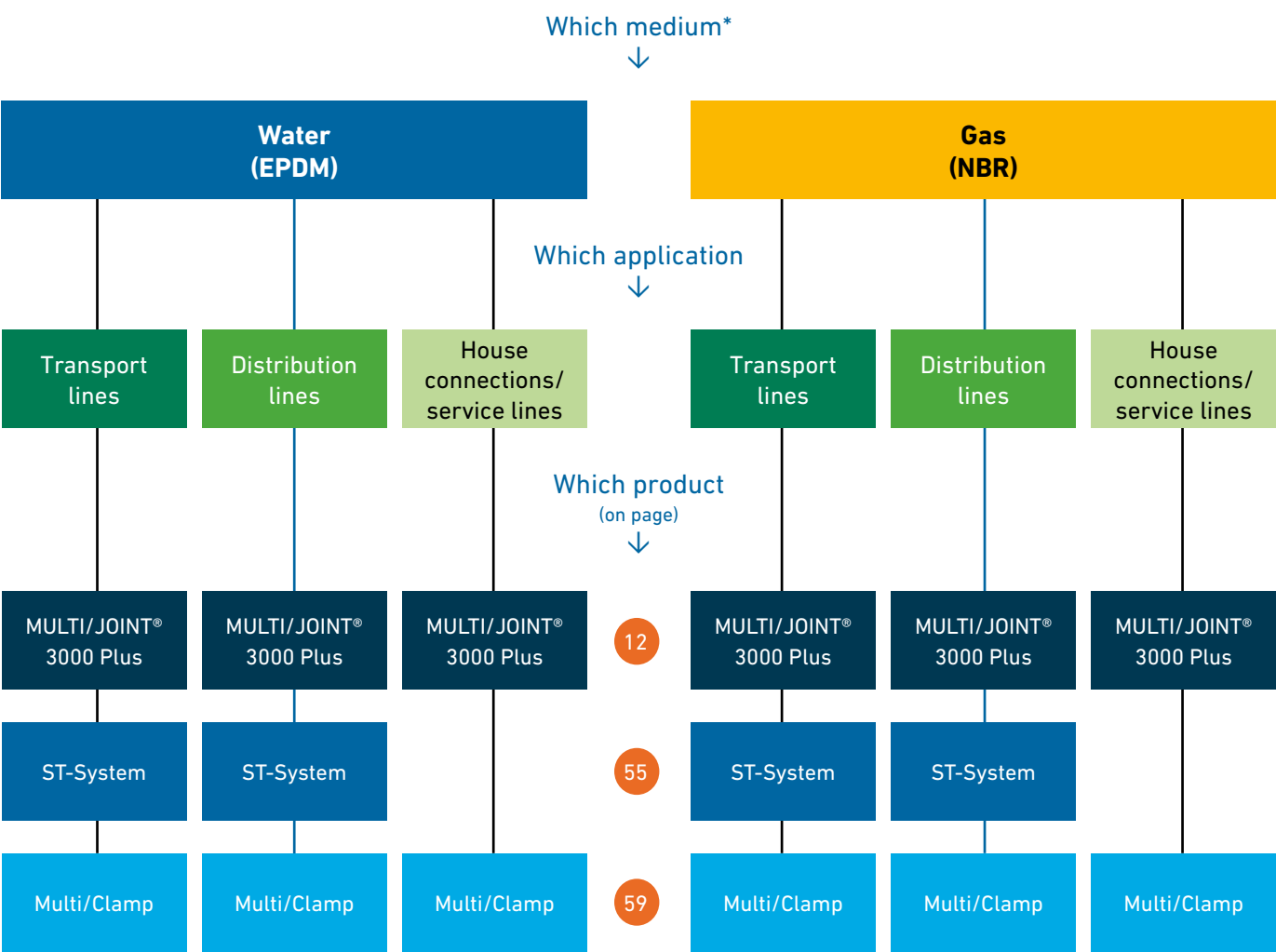


The right choice



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® 3000 Plus



Restraint gripping system

The gripping system consists of a Uni/Fiks ring which contains numerous of stainless steel grippers: the Uni/Fiksers. Together with the Varioseal made of EPDM or NBR, the MULTI/JOINT® ensures a restraint and leak-tight connection.



Quick, safe and simple

The bolts, nuts and washers are made of stainless steel A2 (AISI 304) or A4 (AISI 316). The nuts and washers are galvanized and passivated. The bolts are reversible and Lubo coated to prevent cold welding. They are perfect for re-use and make tightening very easy.



Corrosion free fitting

The body as well as the clamp rings are made of ductile iron in accordance with EN-GJS-450-10. These components are coated with Resicoat® epoxy powder coating, guaranteeing a corrosion free MULTI/JOINT®.



Hygiene protection

All MULTI/JOINT® fittings have hygiene protection, so the fitting will stay clean from production to point of use. Hygiene caps are made from recycled plastic. Recycle again after removal.



Cap in picture
DN50 - DN400

.....

.....

.....

.....



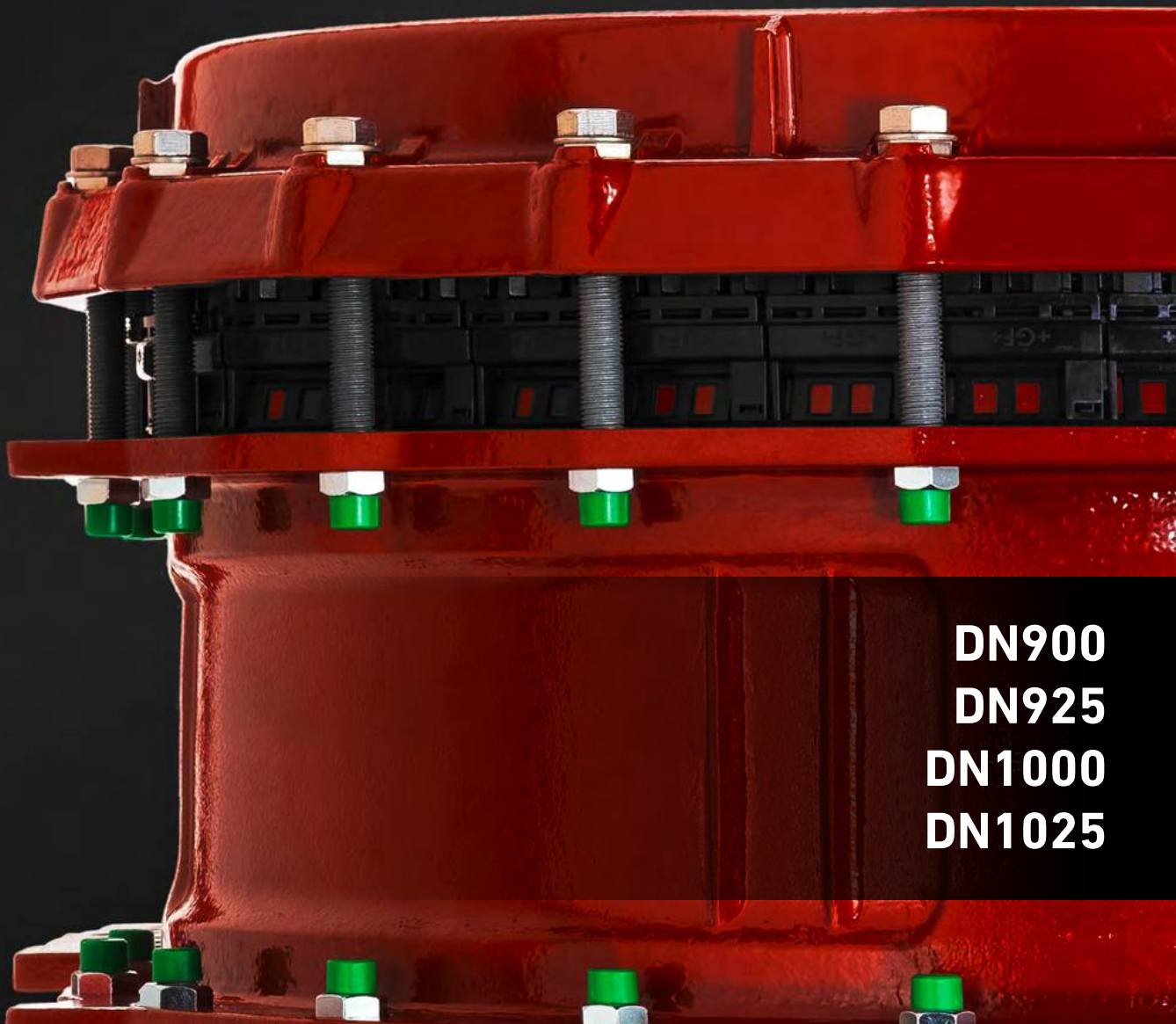


Product range

MULTI/JOINT® 3000 Plus

+GF+

**New
Sizes!**



**DN900
DN925
DN1000
DN1025**



MULTI/JOINT® 3000 Plus (DN50 - DN1025) Restrained

12



MULTI/JOINT® 3000 Plus (DN50 - DN600) Non Restrained

38



MULTI/JOINT® 3000 Plus Accessories

49



ST-System Fittings

57



Multi/Clamp

61

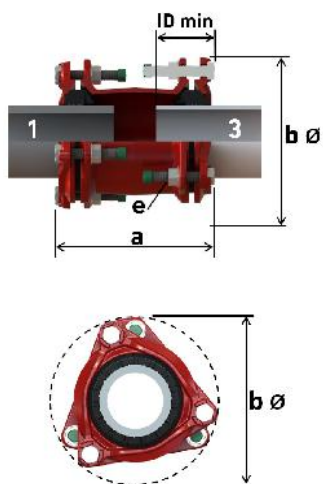
Technical Data

89

Index

170

MULTI/JOINT® 3000 Plus (DN50 - DN1025) Restraint



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

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile 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 - DN1025

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 DN1000 on plastic pipes, the use of the in-sert stiffener MJ DN625 - DN1000 (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 - DN1025 for water applications only

DN (mm)	Range 1 (mm)	Range 3 (mm)	NBR / A2 Code	PF
50	46 - 71	46 - 71	709 305 210	1 54 323 061
65	63 - 90	63 - 90	709 305 212	1 54 323 061
80	84 - 105	84 - 105	709 305 214	1 54 323 061
100	104 - 132	104 - 132	709 305 216	1 54 323 061
125	132 - 155	132 - 155	709 305 218	1 54 323 061
150	154 - 192	154 - 192	709 305 220	1 54 323 061
200	192 - 232	192 - 232	709 305 224	1 54 323 061
225	230 - 268	230 - 268	709 305 226	1 54 323 061
250	267 - 310	267 - 310	709 305 228	1 54 323 061
300	315 - 356	315 - 356	709 305 232	1 54 323 061
350	352 - 393	352 - 393	709 305 236	1 54 323 061
400	392 - 433	392 - 433	709 305 240	1 54 323 061
425	432 - 464	432 - 464	709 305 242	1 54 323 071
450	450 - 482	450 - 482	709 305 272	1 54 323 071
475	481 - 513	481 - 513	709 305 273	1 54 323 071
500	500 - 532	500 - 532	709 305 274	1 54 323 071
550	548 - 580	548 - 580	709 305 276	1 54 323 071
600	605 - 637	605 - 637	709 305 278	1 54 323 071
625	630 - 662	630 - 662		
675	665 - 697	665 - 697		
700	709 - 741	709 - 741		
750	745 - 777	745 - 777		
800	799 - 831	799 - 831		
825	837 - 869	837 - 869		
900	899 - 931	899 - 931		
925	939 - 971	939 - 971		
1000	994 - 1026	994 - 1026		
1025	1042 - 1074	1042 - 1074		

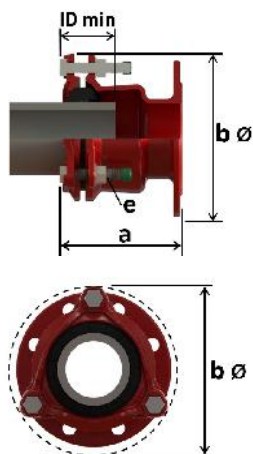
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DN (mm)	EPDM / A2 Code	PF	Weight (kg)	NBR / A4 Code	PF
50	709 305 610	1 54 323 061	5.100	709 305 010	1 54 323 061
65	709 305 612	1 54 323 061	6.000	709 305 012	1 54 323 061
80	709 305 614	1 54 323 061	7.300	709 305 014	1 54 323 061
100	709 305 616	1 54 323 061	9.200	709 305 016	1 54 323 061
125	709 305 618	1 54 323 061	12.300	709 305 018	1 54 323 061
150	709 305 620	1 54 323 061	16.500	709 305 020	1 54 323 061
200	709 305 624	1 54 323 061	25.800	709 305 024	1 54 323 061
225	709 305 626	1 54 323 061	39.500	709 305 026	1 54 323 061
250	709 305 628	1 54 323 061	41.100	709 305 028	1 54 323 061
300	709 305 632	1 54 323 061	53.700	709 305 032	1 54 323 061
350	709 305 636	1 54 323 061	68.100	709 305 036	1 54 323 061
400	709 305 640	1 54 323 061	68.700	709 305 040	1 54 323 061
425	709 305 642	1 54 323 071	92.200	709 305 042	1 54 323 071
450	709 305 672	1 54 323 071	96.800	709 305 072	1 54 323 071
475	709 305 673	1 54 323 071	100.300	709 305 073	1 54 323 071
500	709 305 674	1 54 323 071	105.700	709 305 074	1 54 323 071
550	709 305 676	1 54 323 071	117.300	709 305 076	1 54 323 071
600	709 305 678	1 54 323 071	137.500	709 305 078	1 54 323 071
625				709 305 280	1 54 323 071
675				709 305 281	1 54 323 071
700				709 305 282	1 54 323 071
750				709 305 285	1 54 323 071
800				709 305 283	1 54 323 071
825				709 305 284	1 54 323 071
900				709 305 279	1 54 323 071
925				709 305 286	1 54 323 071
1000				709 305 287	1 54 323 071
1025				709 305 288	1 54 323 071

DN (mm)	EPDM / A4 Code	PF	Weight (kg)
50	709 305 310	1 54 323 061	5.100
65	709 305 312	1 54 323 061	6.000
80	709 305 314	1 54 323 061	7.300
100	709 305 316	1 54 323 061	9.200
125	709 305 318	1 54 323 061	12.300
150	709 305 320	1 54 323 061	16.500
200	709 305 324	1 54 323 061	26.900
225	709 305 326	1 54 323 061	39.500
250	709 305 328	1 54 323 061	41.100
300	709 305 332	1 54 323 061	53.700
350	709 305 336	1 54 323 061	68.100
400	709 305 340	1 54 323 061	68.700
425	709 305 342	1 54 323 071	92.200
450	709 305 372	1 54 323 071	96.800
475	709 305 373	1 54 323 071	100.300
500	709 305 374	1 54 323 071	105.700
550	709 305 376	1 54 323 071	117.300
600	709 305 378	1 54 323 071	137.500
625	709 305 680	1 54 323 071	226.700
675	709 305 681	1 54 323 071	235.500
700	709 305 682	1 54 323 071	251.000
750	709 305 685	1 54 323 071	264.700
800	709 305 683	1 54 323 071	282.200
825	709 305 684	1 54 323 071	292.700
900	709 305 679	1 54 323 071	326.000
925	709 305 686	1 54 323 071	341.000
1000	709 305 687	1 54 323 071	365.000
1025	709 305 688	1 54 323 071	373.000

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DN (mm)	a (mm)	b 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
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	-
750	667 - 727	970	210	16xM20	10	-
800	667 - 727	1030	210	20xM20	10	-
825	667 - 727	1070	210	20xM20	10	-
900	730 - 790	1130	210	22xM20	10	-
925	730 - 790	1175	210	22xM20	10	-
1000	730 - 790	1230	210	24xM20	10	-
1025	730 - 790	1280	210	28xM20	10	-



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

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile 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 - DN1025

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 DN1000 on plastic pipes, the use of the insert stiffener MJ DN625 - DN1000 (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 - DN1025 for water applications only

DN (mm)	Range 1 (mm)	Flange 3 (mm)	Drilling pat- tern	NBR / A2 Code	PF
50	46 - 71	50	PN16	709 355 210	1 54 323 061
65	63 - 90	60/65	PN16	709 355 212	1 54 323 061
80	84 - 105	80	PN16	709 355 214	1 54 323 061
100	104 - 132	100	PN16	709 355 216	1 54 323 061
125	132 - 155	125	PN16	709 355 218	1 54 323 061
150	154 - 192	150	PN16	709 355 220	1 54 323 061
200	192 - 232	200	PN10/PN16	709 355 224	1 54 323 061
250	267 - 310	250	PN10/PN16	709 355 228	1 54 323 061
300	315 - 356	300	PN10/PN16	709 355 232	1 54 323 061
350	352 - 393	350	PN10/PN16	709 355 236	1 54 323 061
400	392 - 433	400	PN10/PN16	709 355 238	1 54 323 061
450	450 - 482	450	PN10/PN16	709 355 272	1 54 323 071
500	500 - 532	500	PN10/PN16	709 355 274	1 54 323 071
600	605 - 637	600	PN10/PN16	709 355 278	1 54 323 071
700	709 - 741	700	PN10/PN16		
800	799 - 831	800	PN10/PN16		
900	899 - 931	900	PN10/PN16		
1000	994 - 1026	1000	PN10/PN16		

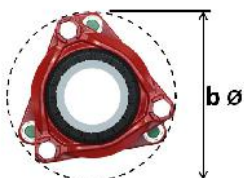
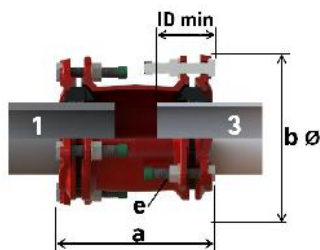
DN (mm)	EPDM / A2 Code	PF	Weight (kg)	NBR / A4 Code	PF
50	709 355 610	1 54 323 061	4.700	709 355 010	1 54 323 061
65	709 355 612	1 54 323 061	5.700	709 355 012	1 54 323 061
80	709 355 614	1 54 323 061	6.800	709 355 014	1 54 323 061
100	709 355 616	1 54 323 061	8.000	709 355 016	1 54 323 061
125	709 355 618	1 54 323 061	10.200	709 355 018	1 54 323 061
150	709 355 620	1 54 323 061	14.200	709 355 020	1 54 323 061
200	709 355 624	1 54 323 061	23.600	709 355 024	1 54 323 061
250	709 355 628	1 54 323 061	31.600	709 355 028	1 54 323 061
300	709 355 632	1 54 323 061	44.100	709 355 032	1 54 323 061
350	709 355 636	1 54 323 061	51.000	709 355 036	1 54 323 061
400	709 355 638	1 54 323 061	62.100	709 355 038	1 54 323 061
450	709 355 672	1 54 323 071	77.300	709 355 072	1 54 323 071
500	709 355 674	1 54 323 071	91.600	709 355 074	1 54 323 071
600	709 355 678	1 54 323 071	118.200	709 355 078	1 54 323 071

table continued on the next page

DN (mm)	EPDM / A2 Code	PF	Weight (kg)	NBR / A4 Code	PF
700				709 355 282	1 54 323 071
800				709 355 283	1 54 323 071
900				709 355 284	
1000				709 355 285	

DN (mm)	EPDM / A4 Code	PF	Weight (kg)
50	709 355 310	1 54 323 061	4.700
65	709 355 312	1 54 323 061	5.700
80	709 355 314	1 54 323 061	6.800
100	709 355 316	1 54 323 061	8.000
125	709 355 318	1 54 323 061	10.200
150	709 355 320	1 54 323 061	14.200
200	709 355 324	1 54 323 061	23.600
250	709 355 328	1 54 323 061	31.600
300	709 355 332	1 54 323 061	44.100
350	709 355 336	1 54 323 061	51.000
400	709 355 338	1 54 323 061	62.100
450	709 355 372	1 54 323 071	77.300
500	709 355 374	1 54 323 071	91.600
600	709 355 378	1 54 323 071	117.700
700	709 355 682	1 54 323 071	187.000
800	709 355 683	1 54 323 071	216.200
900	709 355 684	1 54 323 071	246.000
1000	709 355 685	1 54 323 071	289.000

DN (mm)	a (mm)	b 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	8/12
250	264 - 307	445	130	6xM20	16	8	12
300	293 - 331	495	130	8xM20	16	8	12
350	291 - 336	534	130	8xM20	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
900	474 - 504	1130	210	22xM20	10	-	28
1000	474 - 504	1255	210	24xM20	10	-	28



MULTI/JOINT® 3107 Plus

Wide range reduced coupling, restraint, Uni/Fiksers

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile 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 - DN1025

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 DN1000 on plastic pipes, the use of the insert stiffener MJ DN625 - DN1000 (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 - DN1025 for water applications only

DN-DN (mm)	Range 1 (mm)	Range 3 (mm)	NBR / A2 Code	PF
50 - 65	46 - 71	63 - 90	709 405 218	1 54 323 061
65 - 80	63 - 90	84 - 105	709 405 220	1 54 323 061
80 - 100	84 - 105	104 - 132	709 405 224	1 54 323 061
100 - 125	104 - 132	132 - 155	709 405 232	1 54 323 061
100 - 150	104 - 132	154 - 192	709 405 236	1 54 323 061
125 - 150	132 - 155	154 - 192	709 405 238	1 54 323 061
150 - 200	154 - 192	192 - 232	709 405 248	1 54 323 061
200 - 225	192 - 232	230 - 268	709 405 278	1 54 323 061
200 - 250	192 - 232	267 - 310	709 405 281	1 54 323 061
225 - 250	230 - 268	267 - 310	709 405 282	1 54 323 061
250 - 300	267 - 310	315 - 356	709 405 286	1 54 323 061
300 - 350	315 - 356	352 - 393	709 405 288	1 54 323 061
300 - 400	315 - 356	392 - 433	709 405 289	1 54 323 061
350 - 400	352 - 393	392 - 433	709 405 290	1 54 323 061
400 - 425	392 - 433	432 - 464	709 405 293	1 54 323 071
400 - 450	392 - 433	450 - 482	709 405 292	1 54 323 071
425 - 475	432 - 464	481 - 513	709 405 295	1 54 323 071
450 - 500	450 - 482	500 - 532	709 405 294	1 54 323 071
500 - 550	500 - 532	548 - 580	709 405 296	1 54 323 071
550 - 600	548 - 580	605 - 637	709 405 297	1 54 323 071
600 - 625	605 - 637	630 - 662		
600 - 675	605 - 637	665 - 697		
600 - 700	605 - 637	709 - 741		
700 - 750	709 - 741	745 - 777		
750 - 800	745 - 777	799 - 831		
800 - 825	799 - 831	837 - 869		
900 - 925	899 - 931	939 - 971		
1000 - 1025	994 - 1026	1042 - 1074		

DN-DN (mm)	EPDM / A2 Code	PF	Weight (kg)	NBR / A4 Code	PF
50 - 65	709 405 618	1 54 323 061	5.900	709 405 018	1 54 323 061
65 - 80	709 405 620	1 54 323 061	6.700	709 405 020	1 54 323 061
80 - 100	709 405 624	1 54 323 061	8.100	709 405 024	1 54 323 061
100 - 125	709 405 632	1 54 323 061	10.600	709 405 032	1 54 323 061
100 - 150	709 405 636	1 54 323 061	14.300	709 405 036	1 54 323 061
125 - 150	709 405 638	1 54 323 061	15.500	709 405 038	1 54 323 061
150 - 200	709 405 648	1 54 323 061	22.100	709 405 048	1 54 323 061
200 - 225	709 405 678	1 54 323 061	34.400	709 405 078	1 54 323 061

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DN-DN (mm)	EPDM / A2 Code	PF	Weight (kg)	NBR / A4 Code	PF
200 - 250	709 405 681	1 54 323 061	37.100	709 405 081	1 54 323 061
225 - 250	709 405 682	1 54 323 061	41.700	709 405 082	1 54 323 061
250 - 300	709 405 686	1 54 323 061	50.500	709 405 086	1 54 323 061
300 - 350	709 405 688	1 54 323 061	62.100	709 405 088	1 54 323 061
300 - 400	709 405 689	1 54 323 061	69.200	709 405 089	1 54 323 061
350 - 400	709 405 690	1 54 323 061	71.600	709 405 090	1 54 323 061
400 - 425	709 405 693	1 54 323 071	85.700	709 405 093	1 54 323 071
400 - 450	709 405 692	1 54 323 071	86.800	709 405 092	1 54 323 071
425 - 475	709 405 695	1 54 323 071	101.000	709 405 095	1 54 323 071
450 - 500	709 405 694	1 54 323 071	106.000	709 405 094	1 54 323 071
500 - 550	709 405 696	1 54 323 071	114.700	709 405 096	1 54 323 071
550 - 600	709 405 697	1 54 323 071	131.200	709 405 097	1 54 323 071
600 - 625				709 405 298	1 54 323 071
600 - 675				709 405 299	1 54 323 071
600 - 700				709 405 300	1 54 323 071
700 - 750				709 405 304	1 54 323 071
750 - 800				709 405 291	1 54 323 071
800 - 825				709 405 303	1 54 323 071
900 - 925				709 405 301	1 54 323 071
1000 - 1025				709 405 302	1 54 323 071

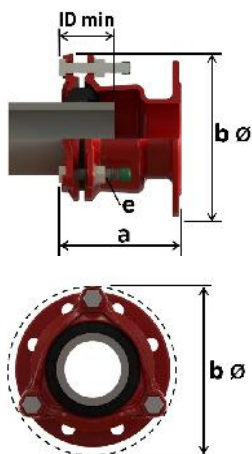
DN-DN (mm)	EPDM / A4 Code	PF	Weight (kg)
50 - 65	709 405 318	1 54 323 061	5.900
65 - 80	709 405 320	1 54 323 061	6.700
80 - 100	709 405 324	1 54 323 061	8.100
100 - 125	709 405 332	1 54 323 061	10.600
100 - 150	709 405 336	1 54 323 061	14.300
125 - 150	709 405 338	1 54 323 061	15.500
150 - 200	709 405 348	1 54 323 061	22.100
200 - 225	709 405 378	1 54 323 061	34.400
200 - 250	709 405 381	1 54 323 061	37.100
225 - 250	709 405 382	1 54 323 061	41.700
250 - 300	709 405 386	1 54 323 061	50.500
300 - 350	709 405 388	1 54 323 061	62.100
300 - 400	709 405 389	1 54 323 061	69.200
350 - 400	709 405 390	1 54 323 061	71.600
400 - 425	709 405 393	1 54 323 071	85.700
400 - 450	709 405 392	1 54 323 071	86.800
425 - 475	709 405 395	1 54 323 071	101.000
450 - 500	709 405 394	1 54 323 071	106.000
500 - 550	709 405 396	1 54 323 071	114.700
550 - 600	709 405 397	1 54 323 071	131.200
600 - 625	709 405 698	1 54 323 071	196.300
600 - 675	709 405 699	1 54 323 071	195.600
600 - 700	709 405 700	1 54 323 071	218.000
700 - 750	709 405 704	1 54 323 071	268.000
750 - 800	709 405 691	1 54 323 071	322.000
800 - 825	709 405 703	1 54 323 071	288.000
900 - 925	709 405 701	1 54 323 071	331.000
1000 - 1025	709 405 702	1 54 323 071	365.000

DN-DN (mm)	a (mm)	b (mm)	ID min. side 1 (mm)	ID min. side 3 (mm)	e PN Water (mm)	(bar)
50 - 65	209 - 254	191	84	84	3xM12/3xM12	16
65 - 80	223 - 267	210	84	84	3xM12/3xM12	16
80 - 100	222 - 270	241	84	90	3xM12/3xM16	16
100 - 125	228 - 277	270	90	90	3xM16/4xM16	16
100 - 150	286 - 353	312	90	110	3xM16/4xM16	16
125 - 150	286 - 346	312	90	110	4xM16/4xM16	16
150 - 200	290 - 364	371	110	110	4xM16/6xM16	16
200 - 225	349 - 420	415	110	125	6xM16/6xM20	16

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DN-DN (mm)	a (mm)	b (mm)	ID min. side 1 (mm)	ID min. side 3 (mm)	e (mm)	PN Water (bar)
200 - 250	364 - 443	445	110	130	6xM16/6xM20	16
225 - 250	368 - 450	445	125	130	6xM20/6xM20	16
250 - 300	405 - 486	495	130	130	6xM20/8xM20	16
300 - 350	443 - 527	534	130	130	8xM20/8xM20	16*
300 - 400	469 - 552	574	130	135	8xM20/10xM20	16*
350 - 400	472 - 561	574	130	135	8xM20/10xM20	16*
400 - 425	437 - 520	623	135	160	10xM20/10xM20	10
400 - 450	437 - 520	641	135	160	10xM20/10xM20	10
425 - 475	483 - 558	672	160	160	10xM20/10xM20	10
450 - 500	483 - 558	691	160	160	10xM20/10xM20	10
500 - 550	478 - 553	739	160	160	10xM20/12xM20	10
550 - 600	488 - 563	796	160	170	12xM20/14xM20	10
600 - 625	576 - 644	860	170	210	14xM20/14xM20	10
600 - 675	582 - 650	895	170	210	14xM20/14xM20	10
600 - 700	594 - 662	940	170	210	14xM20/16xM20	10
700 - 750			170	210	16xM20/16xM20	10
750 - 800	667 - 727	1030	210	210	16xM20/20xM20	10
800 - 825			210	210	20xM20/20xM20	10
900 - 925	725 - 785	1175	210	210	22xM20/22xM20	10
1000 - 1025	725 - 785	1280	210	210	24xM20/28xM20	10

DN-DN (mm)	MOP Gas (bar)
50 - 65	8
65 - 80	8
80 - 100	8
100 - 125	8
100 - 150	8
125 - 150	8
150 - 200	8
200 - 225	8
200 - 250	8
225 - 250	8
250 - 300	8
300 - 350	8*
300 - 400	8*
350 - 400	8*
400 - 425	5
400 - 450	5
425 - 475	5
450 - 500	5
500 - 550	5
550 - 600	5
600 - 625	-
600 - 675	-
600 - 700	-
700 - 750	-
750 - 800	-
800 - 825	-
900 - 925	-
1000 - 1025	-



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 (EPDM only for potable water)
- Ductile 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 - DN1025

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 DN1000 on plastic pipes, the use of the insert stiffener MJ DN625 - DN1000 (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 - DN1025 for water applications only

DN-DN (mm)	Range 1 (mm)	Flange 3 (mm)	Drilling pat- tern	NBR / A2 Code	PF
50 - 40	46 - 71	40	PN16	709 455 208	1 54 323 061
65 - 80	63 - 90	80	PN16	709 455 218	1 54 323 061
100 - 80	104 - 132	80	PN16	709 455 224	1 54 323 061
125 - 100	132 - 155	100	PN16	709 455 232	1 54 323 061
125 - 150	132 - 155	150	PN16	709 455 238	1 54 323 061
150 - 100	154 - 192	100	PN16	709 455 236	1 54 323 061
200 - 150	192 - 232	150	PN16	709 455 239	1 54 323 061
225 - 200	230 - 268	200	PN10/PN16	709 455 278	1 54 323 061
225 - 250	230 - 268	250	PN10/PN16	709 455 280	1 54 323 061
300 - 250	315 - 356	250	PN10/PN16	709 455 286	1 54 323 061
350 - 300	352 - 393	300	PN10/PN16	709 455 284	1 54 323 061
425 - 400	432 - 464	400	PN10/PN16	709 455 288	1 54 323 071
450 - 400	450 - 482	400	PN10/PN16	709 455 292	1 54 323 071
475 - 400	481 - 513	400	PN10/PN16	709 455 290	1 54 323 071
550 - 500	548 - 580	500	PN10/PN16	709 355 276	1 54 323 071
625 - 600	630 - 662	600	PN10/PN16		
675 - 600	665 - 697	600	PN10/PN16		
825 - 800	837 - 869	800	PN10/PN16		
925 - 900	939 - 971	900	PN10/PN16		
1025 - 1000	1042 - 1074	1000	PN10/PN16		

DN-DN (mm)	EPDM / A2 Code	PF	Weight (kg)	NBR / A4 Code	PF
50 - 40	709 455 608	1 54 323 061	4.400	709 455 008	1 54 323 061
65 - 80	709 455 618	1 54 323 061	5.900	709 455 018	1 54 323 061
100 - 80	709 455 624	1 54 323 061	7.800	709 455 024	1 54 323 061
125 - 100	709 455 632	1 54 323 061	9.800	709 455 032	1 54 323 061
125 - 150	709 455 638	1 54 323 061	11.600	709 455 038	1 54 323 061
150 - 100	709 455 636	1 54 323 061	12.800	709 455 036	1 54 323 061
200 - 150	709 455 639	1 54 323 061	20.500	709 455 039	1 54 323 061
225 - 200	709 455 678	1 54 323 061	27.800	709 455 078	1 54 323 061
225 - 250	709 455 680	1 54 323 061	26.500	709 455 080	1 54 323 061
300 - 250	709 455 686	1 54 323 061	42.100	709 455 086	1 54 323 061
350 - 300	709 455 684	1 54 323 061	48.000	709 455 084	1 54 323 061
425 - 400	709 455 688	1 54 323 071	72.100	709 455 088	1 54 323 071
450 - 400	709 455 692	1 54 323 071	75.900	709 455 092	1 54 323 071
475 - 400	709 455 690	1 54 323 071	81.100	709 455 090	1 54 323 071
550 - 500	709 355 676	1 54 323 071	98.700	709 355 076	1 54 323 071

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DN-DN (mm)	EPDM / A2 Code	PF	Weight (kg)	NBR / A4 Code	PF
625 - 600				709 455 295	1 54 323 071
675 - 600				709 455 296	1 54 323 071
825 - 800				709 455 297	1 54 323 071
925 - 900				709 455 298	1 54 323 071
1025 - 1000				709 455 299	1 54 323 071

DN-DN (mm)	EPDM / A4 Code	PF	Weight (kg)
50 - 40	709 455 308	1 54 323 061	4.400
65 - 80	709 455 318	1 54 323 061	5.900
100 - 80	709 455 324	1 54 323 061	7.800
125 - 100	709 455 332	1 54 323 061	9.800
125 - 150	709 455 338	1 54 323 061	11.600
150 - 100	709 455 336	1 54 323 061	12.800
200 - 150	709 455 339	1 54 323 061	20.500
225 - 200	709 455 378	1 54 323 061	27.800
225 - 250	709 455 380	1 54 323 061	26.500
300 - 250	709 455 386	1 54 323 061	42.100
350 - 300	709 455 384	1 54 323 061	48.000
425 - 400	709 455 388	1 54 323 071	72.100
450 - 400	709 455 392	1 54 323 071	75.900
475 - 400	709 455 390	1 54 323 071	81.100
550 - 500	709 355 376	1 54 323 071	99.000
625 - 600	709 455 695	1 54 323 071	174.100
675 - 600	709 455 696	1 54 323 071	189.500
825 - 800	709 455 697	1 54 323 071	228.200
925 - 900	709 455 698	1 54 323 071	267.000
1025 - 1000	709 455 699	1 54 323 071	311.000

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 - 250	216 - 254	415	125	6xM20	16	8	12
300 - 250	330 - 368	495	130	8xM20	16	8	12
350 - 300	302 - 347	580	130	8xM20	16*	8*	12
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
925 - 900	517 - 547	1175	210	22xM20	10	-	28
1025 - 1000	517 - 547	1280	210	28xM20	10	-	28

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

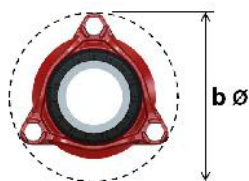
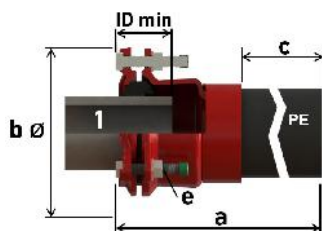
- Suitable for all kinds of pipe material (MULTI/JOINT® 3067 part)
- Suitable for water and gas (EPDM only for potable water)
- Ductile iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- PE: PE100 SDR11
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM 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 - DN1025

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	3.400
50	46 - 71	63	709 365 210	709 365 610	3.700
65	63 - 90	63	709 365 211	709 365 611	4.700
65	63 - 90	75	709 365 212	709 365 612	4.900
80	84 - 105	90	709 365 214	709 365 614	6.000
80	84 - 105	110	709 365 215	709 365 615	6.500
100	104 - 132	90	709 465 216	709 465 616	6.900
100	104 - 132	110	709 365 216	709 365 616	7.900
100	104 - 132	125	709 465 217	709 465 617	8.800
125	132 - 155	110	709 465 218	709 465 618	10.700
125	132 - 155	125	709 365 218	709 365 618	11.000
125	132 - 155	140	709 465 219	709 465 619	11.400
125	132 - 155	160	709 465 221	709 465 621	14.200
150	154 - 192	160	709 365 220	709 365 620	15.900
150	154 - 192	180	709 465 220	709 465 620	17.000
200	192 - 232	200	709 365 224	709 365 624	22.500
200	192 - 232	225	709 465 224	709 465 624	27.100
225	230 - 268	250	709 365 225	709 365 625	36.600
250	267 - 310	250	709 365 228	709 365 628	40.500
250	267 - 310	280	709 465 228	709 465 628	43.000
300	315 - 356	315	709 365 232	709 365 632	58.400

DN (mm)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50	709 365 009	709 365 309	3.400
50	709 365 010	709 365 310	3.700
65	709 365 011	709 365 311	4.700
65	709 365 012	709 365 312	4.900
80	709 365 014	709 365 314	6.000
80	709 365 015	709 365 315	6.500
100	709 465 016	709 465 316	6.900
100	709 365 016	709 365 316	7.900
100	709 465 017	709 465 317	8.800
125	709 465 018	709 465 318	10.700
125	709 365 018	709 365 318	11.000
125	709 465 019	709 465 319	11.400
125	709 465 021	709 465 321	14.200
150	709 365 020	709 365 320	15.900
150	709 465 020	709 465 320	17.000
200	709 365 024	709 365 324	22.500
200	709 465 024	709 465 324	27.100

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DN (mm)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
225	709 365 025	709 365 325	36.600
250	709 365 028	709 365 328	40.500
250	709 465 028	709 465 328	43.000
300	709 365 032	709 365 332	58.400

DN (mm)	a (mm)	b (mm)	c (mm)	ID min. (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)
50	615 - 637	170	470.0	84	3xM12	16	8
50	615 - 637	170	470.0	84	3xM12	16	8
65	621 - 644	191	468.0	84	3xM12	16	8
65	621 - 644	191	468.0	84	3xM12	16	8
80	622 - 644	210	463.0	84	3xM12	16	8
80	622 - 644	210	463.0	84	3xM12	16	8
100	624 - 650	241	452.0	90	3xM16	16	8
100	624 - 650	241	461.0	90	3xM16	16	8
100	628 - 654	241	451.0	90	3xM16	16	8
125	637 - 660	270	452.0	90	4xM16	16	8
125	637 - 660	270	452.0	90	4xM16	16	8
125	635 - 658	270	450.0	90	4xM16	16	8
125	507 - 530	270	321.0	90	4xM16	16	8
150	657 - 694	312	445.0	110	4xM16	16	8
150	655 - 692	312	438.0	110	4xM16	16	8
200	671 - 708	371	434.0	110	6xM16	16	8
200	671 - 708	371	431.0	110	6xM16	16	8
225	692 - 730	415	420.0	125	6xM20	16	8
250	720 - 763	445	420.0	130	6xM20	16	8
250	716 - 759	445	417.0	130	6xM20	16	8
300	747 - 785	495	410.0	130	8xM20	16	8

MULTI/JOINT® 3207 Plus Wide Range
end cap blind, restraint, Uni/Fiksters
Model:

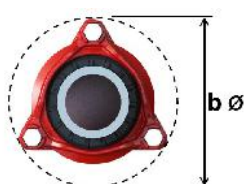
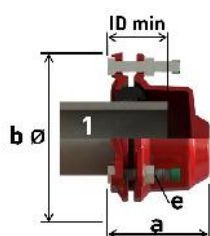
- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), 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/Fiksters
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN1025

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:

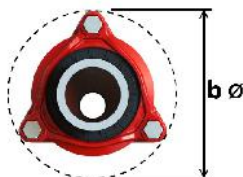
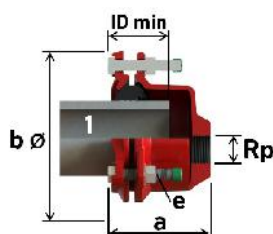
ID min. = minimum insertion depth



DN (mm)	Range 1 (mm)	NBR / A2 Code	Weight (kg)	EPDM / A2 Code	Weight (kg)
50	46 - 71	709 375 210	3.200	709 375 610	3.200
65	63 - 90	709 375 212	4.400	709 375 612	4.400
80	84 - 105	709 375 214	5.000	709 375 614	5.000
100	104 - 132	709 375 216	5.900	709 375 616	5.900
125	132 - 155	709 375 218	7.900	709 375 618	7.900
150	154 - 192	709 375 220	10.900	709 375 620	10.900
200	192 - 232	709 375 224	17.500	709 375 624	17.500
225	230 - 268	709 375 226	23.100	709 375 626	23.100
250	267 - 310	709 375 228	27.700	709 375 628	27.700
300	315 - 356	709 375 232	34.100	709 375 632	34.100
400	392 - 433	709 375 234	45.100	709 375 634	45.100

DN (mm)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50	709 375 010	709 375 310	3.200
65	709 375 012	709 375 312	4.400
80	709 375 014	709 375 314	5.000
100	709 375 016	709 375 316	5.900
125	709 375 018	709 375 318	7.900
150	709 375 020	709 375 320	10.900
200	709 375 024	709 375 324	17.500
225	709 375 026	709 375 326	23.100
250	709 375 028	709 375 328	27.700
300	709 375 032	709 375 332	34.100
400	709 375 034	709 375 334	45.100

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
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 (EPDM only for potable water)
- Ductile 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 - DN1025

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	¾	46 - 71	709 385 204	709 385 604	3.100
50	Rp	1	46 - 71	709 385 205	709 385 605	3.100
50	Rp	1 ¼	46 - 71	709 385 206	709 385 606	3.100
50	Rp	1 ½	46 - 71	709 385 207	709 385 607	3.100
50	Rp	2	46 - 71	709 385 208	709 385 608	3.100
65	Rp	¾	63 - 90	709 385 209	709 385 609	4.800
65	Rp	1	63 - 90	709 385 210	709 385 610	4.800
65	Rp	1 ¼	63 - 90	709 385 211	709 385 611	4.800
65	Rp	1 ½	63 - 90	709 385 212	709 385 612	4.800
65	Rp	2	63 - 90	709 385 213	709 385 613	4.400
80	Rp	¾	84 - 105	709 385 214	709 385 614	6.500
80	Rp	1	84 - 105	709 385 215	709 385 615	6.500
80	Rp	1 ¼	84 - 105	709 385 216	709 385 616	6.500
80	Rp	1 ½	84 - 105	709 385 217	709 385 617	6.500
80	Rp	2	84 - 105	709 385 218	709 385 618	5.200
100	Rp	¾	104 - 132	709 385 219	709 385 619	8.000
100	Rp	1	104 - 132	709 385 220	709 385 620	8.000
100	Rp	1 ¼	104 - 132	709 385 221	709 385 621	8.000
100	Rp	1 ½	104 - 132	709 385 222	709 385 622	8.000
100	Rp	2	104 - 132	709 385 223	709 385 623	8.000
125	Rp	¾	132 - 155	709 385 224	709 385 624	7.900
125	Rp	1	132 - 155	709 385 225	709 385 625	7.900
125	Rp	1 ¼	132 - 155	709 385 226	709 385 626	7.900
125	Rp	1 ½	132 - 155	709 385 227	709 385 627	7.900
125	Rp	2	132 - 155	709 385 228	709 385 628	7.900
150	Rp	¾	154 - 192	709 385 229	709 385 629	10.700
150	Rp	1	154 - 192	709 385 230	709 385 630	10.700
150	Rp	1 ¼	154 - 192	709 385 231	709 385 631	10.700
150	Rp	1 ½	154 - 192	709 385 232	709 385 632	10.700
150	Rp	2	154 - 192	709 385 233	709 385 633	10.700
200	Rp	¾	192 - 232	709 385 234	709 385 634	16.800
200	Rp	1	192 - 232	709 385 235	709 385 635	16.800
200	Rp	1 ¼	192 - 232	709 385 236	709 385 636	16.800
200	Rp	1 ½	192 - 232	709 385 237	709 385 637	16.800
200	Rp	2	192 - 232	709 385 238	709 385 638	17.500
225	Rp	¾	230 - 268	709 385 249	709 385 649	27.100
225	Rp	1	230 - 268	709 385 250	709 385 650	27.100
225	Rp	1 ¼	230 - 268	709 385 251	709 385 651	27.100
225	Rp	1 ½	230 - 268	709 385 252	709 385 652	27.100
225	Rp	2	230 - 268	709 385 253	709 385 653	25.700
250	Rp	¾	267 - 310	709 385 239	709 385 639	37.600
250	Rp	1	267 - 310	709 385 240	709 385 640	37.600

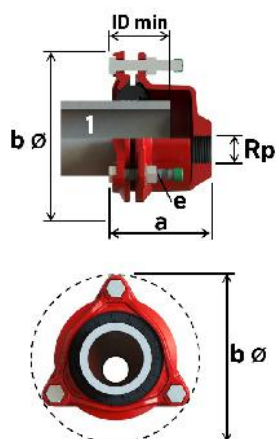
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DN (mm)	Thread Type	Size (inch)	Range 1 (mm)	NBR / A2 Code	EPDM / A2 Code	Weight (kg)
250	Rp	1 ¼	267 - 310	709 385 241	709 385 641	37.600
250	Rp	1 ½	267 - 310	709 385 242	709 385 642	37.600
250	Rp	2	267 - 310	709 385 243	709 385 643	27.700
300	Rp	¾	315 - 356	709 385 244	709 385 644	47.700
300	Rp	1	315 - 356	709 385 245	709 385 645	47.700
300	Rp	1 ¼	315 - 356	709 385 246	709 385 646	47.700
300	Rp	1 ½	315 - 356	709 385 247	709 385 647	47.700
300	Rp	2	315 - 356	709 385 248	709 385 648	34.100
400	Rp	¾	392 - 433	709 385 254	709 385 654	45.100
400	Rp	1	392 - 433	709 385 255	709 385 655	45.100
400	Rp	1 ¼	392 - 433	709 385 256	709 385 656	45.100
400	Rp	1 ½	392 - 433	709 385 257	709 385 657	45.100
400	Rp	2	392 - 433	709 385 258	709 385 658	45.100

DN (mm)	a (mm)	b 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
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
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	a	b	ID min.	e	PN Water	MOP Gas
(mm)	(mm)	(mm)	(mm)	(mm)	(bar)	(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 (EPDM only for potable water)
- Ductile 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 - DN1025

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	¾	46 - 71	709 385 004	709 385 304	3.100
50	Rp	1	46 - 71	709 385 005	709 385 305	3.100
50	Rp	1 ¼	46 - 71	709 385 006	709 385 306	3.100
50	Rp	1 ½	46 - 71	709 385 007	709 385 307	3.100
50	Rp	2	46 - 71	709 385 008	709 385 308	3.100
65	Rp	¾	63 - 90	709 385 009	709 385 309	4.800
65	Rp	1	63 - 90	709 385 010	709 385 310	4.800
65	Rp	1 ¼	63 - 90	709 385 011	709 385 311	4.800
65	Rp	1 ½	63 - 90	709 385 012	709 385 312	4.800
65	Rp	2	63 - 90	709 385 013	709 385 313	4.400
80	Rp	¾	84 - 105	709 385 014	709 385 314	6.500
80	Rp	1	84 - 105	709 385 015	709 385 315	6.500
80	Rp	1 ¼	84 - 105	709 385 016	709 385 316	6.500
80	Rp	1 ½	84 - 105	709 385 017	709 385 317	6.500
80	Rp	2	84 - 105	709 385 018	709 385 318	5.200
100	Rp	¾	104 - 132	709 385 019	709 385 319	8.000
100	Rp	1	104 - 132	709 385 020	709 385 320	8.000
100	Rp	1 ¼	104 - 132	709 385 021	709 385 321	8.000
100	Rp	1 ½	104 - 132	709 385 022	709 385 322	8.000
100	Rp	2	104 - 132	709 385 023	709 385 323	8.000
125	Rp	¾	132 - 155	709 385 024	709 385 324	7.900
125	Rp	1	132 - 155	709 385 025	709 385 325	7.900
125	Rp	1 ¼	132 - 155	709 385 026	709 385 326	7.900
125	Rp	1 ½	132 - 155	709 385 027	709 385 327	7.900
125	Rp	2	132 - 155	709 385 028	709 385 328	7.900
150	Rp	¾	154 - 192	709 385 029	709 385 329	10.700
150	Rp	1	154 - 192	709 385 030	709 385 330	10.700
150	Rp	1 ¼	154 - 192	709 385 031	709 385 331	10.700
150	Rp	1 ½	154 - 192	709 385 032	709 385 332	10.700
150	Rp	2	154 - 192	709 385 033	709 385 333	10.700
200	Rp	¾	192 - 232	709 385 034	709 385 334	16.800
200	Rp	1	192 - 232	709 385 035	709 385 335	16.800
200	Rp	1 ¼	192 - 232	709 385 036	709 385 336	16.800
200	Rp	1 ½	192 - 232	709 385 037	709 385 337	16.800
200	Rp	2	192 - 232	709 385 038	709 385 338	17.500
225	Rp	¾	230 - 268	709 385 049	709 385 349	27.100
225	Rp	1	230 - 268	709 385 050	709 385 350	27.100
225	Rp	1 ¼	230 - 268	709 385 051	709 385 351	27.100
225	Rp	1 ½	230 - 268	709 385 052	709 385 352	27.100
225	Rp	2	230 - 268	709 385 053	709 385 353	25.700
250	Rp	¾	267 - 310	709 385 039	709 385 339	37.600
250	Rp	1	267 - 310	709 385 040	709 385 340	37.600

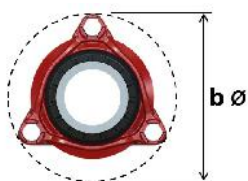
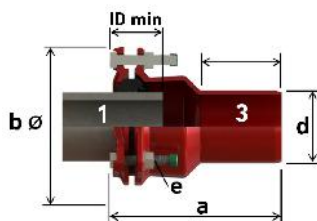
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DN (mm)	Thread Type	Size (inch)	Range 1 (mm)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
250	Rp	1 ¼	267 - 310	709 385 041	709 385 341	37.600
250	Rp	1 ½	267 - 310	709 385 042	709 385 342	37.600
250	Rp	2	267 - 310	709 385 043	709 385 343	27.700
300	Rp	¾	315 - 356	709 385 044	709 385 344	47.700
300	Rp	1	315 - 356	709 385 045	709 385 345	47.700
300	Rp	1 ¼	315 - 356	709 385 046	709 385 346	47.700
300	Rp	1 ½	315 - 356	709 385 047	709 385 347	47.700
300	Rp	2	315 - 356	709 385 048	709 385 348	34.100
400	Rp	¾	392 - 433	709 385 054	709 385 354	45.100
400	Rp	1	392 - 433	709 385 055	709 385 355	45.100
400	Rp	1 ¼	392 - 433	709 385 056	709 385 356	45.100
400	Rp	1 ½	392 - 433	709 385 057	709 385 357	45.100
400	Rp	2	392 - 433	709 385 058	709 385 358	45.100

DN (mm)	a (mm)	b 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
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
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	a	b	ID min.	e	PN Water	MOP Gas
(mm)	(mm)	(mm)	(mm)	(mm)	(bar)	(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® 3087 Plus Wide Range
Spigot end, restraint, Uni/Fiksers
**Model:**

- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile 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 - DN1025

Installation instruction:

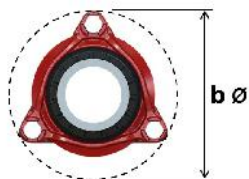
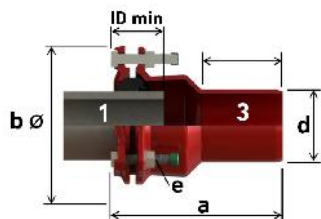
- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information

Note:

ID min. = minimum insertion depth

DN (mm)	d3 (mm)	Range 1 (mm)	NBR / A2 Code	EPDM / A2 Code	Weight (kg)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50	63	46 - 71	709 335 210	709 335 610	3.600	709 335 010	709 335 310	3.600
100	110	104 - 132	709 335 216	709 335 616	6.900	709 335 016	709 335 316	5.900
150	160	154 - 192	709 335 220	709 335 620	10.100	709 335 020	709 335 320	10.100
200	200	192 - 232	709 335 229	709 335 629	19.600	709 335 029	709 335 329	19.600

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® 3187 Plus Wide Range
Reduced spigot end, restraint, Uni/Fiksers
**Model:**

- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile 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 - DN1025

Installation instruction:

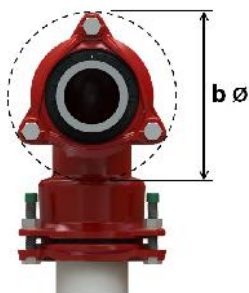
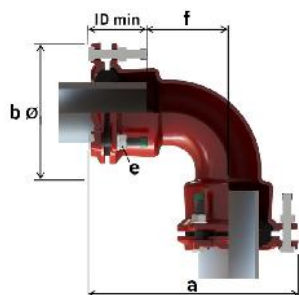
- Read the user manual
- For restraint versions, on plastic pipes, the use of an insert stiffener (see accessories) is mandatory, check our technical information

Note:

ID min. = minimum insertion depth

DN (mm)	d3 (mm)	Range 1 (mm)	NBR / A2 Code	EPDM / A2 Code	Weight (kg)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
80	110	84 - 105	709 345 224	709 345 624	5.900	709 345 024	709 345 324	5.900

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® 3407 Plus Wide Range
Bend, restraint, Uni/Fiksters
**Model:**

- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile 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/Fiksters
- Stainless steel A2 quality (AISI 304) or A4 quality (AISI 316) bolts, nuts and washers
- Hygiene protection included DN50 - DN1025

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

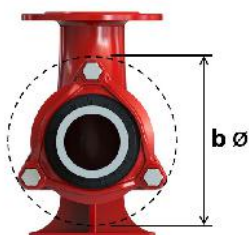
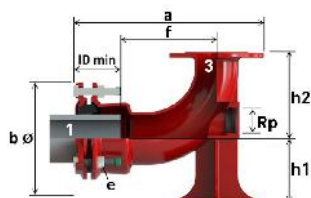
Note:

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	10.000
100	104 - 132	104 - 132	709 475 216	709 475 616	13.400
150	154 - 192	154 - 192	709 475 220	709 475 620	25.600

DN (mm)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
80	709 475 014	709 475 314	10.000
100	709 475 016	709 475 316	13.400
150	709 475 020	709 475 320	25.600

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 (EPDM only for potable water)
- Ductile 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 - DN1025

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

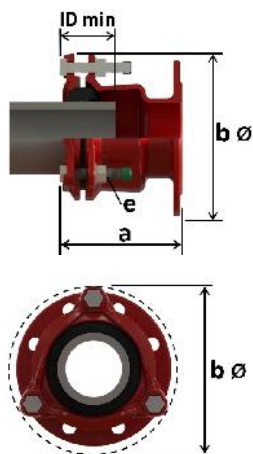
Note:

ID min. = minimum insertion depth

Thread Type	Size	DN	DN-DN	Range 1	Flange 3	Drilling pattern
	(inch)	(mm)	(mm)	(mm)	(mm)	
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	Weight (kg)	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
709 495 236	709 495 636	13.300	709 495 036	709 495 336	13.300
709 495 230	709 495 630	13.300	709 495 030	709 495 330	13.300
709 495 223	709 495 623	14.700	709 495 023	709 495 323	14.700
709 495 261	709 495 661	15.900	709 495 061	709 495 361	15.900
709 495 248	709 495 648	15.900	709 495 048	709 495 348	15.900
709 495 273	709 495 673	20.000	709 495 073	709 495 373	20.000
709 495 267	709 495 667	20.000	709 495 067	709 495 367	20.000

a	b	ID min.	e	f	h1	h2	PN Water	No. of bolt holes flange
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(bar)	
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® 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 (EPDM only for potable water)
- Ductile 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 - DN1025

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

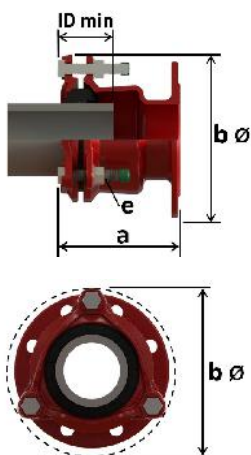
DN (mm)	DN (inch)	Range 1 (mm)	Range 1 (inch)	Flange 3 (mm)	Flange 3 (inch)	NBR / A2 Code	PF
50	2	46 - 71	1.811 - 2.795	50	2	709 355 211	1 54 323 061
65	2 ½	63 - 90	2.480 - 3.543	65	2 ½	709 355 213	1 54 323 061
80	3	84 - 105	3.307 - 4.133	80	3	709 355 240	1 54 323 061
100	4	104 - 132	4.094 - 5.196	100	4	709 355 242	1 54 323 061
150	6	154 - 192	6.062 - 7.559	150	6	709 355 244	1 54 323 061
200	8	192 - 232	7.559 - 9.133	200	8	709 355 246	1 54 323 061
250	10	267 - 310	10.500 - 12.204	250	10	709 355 248	1 54 323 061
300	12	315 - 356	12.401 - 14.015	300	12	709 355 250	1 54 323 061
400	16	392 - 433	15.433 - 17.047	400	16	709 455 294	1 54 323 061
reduced 425	17	432 - 464	17.000 - 18.267	400	16	709 455 289	1 54 323 071
reduced 475	19	481 - 513	18.937 - 20.196	400	16	709 455 291	1 54 323 071

EPDM / A2 Code	PF	NBR / A4 Code	PF
709 355 611	1 54 323 061	709 355 011	1 54 323 061
709 355 613	1 54 323 061	709 355 013	1 54 323 061
709 355 640	1 54 323 061	709 355 040	1 54 323 061
709 355 642	1 54 323 061	709 355 042	1 54 323 061
709 355 644	1 54 323 061	709 355 044	1 54 323 061
709 355 646	1 54 323 061	709 355 046	1 54 323 061
709 355 648	1 54 323 061	709 355 048	1 54 323 061
709 355 650	1 54 323 061	709 355 050	1 54 323 061
709 455 694	1 54 323 061	709 455 094	1 54 323 061
reduced 709 455 689	1 54 323 071	709 455 089	1 54 323 071
reduced 709 455 691	1 54 323 071	709 455 091	1 54 323 071

EPDM / A4 Code	PF	Weight (kg)
709 355 311	1 54 323 061	4.700
709 355 313	1 54 323 061	5.700
709 355 340	1 54 323 061	6.700
709 355 342	1 54 323 061	8.400
709 355 344	1 54 323 061	14.200
709 355 346	1 54 323 061	22.100
709 355 348	1 54 323 061	32.600
709 355 350	1 54 323 061	42.400
709 455 394	1 54 323 061	86.900
reduced 709 455 389	1 54 323 071	72.100
reduced 709 455 391	1 54 323 071	81.100

table continued on the next page

	a (inch)	b (inch)	ID min. (inch)	e (inch)	PSI Water (psi)	No. of bolt holes flange
	6.496 - 7.362	6.457	3.307	3xM12	232	4
	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 (EPDM only for potable water)
- Ductile 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 - DN1025

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	4.700
	65	63 - 90	65	709 355 512	5.700
	80	84 - 105	80	709 355 514	6.600
	100	104 - 132	100	709 355 517	8.000
	150	154 - 192	150	709 355 521	14.200
	200	192 - 232	200	709 355 526	22.100
	250	267 - 310	250	709 355 529	32.600
	300	315 - 356	300	709 355 533	45.600
reduced	125	132 - 155	100	709 455 533	9.800
reduced	125	132 - 155	150	709 455 539	11.500
reduced	225	230 - 268	200	709 455 559	29.300
reduced	225	230 - 268	250	709 455 581	45.300

	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	4
reduced	187 - 210	285	90	4xM16	16	8	8
reduced	250 - 288	415	125	6xM20	16	8	8
reduced	216 - 254	415	125	6xM20	16	8	8

MULTI/JOINT® 3000 Plus (DN50 - DN600)

Non Restraint



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

Model:

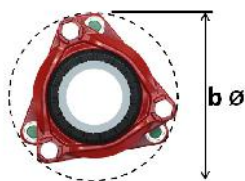
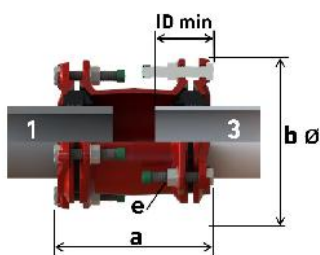
- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), 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 - DN1025

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



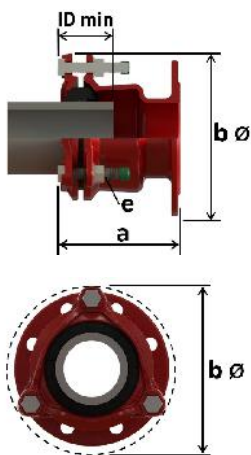
DN (mm)	Range 1 (mm)	Range 3 (mm)	NBR / A2 Code	EPDM / A2 Code	NBR / A4 Code	EPDM / A4 Code	Weight (kg)
50	46 - 71	46 - 71	709 301 210	709 301 610	709 301 010	709 301 310	5.000
65	63 - 90	63 - 90	709 301 212	709 301 612	709 301 012	709 301 312	6.000
80	84 - 105	84 - 105	709 301 214	709 301 614	709 301 014	709 301 314	7.200
100	104 - 132	104 - 132	709 301 216	709 301 616	709 301 016	709 301 316	9.100
125	132 - 155	132 - 155	709 301 218	709 301 618	709 301 018	709 301 318	12.200
150	154 - 192	154 - 192	709 301 220	709 301 620	709 301 020	709 301 320	16.300
200	192 - 232	192 - 232	709 301 224	709 301 624	709 301 024	709 301 324	26.700
225	230 - 268	230 - 268	709 301 226	709 301 626	709 301 026	709 301 326	39.200
250	267 - 310	267 - 310	709 301 228	709 301 628	709 301 028	709 301 328	40.800
300	315 - 356	315 - 356	709 301 232	709 301 632	709 301 032	709 301 332	53.300
350	352 - 393	352 - 393	709 301 236	709 301 636	709 301 036	709 301 336	67.700
400	392 - 433	392 - 433	709 301 240	709 301 640	709 301 040	709 301 340	68.300
425	432 - 464	432 - 464	709 301 242	709 301 642	709 301 042	709 301 342	91.700
450	450 - 482	450 - 482	709 301 272	709 301 672	709 301 072	709 301 372	96.300
475	481 - 513	481 - 513	709 301 273	709 301 673	709 301 073	709 301 373	99.800
500	500 - 532	500 - 532	709 301 274	709 301 674	709 301 074	709 301 374	105.100
550	548 - 580	548 - 580	709 301 276	709 301 676	709 301 076	709 301 376	116.700
600	605 - 637	605 - 637	709 301 278	709 301 678	709 301 078	709 301 378	136.900

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)	NBR / A4 Code	PF	EPDM / A4 Code	PF	Weight (kg)
475	709 301 073	1 54 323 070	709 301 373	1 54 323 070	99.800
500	709 301 074	1 54 323 070	709 301 374	1 54 323 070	105.100
550	709 301 076	1 54 323 070	709 301 376	1 54 323 070	116.700
600	709 301 078	1 54 323 070	709 301 378	1 54 323 070	136.900

DN (mm)	a (mm)	b 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
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® 3050 Plus Wide Range Flange adaptor, non restraint

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile 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 - DN1025

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	NBR / A2 Code	PF
50	46 - 71	50	PN16	709 351 210	1 54 323 060
65	63 - 90	60/65	PN16	709 351 212	1 54 323 060
80	84 - 105	80	PN16	709 351 214	1 54 323 060
100	104 - 132	100	PN16	709 351 216	1 54 323 060
125	132 - 155	125	PN16	709 351 218	1 54 323 060
150	154 - 192	150	PN16	709 351 220	1 54 323 060
200	192 - 232	200	PN10/PN16	709 351 224	1 54 323 060
250	267 - 310	250	PN10/PN16	709 351 228	1 54 323 060
300	315 - 356	300	PN10/PN16	709 351 232	1 54 323 060
350	352 - 393	350	PN10/PN16	709 351 236	1 54 323 060
400	392 - 433	400	PN10/PN16	709 351 238	1 54 323 060
450	450 - 482	450	PN10/PN16	709 351 272	1 54 323 070
500	500 - 532	500	PN10/PN16	709 351 274	1 54 323 070
600	605 - 637	600	PN10/PN16	709 351 278	1 54 323 070

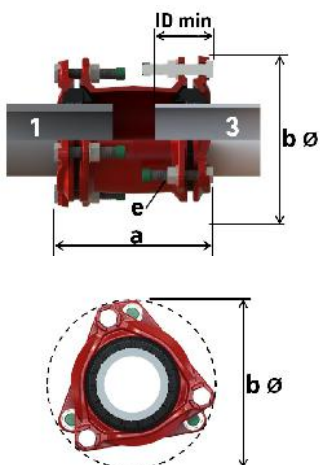
DN (mm)	EPDM / A2 Code	PF	NBR / A4 Code	PF
50	709 351 610	1 54 323 060	709 351 010	1 54 323 060
65	709 351 612	1 54 323 060	709 351 012	1 54 323 060
80	709 351 614	1 54 323 060	709 351 014	1 54 323 060
100	709 351 616	1 54 323 060	709 351 016	1 54 323 060
125	709 351 618	1 54 323 060	709 351 018	1 54 323 060
150	709 351 620	1 54 323 060	709 351 020	1 54 323 060
200	709 351 624	1 54 323 060	709 351 024	1 54 323 060
250	709 351 628	1 54 323 060	709 351 028	1 54 323 060
300	709 351 632	1 54 323 060	709 351 032	1 54 323 060
350	709 351 636	1 54 323 060	709 351 036	1 54 323 060
400	709 351 638	1 54 323 060	709 351 038	1 54 323 060
450	709 351 672	1 54 323 070	709 351 072	1 54 323 070
500	709 351 674	1 54 323 070	709 351 074	1 54 323 070
600	709 351 678	1 54 323 070	709 351 078	1 54 323 070

DN (mm)	EPDM / A4 Code	PF	Weight (kg)
50	709 351 310	1 54 323 060	4.700
65	709 351 312	1 54 323 060	5.600
80	709 351 314	1 54 323 060	6.700
100	709 351 316	1 54 323 060	7.900
125	709 351 318	1 54 323 060	10.200
150	709 351 320	1 54 323 060	14.100
200	709 351 324	1 54 323 060	21.100
250	709 351 328	1 54 323 060	31.400
300	709 351 332	1 54 323 060	43.900
350	709 351 336	1 54 323 060	50.900

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DN (mm)	EPDM / A4 Code	PF	Weight (kg)
400	709 351 338	1 54 323 060	61.900
450	709 351 372	1 54 323 070	77.000
500	709 351 374	1 54 323 070	91.400
600	709 351 378	1 54 323 070	117.900

DN (mm)	a (mm)	b 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	8/12
250	264 - 307	445	130	6xM20	25	8	12
300	293 - 331	495	130	8xM20	25	8	12
350	291 - 336	534	130	8xM20	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® 3100 Plus

Wide range, reduced coupling, non restraint

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile 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 - DN1025

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

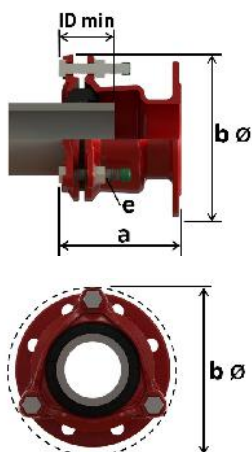
DN-DN (mm)	Range 1 (mm)	Range 3 (mm)	NBR / A2 Code	PF	EPDM / A2 Code	PF
50 - 65	46 - 71	63 - 90	709 401 218	1 54 323 060	709 401 618	1 54 323 060
65 - 80	63 - 90	84 - 105	709 401 220	1 54 323 060	709 401 620	1 54 323 060
80 - 100	84 - 105	104 - 132	709 401 224	1 54 323 060	709 401 624	1 54 323 060
100 - 125	104 - 132	132 - 155	709 401 232	1 54 323 060	709 401 632	1 54 323 060
100 - 150	104 - 132	154 - 192	709 401 236	1 54 323 060	709 401 636	1 54 323 060
125 - 150	132 - 155	154 - 192	709 401 238	1 54 323 060	709 401 638	1 54 323 060
150 - 200	154 - 192	192 - 232	709 401 248	1 54 323 060	709 401 648	1 54 323 060
200 - 225	192 - 232	230 - 268	709 401 278	1 54 323 060	709 401 678	1 54 323 060
200 - 250	192 - 232	267 - 310	709 401 281	1 54 323 060	709 401 681	1 54 323 060
225 - 250	230 - 268	267 - 310	709 401 282	1 54 323 060	709 401 682	1 54 323 060
250 - 300	267 - 310	315 - 356	709 401 286	1 54 323 060	709 401 686	1 54 323 060
300 - 350	315 - 356	352 - 393	709 401 288	1 54 323 060	709 401 688	1 54 323 060
300 - 400	315 - 356	392 - 433	709 401 289	1 54 323 060	709 401 689	1 54 323 060
350 - 400	352 - 393	392 - 433	709 401 290	1 54 323 060	709 401 690	1 54 323 060
400 - 425	392 - 433	432 - 464	709 401 293	1 54 323 070	709 401 693	1 54 323 070
400 - 450	392 - 433	450 - 482	709 401 292	1 54 323 070	709 401 692	1 54 323 070
425 - 475	432 - 464	481 - 513	709 401 295	1 54 323 070	709 401 695	1 54 323 070
450 - 500	450 - 482	500 - 532	709 401 294	1 54 323 070	709 401 694	1 54 323 070
500 - 550	500 - 532	548 - 580	709 401 296	1 54 323 070	709 401 696	1 54 323 070
550 - 600	548 - 580	605 - 637	709 401 297	1 54 323 070	709 401 697	1 54 323 070

DN-DN (mm)	NBR / A4 Code	PF	EPDM / A4 Code	PF	Weight (kg)
50 - 65	709 401 018	1 54 323 060	709 401 318	1 54 323 060	5.800
65 - 80	709 401 020	1 54 323 060	709 401 320	1 54 323 060	6.700
80 - 100	709 401 024	1 54 323 060	709 401 324	1 54 323 060	8.100
100 - 125	709 401 032	1 54 323 060	709 401 332	1 54 323 060	10.600
100 - 150	709 401 036	1 54 323 060	709 401 336	1 54 323 060	14.200
125 - 150	709 401 038	1 54 323 060	709 401 338	1 54 323 060	15.500
150 - 200	709 401 048	1 54 323 060	709 401 348	1 54 323 060	22.000
200 - 225	709 401 078	1 54 323 060	709 401 378	1 54 323 060	32.400
200 - 250	709 401 081	1 54 323 060	709 401 381	1 54 323 060	36.900
225 - 250	709 401 082	1 54 323 060	709 401 382	1 54 323 060	41.400
250 - 300	709 401 086	1 54 323 060	709 401 386	1 54 323 060	50.200
300 - 350	709 401 088	1 54 323 060	709 401 388	1 54 323 060	61.800
300 - 400	709 401 089	1 54 323 060	709 401 389	1 54 323 060	68.800
350 - 400	709 401 090	1 54 323 060	709 401 390	1 54 323 060	71.200
400 - 425	709 401 093	1 54 323 070	709 401 393	1 54 323 070	85.200
400 - 450	709 401 092	1 54 323 070	709 401 392	1 54 323 070	86.400

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DN-DN (mm)	NBR / A4 Code	PF	EPDM / A4 Code	PF	Weight (kg)
425 - 475	709 401 095	1 54 323 070	709 401 395	1 54 323 070	100.500
450 - 500	709 401 094	1 54 323 070	709 401 394	1 54 323 070	105.400
500 - 550	709 401 096	1 54 323 070	709 401 396	1 54 323 070	114.200
550 - 600	709 401 097	1 54 323 070	709 401 397	1 54 323 070	130.500

DN-DN (mm)	a (mm)	b (mm)	ID min. side 1 (mm)	ID min. side 3 (mm)	e (mm)	PN Water (bar)	MOP Gas (bar)
50 - 65	209 - 254	191	84	84	3xM12/3xM12	25	8
65 - 80	223 - 267	210	84	84	3xM12/3xM12	25	8
80 - 100	222 - 270	241	84	90	3xM12/3xM16	25	8
100 - 125	228 - 277	270	90	90	3xM16/4xM16	25	8
100 - 150	286 - 353	312	90	110	4xM16/4xM16	25	8
125 - 150	286 - 346	312	90	110	4xM16/4xM16	25	8
150 - 200	290 - 364	371	110	110	4xM16/6xM16	25	8
200 - 225	349 - 420	415	110	125	6xM16/6xM20	25	8
200 - 250	364 - 443	445	110	130	6xM16/6xM20	25	8
225 - 250	368 - 450	445	125	130	6xM20/6xM20	25	8
250 - 300	405 - 486	495	130	130	6xM20/8xM20	25	8
300 - 350	443 - 527	534	130	130	8xM20/8xM20	25	8
300 - 400	469 - 552	574	130	135	8xM20/10xM20	25	8
350 - 400	472 - 561	574	130	135	8xM20/10xM20	25	8
400 - 425	437 - 520	623	135	160	10xM20/10xM20	16	8
400 - 450	437 - 520	641	135	160	10xM20/10xM20	16	8
425 - 475	483 - 558	672	160	160	10xM20/10xM20	16	8
450 - 500	483 - 558	691	160	160	10xM20/10xM20	16	8
500 - 550	478 - 553	739	160	160	10xM20/12xM20	16	8
550 - 600	488 - 563	796	160	170	12xM20/14xM20	16	8



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

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile 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 - DN1025

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 pat- tern	NBR / A2 Code	PF
50 - 40	46 - 71	40	PN16	709 451 208	1 54 323 060
65 - 80	63 - 90	80	PN16	709 451 218	1 54 323 060
100 - 80	104 - 132	80	PN16	709 451 224	1 54 323 060
125 - 100	132 - 155	100	PN16	709 451 232	1 54 323 060
125 - 150	132 - 155	150	PN16	709 451 238	1 54 323 060
150 - 100	154 - 192	100	PN16	709 451 236	1 54 323 060
200 - 150	192 - 232	150	PN16	709 451 239	1 54 323 060
225 - 200	230 - 268	200	PN10/PN16	709 451 278	1 54 323 060
225 - 250	230 - 268	250	PN10/PN16	709 451 280	1 54 323 060
300 - 250	315 - 356	250	PN10/PN16	709 451 286	1 54 323 060
350 - 300	352 - 393	300	PN10/PN16	709 451 284	1 54 323 060
425 - 400	432 - 464	400	PN10/PN16	709 451 288	1 54 323 070
450 - 400	450 - 482	400	PN10/PN16	709 451 292	1 54 323 070
475 - 400	481 - 513	400	PN10/PN16	709 451 290	1 54 323 070
550 - 500	548 - 580	500	PN10/PN16	709 351 276	1 54 323 070

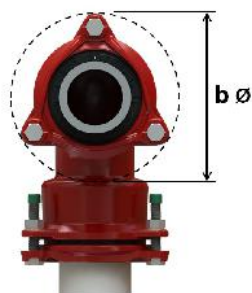
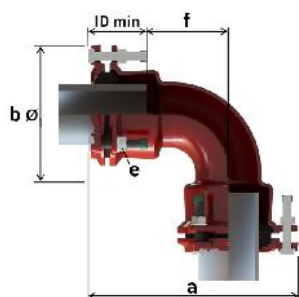
DN-DN (mm)	EPDM / A2 Code	PF	NBR / A4 Code	PF
50 - 40	709 451 608	1 54 323 060	709 451 008	1 54 323 060
65 - 80	709 451 618	1 54 323 060	709 451 018	1 54 323 060
100 - 80	709 451 624	1 54 323 060	709 451 024	1 54 323 060
125 - 100	709 451 632	1 54 323 060	709 451 032	1 54 323 060
125 - 150	709 451 638	1 54 323 060	709 451 038	1 54 323 060
150 - 100	709 451 636	1 54 323 060	709 451 036	1 54 323 060
200 - 150	709 451 639	1 54 323 060	709 451 039	1 54 323 060
225 - 200	709 451 678	1 54 323 060	709 451 078	1 54 323 060
225 - 250	709 451 680	1 54 323 060	709 451 080	1 54 323 060
300 - 250	709 451 686	1 54 323 060	709 451 086	1 54 323 060
350 - 300	709 451 684	1 54 323 060	709 451 084	1 54 323 060
425 - 400	709 451 688	1 54 323 070	709 451 088	1 54 323 070
450 - 400	709 451 692	1 54 323 070	709 451 092	1 54 323 070
475 - 400	709 451 690	1 54 323 070	709 451 090	1 54 323 070
550 - 500	709 351 676	1 54 323 070	709 351 076	1 54 323 070

DN-DN (mm)	EPDM / A4 Code	PF	Weight (kg)
50 - 40	709 451 308	1 54 323 060	4.400
65 - 80	709 451 318	1 54 323 060	5.800
100 - 80	709 451 324	1 54 323 060	7.700
125 - 100	709 451 332	1 54 323 060	9.800
125 - 150	709 451 338	1 54 323 060	11.600
150 - 100	709 451 336	1 54 323 060	12.700
200 - 150	709 451 339	1 54 323 060	20.400
225 - 200	709 451 378	1 54 323 060	27.600

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DN-DN (mm)	EPDM / A4 Code	PF	Weight (kg)
225 - 250	709 451 380	1 54 323 060	26.300
300 - 250	709 451 386	1 54 323 060	41.900
350 - 300	709 451 384	1 54 323 060	47.900
425 - 400	709 451 388	1 54 323 070	71.900
450 - 400	709 451 392	1 54 323 070	75.600
475 - 400	709 451 390	1 54 323 070	80.800
550 - 500	709 351 376	1 54 323 070	98.700

DN-DN (mm)	a (mm)	b 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 - 250	216 - 254	415	125	6xM20	25	8	12
300 - 250	330 - 368	495	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® 3400 Plus Wide Range
Bend, non restraint
**Model:**

- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile 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 - DN1025

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	10.000
100	104 - 132	104 - 132	709 471 216	709 471 616	709 471 016	709 471 316	13.300
150	154 - 192	154 - 192	709 471 220	709 471 620	709 471 020	709 471 320	25.400

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® 3080 Plus Wide Range
Spigot end, non restraint
**Model:**

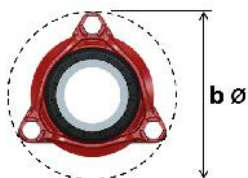
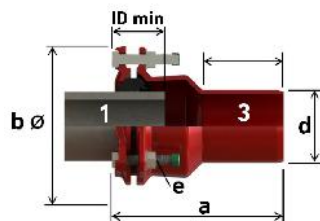
- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile iron GGG45 body and clamping ring(s), acc. to EN-GJS-450-10
- RESICOAT® epoxy powder coating, according to GSK standards and EN 14901
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), 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 - DN1025

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.

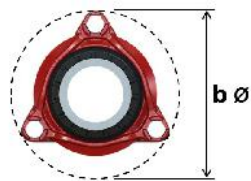
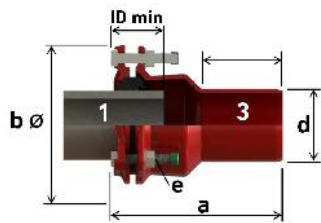
Note:

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	3.600	709 331 010	709 331 310	3.600
100	110	104 - 132	709 331 216	709 331 616	5.900	709 331 016	709 331 316	5.900
150	160	154 - 192	709 331 220	709 331 620	10.000	709 331 020	709 331 320	10.000
200	200	192 - 232	709 331 229	709 331 629	19.500	709 331 029	709 331 329	16.300

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® 3180 Plus Wide Range
Reduced spigot end, non restraint

Model:

- Suitable for all kinds of pipe material
- Suitable for water and gas (EPDM only for potable water)
- Ductile 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 - DN1025

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	5.900	709 341 024	709 341 324	5.900

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® 3000 Plus Accessories

MULTI/JOINT® Accessories

Insert Stiffeners

PF 1 54 323 064



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 or SDR classes < 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 2,4	21	175	709 026 207	0.130
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	17.0	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	17.0	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	17.0	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	17.0	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	17.0	160	709 026 340	2.250

table continued on the next page

d x e (mm)	SDR	L (mm)	Code	Weight (kg)
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	17.0	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
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 or SDR classes available on request
- For MULTI/JOINT® DN625 till DN1000 please see MJ DN625 - DN1000 insert stiffeners

d x e (mm)	SDR	L (mm)	Code	Weight (kg)
63 x 3.0	21	175	709 026 019	0.500
63 x 3.6	17.6 / 17.0	175	709 026 012	0.220
63 x 4.7	13.5	175	709 026 015	0.210
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 3.6	21	175	709 026 027	0.260
75 x 4.3	17.6 / 17.0	175	709 026 022	0.260
75 x 5.6	13.5	175	709 026 024	0.250
75 x 6.9	11.0	175	709 026 026	0.240
90 x 4.3	21	175	709 026 039	1.100
90 x 5.1	17.6 / 17.0	175	709 026 032	0.310
90 x 6.7	13.5	175	709 026 035	0.300
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 5.3	21	175	709 026 049	0.460
110 x 6.3	17.6 / 17.0	175	709 026 042	0.450
110 x 8.2	13.5	175	709 026 045	0.430
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 6.0	21	175	709 026 058	1.200
125 x 7.1	17.6 / 17.0	175	709 026 052	0.510
125 x 9.3	13.5	175	709 026 054	0.490
125 x 11.4	11.0	175	709 026 056	0.470
140 x 6.7	21	175	709 026 067	1.300
140 x 8.0	17.6 / 17.0	175	709 026 062	0.560
140 x 10.4	13.5	175	709 026 063	0.550
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 7.7	21	200	709 026 079	0.880
160 x 9.1	17.6 / 17.0	200	709 026 072	0.870
160 x 11.9	13.5	200	709 026 074	0.830
160 x 14.6	11.0	200	709 026 076	0.800
180 x 8.6	21	200	709 026 088	1.400
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 9.6	21	200	709 026 094	1.400
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 10.8	21	225	709 026 101	1.700
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 11.9	21	225	709 026 105	1.500

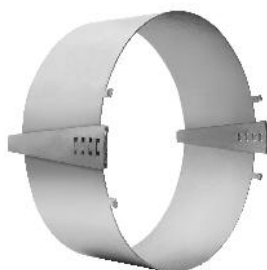
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d x e (mm)	SDR	L (mm)	Code	Weight (kg)
250 x 14.2	17.6 / 17.0	225	709 026 115	1.850
250 x 22.8	11.0	225	709 026 116	1.700
280 x 13.4	21	225	709 026 145	2.000
280 x 16.6	17.6 / 17.0	225	709 026 127	2.070
280 x 25.5	11.0	225	709 026 126	1.920
315 x 18.5	17.0	225	709 026 910	2.320
315 x 17.9	17.6	225	709 026 125	2.340
315 x 15.0	21	225	709 026 123	2.390
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 20.9	17.0	225	709 026 131	2.690
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 26.5	17.0	225	709 026 147	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 29.4	17.0	225	709 026 021	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 32.9	17.0	225	709 026 172	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
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 - DN1000

Model:

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



	d x e (mm)	SDR	L (mm)	Code	Weight (kg)
	630 x 57.3	11	300	709 026 450	19.400
316	630 x 57.3	11	300	709 026 472	17.000
	630 x 37.1	17	300	709 026 451	18.500
316	630 x 37.1	17	300	709 026 473	18.500
	630 x 35.7	17.6	300	709 026 452	18.500
316	630 x 35.7	17.6	300	709 026 474	18.500
	630 x 24.1	26	300	709 026 453	19.000
316	630 x 24.1	26	300	709 026 475	19.000
	710 x 64.5	11	300	709 026 455	19.000
316	710 x 64.5	11	300	709 026 477	19.000
	710 x 41.8	17	300	709 026 456	21.000
316	710 x 41.8	17	300	709 026 478	21.000

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	d x e (mm)	SDR	L (mm)	Code	Weight (kg)
	710 x 40.2	17.6	300	709 026 457	21.000
316	710 x 40.2	17.6	300	709 026 479	21.000
	710 x 33.8	21	300	709 026 458	23.400
316	710 x 33.8	21	300	709 026 480	23.000
	710 x 27.3	26	300	709 026 459	23.000
316	710 x 27.3	26	300	709 026 481	23.000
	710 x 21.5	33	300	709 026 460	24.000
316	710 x 21.5	33	300	709 026 482	24.000
	800 x 72.7	11	300	709 026 465	22.000
316	800 x 72.7	11	300	709 026 487	22.000
	800 x 47.0	17	300	709 026 466	23.000
316	800 x 47.0	17	300	709 026 488	23.000
	800 x 45.3	17.6	300	709 026 467	23.000
316	800 x 45.3	17.6	300	709 026 489	23.000
	800 x 38.1	21	300	709 026 468	24.000
316	800 x 38.1	21	300	709 026 490	24.000
	800 x 30.7	26	300	709 026 469	24.000
316	800 x 30.7	26	300	709 026 491	24.000
	800 x 24.2	33	300	709 026 470	25.000
316	800 x 24.2	33	300	709 026 492	25.000
	900 x 81.8	11	310	709 026 836	10.000
	900 x 52.9	17	310	709 026 837	10.000
	900 x 42.9	21	310	709 026 838	10.000
	900 x 34.6	26	310	709 026 839	10.000
	1000 x 90.9	11	310	709 026 840	10.000
	1000 x 58.8	17	310	709 026 841	10.000
	1000 x 47.6	21	310	709 026 842	10.000
	1000 x 38.5	26	310	709 026 843	10.000

Insert stiffener Economy - A4 (316)**Model:**

- Suitable for PE and PVC pipes
- Stainless Steel A4 Quality (AISI 316)
- For pipe sizes > d355 use an insert stiffener with wedge
- Other dimensions available on request



	d x e (mm)	SDR	L (mm)	Code	Weight (kg)
	50 x 4,6	11.0	100	709 026 503	0.130
	50 x 2,9	17.6 / 17.0	100	709 026 506	0.130
	63 x 5,8	11.0	100	709 026 511	0.160
	63 x 3,6	17.6 / 17.0	100	709 026 514	0.160
	75 x 6,8	11.0	100	709 026 520	0.190
	75 x 4,3	17.6 / 17.0	100	709 026 523	0.190
	90 x 8,2	11.0	120	709 026 530	0.270
	90 x 5,2	17.6 / 17.0	120	709 026 533	0.270
	110 x 10,0	11.0	120	709 026 542	0.330
	110 x 6,3	17.6 / 17.0	120	709 026 545	0.330
	125 x 11,4	11.0	120	709 026 554	0.380
	125 x 7,2	17.6 / 17.0	120	709 026 557	0.380
	140 x 12,7	11.0	140	709 026 566	0.490
	140 x 8,0	17.6 / 17.0	140	709 026 569	0.490
	160 x 14,6	11.0	140	709 026 578	0.850
	160 x 9,1	17.6 / 17.0	140	709 026 581	0.850
	180 x 16,4	11.0	140	709 026 590	0.950
	180 x 10,3	17.0	140	709 026 708	0.950
	180 x 10,7	17.6	140	709 026 593	0.950
	200 x 18,2	11.0	140	709 026 602	1.210
	200 x 11,9	17.6	160	709 026 605	1.210
	225 x 20,5	11.0	160	709 026 614	1.360
	225 x 13,4	17.0	160	709 026 710	1.360

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PF 1 54 323 064

d x e (mm)	SDR	L (mm)	Code	Weight (kg)
225 x 12,8	17.6	160	709 026 617	1.360
250 x 22,8	11.0	160	709 026 626	2.010
250 x 14,8	17.0	160	709 026 711	2.010
250 x 14,3	17.6	160	709 026 629	2.010
280 x 25,5	11.0	160	709 026 638	2.250
280 x 16,6	17.0	160	709 026 712	2.250
280 x 16,0	17.6	160	709 026 641	2.250
315 x 28,7	11.0	160	709 026 650	2.530
315 x 18,7	17.0	160	709 026 713	2.530
315 x 17,9	17.6	160	709 026 653	2.530
355 x 32,3	11.0	160	709 026 662	2.850
355 x 21,1	17.0	160	709 026 714	2.850
355 x 20,2	17.6	160	709 026 655	2.530

PF 1 54 323 065

Insert Stiffener with Wedge - A4



Model:

- Stainless Steel A4 Quality (AISI 316)
- Suitable for PE and PVC pipes
- Other dimensions available on request
- For MULTI/JOINT® DN625 till DN1000 please see MJ DN625 - DN1000 insert stiffeners

d x e (mm)	SDR	L (mm)	Code	Weight (kg)
110 x 6.3	17.6 / 17.0	175	709 026 043	0.450
125 x 7.1	17.6 / 17.0	175	709 026 912	0.510
140 x 8.0	17.6 / 17.0	175	709 026 913	0.560
160 x 9.1	17.6 / 17.0	200	709 026 801	0.870
180 x 10.2	17.6 / 17.0	200	709 026 802	0.980
200 x 11.4	17.6 / 17.0	200	709 026 804	1.150
225 x 12.8	17.6 / 17.0	225	709 026 806	1.660
250 x 14.2	17.6 / 17.0	225	709 026 914	1.850
280 x 16.6	17.6 / 17.0	225	709 026 915	2.070
315 x 18.5	17.0	225	709 026 916	2.320
355 x 20.9	17.0	225	709 026 917	2.690
400 x 23.7	17.0	225	709 026 144	3.030
450 x 26.5	17.0	225	709 026 918	4.200
500 x 29.4	17.0	225	709 026 919	4.660
560 x 32.9	17.0	225	709 026 920	5.230
630 x 37.1	17.0	225	709 026 921	5.870
710 x 41.8	17.0	225	709 026 922	6.620

PF 1 54 323 063

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	0.232
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

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DN (mm)	Range (mm)	NBR Code	EPDM Code	Weight (kg)
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:

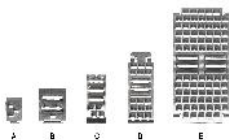
- Consists of a segmented plastic ring and Varioseal (gasket) + Uni/Fiksers
- NBR or EPDM gasket, NBR acc. to EN 682 (-5°C up to +50°C), EPDM acc. to EN 681-1 (0°C up to +50°C)
- Restraint on all pipe materials
- For AC and GRP pipes please contact us

Note:

DN625 - DN1025 for water applications only

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	0.232
80	84 - 105	709 597 234	709 597 634	0.240
100	104 - 132	709 597 236	709 597 636	0.350
125	132 - 155	709 597 238	709 597 638	0.470
150	154 - 192	709 597 240	709 597 640	0.880
200	192 - 232	709 597 243	709 597 643	1.060
225	230 - 268	709 597 246	709 597 646	1.700
250	267 - 310	709 597 248	709 597 648	1.960
300	315 - 356	709 597 253	709 597 653	2.310
350	352 - 393	709 597 254	709 597 654	2.500
400	392 - 433	709 597 256	709 597 656	2.690
425	432 - 464	709 597 282	709 597 682	4.150
450	450 - 482	709 597 278	709 597 678	4.340
475	481 - 513	709 597 283	709 597 683	4.750
500	500 - 532	709 597 279	709 597 679	4.730
550	548 - 580	709 597 280	709 597 680	5.170
600	605 - 637	709 597 281	709 597 681	5.710
625	630 - 662	709 597 290	709 597 690	9.900
675	665 - 697	709 597 291	709 597 691	10.660
700	709 - 741	709 597 292	709 597 692	11.260
750	745 - 777	709 597 277	709 597 677	11.840
800	799 - 831	709 597 293	709 597 693	12.470
825	837 - 869	709 597 294	709 597 694	13.330
900	899 - 931	709 597 312	709 597 712	14.380
925	939 - 971	709 597 313	709 597 713	14.920
1000	994 - 1026	709 597 314	709 597 714	15.970
1025	1042 - 1074	709 597 315	709 597 715	16.490

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	Range (mm)	Fiksers (qty)	Code	Weight (kg)
A	DN50 - DN80	22	709 597 260	0.048
B	DN100 - DN125	18	709 597 262	0.048
C	DN150 - DN200	48	709 597 264	0.224
D	DN225 - DN400	74	709 597 276	0.240
D	DN425 - DN600	115	709 597 287	0.348
E	DN625 - DN1025	100	709 597 299	0.770

PF 1 54 323 063



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
- Lubo® coated bolts

DN (mm)	DN-DN (mm)	M	Code	Weight (kg)
	50 - 80	3xM12	700 618 923	0.290
100		3xM16	700 618 924	0.600
	125 - 150	4xM16	700 618 925	0.840
200		6xM16	700 618 926	1.270
	225 - 250	6xM20	700 618 927	2.230
	300 - 350	8xM20	700 618 928	2.970
400		10xM20	700 618 929	3.710
	425 - 500	10xM20	700 618 933	4.330
550		12xM20	700 618 934	5.200
600		14xM20	700 618 935	6.060
	625 - 675	14xM20	700 618 963	7.130
	700 - 750	16xM20	700 618 964	8.140
	800 - 825	20xM20	700 618 965	10.180
	900 - 925	22xM20	700 618 966	12.200
1000		24xM20	700 618 967	11.200
1025		28xM20	700 618 968	14.250

PF 1 54 323 063



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
- Lubo® coated bolts

DN (mm)	DN-DN (mm)	M	Code	Weight (kg)
	50 - 80	3xM12	700 618 953	0.290
100		3xM16	700 618 954	0.600
	125 - 150	4xM16	700 618 955	0.840
200		6xM16	700 618 956	1.270
	225 - 250	6xM20	700 618 957	2.230
	300 - 350	8xM20	700 618 958	2.970

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PF 1 54 323 063

DN (mm)	DN-DN (mm)	M	Code	Weight (kg)
400		10xM20	700 618 959	3.710
	425 - 500	10xM20	700 618 960	4.330
550		12xM20	700 618 961	5.200
600		14xM20	700 618 962	6.060

PF 1 54 329 012



RESICOAT® repair set

Model:

- To repair the coating of the fitting

Contents	Code	Weight (kg)
30cc	709 900 000	0.140

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)
- 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)
- 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)
- 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)
- 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

PF 1 54 325 010



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.
- 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	724 211 010	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

PF 1 54 325 009

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

PF 1 54 325 009

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

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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

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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

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:

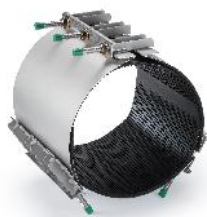
- Suitable for all kinds of pipe material. For use on plastic pipes please consult Georg Fischer Waga N.V.
- Triple band clamp with full circle gasket
- All metal parts are stainless steel, quality AISI 304 (on request AISI 316)
- The rubber gasket is available in NBR (EPDM on request)
- Water and gas: 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

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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
½	from 48 mm	min. length 150 mm	thread1/2
¾	from 48 mm	min. length 150 mm	thread3/4
1	from 54 mm	min. length 150 mm	thread1
1 ¼	from 76 mm	min. length 150 mm	thread1.1/4
1 ½	from 82 mm	min. length 200 mm	thread1.1/2
2	from 87 mm	min. length 200 mm	thread2
2 ½	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

PF 1 54 327 011



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

PF 1 54 327 011



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

PF 1 54 327 011



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

PF 1 54 327 011



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

PF 1 54 327 011



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

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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 pattern	Toivottu rungon pituus	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	5.000	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	6.000	

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
264 - 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
467 - 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



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 (DSE)

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

Ductile 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 (JG)

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.

Pipe connection, plastic to AC.
These pipes have various outside
diameters. MULTI/JOINT® 3000 Plus
which 'fits and grips all' turned out to
be the perfect solution.

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

DN size	Steel imperial	Steel metric	PVC/PE imperial	PVC/PE metric	Ductile iron class 18	Grey cast iron British	AC class 6/12	AC class 10	AC class 10 rough approx.	
50	60.3	60.3/66	60.3	50/63	66	68	-	68	-	
65	76.1	76.1	76.1	75	82	-	-	-	72	
80	88.9	88.9	88.9	90	98	95	124	98	102	
100	114.3	108	114.3	110/125	118	122	149/151	120	124	
125	139.7	133	139.7	140	144	148	174	145	149	
150	168.3	159	168.3	160/180	170	174	228	176	180	
200	219.1	211/216	219.1	200/225	222	228	-	-	-	
225	244.5	241	244.5	250	248	257	268/280	232	236	
250	273	267	273	280	274	284	334	284	288	
300	323.9	316/318	323.9	315/355	326	337	-	340	346	
350	355.6	368	355.6	355	378	-	-	-	-	
400	406.4	419	406.4	400	429	-	-	-	402	
425	457	-	457	450	-	442	-	452	460	
450	457	464/470	457	450	480	-	-	452	460	
475	508	-	508	500	-	495	-	510	-	
500	508	514/521	508	500	532	-	-	510	518	
550	559	559	-	560	558	548	550	568	576	
600	609.6	622	609.6	630	635	-	-	-	-	
625	660	-	-	630	635	650	638	-	-	
675	-	-	-	-	-	667	-	-	-	
700	711	-	-	710	738	703/720/729	-	-	-	
750	762	-	762	-	-	-	-	-	-	
800	813	-	-	800	-	807/826	-	-	-	
825	864	-	-	-	842	860	850	-	-	
900	914	-	-	900	-	-	-	-	-	
925	-	-	-	-	-	-	-	-	-	
1000	1016	-	-	1000	-	-	-	-	-	
1025	1076	-	-	-	-	-	-	-	-	



	AC class 12	AC class 12 rough approx.	AC class 15 Non-calibrated	AC class 15 Calibrated	AC class 18	AC class 20 Non-calibrated	AC class 20 Calibrated	AC class 24	DN size
	-	-	72	68	-	78	74	-	50
	74	78	-	-	-	-	-	86	65
	-	-	102	98	86	108	104	-	80
	104/124	108/128	124	120	106/126	128	120	106/126	100
	149	153	150	145	153	155	149	-	125
	180	184	182	176	178	186	180	157/184	150
	-	-	238	232	-	244	238	-	200
	238	242	-	-	234	-	-	244	225
	292	296	290	284	288	298	282	296	250
	350	356	348	340	344	358	350	354	300
	-	356	406	398	344	420	410	354	350
	410	416	464	452	402	480	468	414	400
	-	-	-	-	456	-	-	-	425
	468	476	520	508	456	538	526	468	450
	-	-	-	-	508	-	-	-	475
	522	530	576	564	508	594	582	522	500
	580	-	-	-	564	-	-	578	550
	-	-	688	676	-	710	698	-	600
	651	-	-	-	-	-	-	-	625
	-	-	-	-	668	-	-	691	675
	-	-	-	786	-	-	-	-	700
	-	-	-	-	-	-	-	-	750
	-	-	898	886	-	-	-	-	800
	868	-	-	-	-	-	-	-	825
	-	-	-	-	-	-	-	-	900
	-	-	-	-	-	-	-	-	925
	-	-	-	-	-	-	-	-	1000
	-	-	-	-	-	-	-	-	1025

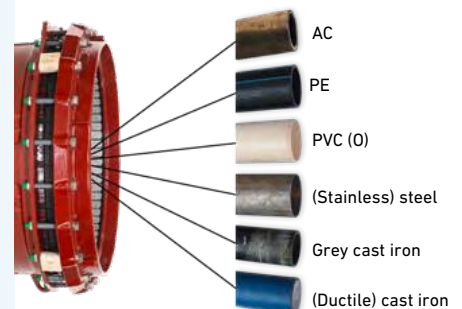
Pipe and OD Chart

Nominal size		MULTI/JOINT®				Steel size			Ductile size		
Inch	mm	Range (inch)	Range (mm)	Nm	ft-lbf	Std steel	IPS PVC	IPS PE	Ductile iron	C900/C909 PVC	DIPS PE
2	50	1.811 - 2.795	46 - 71	30	20	2.38					
2 ½	65	2.480 - 3.543	63 - 90	40	30	2.88					
3	80	3.307 - 4.133	84 - 105	60	45	3.50			3.96		
4	100	4.094 - 5.196	104 - 132	100	75	4.50			4.80		
5	125	5.196 - 6.102	132 - 155			5.56					
6	150	6.062 - 7.559	154 - 192	120	90	6.63			6.90		
8	200	7.559 - 9.133	192 - 232			8.63			9.05		
9	225	9.050 - 10.551	230 - 268	140	100						
10	250	10.500 - 12.204	267 - 310			10.75			11.10		
12	300	12.401 - 14.015	315 - 356			12.75			13.20		
14	350	13.858 - 15.472	352 - 393			14.00			15.30		
16	400	15.433 - 17.047	392 - 433			16.00			17.40		
17	425	17.000 - 18.267	432 - 464								
18	450	17.716 - 18.976	450 - 482			18.00			19.50		
19	475	18.937 - 20.196	481 - 513								
20	500	19.685 - 20.944	500 - 532			20.00			21.60		
22	550	21.574 - 22.834	548 - 580			22.00					
24	600	23.818 - 25.078	605 - 637	140/ 200**	100/ 150**	24.00			25.80		
26	625	24.803 - 26.063	630 - 662			26.00					
27	675	26.181 - 27.441	665 - 697								
28	700	27.913 - 29.173	709 - 741			28.00					
30	750	29.331 - 30.591	745 - 777			30.00			32.00		
32	800	31.456 - 32.740	799 - 831			32.00					
33	825	32.952 - 34.212	837 - 869			34.00					
36	900	35.393 - 36.653	899 - 931			36.00			38.30		
37	925	36.969 - 38.228	939 - 971			38.00					
40	1000	39.133 - 40.393	994 - 1026			40.00					
41	1025	41.023 - 42.283	1042 - 1074	42.00			44.50				

Please verify the exact pipe O.D. first and check this with the MULTI/JOINT® fitting range table before ordering fittings. Please note that actual pipe outside diameters can vary. The fittings are also suitable for pipe materials that are not listed. Please contact us for more information.

MULTI/JOINT® restraint version for water applications:
2" - 16" = wp 232 psi*, 17" - 41" = wp 150 psi.

* 14" and 16" 150 psi for plastic pipes. ** non-metal (140 Nm/100 ft-lbf) vs. metal (200 Nm/150 ft-lbf)



	Cast size	Sewer pipe	Asbestos cement size					
	Cast iron	SDR35	ME Class 100	ME Class 150	ME Class 200	RB Class 100	RB Class 150	RB Class 200
	3.96		3.74	3.84		4.00	4.10	4.29
	5.00	4.22	4.64	4.81		4.79 - 5.26	4.97 - 5.32	5.22 - 5.57
	7.10	6.28	6.91			7.05 - 7.40	7.07 - 7.37	7.26 - 7.60
	9.30	8.40	9.11			9.22 - 9.57	9.27 - 9.62	9.39 - 9.79
	11.40	10.50	11.24	11.66		11.25 - 11.77	11.82 - 12.12	11.77 - 12.12
	13.50	12.50	13.44	13.92		13.37 - 14.04	14.08 - 14.38	14.03 - 14.38
	15.65		15.07	16.22		15.36 - 15.80	16.38 - 16.73	16.44 - 16.88
	17.80		17.15	18.46		17.50 - 17.94	18.62 - 18.97	18.74 - 19.19
	19.92	18.70	19.90	20.94	22.18	20.44	21.20	
	22.06		22.12	23.28	24.66	22.50	23.54	
	26.32	24.80	26.48	27.96	29.62	27.17	28.22	
	32.40 (C)	32.00	33.12	35.00	37.06			
	32.74 (D)							
	38.70 (C)	38.30						
	39.16 (D)							

Material specifications

Ductile 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	EN 1563: 2018
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

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	Red Brown, 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/mm ² 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



RAL GÜTEZEICHEN
SCHWERER KORROSIONSSCHUTZ
VON ARMATUREN UND FORMSTÜCKEN

The fitting gets dipped into the Resicoat® epoxy powder. The pre-heated parts causes the powder to fusion bond with the metal 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 approximately 50 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.

Coating application process

Before the fittings are coated, they are cleaned, and then grid-blasted according to class SA 2½. 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.

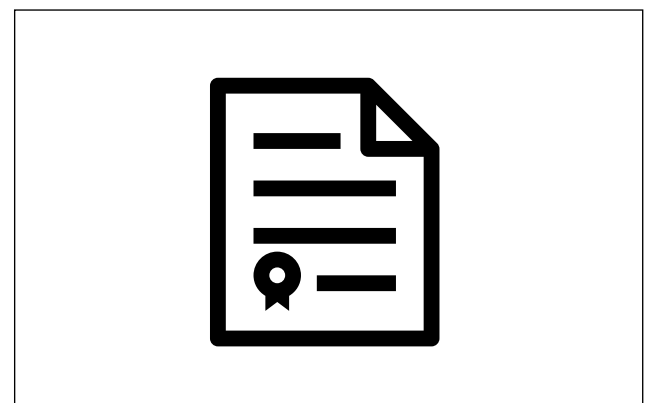
Passivated nuts

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

GSK



EN 14525 KIWA, SVGW & ÖVGW





AWARD CERTIFICATE

Production heavy corrosion protection of valves and fittings

The Quality Association for Heavy Duty Corrosion Protection of Valves and Fittings by Powder Coating e.V. (GSK) awards based on the test report of the externally supervising body presented to the Quality Committee and on the resolution of the Executive Committee of GSK for the coating procedure for the production of heavy corrosion protection for valves and fittings and for the product families mentioned in the appendix to the company:

Georg Fischer Waga N.V.
Lange Veenteweg 19, 8161PA Epe, Netherlands

the right to use the quality mark with the performance-related addition RAL-GZ 662/2.

The quality mark is certified by the Institute for Quality Assurance and Certification e.V. (RAL) and protected by registration at the German Patent and Trademark Office as a collective trademark (EU trademark 009300138).



The products, which were manufactured according to the quality and test regulations (GPB) of the GSK, are designated as product families by the enterprise to the association's office and listed in the appendix and on the GSK homepage (www.gsk-online.de). They receive the following marking:



(vierstellige von der GSK vergebene Nummer)

The certificate is valid until 31 December 2026

Schwäbisch Gmünd, 01 January 2024


Geschäftsführung

Not valid without annex

The product families must be listed in the certificate. The holder of the quality mark informs GSK about the inclusion of new products or changes to existing products in the product approval, and GSK in turn informs the testing institutes. The current list of product families manufactured in GSK quality can be found on the GSK website (www.gsk-online.de).

Gütegemeinschaft Schwerer Korrosionsschutz
von Armaturen und Formstücken
durch Pulverbeschichtung e.V.

Quality Assurance Association for Heavy-Duty
Corrosion Protection of Valves and Fittings
with Powder Coating (GSK e.V.)

Geschäftsführer /
Managing Director:
RA Lars Walther

Marie-Curie-Str. 19
D-73529 Schwäbisch Gmünd

Tel.: +49 7171 1040-840
Mail: info@gsk-online.de
Web: www.gsk-online.de

Commerzbank
IBAN: DE51 7604 0061 0516 6855 00
BIC: COBADEFFXXX

Ust.Id / VAT DE262341992
Steuer-Nr. 83085/59196



VERLEIHUNGSURKUNDE

Herstellung Schwerer Korrosionsschutz von Armaturen und Formstücken

Die Gütegemeinschaft Schwerer Korrosionsschutz von Armaturen und Formstücken durch Pulverbeschichtung e.V. (GSK) verleiht aufgrund des dem Güteausschuss vorliegenden Prüfberichts der fremdüberwachenden Stelle und des Beschlusses des Vorstandes der GSK für das Beschichtungsverfahren zur Herstellung von Schwerem Korrosionsschutz für Armaturen und Formstücke und für die im Anhang genannten Produktfamilien dem Betrieb

Georg Fischer Waga N.V.
Lange Veenteweg 19, 8161PA Epe, Niederlande

das Recht das Gütezeichen mit dem leistungsbezogenen Zusatz RAL-GZ 662/2 zu führen.

Das Gütezeichen ist vom Institut für Gütesicherung und Kennzeichnung e.V. (RAL) anerkannt und durch Eintragung beim deutschen Patent- und Markenamt als Kollektivmarke (EU-Mark 009300138) geschützt.



Die Produkte, die nach den Voraussetzungen der Güte- und Prüfbestimmungen (GPB) der GSK gefertigt wurden, sind als Produktfamilien vom Unternehmen der Geschäftsstelle benannt, und im Anhang und auf der GSK-Homepage (www.gsk-online.de) aufgeführt. Sie erhalten folgende Kennzeichnung:



(vierstellige von der GSK vergebene Nummer)

Die Urkunde ist gültig bis 31.12.2026

Schwäbisch Gmünd, den 01.01.2024


Geschäftsführung

Ohne Anhang nicht gültig

Die Produktfamilien müssen in der Bescheinigung aufgeführt sein. Der Verwender des Qualitätszeichens informiert die GSK über die Aufnahme neuer Produkte oder Änderungen an bestehenden Produkten in die Produktzulassung, und die GSK informiert seinerseits die Prüfinstitute. Die aktuelle Liste der in GSK-Qualität hergestellten Produktfamilien ist auf der GSK-Website (www.gsk-online.de) zu finden.

Gütegemeinschaft Schwerer Korrosionsschutz
von Armaturen und Formstücken
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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 and 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

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

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.

Flange mating dimensions overview			DN (mm)										
			40	50	60	65	80	100	125	150	200	225	
PN6	Outside diameter flange	D	130	140	150	160	190	210	240	265	320		
	Diameter of bolt circle	K	100	110	120	130	150	170	200	225	280		
	Number of bolts	N	4	4	4	4	4	4	8	8	8		
	Diameter of bolt hole	L	14	14	14	14	19	19	19	19	19		
	Nominal size bolts		M12	M12	M12	M12	M16	M16	M16	M16	M16		
PN10	Outside diameter flange	D	150	165	175	185	200	220	250	285	340		
	Diameter of bolt circle	K	110	125	135	145	160	180	210	240	295		
	Number of bolts	N	4	4	4	4	8	8	8	8	8		
	Diameter of bolt hole	L	19	19	19	19	19	19	19	23	23		
	Nominal size bolts		M16	M16	M16	M16	M16	M16	M16	M20	M20		
PN16	Outside diameter flange	D	150	165	175	185	200	220	250	285	340		
	Diameter of bolt circle	K	110	125	135	145	160	180	210	240	295		
	Number of bolts	N	4	4	4	4	8	8	8	8	12		
	Diameter of bolt hole	L	19	19	19	19	19	19	19	23	23		
	Nominal size bolts		M16	M16	M16	M16	M16	M16	M16	M20	M20		
PN25	Outside diameter flange	D	150	165	175	185	200	235	270	300	360		
	Diameter of bolt circle	K	110	125	135	145	160	190	220	250	310		
	Number of bolts	N	4	4	8	8	8	8	8	8	12		
	Diameter of bolt hole	L	19	19	19	19	19	23	28	28	28		
	Nominal size bolts		M16	M16	M16	M16	M16	M20	M24	M24	M24		
PN40	Outside diameter flange	D	150	165	175	185	200	235	270	300	375		
	Diameter of bolt circle	K	110	125	135	145	160	190	220	250	320		
	Number of bolts	N	4	4	8	8	8	8	8	8	12		
	Diameter of bolt hole	L	19	19	19	19	19	23	28	28	31		
	Nominal size bolts		M16	M16	M16	M16	M16	M20	M24	M24	M27		
DIN 1882	Outside diameter flange	D		160			200	230	260	290	350		
	Diameter of bolt circle	K		125			160	180	210	240	310		
	Number of bolts	N		4			4	4	4	6	6		
	Number of bolts	L		18			18	18	22	22	22		
	Nominal size bolts			M16			M16	M16	M20	M20	M20		
AS4087 standard pressure	Outside diameter flange	D		150		165	185	215	255	280	335	370	
	Diameter of bolt circle	K		114		127	146	178	210	235	292	324	
	Number of bolts	N		4		4	4	4	8	8	8	8	
	Diameter of bolt hole	L		18		18	18	18	18	18	18	18	
	Nominal size bolts			M16		M16	M16	M16	M16	M16	M16	M16	
AS4087 high pressure	Outside diameter flange	D		165		185	205	230		305	370	405	
	Diameter of bolt circle	K		127		146	165	191		260	324	356	
	Number of bolts	N		4		8	8	8		12	12	12	
	Diameter of bolt hole	L		18		18	18	18		22	22	26	
	Nominal size bolts			M16		M16	M16	M16		M20	M20	M24	
AS2129 Table E	Outside diameter flange	D		150		165	185	215	255	280	335	370	
	Diameter of bolt circle	K		114		127	146	178	210	235	292	324	
	Number of bolts	N		4		4	8	8	8	8	8	12	
BS 10-1962 Table E	Diameter of bolt hole	L		18		18	18	18	18	22	22	22	
	Nominal size bolts			M16		M16	M16	M16	M16	M20	M20	M20	
ANSI B 16.1 125 LB/ AWWA C-110	Outside diameter flange	D		152		178	191	229	255	280	343		
	Diameter of bolt circle	K		121		140	152	191	216	241	298		
	Number of bolts	N		4		4	4	8	8	8	8		
	Diameter of bolt hole	L		19		19	19	19	22	22	22		
	Nominal size bolts			M16		M16	M16	M16	M20	M20	M20		
ISO 7005 PN16	Outside diameter flange	D		165		185	200	220	250	285	340		
	Diameter of bolt circle	K		125		145	160	180	210	240	295		
	Number of bolts	N		4		4	8	8	8	8	12		
	Diameter of bolt hole	L		18		18	18	18	18	22	22		
	Nominal size bolts			M16		M16	M16	M16	M16	M20	M20		

DN (mm)															
	250	300	350	375	400	450	500	525	600	700	750	800	900	1000	1200
	375	440	490		540		645		755	860		975	1075	1175	1405
	335	395	445		495		600		705	810		920	1020	1120	1340
	12	12	12		16		20		20	24		24	24	28	32
	19	23	23		23		23		28	28		31	31	31	34
	M16	M20	M20		M20		M20		M24	M24		M27	M27	M27	M30
	395	445	505		565		670		780	895		1015	1115	1230	1455
	350	400	460		515		620		725	840		950	1050	1160	1380
	12	12	16		16		20		20	24		24	28	28	32
	23	23	23		28		28		31	31		34	34	37	41
	M20	M20	M20		M24		M24		M27	M27		M30	M30	M33	M36
	405	460	520		580		715		840	910		1025	1125	1255	1485
	355	410	470		525		650		770	840		950	1050	1170	1390
	12	12	16		16		20		20	24		24	28	28	32
	28	28	28		31		34		37	37		41	41	44	50
	M24	M24	M24		M27		M30		M33	M33		M36	M36	M39	M45
	425	485	555		620		730		845	960		1085	1185	1320	1530
	370	430	490		550		660		770	875		990	1090	1210	1420
	12	16	16		16		20		20	24		24	28	28	32
	31	31	34		37		37		41	44		50	50	57	57
	M27	M27	M30		M33		M33		M36	M39		M45	M45	M52	M52
	450	515	580		660		755		890	995		1140	1250	1360	1575
	385	450	510		585		670		795	900		1030	1140	1250	1460
	12	16	16		16		20		20	24		24	28	28	32
	34	34	37		41		44		50	50		57	57	57	62
	M30	M30	M33		M36		M39		M45	M45		M52	M52	M52	M56
	400	450	520		575	630	680		790						
	350	400	485		520	570	625		725						
	8	8	10		10	12	12		16						
	22	22	25		25	25	25		30						
	M20	M20	M24		M24	M24	M24		M27						
	405	455	525	550	580	640	705	735	825	910	995				
	356	406	470	495	521	584	641	673	758	845	927				
	8	12	12	12	12	12	16	16	16	20	20				
	22	22	26	26	26	26	26	26	30	30	33				
	M20	M20	M24	M24	M24	M24	M24	M24	M27	M27	M30				
	430	490	550	580	610	675	735	760	850		1015				
	381	381	438	495	552	610	673	699	781		674				
	12	12	12	16	20	20	24	24	24		28				
	26	26	26	26	30	33	33	33	36		36				
	M24	M24	M27	M27	M27	M30	M30	M30	M33		M33				
	405	455	525	550	580	640	705	735	825	910	995				
	356	406	470	495	521	584	641	673	756	848	927				
	12	12	12	12	12	16	16	16	16	20	20				
	22	26	26	26	26	26	26	30	33	33	36				
	M20	M24	M24	M24	M24	M24	M24	M27	M30	M30	M33				
	405	483	533		597	635	699		813		984				
	362	432	476		540	578	635		749		914				
	12	12	12		16	16	20		20		28				
	25	25	29		29	32	32		35		35				
	M22	M22	M25		M25	M29	M29		M32		M32				
	405	460	520		580	640	715		840	910					
	355	410	470		525	585	650		770	840					
	12	12	16		16	20	20		20	24					
	27	27	27		30	30	33		36	36					
	M24	M24	M24		M27	M27	M33		M33	M33					

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.)

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:

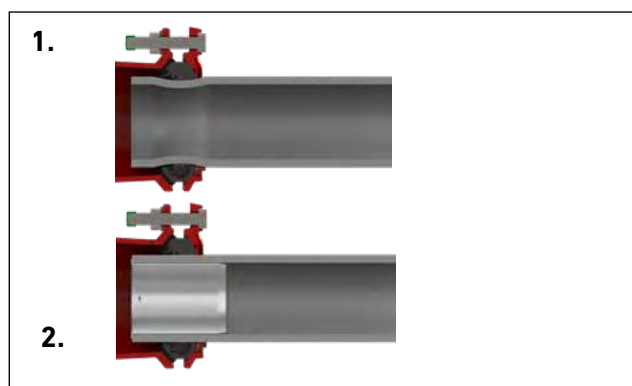
- PVC pipes with SDR-class 21 or thicker walled

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

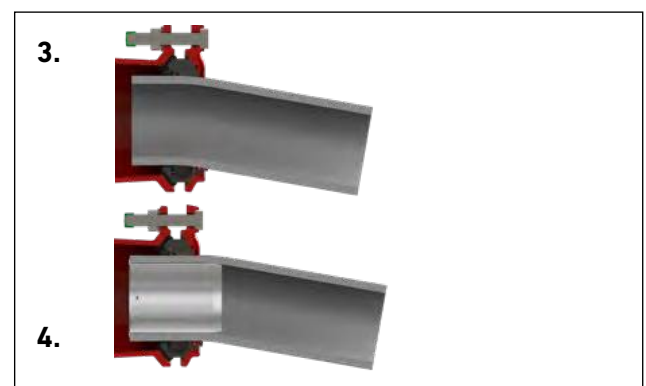
- PP-B, PB and HDPE (80/100/100-RC) pipes with SDR-class 11 or thicker walled

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

Mechanical pipe joints



Residual stress and bending torques



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 to the intended use for plastic piping systems. Therefore insert stiffeners must conform to the following properties to guarantee its function.

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 – DN1000

This Insert with Wedge MJ DN625 – DN1000 is specially designed for the MULTI/JOINT® 3000 Plus DN625 – DN1000. 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 - DN1000



MULTI/JOINT® 3000 Plus principle

Proven quality

The MULTI/JOINT® 3000 Plus system comprises wide range fittings, flange adaptors, reduction pieces, bends, duck foot bends, end caps and PE adaptors of ductile iron in the ranges DN50 - DN1025. 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 to 1074 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 makes 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 – DN1025 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 – DN1025 a clip has been added to fixate the ring in the body of the fitting ensuring easy installation with no interference.

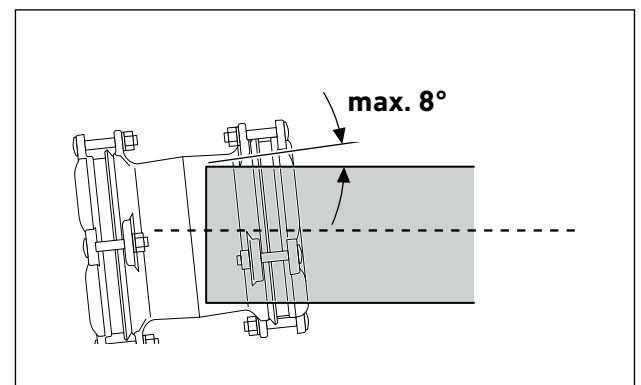
Uni/Fiksers

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 insertion 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



The angularity is based on the middle of the fitting range.

Pressure/Performance

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

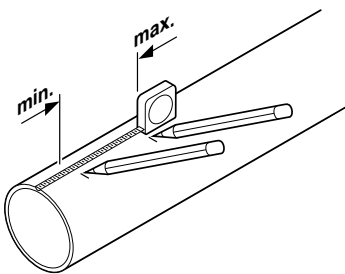
Joint gap (JG)

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 (DSE)

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 (ID)



DN	min. (mm)	max. (mm)	DN	min. (mm)	max. (mm)
DN50	84	95	DN475	160	225
DN65	84	100	DN500	160	225
DN80	84	100	DN550	160	225
DN100	90	105	DN600	170	235
DN125	90	115	DN625	210	320
DN150	110	130	DN675	210	320
DN200	110	145	DN700	210	320
DN225	125	170	DN750	210	320
DN250	130	180	DN800	210	320
DN300	130	185	DN825	210	320
DN350	130	185	DN900	210	355
DN400	135	190	DN925	210	355
DN425	160	225	DN1000	210	355
DN450	160	225	DN1025	210	355

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
Maximum allowable temperature for joint	-5 °C up to +50 °C	0 °C up to +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:

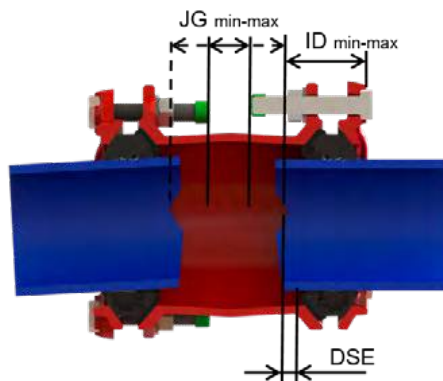
- The storage temperature should be below 25 °C and preferably below 15 °C
- The rubber seals should be protected from light, in particular strong sunlight and high ultraviolet artificial light
- The rubber seals should not be stored near equipment that generates ozone (e.g. mercury vapour lamps) or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

The shelf life of a MULTI/JOINT® 3000 Plus fitting is two 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.

Joint gap tables

Type 3000

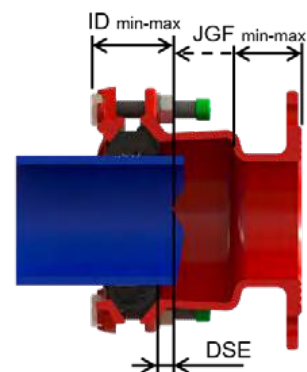
	DSE (mm)	Joint gap (JG) (mm)		Insertion depth (ID) (mm)	
	min	min	max	min	max
DN50	12	5	85	84	95
DN65	12	5	95	84	100
DN80	12	5	100	84	100
DN100	15	5	90	90	105
DN125	15	5	100	90	115
DN150	15	5	120	110	130
DN200	20	5	150	110	145
DN225	20	5	160	125	170
DN250	20	5	190	130	180
DN300	20	5	190	130	185
DN350	20	5	190	130	185
DN400	20	5	190	135	190
DN425	25	5	220	160	225
DN450	25	5	220	160	225
DN475	25	5	220	160	225
DN500	25	5	220	160	225
DN550	25	5	220	160	225
DN600	25	5	220	170	235
DN625	30	5	280	210	320
DN675	30	5	280	210	320
DN700	30	5	280	210	320
DN750	30	5	280	210	320
DN800	30	5	280	210	320
DN825	30	5	280	210	320
DN900	30	5	350	210	355
DN925	30	5	350	210	355
DN1000	30	5	350	210	355
DN1025	30	5	350	210	355



Type 3050

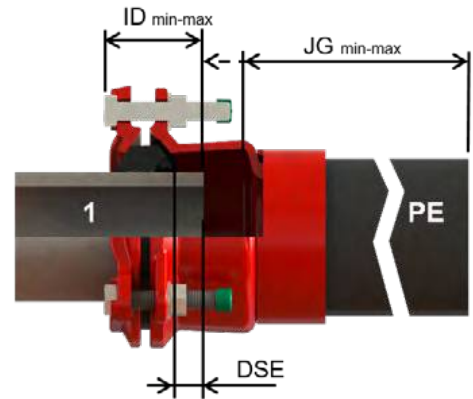
	DSE (mm)	Joint gap Flange (JGF) (mm)		Insertion depth (ID) (mm)	
	min	min	max	min	max
DN50	12	65	105	84	95
DN65	12	65	105	84	100
DN80	12	65	105	84	100
DN100	15	65	105	90	105
DN125	15	75	125	90	115
DN150	15	75	125	110	130
DN200	20	75	145	110	145
DN225	20	-	-	-	-
DN250	20	75	170	130	180
DN300	20	105	195	130	185
DN350	20	105	195	130	185
DN400	20	105	195	135	190
DN425	25	-	-	-	-
DN450	25	105	210	160	225
DN475	25	-	-	-	-
DN500	25	105	210	160	225
DN550	25	-	-	-	-
DN600	25	105	210	170	235
DN625	30	-	-	-	-
DN675	30	-	-	-	-
DN700	30	105	245	210	320
DN750*	30	105	245	210	320
DN800	30	100	245	210	320
DN825	30	-	-	-	-
DN900	30	105	280	210	355
DN925	30	-	-	-	-
DN1000	30	105	280	210	355
DN1025	30	-	-	-	-

*AWWA



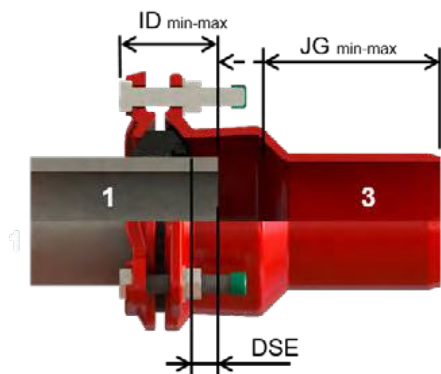
Type 3060

	DSE (mm)	Joint gap (JG) (mm)		Insertion depth (ID) (mm)	
	min	min	max	min	max
DN50 x d.50	12	520	555	84	95
DN50 x d.63	12	520	555	84	95
DN65 x d. 63	12	520	560	84	100
DN65 x d. 75	12	520	560	84	100
DN80 x d. 90	12	520	560	84	100
DN80 x d. 110	12	520	560	84	100
DN100 x d. 90	15	520	560	90	105
DN100 x d. 110	15	520	560	90	105
DN100 x d. 125	15	520	560	90	105
DN125 x d. 110	15	520	570	90	115
DN125 x d. 125	15	520	570	90	115
DN125 x d. 140	15	520	570	90	115
DN125 x d. 160	15	520	570	90	115
DN150 x d. 160	15	520	575	110	130
DN150 x d. 180	15	520	575	110	130
DN200 x d. 200	20	525	595	110	145
DN200 x d. 225	20	525	595	110	145
DN225 x d. 250	20	525	595	125	170
DN250 x d. 250	20	530	625	130	180
DN250 x d. 280	20	530	625	130	180
DN300 x d. 315	20	530	650	130	185



Type 3080 & 3180

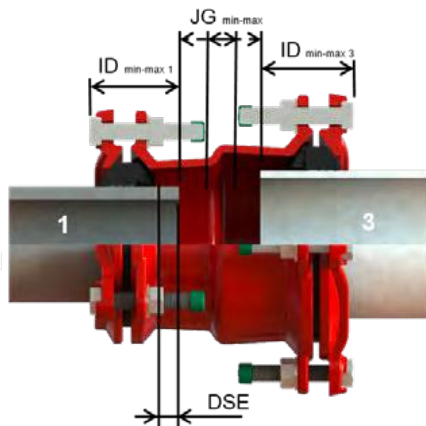
	DSE (mm)	Joint gap (JG) (mm)		Insertion depth (ID) (mm)	
	min	min	max	min	max
DN50 x d. 63	12	125	165	84	95
DN80 x d. 110	12	135	185	84	100
DN100 x d. 110	15	150	190	90	105
DN150 x d. 160	15	170	230	110	130
DN200 x d. 200	20	185	255	110	145



Joint gap tables

Type 3100

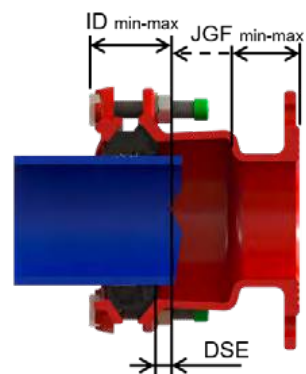
	DSE (mm)	Joint gap (JG) (mm)		Insertion depth 1 (ID1) (mm)		Insertion depth 3 (ID3) (mm)	
	min	min	max	min	max	min	max
DN50 x DN65	12	5	90	84	95	84	100
DN65 x DN80	12	5	100	84	100	84	100
DN80 x DN100	12 & 15	5	95	84	100	90	105
DN100 x DN125	15	5	95	90	105	90	115
DN100 x DN150	15	5	140	90	105	110	130
DN125 x DN150	15	5	140	90	115	110	130
DN150 x DN200	15 & 20	5	135	110	130	110	145
DN200 x DN225	20	5	175	110	145	125	170
DN200 x DN250	20	5	190	110	145	130	180
DN225 x DN250	20	5	180	125	170	130	180
DN250 x DN300	20	5	215	130	180	130	185
DN300 x DN350	20	5	250	130	185	130	185
DN300 x DN400	20	5	275	130	185	135	190
DN350 x DN400	20	5	275	130	185	135	190
DN400 x DN425	30	5	215	135	190	160	225
DN400 x DN450	20 & 25	5	215	135	190	160	225
DN425 x DN475	25	5	240	135	190	160	225
DN450 x DN500	25	5	240	160	225	160	225
DN500 x DN550	25	5	240	160	225	160	225
DN550 x DN600	25	5	240	160	225	170	235
DN600 x DN625	30	5	250	170	235	210	320
DN600 x DN675	30	5	250	170	235	210	320
DN600 x DN700	30	5	270	170	235	210	320
DN750 x DN800	30	5	280	210	320	210	320
DN925 x DN900	30	5	350	210	355	210	355
DN1025 x DN1000	30	5	350	210	355	210	355



Type 3150

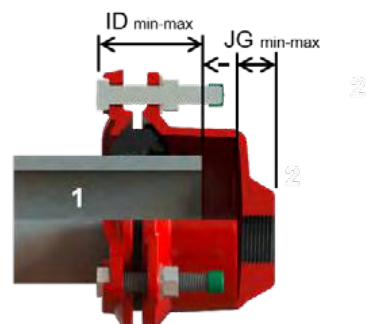
	DSE (mm)	Joint gap Flange (JGF) (mm)		Insertion depth (ID) (mm)	
	min	min	max	min	max
DN50 x FL40	12	75	110	84	95
DN65 x FL80	12	65	110	84	100
DN100 x FL80	15	75	120	90	105
DN125 x FL100	15	75	120	90	115
DN125 x FL150	15	75	120	90	115
DN150 x FL100	15	110	155	110	130
DN200 x FL150	20	110	170	110	145
DN225 x FL200	20	85	155	125	170
DN225 x FL250	20	85	155	125	170
DN300 x FL250	20	130	235	130	185
DN350 x FL300	20	85	205	130	185
DN425 x FL400	25	105	195	160	225
DN450 x FL400	25	105	195	160	225
DN475 x FL400	25	135	225	160	225
DN550 x FL500	25	105	195	160	225
DN625 x FL600	30	115	255	210	320
DN675 x FL600	30	175	315	210	320
DN800 x FL750*	30	135	275	210	320
DN825 x FL800	30	120	260	210	320
DN925 x FL900	30	150	295	210	355
DN1025 x FL1000	30	150	295	210	355

*AWWA



Type 3200

	DSE (mm)	Joint gap (JG) (mm)		Insertion depth (ID) (mm)	
	min	min	max	min	max
DN50	12	30	70	84	95
DN65	12	30	75	84	100
DN80	12	30	75	84	100
DN100	15	35	75	90	105
DN125	15	35	80	90	115
DN150	15	35	90	110	130
DN200	20	40	105	110	145
DN225	20	40	120	125	170
DN250	20	40	140	130	180
DN300	20	45	140	130	185
DN350	20	50	145	130	185
DN400	20	55	160	135	190



Coupling



Reduced coupling



Flange adaptor



Reduced flange adaptor



(Reduced) Spigot end



Bend



Reduced duckfoot



PE adaptor



End cap (blind)



End cap (threaded)



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



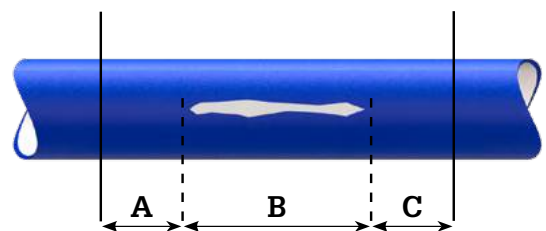
Pit holes



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

MULTI/JOINT® 3000 Plus DN50 - DN400

Georg Fischer Waga N.V.

+GF+

MULTI/JOINT® 3000 Plus DN50-DN400

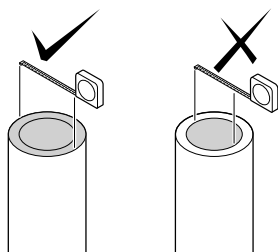


User manual	EN
Montageanleitung	DE
Montagehandleiding	NL
Návod k montáži	CZ
Montagevejledning	DK
Manual de instalacion	ES
Käyttömanuaali	FI
Manuel d'instruction	FR
Εγχειρίδιο χρήσης	GR
Szerelési utasítás	HU
Manuale d'uso	IT
Brukermanual	NO
Instrukcja Obsługi	PL
Manual de instalação	PT
Manualul utilizatorului	RO
Руководство по установке	RU
Användarmanual	SE

UM/MJ/DN50-DN400/07-24

01

CHECK TABLE IF CHOSEN FITTING MATCHES PIPE OD



DN	Range (mm)	DN	Range (mm)
DN50	46-71	DN200	192-232
DN65	63-90	DN225	230-268
DN80	84-105	DN250	267-310
DN100	104-132	DN300	315-356
DN125	132-155	DN350	352-393
DN150	154-192	DN400	392-433

DE	Die Rohraussendurchmesser überprüfen und mit der Tabelle vergleichen.
NL	Kies de juiste koppeling met behulp van de tabel.
CZ	V tabulce zkontrolujte použitelnost tvarovky v daném rozsahu průměrů.
DK	Kontroller med tabellen om den valgte kobling passer til rørdiameteren.
ES	Ver tabla anexa para unir distintos diámetros exteriores.
FI	Tarkista taulukosta jos valitut asennukset sopivat putkelle QD.
FR	Vérifiez sur le tableau si le raccord couvre bien le diamètre extérieur du tube.
GR	Με βάση το πίνακα μεγεθών, επιβεβαιώστε ότι ο σύνδεσμος είναι κατάλληλος για τη συγκεκριμένη διάμετρο αγωγού στον οποίο πρόκειται να τοποθετηθεί.

HU	Ellenőrizze, hogy a kiválasztott idom megfelel-e a cső külső átmérőjéhez.
IT	Controllare sulla tabella se il giunto è idoneo al d.e. del tubo.
NO	Sjekk med tabell at koblingen stemmer overens med utvendig diameter rør.
PL	Sprawdź w tabeli czy łącznik pasuje do zewnętrznej średnicy rury.
PT	Ver na tabela se os acessórios estão de acordo com o diâmetro exterior dos tubos.
RO	Se verifica în tabel dacă fittingul ales corespunde Dext al tevi.
RU	Проверить по таблице совместимость фитинга с трубой.
SE	Kontrollera om vald rörled stämmer mot rørets ytterdiameter.

UM/MJ/DN50-DN400/07-24

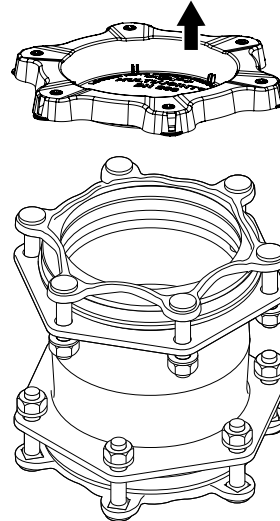
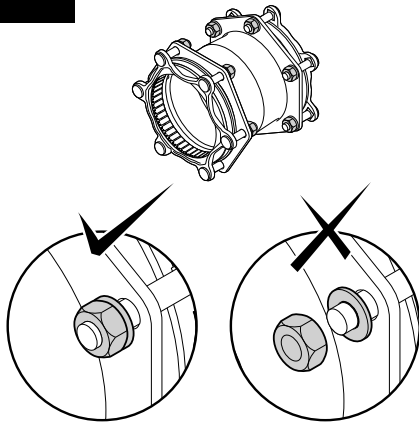
User Manual

MULTI/JOINT® 3000 Plus

DN50 - DN400

02

DO NOT REMOVE OR GREASE BOLTS

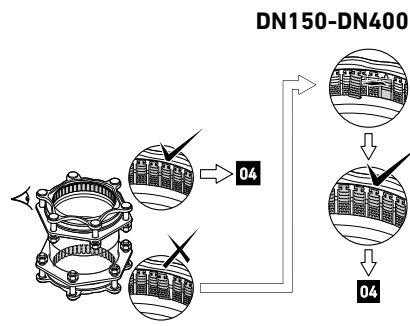
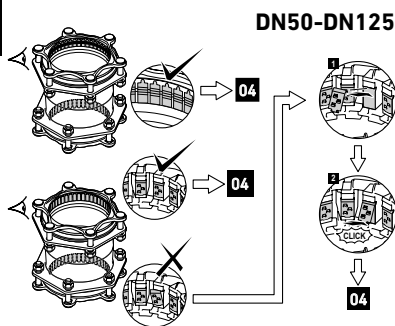


DE	Schrauben nicht entfernen und nicht fetten.
NL	Bouten niet verwijderen of invetten.
FR	Ne pas enlever et/ou graisser les vis.
IT	Non rimuovere e non ingrassare le viti.

UM/MJ/DN50-DN400/07-24

03

CHECK IF 'FIKERS' (METAL GRIPPERS) POSITION IS CORRECT



DE	Sicherstellen, dass alle 'Fikser' richtig positioniert sind.
NL	Controleer de juiste positie van de 'Fikser'.
CZ	Zkontrolujte správnou polohu fixerů.
DK	Kontroller om 'Fikserne' placering er korrekt.
ES	Revisa si los 'Fikser' se encuentran en la posición correcta.
FI	Tarkista 'Fikseri', että asento on oikein.
FR	Assurez-vous que les 'Fikser' (les mors métalliques) sont correctement positionnés.
GR	Ελέγξτε αν τα εξαρτήματα αγκύρωσης που διαθέτει ο σύνδεσμος 'Fikser' έχουν αγκυρώσει σωστά πάνω στον αγωγό.

HU	Ellenőrizze, hogy a 'Fikser'-ek megfelelő helyzetben vannak-e.
IT	Controllare gli inserti antisfilo 'Fikser' sono OK.
NO	Kontroller at 'Fikserne' er i riktig posisjon.
PL	Sprawdź poprawność ułożenia blaszek.
PT	Ver se a posição dos 'Fikser' é correto.
RO	Se verifica dacă poziția elementelor de fixare 'Fikser' este corectă.
RU	Убедиться в правильности установки 'Fikser' (металлических фиксаторов).
SE	Kontrollera om 'Fikser' position är korrekt.

UM/MJ/DN50-DN400/07-24

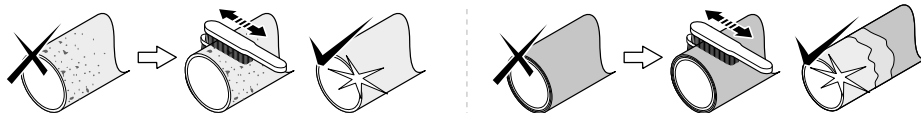
User Manual

MULTI/JOINT® 3000 Plus

DN50 - DN400

04

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



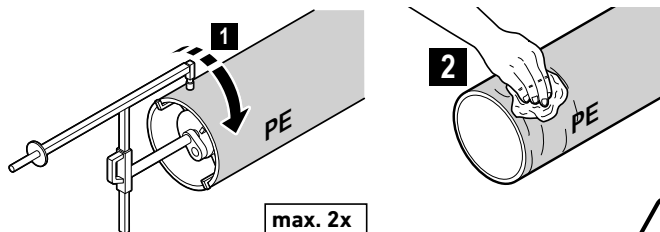
DE	Von der drucktragenden Rohroberfläche allen Rost, Grat, Schmutz, Schäden und alle Beschichtungen entfernen.
NL	Verwijder alle roest, vuil, bramen, beschadigingen en buislagen. Monteer alleen op de mediumvoerende buis.
CZ	Odstranit všechny nečistoty, rez, otěpy a všechny dodatečné vrstvy z povrchu trubky. Montovat pouze na trubky určené pro transport médií.
DK	Fjern al rust, snavs, spåner, beskadigelser og alle belægninger på røret. Monter kun på selve det medie bærende rør.
ES	Retirar toda la suciedad, polvo, daños y etiquetas de la tubería. Montar solamente entre tubos.
FI	Poista kaikki ruoste, lika, taite, vauriot ja kasaumat putkesta. Asenna ainoastaan keskivahvalle putkelle.
FR	Éliminez 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.
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.

HU	Távolítsa el minden rozsdát, szennyeződéset, sorját, sérüléseket és minden fedőréteget a csőről. Csak közvetlenül a közeg szállító csőanyagra helyezze fel az idomot.
IT	Rimuovere sporizia, polvere, intagli e gli strati superficiali della tubazione. Il montaggio deve avvenire sullo strato a contatto del fluido trasportato.
NO	Fjern all rust, løs overflate samt skader på materialet og overflatebehandling.
PL	Usuń wszelkiego rodzaju uszkodzenia, zabrudzenia, zadrapania, rdzę i wierzchnie warstwy na długości rury pokrytej przez łącznik.
PT	Remover oxidação, sugeira, rebarbas, e revestimento do tubo.
RO	Îndepartati praful, crestaturile, murdaria, defectele precum si toate straturile de acoperire de pe teava. Se monteaza doar pe materialul conductei.
RU	Удалить любые загрязнения, ржавчину, задиры и наплывы, а также покрытия с поверхности трубы. Устанавливать только на основной материал трубы.
SE	Avlägsna all rost, smuts, grader och eventuell ytbehandling från røret. Montera endast på mediabärande rörmaterial.

UM/MJ/DN50-DN400/07-24

05

ONLY GAS: USE AN (BY GEORG FISCHER) APPROVED SCRAPING TOOL. INSTALL ON MEDIUM CARRYING PIPE MATERIAL ONLY



! GAS / GAZ

DE	Für PE-Rohre ist ein Georg Fischer Schälgerät zu verwenden.
NL	Gebruik een door Georg Fischer goedgekeurde schiller.
CZ	Použit škrabku (schválenou Georg Fischer).
DK	Brug et (af Georg Fischer) godkendt skrabeværktøj.
ES	Utilizar un rascador circular Georg Fischer.
FI	Käytä (Georg Fischer) hyväksymää karhennus työkalua.
FR	Utilisez un grattoir mécanique approuvé par Georg Fischer.
GR	Για τις εργασίες καθαρισμού και λείανσης χρησιμοποιείστε το κατάλληλο (από την Georg Fischer) εργαλείο.

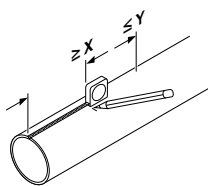
HU	Használjon (Georg Fischer által jóváhagyott) hántoló szerszámot.
IT	Utilizzare in raschiatore approvato da Georg Fischer.
NO	Brug skrapeverktøy godkjent av Georg Fischer.
PL	Użyj skrobaka (Georg Fischer) do przygotowania rury.
PT	Usar uma ferramenta (Georg Fischer) adequada.
RO	Se va utiliza un dispozitiv de raschetat recomandat (de Georg Fischer).
RU	Использовать только разрешенный (компанией Georg Fischer) инструмент для зачистки.
SE	Använd ett (av Georg Fischer) godkänt skrapverktyg.

UM/MJ/DN50-DN400/07-24

User Manual
MULTI/JOINT® 3000 Plus
DN50 - DN400

06

CHECK TABLE FOR MINIMUM (X) AND MAXIMUM (Y) INSERTION DEPTH



DN	X Min. insertion depth (mm)*	Y Max. insertion depth (mm)*	DN	X Min. insertion depth (mm)*	Y Max. insertion depth (mm)*
DN50	84	95	DN200	110	145
DN65	84	100	DN225	125	170
DN80	84	100	DN250	130	180
DN100	90	105	DN300	130	185
DN125	90	115	DN350	130	185
DN150	110	130	DN400	135	190

* For maximum
joint gap
information;
see our table



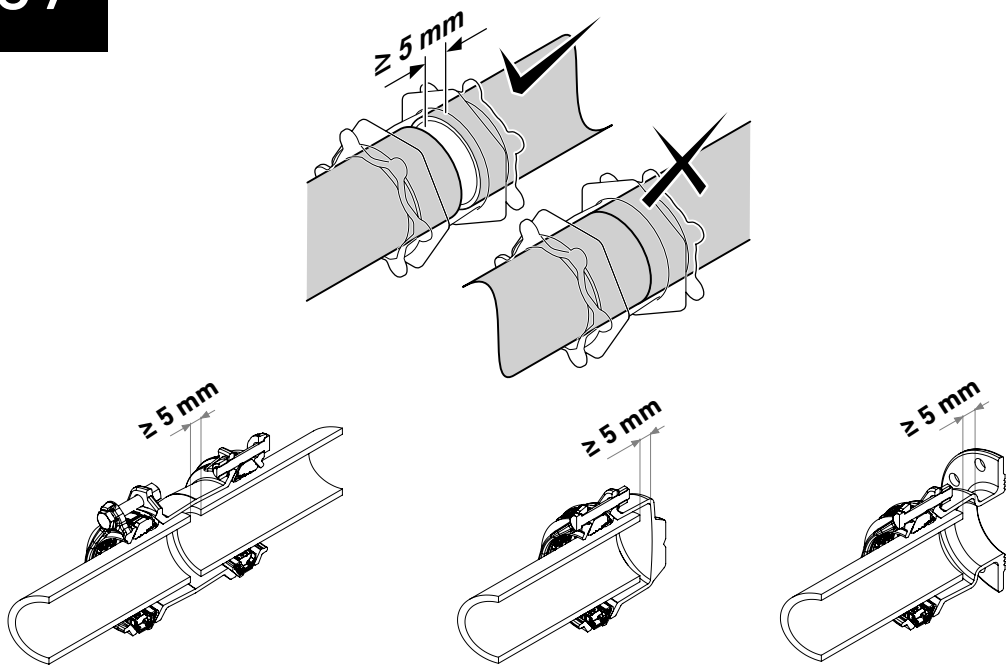
DE	Aus der Tabelle Einstecktiefe min. und max. entnehmen und auf dem Rohr markieren.
NL	Zie de tabel voor de minimale insteekdiepte (X).
CZ	Zkontrolujte v tabulce správnou hloubku zasunutí (X).
DK	Kontroller med tabellen for korrekt instikksdybde (X).
ES	Ver tabla para la profundidad de inserción mínima (X).
FI	Tarkista taulukosta oikea asennus syvyys (X).
FR	Vérifiez sur le tableau la profondeur d'insertion (X) correcte du tube.
GR	Συμβουλευτείτε τον πίνακα για την υπόδειξη του κατάλληλου βάθους εισαγωγής (X) του συνδέσμου στον αγωγό.

HU	Ellenőrizze a táblázatot a megfelelő betolási mélység érdekében (X).
IT	Controllare sulla tabella la profondità di inserimento (X).
NO	Sjekk med tabell for korrekt innstikksdybde (X).
PL	Korzystając z tabeli określ głębokość nasunięcia łącznika (X).
PT	Ver na tabela a profundidade (X) de inserção do tubo no acessório.
RO	Se verifica în tabel adâncimea corectă de inserare (X).
RU	Проверить по таблице значение глубины ввода трубы (X).
SE	Kontrollera i tabellen korrekt insticksdjup (X).

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07

MINIMUM DISTANCE BETWEEN PIPES AND/OR FITTING END

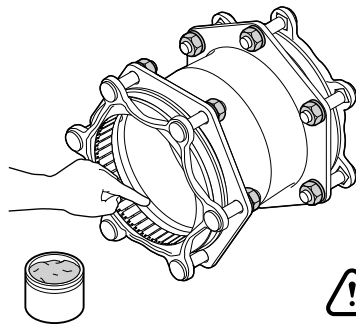


UM/MJ/DN50-DN400/07-24

User Manual
MULTI/JOINT® 3000 Plus
DN50 - DN400

08

APPLY SUITABLE GREASE ONLY IN GAS APPLICATIONS



! GAS / GAZ

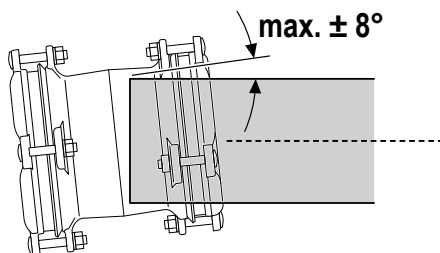
DE	Für die Gasanwendung den Dichtungsbereich ausreichend mit Gleitmittel versehen.
NL	Smeer de afdichting in met een geschikt glijmiddel.
CZ	Aplikovat vhodné mazivo.
DK	Påfør egnet glidemiddel.
ES	Aplicar la grasa correspondiente a la junta.
FI	Lisää soveltuva rasva.
FR	Lubrifiez le bague de joint avec une graisse appropriée.
GR	Τοποθετήστε κατάλληλη ποσότητα λιπαντικής ουσίας στα μηχανικά μέρη του συνδέσμου.

HU	Használgjon megfelelő kenőanyagot.
IT	Applicare lubrificante opportuno.
NO	Bruk egnet glidemiddel.
PL	Natóż warstwę smaru.
PT	Aplicar lubrificante adequado (nunca de origem mineral).
RO	Se aplica lubrifiant.
RU	Использовать только подходящую смазку.
SE	Applicera lämpligt smörjmedel.

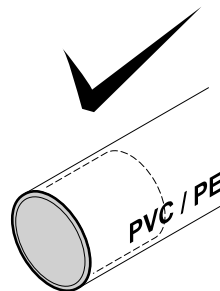
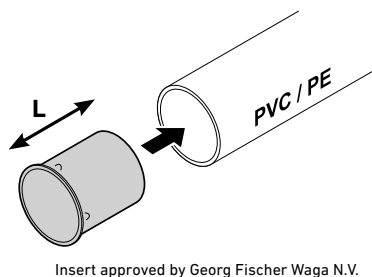
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09

NOMINAL ANGULARITY* AND INSERTS FOR PE/PVC



* Based on the middle of the range.



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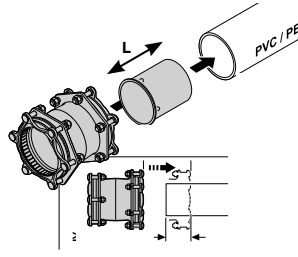
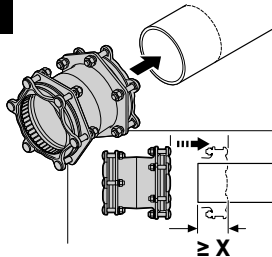
User Manual

MULTI/JOINT® 3000 Plus

DN50 - DN400

10

MAKE SURE 'FIKERS' (METAL GRIPPERS) ARE IN CORRECT POSITION!
FOR PE/PVC SEE WARNING ⚠



PVC / PE



$\geq x + 2,5 \text{ mm} \leq L$

DE	Den MULTI/JOINT® 3000 Plus auf das Rohrende schieben und sicherstellen, dass alle Fikser richtig positioniert sind. Der Anpressring muss im Bereich der minimalen und der maximalen Einstecktiefe liegen.
NL	Houd de "Fikser" in de juiste positie! Bij gebruik steunbus PE/PVC: let op! Max. insteekdiepte $\leq$ lengte steunbus (L).
CZ	Zkontrolujte správnou pozici fixerů (zákusné díly).
DK	Vær opmærksom på om "Fikserne" (metal-griberne) sidder korrekt!
ES	Asegurarse de utilizar los Fiksers adecuados en la posición adecuada.
FI	Varmista "Fikserit" (metalli puristimet) ovat paikallaan.
FR	Assurez-vous que les "Fiksers" (les mors métalliques) sont correctement positionnés.

GR	Ελέγξτε 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.
HU	Győződjön meg róla, hogy a "Fikser"-ek (fém húzásbiztosítók) megfelelő helyzetben vannak-e!
IT	Controllare che le placche antisfilo metalliche siano fissate.
NO	Ved strekkfast løsning sjekk at Fikserne er på plass.
PL	Upewnij się czy blaszki "Fiksers" są odpowiednio ułożone.
PT	Garantir que os "Fiksers" ("grampos" de metal) estão na posição correta.
RO	Se verifica dacă elementele metalice de fixare "Fiksers" sunt în poziția corectă!
RU	Убедиться в правильности установки "Fiksers" (металлических фиксаторов).
SE	Säkerställ att "Fiksers" (metal gripbleck) är korrekt positionerade.

UM/MJ/DN50-DN400/07-24

11^a

CHECK TABLE FOR INSTALLATION TORQUE AND PRESSURE RATING

RESTRAINT				NON-RESTRAINT											
MULTI/JOINT® 3000 Plus with Fikser								MULTI/JOINT® 3000 Plus without Fikser							
(S)St, DCI, GCI, AC*, GRP*, PVC, PE, PEX Consult Georg Fischer for CU, PP, ABS				(S)St, DCI, GCI, AC, GRP, PVC, PE, PEX Consult Georg Fischer for CU, PP, ABS											
DN	Torque (Nm)	MOP gas (bar)	PFA water (bar)	DN	Torque (Nm)	MOP gas (bar)	PFA water (16 bar)	Torque (Nm)	PFA water (25 bar)						
DN50	30	8	16	DN50	30	8	16	30	25						
DN65	40			DN65	30			40							
DN80	60			DN80	40			60							
DN100	100			DN100	80			100							
DN125				DN125											
DN150	120			DN150						120	140				
DN200				DN200											
DN225	140			DN225											
DN250				DN250											
DN300	140			DN300											
DN350		8**	16**	DN350											
DN400				DN400											

* NO guarantee as quality varies! ** MOP 5 bar gas / PFA 10 bar water for plastic pipe materials

UM/MJ/DN50-DN400/07-24

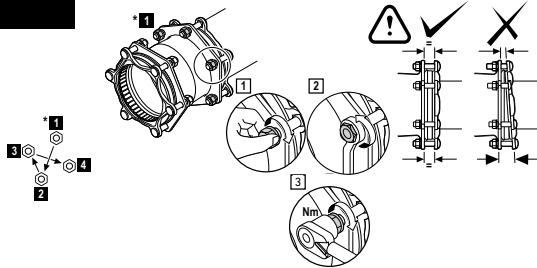
User Manual

MULTI/JOINT® 3000 Plus

DN50 - DN400

11^b

TIGHTEN THE BOLTS WITH THE CORRECT TORQUE



MULTI/JOINT® 3000 Plus
without Fikser



MULTI/JOINT® 3000 Plus
with Fikser



DN50-125 DN150-400

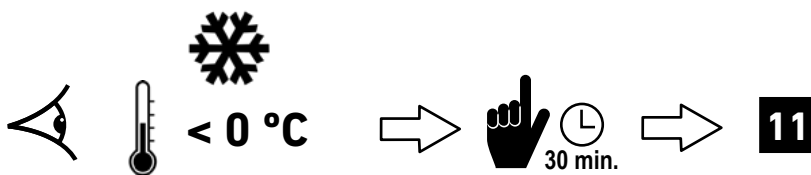
DE	Der Tabelle das richtige Schraubendrehmoment entnehmen und Schrauben fachgerecht anziehen. Die Verwendung eines Drehmomentschlüssels ist zwingend erforderlich. Beim Anziehen der Schrauben ist die Einstecktiefe zu kontrollieren.
NL	Zie de tabel voor het juiste aandraaimoment.
CZ	Zkontrolujte v tabulce správný utahovací moment.
DK	Det rigtige tilspændingsmoment findes i tabellen.
ES	Ver tabla para el par de apriete.
FI	Tarkista taulukosta oikea vääntömomentti.
FR	Vérifiez dans les tableaux le couple de serrage à respecter.
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.

HU	Ellenőrizze a táblázatot a megfelelő nyomaték érdekében.
IT	Controllare la tabella per il serraggio.
NO	Mutrene strammes i kryss, da man skal holde samme avstand mellom koblingshus og trykklens(gland). Etterstram med en momentnøkkel ihht. momenttabell.
PL	Odczytaj z tabeli odpowiedni moment dokręcania śrub.
PT	Ver na tabela a força de aperto.
RO	Se verifica in tabel valoarea momentului de stangere.
RU	Проверить по таблице соответствующий момент затяжки болтов.
SE	Kontrollera i tabell korrekt åtdragningsmoment.

UM/MJ/DN50-DN400/07-24

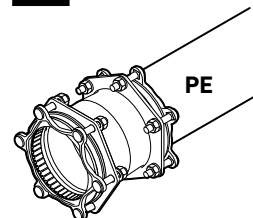
12

≤ 0 °C ONLY ON PE PIPE UNDER FREEZING CONDITIONS, APPLY TORQUE (PRESCRIBED UNDER 11) ONE MORE TIME AFTER 30 MINUTES



PE

DE	Nur für Einsatz auf PE Rohren bei Temperaturen ≤ 0, das unter 11 ermittelte Schraubendrehmoment nach 30 Minuten noch einmal aufbringen.
NL	Alleen bij montage op PE bij temperaturen onder 0, het (onder 11) voorgeschreven draaimoment na 30 minuten nog eenmaal aanbrengen.
FR	Répétez l'étape 11 après 30 minutes <u>seulement</u> sur des tubes en PE en temps glacial.
HU	≤ 0 °C fagyponyt alatti hőmérsékleten, csak PE csöveken, 30 perc elteltével újra nyomatékra kell húzni a 11. oldalon leírtak szerint.



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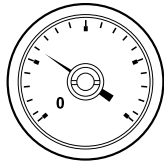
User Manual

MULTI/JOINT® 3000 Plus

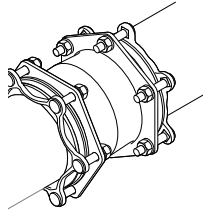
DN50 - DN400

13

CONDUCT A PRESSURE TEST



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



* PN25 → $P_{max} \leq 30$ bar

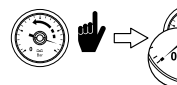
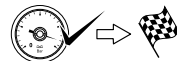
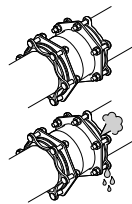
DE	Dichtheitsprüfung durchführen.
NL	Voer een druktest uit.
CZ	Provést tlakovou zkoušku.
DK	Gennemfør en trykprøvning.
ES	Realizar un test de presión.
FI	Aseta painetesti.
FR	Procédez à un essai de pression.
GR	Για τον έλεγχο της στεγανότητας της σύνδεσης πραγματοποιείστε δοκιμή υπό πίεση στον αγωγό για τυχόν διαρροές.

HU	Hajtson végre nyomáspróbát.
IT	Fare test in pressione.
NO	Utfør tryktest på hele installasjonen, med minimum det aktuelle driftstrykk før anlegget dekkes til. Tryktestingen må ikke overstige 1,5 x PFA (max arbeidstrykk) i henhold til tabellen.
PL	Przeprowadź próbę ciśnieniową.
PT	Efetuar teste de pressão.
RO	Se realizeaza un test de presiune.
RU	Провести опрессовку.
SE	Utför tryckprovning.

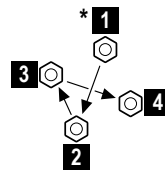
UM/MJ/DN50-DN400/07-24

14

PRESSURE TEST FAIL → REINSTALL FITTING TEST OK → INSTALLATION FINISHED



Disassembly & reuse



DE	Falls die Dichtheitsprüfung eine Undichtheit aufzeigt, den Montagevorgang wiederholen - nach wiederholter, erfolgreicher Dichtheitsprüfung ist die Montage abgeschlossen.
NL	Druktest negatief → opnieuw installeren. Test OK → installatie gereed.
CZ	Tlaková zkouška není OK → tvarovku znovu namontovat. Tlaková zkouška OK → konec instalace.
DK	Trykprøvning negativ → Re-installér kobling. Test OK → installationen er udført.
ES	Test de Presion Fallo → Reinstalar el accesorio. Test OK → Instalacion completada.
FI	Paine testi hylätty → asenna uudelleen. Testi OK → asennus suoritettu.
FR	Mauvais résultat d'essai → réinstallez le raccord. Essai réussi → l'installation est terminée.
GR	Σε περίπτωση που η εγκατάσταση αποτύχει και υπάρχει διαρροή στη σύνδεση → Επανα-εγκαταστήσετε το σύνδεσμο. Σε περίπτωση που η δεν παρατηρηθεί διαρροή στη σύνδεση → η εγκατάσταση του συνδέσμου επί του αγωγού έχει ολοκληρωθεί με επιτυχία.

HU	Nyomás próba sikertelen → végezze el újra az idom felhelyezését. Próba sikeres → felhelyezés befejezve.
IT	Se test negativo → Reinstallare. Se test positivo → Installazione finita.
NO	Trykprøvning negativ → Re-installér kobling. Test OK → installasjon er utført.
PL	Nieudana próba → Ponowny montaż łącznika. Udana próba → montaż zakończony.
PT	Teste de pressão falhou → Voltar a instalar o acessório. Teste OK → Instalação terminada.
RO	Daca testul de presiune esueaza → Se reinstaleaza fittingul. Daca rezultatul testului este OK → Instalare terminata.
RU	Опрессовка не пройдена → Установить фитинг снова. Опрессовка пройдена → Установка завершена.
SE	Tryckprovning falerar → Ommontera rördelen. Test OK → installation avslutad.

UM/MJ/DN50-DN400/07-24

MULTI/JOINT® 3000 Plus DN425 - DN600

Georg Fischer Waga N.V.

+GF+

MULTI/JOINT® 3000 Plus DN425-DN600

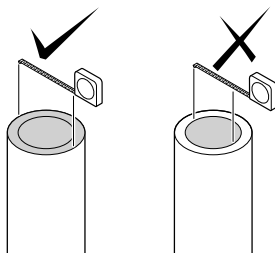


User manual	EN
Montageanleitung	DE
Montagehandleiding	NL
Návod k montáži	CZ
Montagevejledning	DK
Manual de instalacion	ES
Käyttömanuaali	FI
Manuel d'instruction	FR
Εγχειρίδιο χρήσης	GR
Szerelési utasítás	HU
Manuale d'uso	IT
Brukermanual	NO
Instrukcja Obsługi	PL
Manual de instalação	PT
Manualul utilizatorului	RO
Руководство по установке	RU
Användarmanual	SE

UM/MJ/DN425-DN600/07-24

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

DE	Die Rohraussendurchmesser überprüfen und mit der Tabelle vergleichen.
NL	Kies de juiste koppeling met behulp van de tabel.
CZ	V tabulce zkontrolujte použitelnost tvarovky v daném rozsahu průměrů.
DK	Kontroller med tabellen om den valgte kobling passer til rørdiameteren.
ES	Ver tabla anexa para unir distintos diámetros exteriores.
FI	Tarkista taulukosta jos valitut asennukset sopivat putkelle QD.
FR	Vérifiez sur le tableau si le raccord couvre bien le diamètre extérieur du tube.
GR	Με βάση το πίνακα μεγεθών, επιβεβαιώστε ότι ο σύνδεσμος είναι κατάλληλος για τη συγκεκριμένη διάμετρο αγωγού στον οποίο πρόκειται να τοποθετηθεί.

HU	Ellenőrizze, hogy a kiválasztott idom megfelel-e a cső külső átmérőjéhez.
IT	Controllare sulla tabella se il giunto è idoneo al d.e. del tubo.
NO	Sjekk med tabell at koblingen stemmer overens med utvendig diameter rør.
PL	Sprawdź w tabeli czy łącznik pasuje do zewnętrznej średnicy rury.
PT	Ver na tabela se os acessórios estão de acordo com o diâmetro exterior dos tubos.
RO	Se verifica în tabel dacă fitingul ales corespunde Dext al tevi.
RU	Проверить по таблице совместимость фитинга с трубой.
SE	Kontrollera om vald rörled stämmer mot rørets ytterdiameter.

UM/MJ/DN425-DN600/07-24

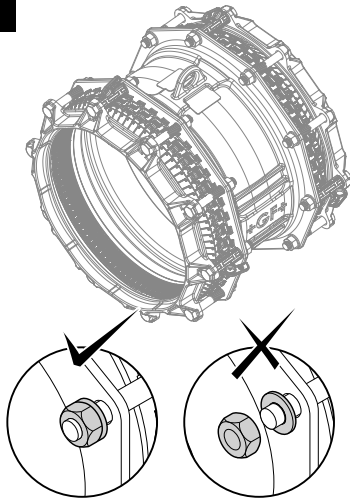
User Manual

MULTI/JOINT® 3000 Plus

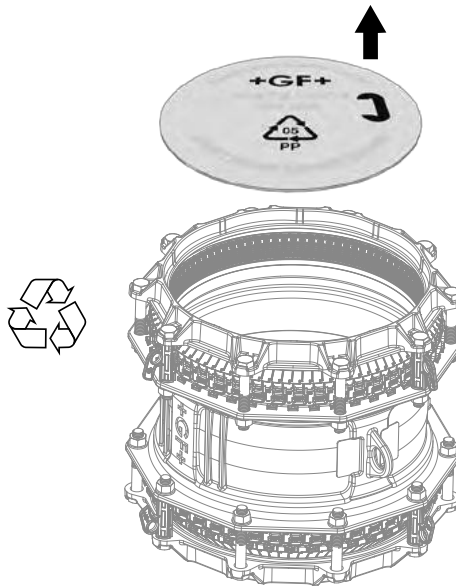
DN425 - DN600

02

DO NOT REMOVE OR GREASE BOLTS



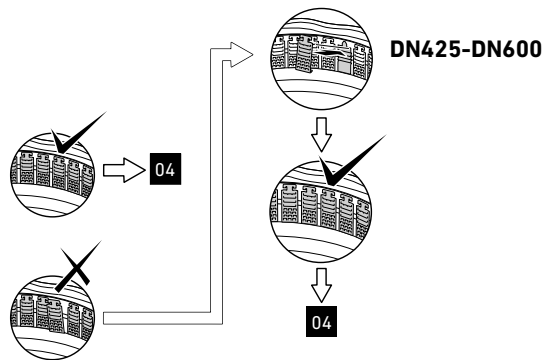
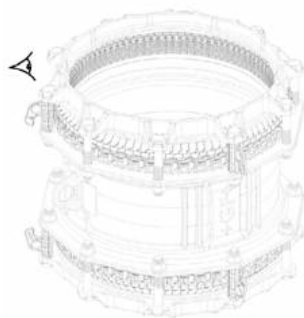
DE	Schrauben nicht entfernen und nicht fetten.
NL	Bouten niet verwijderen of invetten.
FR	Ne pas enlever et/ou graisser les vis.
IT	Non rimuovere e non ingrassare le viti.



UM/MJ/DN425-DN600/07-24

03

CHECK IF 'FIKERS' (METAL GRIPPERS) POSITION IS CORRECT



DE	Sicherstellen, dass alle 'Fikser' richtig positioniert sind.
NL	Controleer de juiste positie van de 'Fikkers'.
CZ	Zkontrolujte správnou polohu fixerů.
DK	Kontroller om 'Fikernes' placering er korrekt.
ES	Revisa si los 'Fiksers' se encuentran en la posición correcta.
FI	Tarkista 'Fikseri', että asento on oikein.
FR	Assurez-vous que les 'Fiksers' (les mors métalliques) sont correctement positionnés.
GR	Ελέγξτε αν τα εξαρτήματα αγκύρωσης που διαθέτει ο σύνδεσμος 'Fiksers' έχουν αγκυρώσει σωστά πάνω στον αγωγό.

HU	Ellenőrizze, hogy a 'Fikser'-ek megfelelő helyzetben vannak-e.
IT	Controllare gli inserti antisfilo 'Fiksers' sono OK.
NO	Kontroller at 'Fikserne' er i riktig posisjon.
PL	Sprawdź poprawność ułożenia blaszek.
PT	Ver se a posição dos 'Fiksers' é correto.
RO	Se verifica dacă poziția elementelor de fixare 'Fiksers' este corectă.
RU	Убедиться в правильности установки 'Fiksers' (металлических фиксаторов).
SE	Kontrollera om 'Fiksers' position är korrekt.

UM/MJ/DN425-DN600/07-24

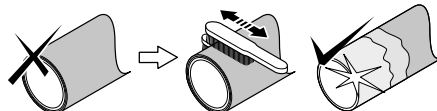
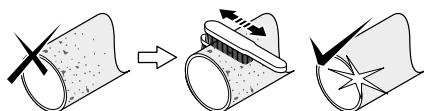
User Manual

MULTI/JOINT® 3000 Plus

DN425 - DN600

04

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



DE	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.
CZ	Odstranit všechny nečistoty, rez, otěpy a všechny dodatečné vrstvy z povrchu trubky. Montovat pouze na trubky určené pro transport médií.
DK	Fjern al rust, snavs, spåner, beskadigelser og alle belægninger på røret. Monter kun på selve det mediebærende rør.
ES	Retirar toda la suciedad, polvo, daños y etiquetas de la tubería. Montar solamente entre tubos.
FI	Poista kaikki ruoste, lika, taite, vauriot ja kasaumat putkesta. Asenna ainoastaan keskivahvalle putkelle.
FR	Éliminez 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.
GR	Αφαιρέστε όλες τις οξειδώσεις, τις ακαθαρσίες, τις παραμορφώσεις, τις αλλοιώσεις υλικού και τυχόν επιστρώσεις από την επιφάνεια του αγωγού. Αγκυρώστε αποκλειστικά επί επιφάνειας του αγωγού μεταφοράς του ρευστού.

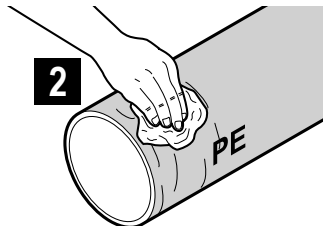
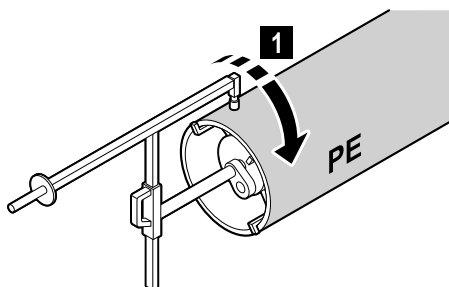
HU	Távolítsa el minden rozsdát, szennyeződést, sorját, sérüléseket és minden fedőréteget a csőről. Csak közvetlenül a közeg szállító csőanyagra helyezze fel az idomot.
IT	Rimuovere sporczia, polvere, intagli e gli strati superficiali della tubazione. Il montaggio deve avvenire sullo strato a contatto del fluido trasportato.
NO	Fjern all rust, løs overflate samt skader på materialet og overflatebehandling.
PL	Usuń wszelkiego rodzaju uszkodzenia, zabrudzenia, zadrapania, rdzę i wierzchnie warstwy na długości rury pokrytej przez łącznik.
PT	Remover oxidação, sugeira, rebarbas, e revestimento do tubo.
RO	Indepartati praful, crestaturile, murdaria, defectele precum si toate straturile de acoperire de pe teava. Se monteaza doar pe materialul conductei.
RU	Удалить любые загрязнения, ржавчину, задиры и напылы, а так же покрытия с поверхности трубы. Устанавливать только на основной материал трубы.
SE	Avlägsna all rost, smuts, grader och eventuell ytbehandling från røret. Montera endast på mediabärande rörmaterial.

UM/MJ/DN425-DN600/07-24

05

USE AN (BY GEORG FISCHER) APPROVED SCRAPING TOOL

! GAS / GAZ



DE	Für PE-Rohre ist ein Georg Fischer Schälgerät zu verwenden.
NL	Gebruik een door Georg Fischer goedgekeurde schiller.
CZ	Použit škrabku (schválenou Georg Fischer).
DK	Brug et (af Georg Fischer) godkendt skrabeværktøj.
ES	Utilizar un rascador circular Georg Fischer.
FI	Käytä (Georg Fischer) hyväksymää karhennus työkalua.
FR	Utilisez un grattoir mécanique approuvé par Georg Fischer.
GR	Για τις εργασίες καθαρισμού και λείανσης χρησιμοποιείστε το κατάλληλο (από την Georg Fischer) εργαλείο.

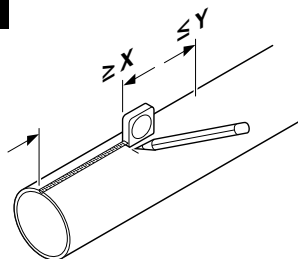
HU	Használgjon (Georg Fischer által jóváhagyott) hántoló szerszámot.
IT	Utilizzare in raschiatore approvato da Georg Fischer.
NO	Bruk skrapeverktøy godkjent av Georg Fischer.
PL	Użyj skrobaka (Georg Fischer) do przygotowania rury.
PT	Usar uma ferramenta (Georg Fischer) adequada.
RO	Se va utiliza un dispozitiv de raschetat recomandat (de Georg Fischer).
RU	Использовать только разрешенный (компанией Georg Fischer) инструмент для зачистки.
SE	Använd ett (av Georg Fischer) godkänt skrapverktyg.

UM/MJ/DN425-DN600/07-24

User Manual
MULTI/JOINT® 3000 Plus
DN425 - DN600

06

CHECK TABLE FOR MINIMUM (X) AND MAXIMUM (Y) INSERTION DEPTH



DN	X Min. insertion depth (mm)*	Y Max. insertion depth (mm)*
DN425	160	225
DN450		
DN475		
DN500		
DN550		
DN600	170	235

* For maximum
joint gap information,
see our table:



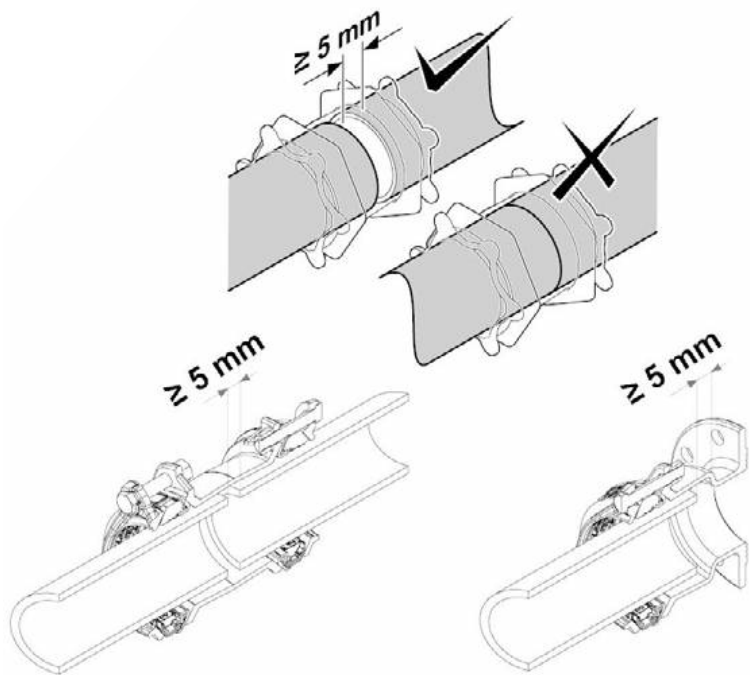
DE	Aus der Tabelle Einstecktiefe min. und max. entnehmen und auf dem Rohr markieren.
NL	Zie de tabel voor de minimale insteekdiepte (X).
CZ	Zkontrolujte v tabulce správnou hloubku zasunutí (X).
DK	Kontroller med tabellen for korrekt indstiksdybde (X).
ES	Ver tabla para la profundidad de inserción mínima (X).
FI	Tarkista taulukosta oikea asennus syvyys (X).
FR	Vérifiez sur le tableau la profondeur d'insertion (X) correcte du tube.
GR	Συμβουλευτείτε τον πίνακα για την υπόδειξη του κατάλληλου βάθους εισαγωγής (X) του συνδέσμου στον αγωγό.

HU	Ellenőrizze a táblázatot a megfelelő betolási mélység érdekében (X).
IT	Controllare sulla tabella la profondità di inserimento (X).
NO	Sjekk med tabell for korrekt innstikksdybde (X).
PL	Korzystając z tabeli określ głębokość nasunięcia łącznika (X).
PT	Ver na tabela a profundidade (X) de inserção do tubo no acessório.
RO	Se verifica în tabel adăncimea corectă de inserare (X).
RU	Проверить по таблице значение глубины ввода трубы (X).
SE	Kontrollera i tabellen korrekt insticksdjup (X).

UM/MJ/DN425-DN600/07-24

07

MINIMUM DISTANCE BETWEEN PIPES AND/OR FITTING END



UM/MJ/DN425-DN600/07-24

User Manual
MULTI/JOINT® 3000 Plus
DN425 - DN600

08

APPLY SUITABLE GREASE ONLY IN GAS APPLICATIONS



GAS / GAZ

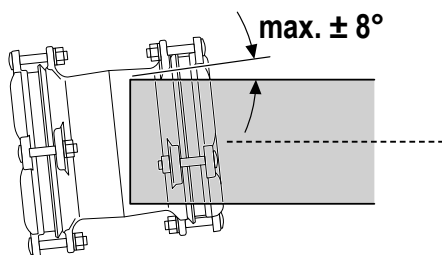
DE	Für die Gasanwendung den Dichtungsbereich ausreichend mit Gleitmittel versehen.
NL	Smeer de afdichting in met een geschikt glijmiddel.
CZ	Aplikovat vhodné mazivo.
DK	Påfør egnet glidemiddel.
ES	Aplicar la grasa correspondiente a la junta.
FI	Lisää soveltuva rasva.
FR	Lubrifiez le bague de joint avec une graisse appropriée.
GR	Τοποθετήστε κατάλληλη ποσότητα λιπαντικής ουσίας στα μηχανικά μέρη του συνδέσμου.

HU	Használgjon megfelelő kenőanyagot.
IT	Applicare lubrificante opportuno.
NO	Bruk egnet glidemiddel.
PL	Natóż warstwę smaru.
PT	Aplicar lubrificante adequado (nunca de origem mineral).
RO	Se aplica lubrifiant.
RU	Использовать только подходящую смазку.
SE	Applicera lämpligt smörjmedel.

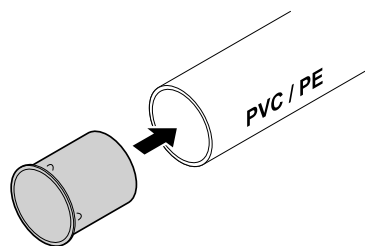
UM/MJ/DN425-DN600/07-24

09

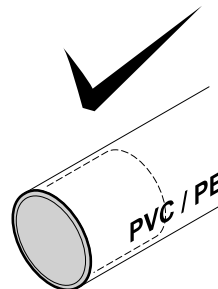
NOMINAL ANGULARITY* AND INSERTS FOR PE/PVC



* Based on the middle of the range.



Insert approved by Georg Fischer Waga N.V.



UM/MJ/DN425-DN600/07-24

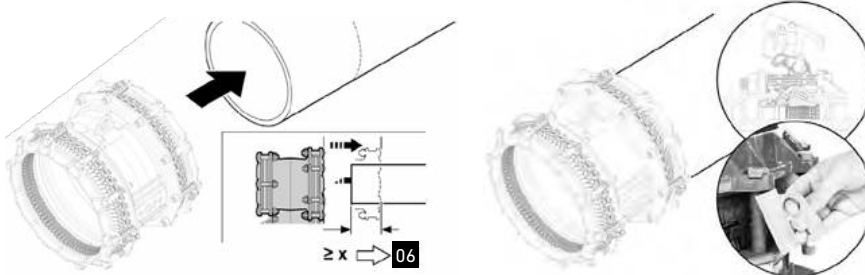
User Manual

MULTI/JOINT® 3000 Plus

DN425 - DN600

10

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



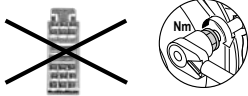
DE	Den MULTI/JOINT® 3000 Plus auf das Rohrende schieben und den Transportclip entfernen! Der Anpressring muss im Bereich der minimalen und der maximalen Einstecktiefe liegen.
NL	Schuif de MULTI/JOINT® 3000 Plus op het buiseinde en verwijder de transportclips!
CZ	Nasunout tvarovku MULTI/JOINT® 3000 Plus na konec trubky a teprve potom odstranit oranžové vymezovací díly!
DK	Skub MULTI/JOINT® 3000 Plus på røret og fjern transportbeslaget!
ES	Deslice el MULTI/JOINT® 3000 Plus sobre el extremo del tubo y retire el clip de transporte!
FI	Liuvuta MULTI/JOINT® 3000 Plus putken päälle ja poista kuljetus klipsi!
FR	Faites glisser le MULTI/JOINT® 3000 Plus sur l'extrémité du tuyau et retirez le clip de transport!
GR	Εισάγετε το MULTI/JOINT® 3000 Plus στο ακρό του αγωγού και αφαιρέστε το κομπιωμα μεταφοράς!

HU	Csúsztassa a MULTI/JOINT® 3000 Plus kötőidomot a csővégre, és távolítsa el a szállítási rögzítőelemet!
IT	Inserire MULTI/JOINT® 3000 Plus sul tubo e successivamente rimuoverlo i fermi per il trasporto!
NO	Skli MULTI/JOINT® 3000 Plus mufte innpå rørende og deretter fjern transportpinnen.
PL	Nasuń łącznik MULTI/JOINT® 3000 Plus na rurę a następnie zdejmij zabezpieczenie transportowe!
PT	Deslize o MULTI/JOINT® 3000 Plus na extremidade do tubo e remover o clipe de transporte!
RO	Introduceti piesa MULTI/JOINT® 3000 Plus pe capatul conductei si inlaturati siguranta pentru transport!
RU	Установите MULTI/JOINT® 3000 Plus на конец трубы и удалите транспортировочный хомут!
SE	Skjut MULTI/JOINT® 3000 Plus kopplingen på røret och ta bort transportsäkringarna (clip)!

UM/MJ/DN425-DN600/07-24

11^a

CHECK TABLE FOR INSTALLATION TORQUE AND PRESSURE RATING**

		RESTRAINT				NON-RESTRAINT	
MULTI/JOINT® 3000 Plus with Fikser				MULTI/JOINT® 3000 Plus without Fikser			
(S)St, DCI, GCI, AC*, GRP*, PVC, PE, PEX Consult Georg Fischer for CU, PP, ABS				(S)St, DCI, GCI, AC*, GRP*, PVC, PE, PEX Consult Georg Fischer for CU, PP, ABS			
DN	Torque (Nm)	MOP gas (bar)	PFA water (bar)	DN	Torque (Nm)	MOP gas (bar)	PFA water (bar)
DN425	140	5	10	DN425	140	8	16
DN450							
DN475							
DN500							
DN550							
DN600							

* NO guarantee as quality varies! ** All fittings PN16 rated, see restraint table for pull out resistant forces

UM/MJ/DN425-DN600/07-24

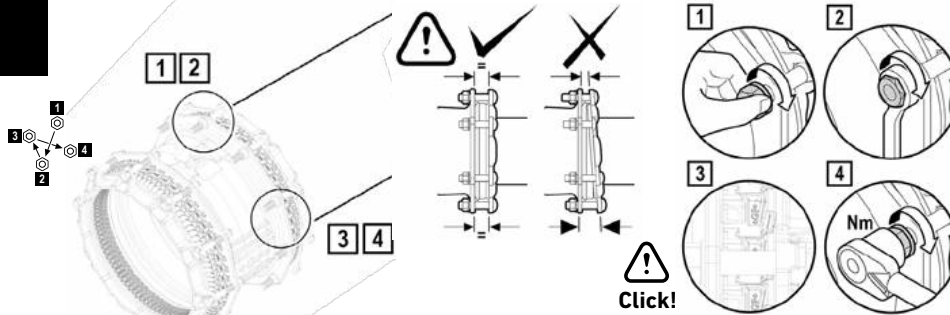
User Manual

MULTI/JOINT® 3000 Plus

DN425 - DN600

11^b

TIGHTEN THE BOLTS WITH THE CORRECT TORQUE



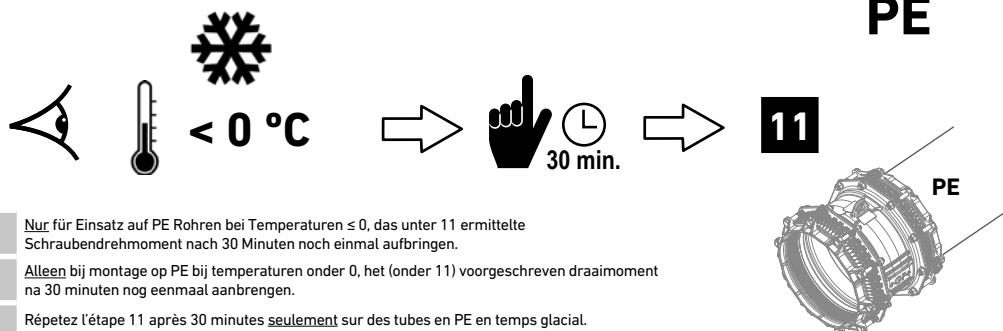
DE	Der Tabelle das richtige Schraubendrehmoment entnehmen und Schrauben fachgerecht anziehen. Die Verwendung eines Drehmomentschlüssels ist zwingend erforderlich. Beim Anziehen der Schrauben ist die Einstecktiefe zu kontrollieren.
NL	Zie de tabel voor het juiste aandraaimoment.
CZ	Zkontrolujte v tabulce správný utahovací moment.
DK	Det rigtige tilspændingsmoment findes i tabellen.
ES	Ver tabla para el par de apriete.
FI	Tarkista taulukosta oikea vääntömomentti.
FR	Vérifiez dans les tableaux le couple de serrage à respecter.
GR	Συμβουλευτείτε τον πίνακα για την επιλογή της κατάλληλης στρεπτικής ροπής που θα πρέπει να εφαρμοστεί στον σύνδεσμο, κατά την διαδικασία της σύφιξης του στον αγωγό.

HU	Ellenőrizze a táblázatot a megfelelő nyomaték érdekében.
IT	Controllare la tabella per il serraggio.
NO	Mutrene strammes i kryss, da man skal holde samme avstand mellom koblingshus og trykklens(gland). Etterstram med en momentnøkkel ihht. momenttabell.
PL	Odczytaj z tabeli odpowiedni moment dokręcania śrub.
PT	Ver na tabela a força de aperto.
RO	Se verifica în tabel valoarea momentului de stangere.
RU	Проверить по таблице соответствующий момент затяжки болтов.
SE	Kontrollera i tabell korrekt åtdragningsmoment.

UM/MJ/DN425-DN600/07-24

12

≤ 0 °C ONLY ON PE PIPE UNDER FREEZING CONDITIONS, APPLY TORQUE (PRESCRIBED UNDER 11) ONE MORE TIME AFTER 30 MINUTES



DE	Nur für Einsatz auf PE Rohren bei Temperaturen ≤ 0, das unter 11 ermittelte Schraubendrehmoment nach 30 Minuten noch einmal aufbringen.
NL	<u>Alleen</u> bij montage op PE bij temperaturen onder 0, het (onder 11) voorgeschreven draaimoment na 30 minuten nog eenmaal aanbrengen.
FR	Répétez l'étape 11 après 30 minutes <u>seulement</u> sur des tubes en PE en temps glacial.
HU	≤ 0 °C fagyponyt alatti hőmérsékleten, <u>csak</u> PE csöveken, 30 perc elteltével újra nyomatékra kell húzni a 11. oldalon leírtak szerint.



UM/MJ/DN425-DN600/07-24

User Manual

MULTI/JOINT® 3000 Plus

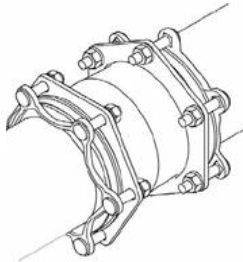
DN425 - DN600

13

CONDUCT A PRESSURE TEST



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



11

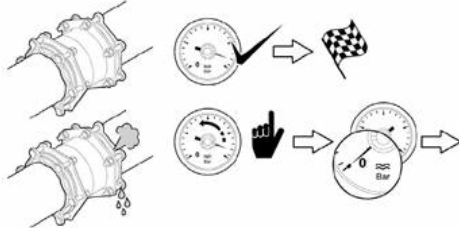
DE	Dichtheitsprüfung durchführen.
NL	Voer een druktest uit.
CZ	Provést tlakovou zkoušku.
DK	Gennemfør en trykprøvning.
ES	Realizar un test de presión.
FI	Aseta painetesti.
FR	Procédez à un essai de pression.
GR	Για τον έλεγχο της στεγανότητας της σύνδεσης πραγματοποιείστε δοκιμή υπό πίεση στον αγωγό για τυχόν διαρροές.

HU	Hajtsón végre nyomáspróbát.
IT	Fare test in pressione.
NO	Utfør tryktest på hele installasjonen, med minimum det aktuelle driftstrykk for anlegget dekkes til. Tryktestingen må ikke overstige 1,5 x PFA (max arbeidstrykk) i henhold til tabellen.
PL	Przeprowadź próbę ciśnieniową.
PT	Efetuar teste de pressão.
RO	Se realizeaza un test de presiune.
RU	Провести опрессовку.
SE	Utför tryckprovning.

UM/MJ/DN425-DN600/07-24

14

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



Disassembly & reuse

DE	Falls die Dichtheitsprüfung eine Undichtheit aufzeigt, den Montagevorgang wiederholen - nach wiederholter, erfolgreicher Dichtheitsprüfung ist die Montage abgeschlossen.
NL	Druktest negatief → opnieuw installeren. Test OK → installatie gereed.
CZ	Tlaková zkouška není OK → tvarovku znovu namontovat. Tlaková zkouška OK → konec instalace.
DK	Trykprøvning negativ → Re-installér kobling. Test OK → installationen er udført.
ES	Test de Presión Fallo → Reinstalar el accesorio. Test OK → Instalación completada.
FI	Paine testi hylätty → asenna uudelleen. Testi OK → asennus suoritettu.
FR	Mauvais résultat d'essai → réinstallez le raccord. Essai réussi → l'installation est terminée.
GR	Σε περίπτωση που η εγκατάσταση αποτύχει και υπάρχει διαρροή στη σύνδεση → Επανα-εγκαταστήσετε το σύνδεσμο. Σε περίπτωση που η δεν παρατηρηθεί διαρροή στη σύνδεση → η εγκατάσταση του συνδέσμου επί του αγωγού έχει ολοκληρωθεί με επιτυχία.

HU	Nyomás próba sikertelen → végezze el újra az idom felhelyezését. Próba sikeres → felhelyezés befejezve.
IT	Se test negativo → Reinstallare. Se test positivo → Installazione finita.
NO	Trykprøvning negativ → Re-installer kobling. Test OK → installasjon er utført.
PL	Nieudana próba → Ponowny montaż łącznika. Udana próba → montaż zakończony.
PT	Teste de pressão falhou → Voltar a instalar o acessório. Teste OK → Instalação terminada.
RO	Daca testul de presiune esueaza → Se reinstaleaza fittingul. Daca rezultatul testului este OK → Instalare terminata.
RU	Опрессовка не пройдена → Установить фитинг снова. Опрессовка пройдена → Установка завершена.
SE	Tryckprovning falerar → Ommontera rördelen. Test OK → installation avslutad.

UM/MJ/DN425-DN600/07-24

MULTI/JOINT® 3000 Plus DN625 - DN1025

Georg Fischer Waga N.V.

MULTI/JOINT® 3000 Plus DN625-DN1025



INCH
25"-41"

+GF+

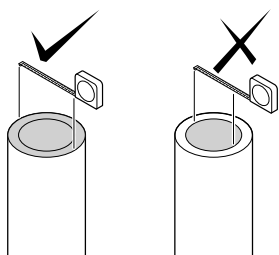


User manual	EN
Montageanleitung	DE
Montagehandleiding	NL
Návod k montáži	CZ
Montagevejledning	DK
Manual de instalacion	ES
Käyttömanuaali	FI
Manuel d'instruction	FR
Εγχειρίδιο χρήσης	GR
Szerelési utasítás	HU
Manuale d'uso	IT
Brukermanual	NO
Instrukcja Obsługi	PL
Manual de instalação	PT
Manualul utilizatorului	RO
Руководство по установке	RU
Användarmanual	SE

UM/MJ/DN625-DN1025/07-24

01

CHECK TABLE IF CHOSEN FITTING MATCHES PIPE OD



DN	Range (mm)	DN	Range (mm)
DN625	630 – 662	DN825	837 – 869
DN675	665 – 697	DN900	899 – 931
DN700	709 – 741	DN925	939 – 971
DN750	745 – 777	DN1000	994 – 1026
DN800	799 – 831	DN1025	1042 – 1074

DE	Die Rohraussendurchmesser überprüfen und mit der Tabelle vergleichen.
NL	Kies de juiste koppeling met behulp van de tabel.
CZ	V tabulce zkontrolujte použitelnost tvarovky v daném rozsahu průměrů.
DK	Kontroller med tabellen om den valgte kobling passer til rørdiameteren.
ES	Ver tabla anexa para unir distintos diámetros exteriores.
FI	Tarkista taulukosta jos valitut asennukset sopivat putkelle QD.
FR	Vérifiez sur le tableau si le raccord couvre bien le diamètre extérieur du tube.
GR	Με βάση το πίνακα μεγεθών, επιβεβαιώστε ότι ο σύνδεσμος είναι κατάλληλος για τη συγκεκριμένη διάμετρο αγωγού στον οποίο πρόκειται να τοποθετηθεί.

HU	Ellenőrizze, hogy a kiválasztott idom megfelel-e a cső külső átmérőjéhez.
IT	Controllare sulla tabella se il giunto è idoneo al d.e. del tubo.
NO	Sjekk med tabell at koblingen stemmer overens med utvendig diameter rør.
PL	Sprawdź w tabeli czy łącznik pasuje do zewnętrznej średnicy rury.
PT	Ver na tabela se os acessórios estão de acordo com o diâmetro exterior dos tubos.
RO	Se verifica în tabel dacă fitingul ales corespunde Dext al tevi.
RU	Проверить по таблице совместимость фитинга с трубой.
SE	Kontrollera om vald rörled stämmer mot rørets ytterdiameter.

UM/MJ/DN625-DN1025/07-24

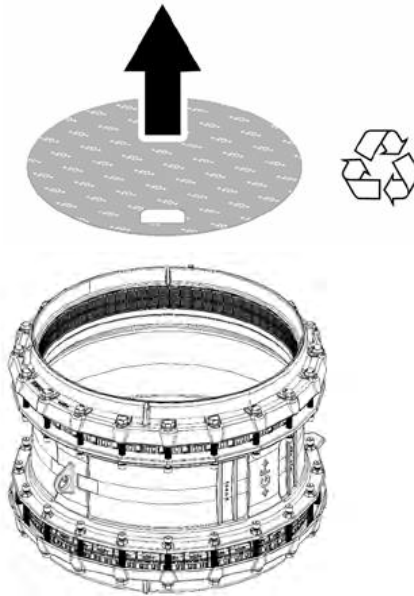
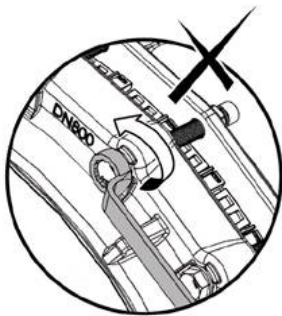
User Manual

MULTI/JOINT® 3000 Plus

DN625 - DN1025

02

DO NOT REMOVE OR GREASE BOLTS



- DE Schrauben nicht entfernen und nicht fetten.
- NL Bouten niet verwijderen of invetten.
- FR Ne pas enlever et/ou graisser les vis.
- IT Non rimuovere e non ingrassare le viti.

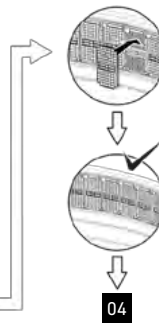
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03

CHECK IF 'FIKERS' (METAL GRIPPERS) POSITION IS CORRECT



04



DN625-DN1025

- DE Sicherstellen, dass alle 'Fikser' richtig positioniert sind.
- NL Controleer de juiste positie van de 'Fikser's'.
- CZ Zkontrolujte správnou polohu fixerů.
- DK Kontrollér om 'Fikserne' placering er korrekt.
- ES Revise si los 'Fikser's' se encuentran en la posición correcta.
- FI Tarkista 'Fikseri', että asento on oikein.
- FR Assurez-vous que les 'Fikser's' (les mors métalliques) sont correctement positionnés.
- GR Ελέγξτε αν τα εξαρτήματα αγκύρωσης που διαθέτει ο σύνδεσμος 'Fiksers' έχουν αγκυρώσει σωστά πάνω στον αγωγό.

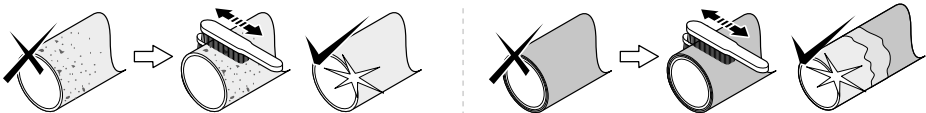
- HU Ellenőrizze, hogy a 'Fikser'-ek megfelelő helyzetben vannak-e.
- IT Controllare gli inserti antisfilo 'Fiksers' sono OK.
- NO Kontrollér at 'Fikserne' er i riktig posisjon.
- PL Sprawdz poprawność ułożenia blaszek.
- PT Ver se a posição dos 'Fiksers' é correto.
- RO Se verifica dacă poziția elementelor de fixare 'Fiksers' este corectă.
- RU Убедиться в правильности установки 'Fiksers' (металлических фиксаторов).
- SE Kontrollera om 'Fiksers' position är korrekt.

UM/MJ/DN625-DN1025/07-24

User Manual
MULTI/JOINT® 3000 Plus
DN625 - DN1025

04

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



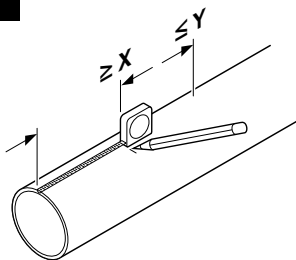
DE	Entfernen sie auf dem Rohr den gesamten rost-, schmutz-, grate- und beschädigungen. Nur auf der rohrerfläche des medium transportierenden rohrses installieren. (PE) schutzmantel sind zu entfernen.
NL	Verwijder alle roest, vuil, bramen en beschadigingen. Monteer alleen op de mediumvoerende buis.
CZ	Odstranit všechny nečistoty, rez a otřepy z povrchu trubky. Montovat pouze na trubky určené pro transport médií.
DK	Fjern al rust, snavs, spåner, belægninger og beskadigelser fra røret. Monter kun på selve det mediebærende rør.
ES	Retirar toda la suciedad, polvo y daños de la tubería. Instalar solo en la tubería que transporte el agua.
FI	Poista aina putkenpinnalta ruoste, irtoaines, vahingoittunut materiaali, lovet ja putkipinnoitteet. Asennus ainoastaan hyväksytyille putkimateriaaleille.
FR	Éliminez la rouille, la saleté, les bourrelets de soudures et les défauts de surface du tube. Assemblez seulement sur le matériau principal du tube.
GR	Αφαιρέστε όλες τις οξειδώσεις, τις ακαθαρσίες, τις παραμορφώσεις και τις αλλοιώσεις υλικού από την επιφάνεια του αγωγού. Αγκυρώστε αποκλειστικά επί επιφάνειας του αγωγού μεταφοράς του ρευστού.

HU	Távolítsa el minden rozsdát, szennyeződést, sorját és sérülést a csőről. Csak közvetlenül a közegszállító csőanyagra helyezze fel az idomot.
IT	Rimuovere ruggine, sporco, bave e intagli dal tubo. Rimuovere eventuali rivestimenti dal tubo prima di installare il raccordo.
NO	Fjern all rust, skitt, riper og skader fra røret. Installer kun på selve medierørets material.
PL	Usuń z rury rdzę, brud, zadziory i inne uszkodzenia. Instalować tylko na materiale rury, który ma kontakt z medium.
PT	Remova toda a ferrugem, sujeira e a parte danificada da tubulação. Instalar somente em tubulações feitas para transporte de fluidos.
RO	Înlăturati rugina, mizeria, bavurile si defectele de pe teava. Instalați doar pe materialul conductei care este în contact cu fluidul transportat.
RU	Удалить любые загрязнения, ржавчину, задиры и повреждения с поверхности трубы. Устанавливать только на основной материал несущей трубы.
SE	Avlägsna all rost och smuts samt avgrada och ta bort ytdetekter på røret. Montera endast på mediabärande rörmaterial.

UM/MJ/DN625-DN1025/07-24

05

CHECK TABLE FOR MINIMUM (X) AND MAXIMUM (Y) INSERTION DEPTH



DN	X Min. insertion depth (mm)*	Y Max. insertion depth (mm)*
DN625	210	320
DN675		
DN700		
DN750		
DN800		
DN900		
DN925		355
DN1000		
DN1025		

* For maximum joint gap information, see our table:



DE	Aus der Tabelle Einstecktiefe min. und max. entnehmen und auf dem Rohr markieren.
NL	Zie de tabel voor de minimale insteekdiepte (X).
CZ	Zkontrolujte v tabulce správnou hloubku zasunutí (X).
DK	Kontroller med tabellen for korrekt indstiksdybde (X).
ES	Ver tabla para la profundidad de inserción mínima (X).
FI	Tarkista taulukosta oikea asennus syvyys (X).
FR	Vérifiez sur le tableau la profondeur d'insertion (X) correcte du tube.
GR	Συμβουλευτείτε τον πίνακα για την υπόδειξη του κατάλληλου βάθους εισαγωγής (X) του συνδέσμου στον αγωγό.

HU	Ellenőrizze a táblázatot a megfelelő betolási mélység érdekében (X).
IT	Controllare sulla tabella la profondità di inserimento (X).
NO	Sjekk med tabell for korrekt innstikksdybde (X).
PL	Korzystając z tabeli określ głębokość nasunięcia łącznika (X).
PT	Ver na tabela a profundidade (X) de inserção do tubo no acessório.
RO	Se verifica în tabel adăncimea corectă de inserare (X).
RU	Проверить по таблице значение глубины ввода трубы (X).
SE	Kontrollera i tabellen korrekt insticksdjup (X).

UM/MJ/DN625-DN1025/07-24

User Manual

MULTI/JOINT® 3000 Plus

DN625 - DN1025

06

MINIMUM DISTANCE BETWEEN PIPES AND/OR FITTING END

The image contains two technical diagrams illustrating the minimum distance between pipes and/or fitting end. The left diagram shows a standard pipe hanger with a curved support. The right diagram shows a hanger with a curved support and a fitting end. Both diagrams indicate a minimum distance of $\geq 5 \text{ mm}$ between the pipe and the hanger end, as shown by the dimension lines and arrows.

UM/M/J/DN625-DN1025/07-24

JUM/MJ/DN625-DN1025/07-24

07

NOMINAL ANGULARITY* AND INSERTS FOR PE/PVC

max. $\pm 8^\circ$

* Based on the middle of the range.

PVC / PE

Use insert stiffener wedge MULTI/JOINT® DN625-DN1000
approved by Georg Fischer Waga N.V.

210 mm-320/355 mm (see Y)

UM/M/J/DN625-DN1025/07-24

JUM/MJ/DN625-DN1025/07-24

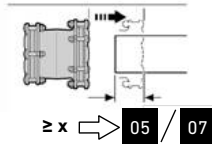
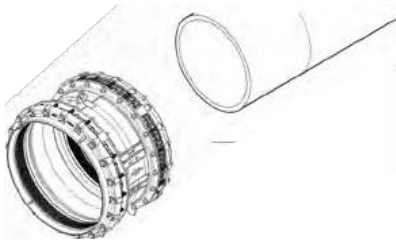
User Manual

MULTI/JOINT® 3000 Plus

DN625 - DN1025

08^a

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



8^b

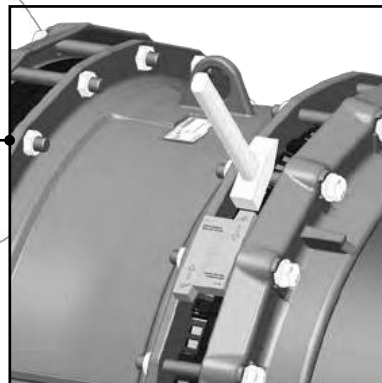
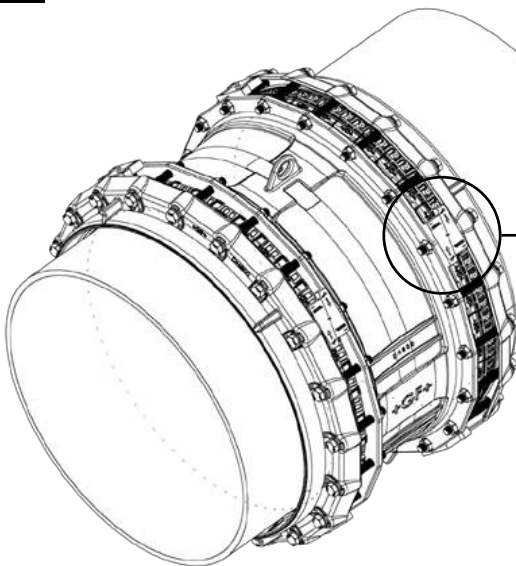
DE	Den MULTI/JOINT® 3000 Plus auf das Rohrende schieben und den Transportclip entfernen! Der Anpressring muss im Bereich der minimalen und der maximalen Einstecktiefe liegen.
NL	Schuif de MULTI/JOINT® 3000 Plus op het buiseinde en verwijder de transportclips!
CZ	Nasunout tvarovku MULTI/JOINT® 3000 Plus na konec trubky a teprve potom odstranit oranžové vymezovací díly!
DK	Skub MULTI/JOINT® 3000 Plus på røret og fjern transportbeslaget!
ES	Deslice el MULTI/JOINT® 3000 Plus sobre el extremo del tubo y retire el clip de transporte!
FI	Liuvuta MULTI/JOINT® 3000 Plus putken päälle ja poista kuljetus klipsi!
FR	Faites glisser le MULTI/JOINT® 3000 Plus sur l'extrémité du tuyau et retirez le clip de transport!
GR	Εισαγάγετε το MULTI/JOINT® 3000 Plus στο ακρό του αγωγού και αφαιρέστε το κομπιωμα μεταφοράς!

HU	Csúsztassa a MULTI/JOINT® 3000 Plus kötőidomot a csővégre, és távolítsa el a szállítási rögzítőelemet!
IT	Inserire MULTI/JOINT® 3000 Plus sul tubo e successivamente rimuovere i fermi per il trasporto!
NO	Skli MULTI/JOINT® 3000 Plus muffe innpå rørende og deretter fjern transportpinnen.
PL	Nasuń łącznik MULTI/JOINT® 3000 Plus na rurę a następnie zdejmij zabezpieczenie transportowe!
PT	Deslize o MULTI/JOINT® 3000 Plus na extremidade do tubo e remover o clipe de transporte!
RO	Introduceti piesa MULTI/JOINT® 3000 Plus pe capatul conductei si inlaturati siguranta pentru transport!
RU	Установите MULTI/JOINT® 3000 Plus на конец трубы и удалите транспортировочный хомут!
SE	Skjut MULTI/JOINT® 3000 Plus kopplingen på røret och ta bort transportsäkringarna (clip)!

UM/MJ/DN625-DN1025/07-24

08^b

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



UM/MJ/DN625-DN1025/07-24

User Manual

MULTI/JOINT® 3000 Plus

DN625 - DN1025

09^a

CHECK TABLE FOR INSTALLATION TORQUE AND PRESSURE RATING**

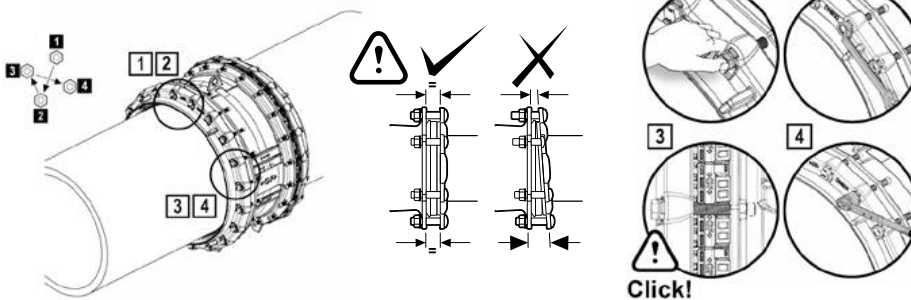
		RESTRAINT					NON-RESTRAINT	
MULTI/JOINT® 3000 Plus with Fikser				MULTI/JOINT® 3000 Plus without Fikser				
(S)St, DCI, GCI, AC*, GRP*, PVC, PE, PEX Consult Georg Fischer for CU, PP, ABS				(S)St, DCI, GCI, AC, GRP, PVC, PE, PEX Consult Georg Fischer for CU, PP, ABS				
DN	Torque (Nm)		PFA water (bar)	DN	Torque (Nm)	PFA water (bar)		
	Metal	Non metal						
DN625	200	140	10	DN625	140	16		
DN675								
DN700								
DN750								
DN800								
DN825								
DN900								
DN925								
DN1000								
DN1025								

* NO guarantee as quality varies! ** All fittings PN16 rated, see restraint table for pull out restraint forces

UM/MJ/DN625-DN1025/07-24

09^b

TIGHTEN THE BOLTS WITH THE CORRECT TORQUE



DE	Der Tabelle das richtige Schraubendreh-moment entnehmen und Schrauben fachgerecht anziehen. Die Verwendung eines Drehmomentschlüssels ist zwingend erforderlich. Beim Anziehen der Schrauben ist die Einstecktiefe zu kontrollieren.
NL	Zie de tabel voor het juiste aandraaimoment.
CZ	Zkontrolujte v tabulce správný utahovací moment.
DK	Det rigtige tilspændingsmoment findes i tabellen.
ES	Ver tabla para el par de apriete.
FI	Tarkista taulukosta oikea vääntömomentti.
FR	Vérifiez dans les tableaux le couple de serrage à respecter.
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.

HU	Ellenőrizze a táblázatot a megfelelő nyomaték érdekében.
IT	Controllare la tabella per il serraggio.
NO	Mutrene strammes i kryss, da man skal holde samme avstand mellom koblingshus og trykkflens(gland). Etterstram med en momentnøkkel iht. momenttabell.
PL	Odczytaj z tabeli odpowiedni moment dokręcania śrub.
PT	Ver na tabela a força de aperto.
RO	Se verifica in tabel valoarea momentului de stangere.
RU	Проверить по таблице соответствующий момент затяжки болтов.
SE	Kontrollera i tabell korrekt åtdragningsmoment.

UM/MJ/DN625-DN1025/07-24

User Manual
MULTI/JOINT® 3000 Plus
DN625 - DN1025

10

≤ 0 °C **ONLY ON PE PIPE**, APPLY TORQUE (PRESCRIBED UNDER 9)
ONE MORE TIME AFTER 30 MINUTES



< 0 °C

→



30 min.

→

9

DE

Nur für Einsatz auf PE Röhren bei Temperaturen ≤ 0 °C, das unter 9 ermittelte Schraubendrehmoment nach 30 Minuten noch einmal aufbringen.

NL

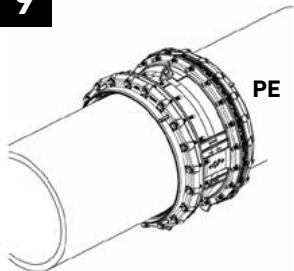
Alleen bij montage op PE bij temperaturen onder 0 °C, het (onder 9) voorgeschreven draaimoment na 30 minuten nog eenmaal aanbrengen.

FR

Répétez l'étape 9 après 30 minutes seulement sur des tubes en PE en temps glacial.

HU

≤ 0 °C fagypont alatti hőmérsékleten, csak PE csöveken, 30 perc elteltével újra nyomatékra kell húzni a 11. oldalon leírtak szerint.





≥ 0 °C

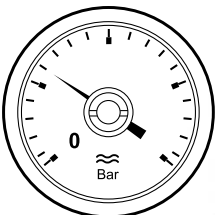
→

11

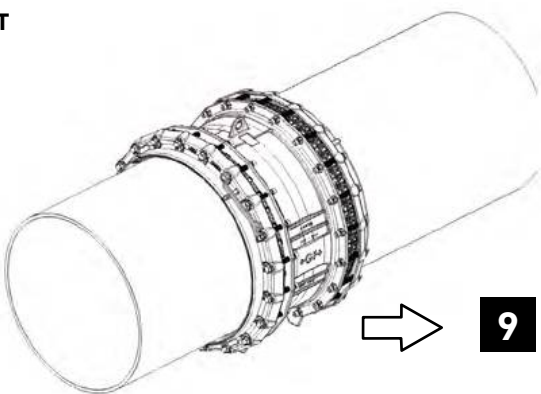
UM/MJ/DN625-DN1025/07-2

11

CONDUCT A PRESSURE TEST



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



→

9

DE

Dichtheitsprüfung durchführen.

NL

Voer een druktest uit.

CZ

Provést tlakovou zkoušku.

DK

Gennemfør en trykprøvning.

ES

Realizar un test de presión.

FI

Aseta painetesti.

FR

Procédez à un essai de pression.

GR

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

HU

Hajtson végre nyomáspróbát.

IT

Fare test in pressione.

NO

Utfør tryktest på hele installasjonen, med minimum det aktuelle driftstrykk for anlegget dekkes til.Trykktestingen må ikke overstige 1,5 x PFA (max arbeidstrykk) i henhold til tabellen.

PL

Przeprowadź próbę ciśnieniową.

PT

Efetuar teste de pressão.

RO

Se realizeaza un test de presiune.

RU

Провести опрессовку.

SE

Utför tryckprovning.

UM/MJ/DN625-DN1025/07-24

140

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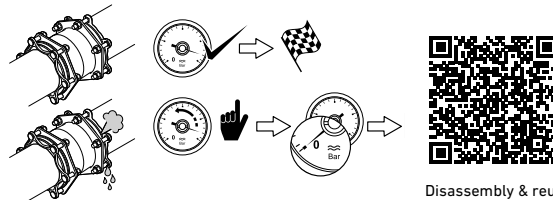
User Manual

MULTI/JOINT® 3000 Plus

DN625 - DN1025

12

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



Disassembly & reuse

DE	Falls die Dichtheitsprüfung eine Undichtheit aufzeigt, den Montagevorgang wiederholen - nach wiederholter, erfolgreicher Dichtheitsprüfung ist die Montage abgeschlossen.
NL	Druktest negatief → opnieuw installeren. Test OK → installatie gereed.
CZ	Tlaková zkouška není OK → tvarovku znovu namontovat. Tlaková zkouška OK → konec instalace.
DK	Trykprøvning negativ → Re-installer kobling. Test OK → installationen er udført.
ES	Test de Presion Fallo → Reinstalar el accesorio. Test OK → Instalacion completada.
FI	Paine testi hylätty → asenna uudelleen. Testi OK → asennus suoritettu.
FR	Mauvais résultat d'essai → réinstallez le raccord. Essai réussi → l'installation est terminée.
GR	Σε περίπτωση που η εγκατάσταση αποτύχει και υπάρχει διαρροή στη σύνδεση → Επανα-εγκαταστήσετε το σύνδεσμο. Σε περίπτωση που η δεν παρατηρηθεί διαρροή στη σύνδεση → η εγκατάσταση του συνδέσμου επί του αγωγού έχει ολοκληρωθεί με επιτυχία.

HU	Nyomás próba sikertelen → végezze el újra az idom felhelyezését. Próba sikeres → felhelyezés befejezve.
IT	Se test negativo → Reinstallare. Se test positivo → Installazione finita.
NO	Trykkprøving negativ → Re-installer kobling. Test OK → installasjon er utført.
PL	Nieudana próba → Ponowny montaż łącznika. Udana próba → montaż zakończony.
PT	Teste de pressão falhou → Voltar a instalar o acessório. Teste OK → Instalação terminada.
RO	Daca testul de presiune esueaza → Se reinstaleaza fittingul. Daca rezultatul testului este OK → Instalare terminata.
RU	Опрессовка не пройдена → Установить фитинг снова. Опрессовка пройдена → Установка завершена.
SE	Tryckprovning falerar → Ommontera rördelen. Test OK → installation avslutad.

UM/MJ/DN625-DN1025/07-24

ST-System

DN40 - DN2200

Georg Fischer Waga N.V.

ST-System
DN40-DN2200



+GF+

User manual	EN
Montageanleitung	DE
Montagehandleiding	NL
Návod k montáži	CZ
Montagevejledning	DK
Manual de instalacion	ES
Käyttömanuaali	FI
Manuel d'instruction	FR
Εγχειρίδιο χρήσης	GR
Szerelési utasítás	HU
Manuale d'uso	IT
Brukermanual	NO
Instrukcja Obsługi	PL
Manual de instalação	PT
Manualul utilizatorului	RO
Руководство по установке	RU
Användarmanual	SE

User Manual ST-System/07-24

01

CHECK TABLE FOR MAXIMUM RANGE OF DEDICATED FITTING

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

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

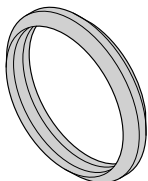
User Manual ST-System/07-24

User Manual
ST-System
DN40 - DN2200

02

CHECK THE SEAL

NBR



NBR



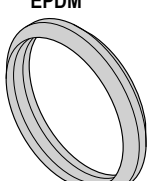
✓

NBR



✓

EPDM



EPDM



✓

EPDM



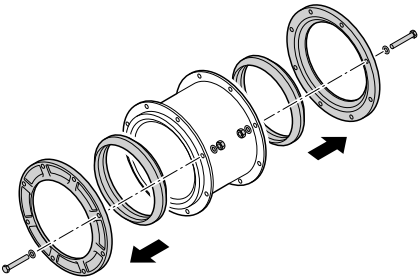
✗

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

* Depends on ordered dedicated fitting.

03

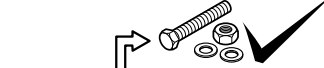
DISASSEMBLE THE FITTING FOR INSTALLATION

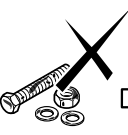


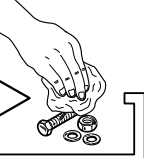
User Manual ST-System/07-24

04

CHECK THE BOLTS



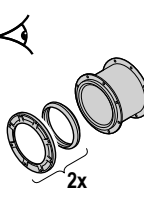


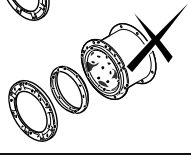


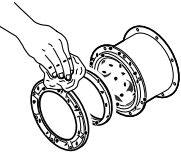


05

MAKE SURE THE FITTING IS CLEAN







User Manual ST-System/07-24

+GF+

143

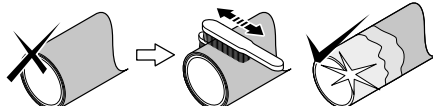
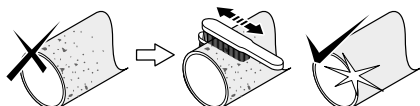
User Manual

ST-System

DN40 - DN2200

06

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



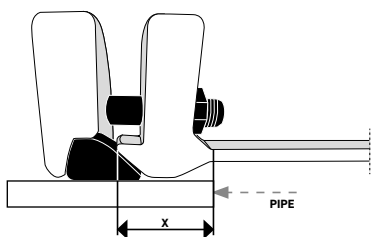
DE	Von der drucktragenden Rohroberfläche allen Rost, Grat, Schmutz, Schäden und alle Beschichtungen entfernen.
NL	Verwijder alle roest, vuil, bramen, beschadigingen en buislagen. Monteer alleen op de mediumvoerende buis.
CZ	Odstranit všechny nečistoty, rez, ořepy a všechny dodatečné vrstvy z povrchu trubky. Montovat pouze na trubky určené pro transport médií.
DK	Fjern al rust, snavs, spåner, beskadigelser og alle belægninger på røret. Monter kun på selve det medie bærende rør.
ES	Retirar toda la suciedad, polvo, daños y etiquetas de la tubería. Montar solamente entre tubos.
FI	Poista kaikki ruoste, lika, taite, vauriot ja kasaumat putkesta. Asenna ainoastaan keskivahvalle putkelle.
FR	Éliminez 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.
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.

HU	Távolítsa el minden rozsdát, szennyeződést, sorját, sérüléseket és minden fedőréteget a csőről. Csak közvetlenül a közeg szállító csőanyagra helyezze fel az idomot.
IT	Rimuovere sporczia, polvere, intagli e gli strati superficiali della tubazione. Il montaggio deve avvenire sullo strato a contatto del fluido trasportato.
NO	Fjern all rust, løs overflate samt skader på materialet og overflatebehandling.
PL	Usuń wszelkiego rodzaju uszkodzenia, zabrudzenia, zadrapania, rdzę i wierzchnie warstwy na długości rury pokrytej przez łącznik.
PT	Remover oxidação, sujidade, rebarbas, e revestimento do tubo.
RO	Îndepartati praful, crestaturile, murdaria, defectele precum si toate straturile de acoperire de pe teava. Se monteaza doar pe materialul conductei.
RU	Удалить любые загрязнения, ржавчину, задиры и напылы, а так же покрытия с поверхности трубы. Устанавливать только на основной материал трубы.
SE	Avlägsna all rost, smuts, grader och eventuell ytbehandling från røret. Montera endast på mediabärande rörmaterial.

User Manual ST-System/07-24

07

CHECK TABLE FOR MINIMUM INSERTION DEPTH (X)



DN	X min. insertion depth (mm)	DN	X min. insertion depth (mm)	DN	X min. insertion depth (mm)
DN100	30	DN400	45	DN1200	90
DN125	30	DN500	50	DN1300	90
DN150	35	DN600	60	DN1400	95
DN200	35	DN700	60	DN1500	95
DN250	45	DN800	70	DN1600	100
DN300	45	DN900	70	>DN1600	on request
DN350	45	DN1000	70		

DE	Aus der Tabelle die Einstecktiefe entnehmen.
NL	Zie de tabel voor de minimale insteekdiepte (X).
CZ	Zkontrolujte v tabulce správnou hloubku zasunutí (X).
DK	Kontroller med tabellen for korrekt indstiksdybde (X).
ES	Ver tabla para la profundidad de inserción mínima.
FI	Tarkista taulukosta oikea asennus syvyys.
FR	Vérifiez sur le tableau la profondeur d'insertion correcte du tube.
GR	Συμβουλευτείτε τον πίνακα για την υπόδειξη του κατάλληλου βάθους εισαγωγής (X) του συνδέσμου στον αγωγό.

HU	Ellenőrizze a táblázatot a megfelelő betölési mélység érdekében (X).
IT	Controllare sulla tabella la profondità di inserimento (X).
NO	Sjekk med tabell for korrekt innstikksdybde (X).
PL	Korzystając z tabeli określ głębokość nasunięcia łącznika (X).
PT	Ver na tabela a profundidade (X) de inserção do tubo no acessório.
RO	Se verifica în tabel adâncimea corectă de inserare (X).
RU	Проверить по таблице значение глубины ввода трубы (X).
SE	Kontrollera i tabellen korrekt insticksdjup (X).

User Manual ST-System/07-24

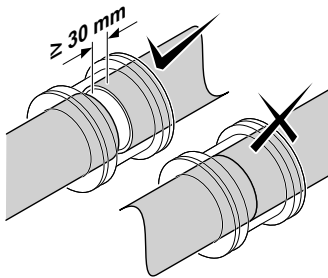
User Manual

ST-System

DN40 - DN2200

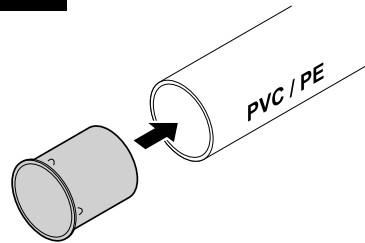
08

MINIMUM DISTANCE BETWEEN PIPE/FITTING END



10

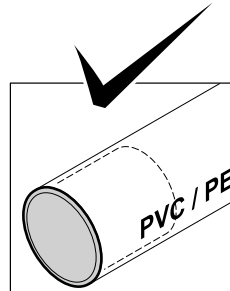
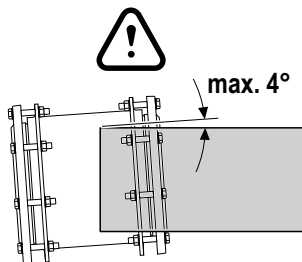
USE INSERTS FOR PE/PVC



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

09

NOMINAL ANGULARITY

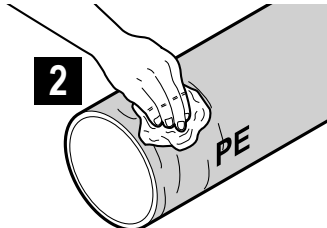
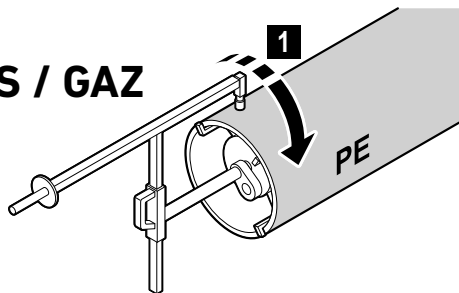


User Manual ST-System/07-24

11

USE AN (BY GEORG FISCHER) APPROVED SCRAPING TOOL

⚠ **GAS / GAZ**



DE	Für PE-Rohre ist ein Georg Fischer Schälgerät zu verwenden.
NL	Gebruik een door Georg Fischer goedgekeurde schiller.
CZ	Použit škrabku (schválenou Georg Fischer).
DK	Brug et (af Georg Fischer) godkendt skrabeværktøj.
ES	Utilizar un rascador circular Georg Fischer.
FI	Käytä (Georg Fischer) hyväksymää karhennus työkalua.
FR	Utilisez un grattoir mécanique approuvé par Georg Fischer.
GR	Για τις εργασίες καθαρισμού και λείανσης χρησιμοποιείστε το κατάλληλο (από την Georg Fischer) εργαλείο.

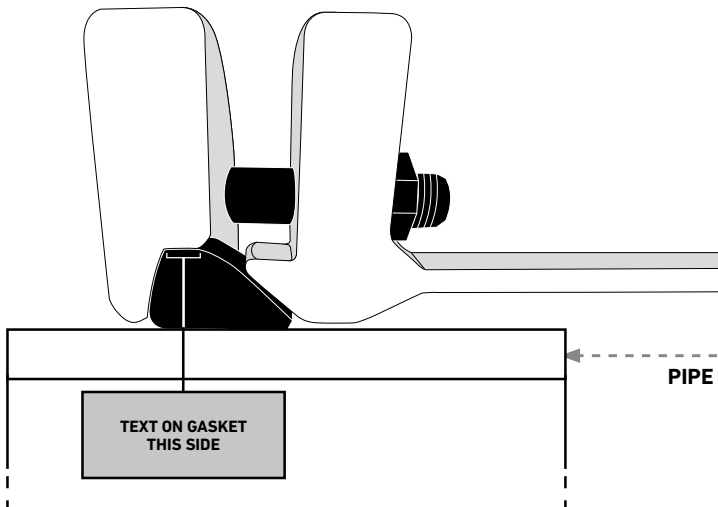
HU	Használjon (Georg Fischer által jóváhagyott) hántoló szerszámot.
IT	Utilizzare in raschiatore approvato da Georg Fischer.
NO	Bruk skrapeverktøy godkjent av Georg Fischer.
PL	Użyj skrobaka (Georg Fischer) do przygotowania rury.
PT	Usar uma ferramenta (Georg Fischer) adequada.
RO	Se va utiliza un dispozitiv de raschetat recomandat (de Georg Fischer).
RU	Использовать только разрешенный (компанией Georg Fischer) инструмент для зачистки.
SE	Använd ett (av Georg Fischer) godkänt skrapverktyg.

User Manual ST-System/07-24

User Manual
ST-System
DN40 - DN2200

12

CORRECT POSITION OF THE CLAMP RING AND GASKET



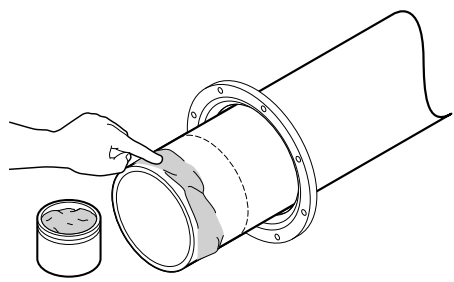
TEXT ON GASKET
THIS SIDE

PIPE

User Manual ST-System/07-24

13

APPLY SUITABLE GREASE



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

User Manual ST-System/07-24

User Manual
ST-System
DN40 - DN2200

14

ASSEMBLE THE FITTING ON THE PIPE

15

ASSEMBLE THE FITTING ON THE PIPE

16

ASSEMBLE THE FITTING ON THE PIPE

User Manual ST-System/07-24

17

CHECK TABLE FOR CORRECT TORQUE

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

DE

Der Tabelle das richtige Schraubendrehmoment entnehmen.

NL

Zie de tabel voor het juiste aandraaimoment.

CZ

Zkontrolujte v tabulce správný utahovací moment.

DK

Det rigtige tilspændingsmoment findes i tabellen.

ES

Ver tabla para el par de apriete.

FI

Tarkista taulukosta oikea vääntömomentti.

FR

Vérifiez dans les tableaux le couple de serrage à respecter.

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.

HU

Ellenőrizze a táblázatot a megfelelő nyomaték érdekében.

IT

Controllare la tabella per il serraggio.

NO

Mutrene strammes i kryss, da man skal holde samme avstand mellom koblingshus og trykkflens(gland). Etterstram med en momentnøkkel iht. Momenttabell.

PL

Odczytaj z tabeli odpowiedni moment dokręcania śrub.

PT

Ver na tabela a força de aperto.

RO

Se verifica in tabel valoarea momentului de stangere.

RU

Проверить по таблице соответствующий момент затяжки болтов.

SE

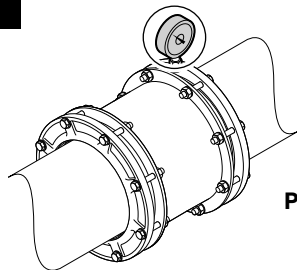
Kontrollera i tabell korrekt åtdragningsmoment.

User Manual ST-System/07-24

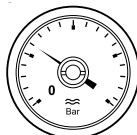
User Manual
ST-System
DN40 - DN2200

18

CONDUCT A PRESSURE TEST



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



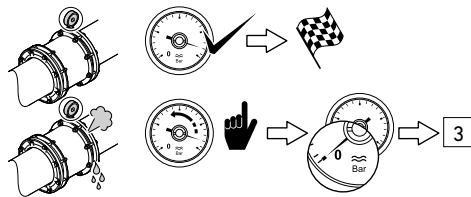
Water: 10, 16 or 25 bar*
Gas: 4 bar*
* Depends on ordered dedicated fitting.

DE	Dichtheitsprüfung durchführen.	HU	Hajtsón végre nyomáspróbát.
NL	Voer een druktest uit.	IT	Fare test in pressione.
CZ	Provést tlakovou zkoušku.	NO	Utfør trykktest på hele installasjonen, med minimum det aktuelle driftstrykk før anlegget dekkes til. Trykktestingen må ikke overstige 1,5 x PFA (max arbeidstrykk) i henhold til tabellen.
DK	Gennemfør en trykprøvning.	PL	Przeprowadź próbę ciśnieniową.
ES	Realizar un test de presión.	PT	Efectuar teste de pressão.
FI	Aseta painetesti.	RO	Se realizeaza un test de presiune.
FR	Procédez à un essai de pression.	RU	Провести опрессовку.
GR	Για τον έλεγχο της στεγανότητας της σύνδεσης πραγματοποιείστε δοκιμή υπό πίεση στον αγωγό για τυχόν διαρροές.	SE	Utför tryckprovning.

User Manual ST-System/07-24

19

PRESSURE TEST FAIL → REINSTALL FITTING
TEST OK → INSTALLATION FINISHED

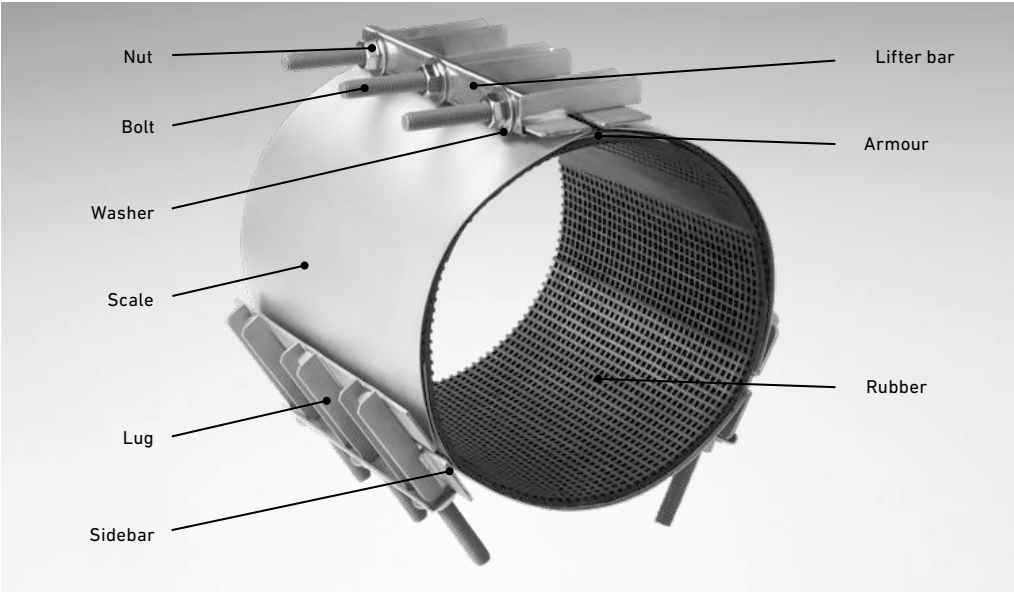


DE	Falls die Dichtheitsprüfung eine Undichtheit aufzeigt, den Montagevorgang wiederholen - nach wiederholter, erfolgreicher Dichtheitsprüfung ist die Montage abgeschlossen.	HU	Nyomás próba sikertelen → Végezze el újra az idom felhelyezését. Próba sikeres → Felhelyezés befejezve.
NL	Druktest negatief → Opnieuw installeren. Test OK → Installatie gereed.	IT	Se test negativo → Reinstallare. Se test positivo → Installazione finita.
CZ	Tlaková zkouška není OK → Tvarovku znovu namontovat. Tlaková zkouška OK → Konec instalace.	NO	Trykktøving negativ → Re-installer kobling. Test OK → Installasjon er utført.
DK	Trykprøvning negativ → Re-installér kobling. Test OK → Installationen er udført.	PL	Nieudana próba → Ponowny montaż łącznika. Udana próba → Montaż zakończony.
ES	Test de Presion Fallo → Reinstalar el accesorio. Test OK → Instalacion completada	PT	Teste de pressão falhou → Voltar a instalar o acessório. Teste OK → Instalação terminada.
FI	Paine testi hylätty → Asenna uudelleen. Testi OK → Asennus suoritettu.	RO	Daca testul de presiune esueaza → Se reinstaleaza fittingul. Daca rezultatul testului este OK → Instalare terminata.
FR	Mauvais résultat d'essai → Réinstallez le raccord. Essai réussi → l'Installation est terminée.	RU	Опрессовка не пройдена → Установить фитинг снова. Опрессовка пройдена → Установка завершена.
GR	Σε περίπτωση που η εγκατάσταση αποτύχει και υπάρχει διαρροή στη σύνδεση → Επανα-εγκαταστήσετε το σύνδεσμο. Σε περίπτωση που η δεν παρατηρηθεί διαρροή στη σύνδεση → η εγκατάσταση του συνδέσμου επί του αγωγού έχει ολοκληρωθεί με επιτυχία.	SE	Tryckprovning falerar → Ommontera rördelen. Test OK → Installation avslutad.

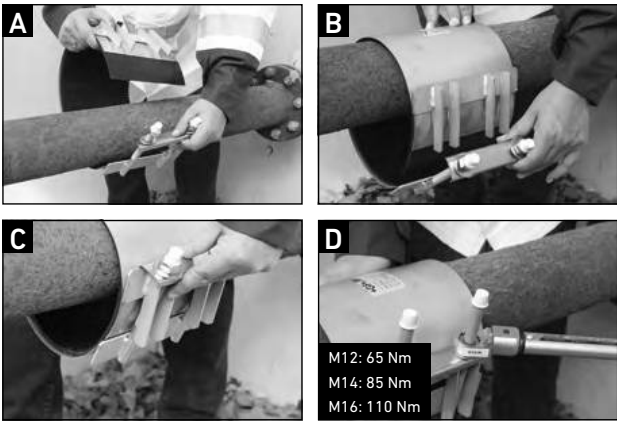
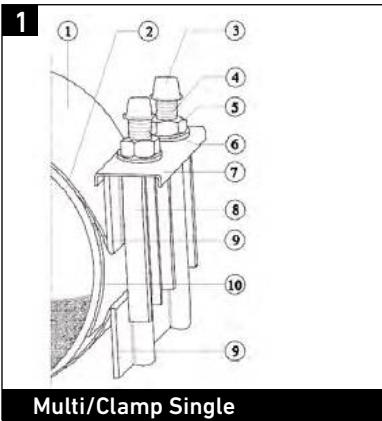
User Manual ST-System/07-24

Multi/Clamp

Multi/Clamp

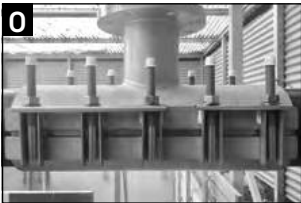
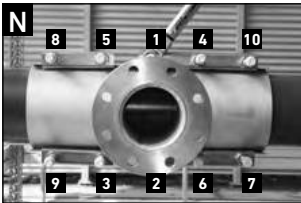
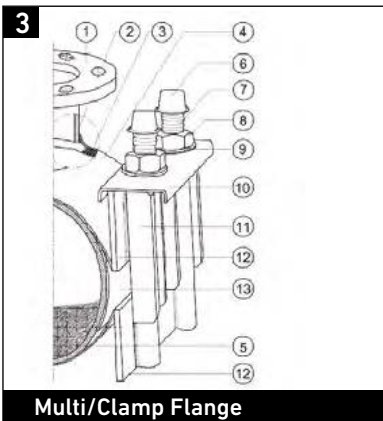
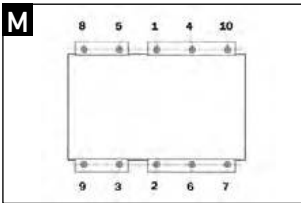
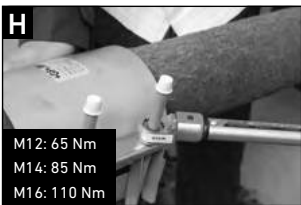
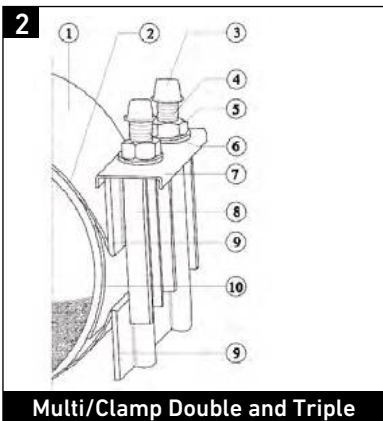


Multi/Clamp Single (1)



User Manual
Multi/Clamp

Multi/Clamp Double and Triple (2), Flange (3)



User Manual

Multi/Clamp

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.

User Manual

Multi/Clamp

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

EN

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.

User Manual

Multi/Clamp

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 (0).

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.

User Manual

Multi/Clamp

Instruction Manual - Multi/Clamp Flange and Thread (3)

EN

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 confirm that the clamp has been properly positioned.

User Manual

Multi/Clamp

Instruction Manual - Multi/Clamp Flange and Thread (3)

EN

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.

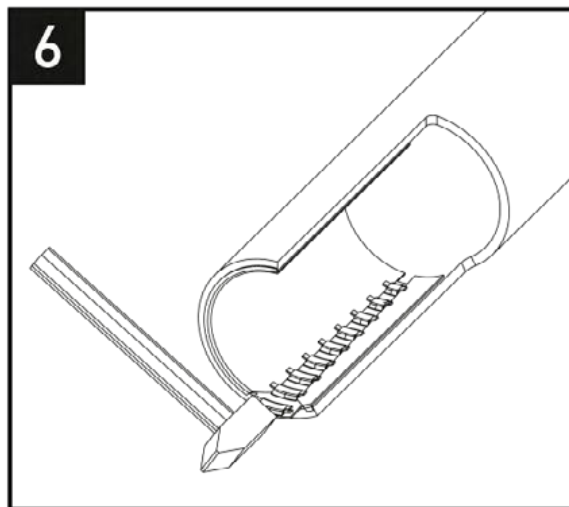
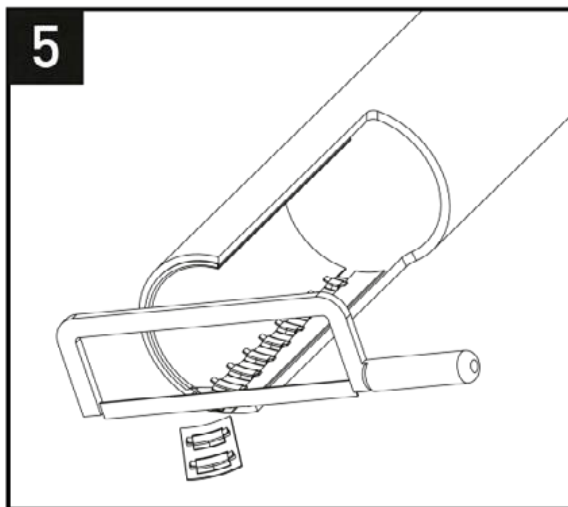
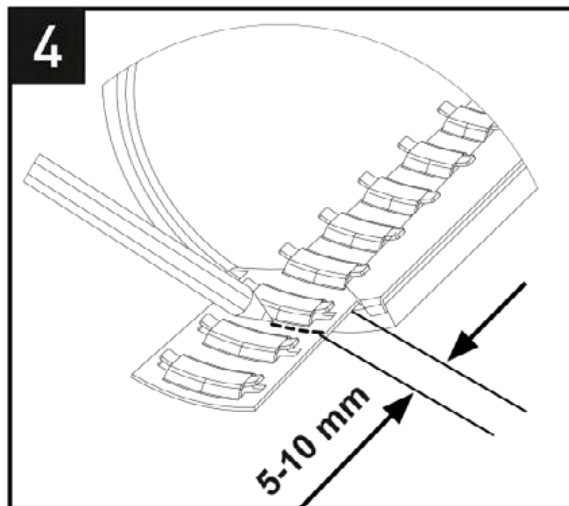
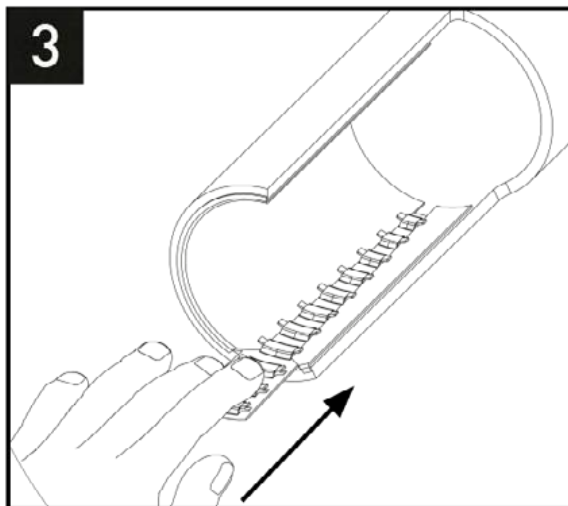
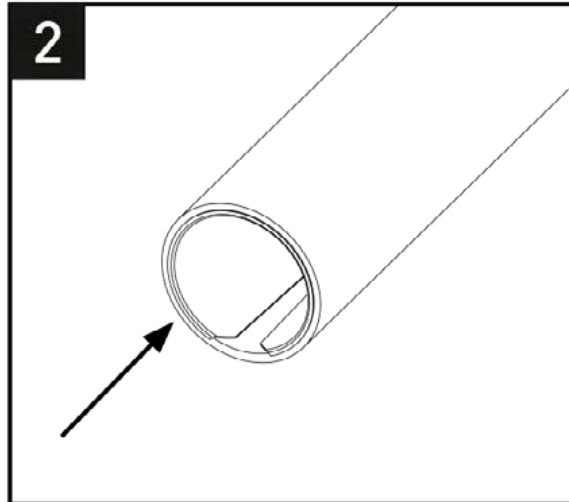
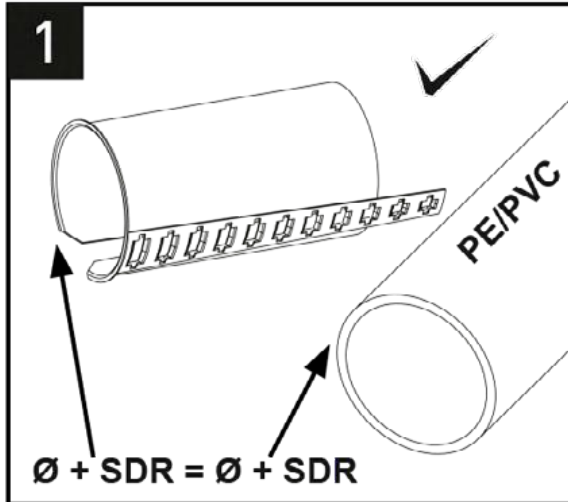
5. Testing the installation



Always take safety precautions.

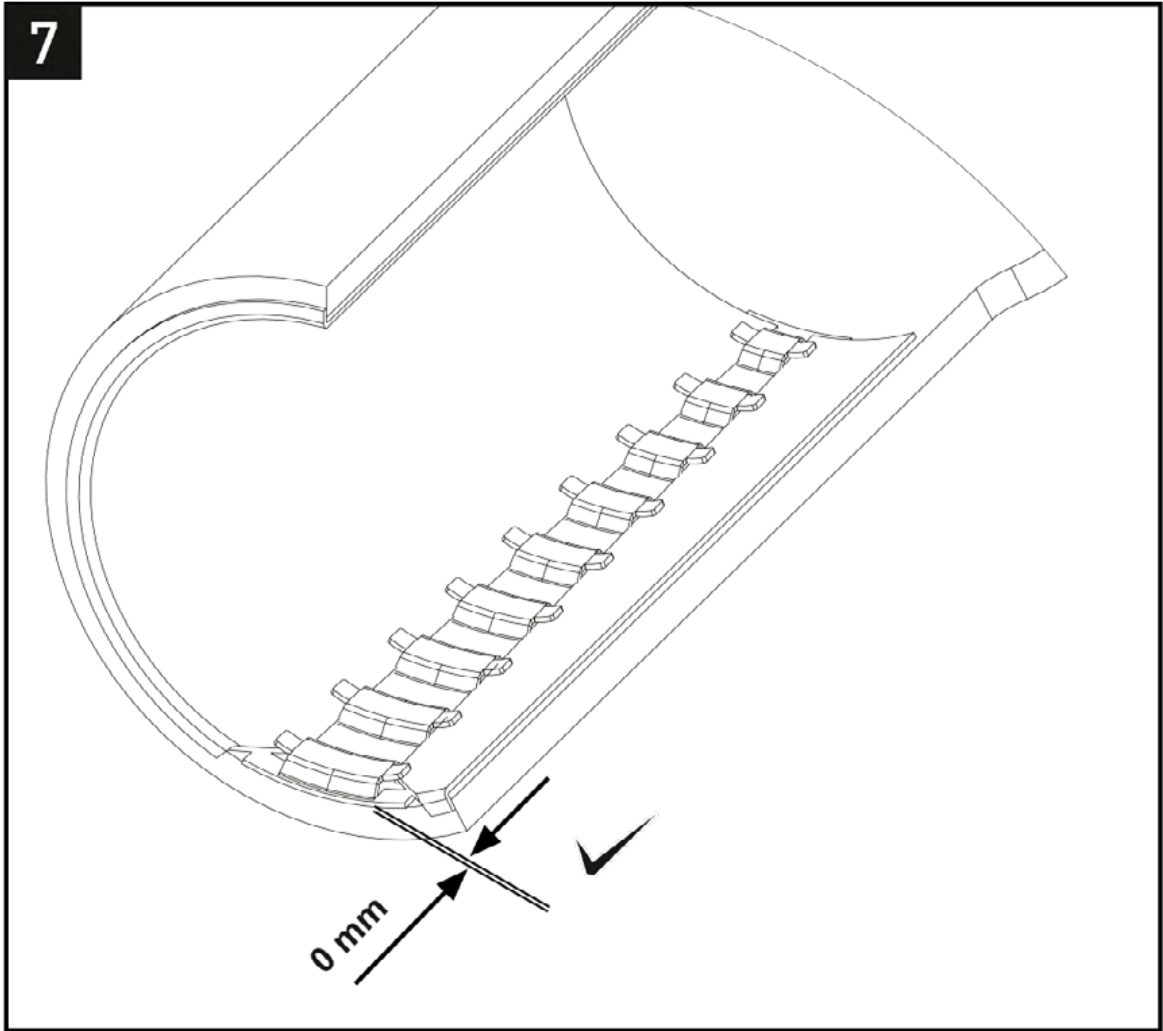
- Always pressure test with no more than the intended working pressure before backfilling the ditch. If leakage occurs repeat step 2 and 3, retighten to proper torque according to step 3 and 4. Then pressure test again.
- Backfill carefully around the installed clamp.

Insert Stiffener with wedge

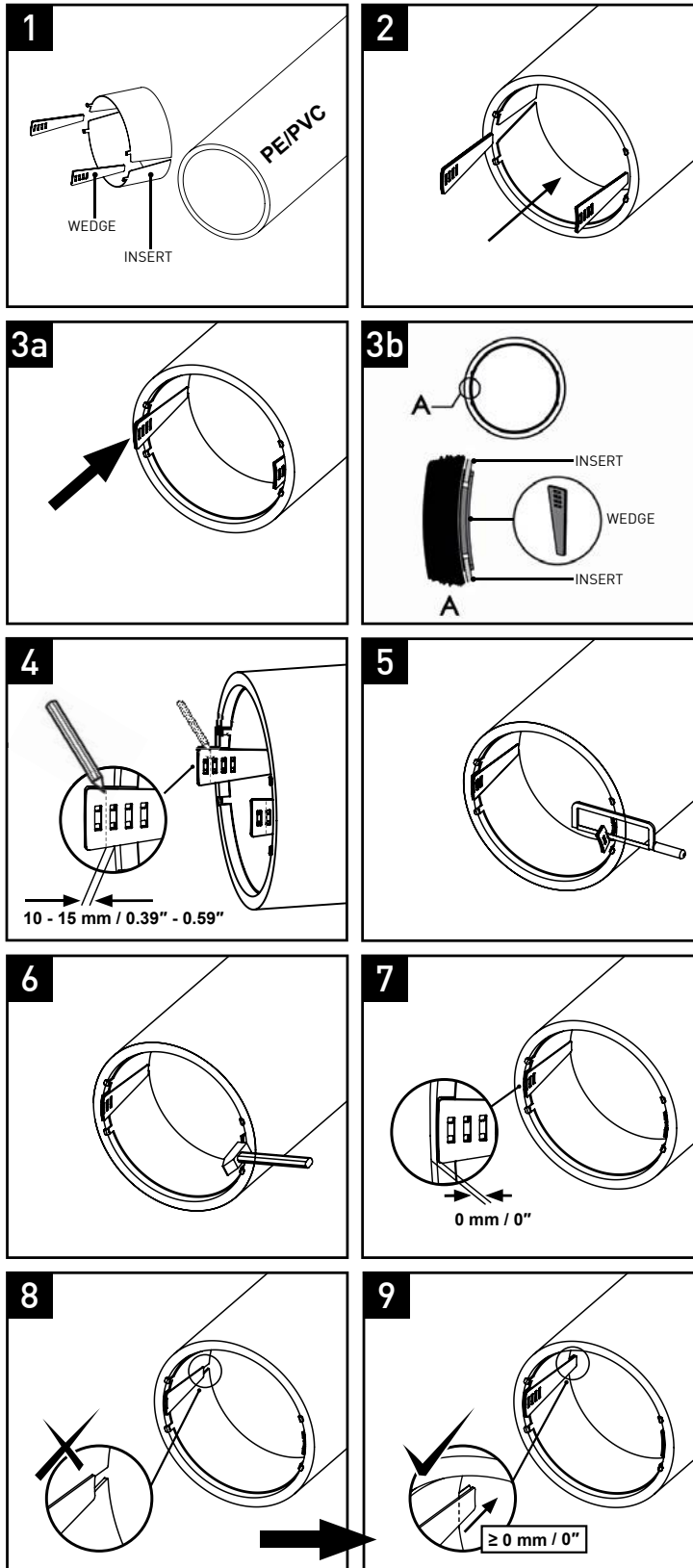


User Manual

Insert Stiffener with wedge



Insert Stiffener with wedge MJ DN625 - DN1000





When using a MULTI/JOINT® 3000 Plus in the ranges DN625 till DN1000 on plastic pipes, the use of the **Insert Stiffener MJ DN625 - DN1000** 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 and waste water; GF 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 DN1025, 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 on the next page).

Separated bolt sets

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

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.

Ambient temperature at installation

The mechanical joints with EPDM gasket shall be suitable for installation at ambient temperatures between -20°C and +50°C.

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.

DN size	Min. range (mm)	Max. range (mm)	Min. length fitting (mm)	Min. length flange adaptor (mm)
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
750	745	777	667	434
800	799	831	667	431
825	837	869	667	455
900	899	931	730	474
925	939	971	730	517
1000	994	1026	730	474
1025	1042	1074	730	517

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 and 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® 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 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 50°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.

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

DN size	Min. range (mm)	Max. range (mm)	Min. length fitting (mm)	Min. length flange adaptor (mm)
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

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/GASTAQ AR 208 certificate.

Material specifications	
Body and 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® 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 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 and gas

Tender specification for dedicated-sized fittings for use in fluids like potable water, sewage and waste water and gas; GF 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.
- 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.

Material specifications	
Body and 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 and 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 and 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.



Index and conditions

Index

Code	Page	Code	Page	Code	Page	Code	Page
108-128L300N	84	700 618 958	55	709 026 128	51	709 026 310	49
108-128L400N	85	700 618 959	56	709 026 129	51	709 026 314	49
108-128L500N	85	700 618 960	56	709 026 131	51	709 026 317	49
118-138L300N	84	700 618 961	56	709 026 132	51	709 026 326	49
118-138L400N	85	700 618 962	56	709 026 138	51	709 026 329	49
118-138L500N	85	700 618 963	55	709 026 139	51	709 026 332	49
133-153L300N	84	700 618 964	55	709 026 140	51	709 026 334	49
133-153L400N	85	700 618 965	55	709 026 144	53	709 026 338	49
133-153L500N	86	700 618 966	55	709 026 145	51	709 026 340	49
143-163L300N	84	700 618 967	55	709 026 147	51	709 026 341	50
143-163L400N	85	700 618 968	55	709 026 148	51	709 026 350	50
143-163L500N	86	709 026 012	50	709 026 149	51	709 026 353	50
160-180L300N	84	709 026 015	50	709 026 158	51	709 026 356	50
160-180L400N	85	709 026 016	50	709 026 159	51	709 026 358	50
160-180L500N	86	709 026 018	50	709 026 168	51	709 026 362	50
180-200L300N	84	709 026 019	50	709 026 169	51	709 026 365	50
180-200L400N	85	709 026 021	51	709 026 172	51	709 026 391	49
180-200L500N	86	709 026 022	50	709 026 178	51	709 026 392	49
190-210L300N	84	709 026 024	50	709 026 179	51	709 026 408	49
190-210L400N	85	709 026 026	50	709 026 182	51	709 026 409	49
190-210L500N	86	709 026 027	50	709 026 183	51	709 026 410	49
210-230L300N	84	709 026 032	50	709 026 184	51	709 026 411	49
210-230L400N	85	709 026 035	50	709 026 186	51	709 026 413	50
210-230L500N	86	709 026 036	50	709 026 187	51	709 026 414	50
230-250L300N	84	709 026 038	50	709 026 188	51	709 026 415	49
230-250L400N	85	709 026 039	50	709 026 189	51	709 026 450	51
230-250L500N	86	709 026 042	50	709 026 191	51	709 026 451	51
240-260L300N	84	709 026 043	53	709 026 192	51	709 026 452	51
240-260L400N	85	709 026 045	50	709 026 195	51	709 026 453	51
240-260L500N	86	709 026 046	50	709 026 196	51	709 026 455	51
250-270L300N	84	709 026 048	50	709 026 198	51	709 026 456	51
250-270L400N	85	709 026 049	50	709 026 199	51	709 026 457	52
250-270L500N	86	709 026 052	50	709 026 203	49	709 026 458	52
270-290L300N	84	709 026 054	50	709 026 206	49	709 026 459	52
270-290L400N	85	709 026 056	50	709 026 207	49	709 026 460	52
270-290L500N	86	709 026 058	50	709 026 211	49	709 026 465	52
290-310L300N	84	709 026 062	50	709 026 214	49	709 026 466	52
290-310L400N	85	709 026 063	50	709 026 217	49	709 026 467	52
290-310L500N	86	709 026 066	50	709 026 220	49	709 026 468	52
315-335L300N	84	709 026 067	50	709 026 223	49	709 026 469	52
315-335L400N	85	709 026 070	50	709 026 227	49	709 026 470	52
315-335L500N	86	709 026 072	50	709 026 230	49	709 026 472	51
315-335L600N	86	709 026 074	50	709 026 233	49	709 026 473	51
335-355L300N	84	709 026 076	50	709 026 236	49	709 026 474	51
335-355L400N	85	709 026 079	50	709 026 238	49	709 026 475	51
335-355L500N	86	709 026 082	50	709 026 242	49	709 026 477	51
335-355L600N	86	709 026 086	50	709 026 245	49	709 026 478	51
700 618 923	55	709 026 088	50	709 026 248	49	709 026 479	52
700 618 924	55	709 026 092	50	709 026 250	49	709 026 480	52
700 618 925	55	709 026 094	50	709 026 254	49	709 026 481	52
700 618 926	55	709 026 096	50	709 026 257	49	709 026 482	52
700 618 927	55	709 026 101	50	709 026 266	49	709 026 487	52
700 618 928	55	709 026 102	50	709 026 269	49	709 026 488	52
700 618 929	55	709 026 105	50	709 026 278	49	709 026 489	52
700 618 933	55	709 026 106	50	709 026 281	49	709 026 490	52
700 618 934	55	709 026 115	51	709 026 284	49	709 026 491	52
700 618 935	55	709 026 116	51	709 026 286	49	709 026 492	52
700 618 953	55	709 026 123	51	709 026 290	49	709 026 503	52
700 618 954	55	709 026 124	51	709 026 293	49	709 026 506	52
700 618 955	55	709 026 125	51	709 026 302	49	709 026 511	52
700 618 956	55	709 026 126	51	709 026 305	49	709 026 514	52
700 618 957	55	709 026 127	51	709 026 308	49	709 026 520	52

Index

Code	Page	Code	Page	Code	Page	Code	Page
709 026 523	52	709 301 026	38	709 301 674	38	709 305 372	13
709 026 530	52	709 301 028	38	709 301 676	38	709 305 373	13
709 026 533	52	709 301 032	38	709 301 678	38	709 305 374	13
709 026 542	52	709 301 036	38	709 305 010	13	709 305 376	13
709 026 545	52	709 301 040	38	709 305 012	13	709 305 378	13
709 026 554	52	709 301 042	38	709 305 014	13	709 305 610	13
709 026 557	52	709 301 072	38	709 305 016	13	709 305 612	13
709 026 566	52	709 301 073	39	709 305 018	13	709 305 614	13
709 026 569	52	709 301 074	39	709 305 020	13	709 305 616	13
709 026 578	52	709 301 076	39	709 305 024	13	709 305 618	13
709 026 581	52	709 301 078	39	709 305 026	13	709 305 620	13
709 026 590	52	709 301 210	38	709 305 028	13	709 305 624	13
709 026 593	52	709 301 212	38	709 305 032	13	709 305 626	13
709 026 602	52	709 301 214	38	709 305 036	13	709 305 628	13
709 026 605	52	709 301 216	38	709 305 040	13	709 305 632	13
709 026 614	52	709 301 218	38	709 305 042	13	709 305 636	13
709 026 617	53	709 301 220	38	709 305 072	13	709 305 640	13
709 026 626	53	709 301 224	38	709 305 073	13	709 305 642	13
709 026 629	53	709 301 226	38	709 305 074	13	709 305 672	13
709 026 638	53	709 301 228	38	709 305 076	13	709 305 673	13
709 026 641	53	709 301 232	38	709 305 078	13	709 305 674	13
709 026 650	53	709 301 236	38	709 305 210	12	709 305 676	13
709 026 653	53	709 301 240	38	709 305 212	12	709 305 678	13
709 026 655	53	709 301 242	38	709 305 214	12	709 305 679	13
709 026 662	53	709 301 272	38	709 305 216	12	709 305 680	13
709 026 708	52	709 301 273	38	709 305 218	12	709 305 681	13
709 026 710	52	709 301 274	38	709 305 220	12	709 305 682	13
709 026 711	53	709 301 276	38	709 305 224	12	709 305 683	13
709 026 712	53	709 301 278	38	709 305 226	12	709 305 684	13
709 026 713	53	709 301 310	38	709 305 228	12	709 305 685	13
709 026 714	53	709 301 312	38	709 305 232	12	709 305 686	13
709 026 801	53	709 301 314	38	709 305 236	12	709 305 687	13
709 026 802	53	709 301 316	38	709 305 240	12	709 305 688	13
709 026 804	53	709 301 318	38	709 305 242	12	709 331 010	47
709 026 806	53	709 301 320	38	709 305 272	12	709 331 016	47
709 026 836	52	709 301 324	38	709 305 273	12	709 331 020	47
709 026 837	52	709 301 326	38	709 305 274	12	709 331 029	47
709 026 838	52	709 301 328	38	709 305 276	12	709 331 210	47
709 026 839	52	709 301 332	38	709 305 278	12	709 331 216	47
709 026 840	52	709 301 336	38	709 305 279	13	709 331 220	47
709 026 841	52	709 301 340	38	709 305 280	13	709 331 229	47
709 026 842	52	709 301 342	38	709 305 281	13	709 331 310	47
709 026 843	52	709 301 372	38	709 305 282	13	709 331 316	47
709 026 910	51	709 301 373	39	709 305 283	13	709 331 320	47
709 026 912	53	709 301 374	39	709 305 284	13	709 331 329	47
709 026 913	53	709 301 376	39	709 305 285	13	709 331 610	47
709 026 914	53	709 301 378	39	709 305 286	13	709 331 616	47
709 026 915	53	709 301 610	38	709 305 287	13	709 331 620	47
709 026 916	53	709 301 612	38	709 305 288	13	709 331 629	47
709 026 917	53	709 301 614	38	709 305 310	13	709 335 010	31
709 026 918	53	709 301 616	38	709 305 312	13	709 335 016	31
709 026 919	53	709 301 618	38	709 305 314	13	709 335 020	31
709 026 920	53	709 301 620	38	709 305 316	13	709 335 029	31
709 026 921	53	709 301 624	38	709 305 318	13	709 335 210	31
709 026 922	53	709 301 626	38	709 305 320	13	709 335 216	31
709 301 010	38	709 301 628	38	709 305 324	13	709 335 220	31
709 301 012	38	709 301 632	38	709 305 326	13	709 335 229	31
709 301 014	38	709 301 636	38	709 305 328	13	709 335 310	31
709 301 016	38	709 301 640	38	709 305 332	13	709 335 316	31
709 301 018	38	709 301 642	38	709 305 336	13	709 335 320	31
709 301 020	38	709 301 672	38	709 305 340	13	709 335 329	31
709 301 024	38	709 301 673	38	709 305 342	13	709 335 610	31

Index

Code	Page	Code	Page	Code	Page	Code	Page
709 335 616	31	709 351 624	40	709 355 313	35	709 365 018	22
709 335 620	31	709 351 628	40	709 355 314	16	709 365 020	22
709 335 629	31	709 351 632	40	709 355 316	16	709 365 024	22
709 341 024	48	709 351 636	40	709 355 318	16	709 365 025	23
709 341 224	48	709 351 638	40	709 355 320	16	709 365 028	23
709 341 324	48	709 351 672	40	709 355 324	16	709 365 032	23
709 341 624	48	709 351 674	40	709 355 328	16	709 365 209	22
709 345 024	32	709 351 676	44	709 355 332	16	709 365 210	22
709 345 224	32	709 351 678	40	709 355 336	16	709 365 211	22
709 345 324	32	709 355 010	15	709 355 338	16	709 365 212	22
709 345 624	32	709 355 011	35	709 355 340	35	709 365 214	22
709 351 010	40	709 355 012	15	709 355 342	35	709 365 215	22
709 351 012	40	709 355 013	35	709 355 344	35	709 365 216	22
709 351 014	40	709 355 014	15	709 355 346	35	709 365 218	22
709 351 016	40	709 355 016	15	709 355 348	35	709 365 220	22
709 351 018	40	709 355 018	15	709 355 350	35	709 365 224	22
709 351 020	40	709 355 020	15	709 355 372	16	709 365 225	22
709 351 024	40	709 355 024	15	709 355 374	16	709 365 228	22
709 351 028	40	709 355 028	15	709 355 376	21	709 365 232	22
709 351 032	40	709 355 032	15	709 355 378	16	709 365 309	22
709 351 036	40	709 355 036	15	709 355 510	37	709 365 310	22
709 351 038	40	709 355 038	15	709 355 512	37	709 365 311	22
709 351 072	40	709 355 040	35	709 355 514	37	709 365 312	22
709 351 074	40	709 355 042	35	709 355 517	37	709 365 314	22
709 351 076	44	709 355 044	35	709 355 521	37	709 365 315	22
709 351 078	40	709 355 046	35	709 355 526	37	709 365 316	22
709 351 210	40	709 355 048	35	709 355 529	37	709 365 318	22
709 351 212	40	709 355 050	35	709 355 533	37	709 365 320	22
709 351 214	40	709 355 072	15	709 355 610	15	709 365 324	22
709 351 216	40	709 355 074	15	709 355 611	35	709 365 325	23
709 351 218	40	709 355 076	20	709 355 612	15	709 365 328	23
709 351 220	40	709 355 078	15	709 355 613	35	709 365 332	23
709 351 224	40	709 355 210	15	709 355 614	15	709 365 609	22
709 351 228	40	709 355 211	35	709 355 616	15	709 365 610	22
709 351 232	40	709 355 212	15	709 355 618	15	709 365 611	22
709 351 236	40	709 355 213	35	709 355 620	15	709 365 612	22
709 351 238	40	709 355 214	15	709 355 624	15	709 365 614	22
709 351 272	40	709 355 216	15	709 355 628	15	709 365 615	22
709 351 274	40	709 355 218	15	709 355 632	15	709 365 616	22
709 351 276	44	709 355 220	15	709 355 636	15	709 365 618	22
709 351 278	40	709 355 224	15	709 355 638	15	709 365 620	22
709 351 310	40	709 355 228	15	709 355 640	35	709 365 624	22
709 351 312	40	709 355 232	15	709 355 642	35	709 365 625	22
709 351 314	40	709 355 236	15	709 355 644	35	709 365 628	22
709 351 316	40	709 355 238	15	709 355 646	35	709 365 632	22
709 351 318	40	709 355 240	35	709 355 648	35	709 375 010	24
709 351 320	40	709 355 242	35	709 355 650	35	709 375 012	24
709 351 324	40	709 355 244	35	709 355 672	15	709 375 014	24
709 351 328	40	709 355 246	35	709 355 674	15	709 375 016	24
709 351 332	40	709 355 248	35	709 355 676	20	709 375 018	24
709 351 336	40	709 355 250	35	709 355 678	15	709 375 020	24
709 351 338	41	709 355 272	15	709 355 682	16	709 375 024	24
709 351 372	41	709 355 274	15	709 355 683	16	709 375 026	24
709 351 374	41	709 355 276	20	709 355 684	16	709 375 028	24
709 351 376	45	709 355 278	15	709 355 685	16	709 375 032	24
709 351 378	41	709 355 282	16	709 365 009	22	709 375 034	24
709 351 610	40	709 355 283	16	709 365 010	22	709 375 210	24
709 351 612	40	709 355 284	16	709 365 011	22	709 375 212	24
709 351 614	40	709 355 285	16	709 365 012	22	709 375 214	24
709 351 616	40	709 355 310	16	709 365 014	22	709 375 216	24
709 351 618	40	709 355 311	35	709 365 015	22	709 375 218	24
709 351 620	40	709 355 312	16	709 365 016	22	709 375 220	24

Index

Code	Page	Code	Page	Code	Page	Code	Page
709 375 224	24	709 385 039	28	709 385 246	26	709 385 353	28
709 375 226	24	709 385 040	28	709 385 247	26	709 385 354	29
709 375 228	24	709 385 041	29	709 385 248	26	709 385 355	29
709 375 232	24	709 385 042	29	709 385 249	25	709 385 356	29
709 375 234	24	709 385 043	29	709 385 250	25	709 385 357	29
709 375 310	24	709 385 044	29	709 385 251	25	709 385 358	29
709 375 312	24	709 385 045	29	709 385 252	25	709 385 604	25
709 375 314	24	709 385 046	29	709 385 253	25	709 385 605	25
709 375 316	24	709 385 047	29	709 385 254	26	709 385 606	25
709 375 318	24	709 385 048	29	709 385 255	26	709 385 607	25
709 375 320	24	709 385 049	28	709 385 256	26	709 385 608	25
709 375 324	24	709 385 050	28	709 385 257	26	709 385 609	25
709 375 326	24	709 385 051	28	709 385 258	26	709 385 610	25
709 375 328	24	709 385 052	28	709 385 304	28	709 385 611	25
709 375 332	24	709 385 053	28	709 385 305	28	709 385 612	25
709 375 334	24	709 385 054	29	709 385 306	28	709 385 613	25
709 375 610	24	709 385 055	29	709 385 307	28	709 385 614	25
709 375 612	24	709 385 056	29	709 385 308	28	709 385 615	25
709 375 614	24	709 385 057	29	709 385 309	28	709 385 616	25
709 375 616	24	709 385 058	29	709 385 310	28	709 385 617	25
709 375 618	24	709 385 204	25	709 385 311	28	709 385 618	25
709 375 620	24	709 385 205	25	709 385 312	28	709 385 619	25
709 375 624	24	709 385 206	25	709 385 313	28	709 385 620	25
709 375 626	24	709 385 207	25	709 385 314	28	709 385 621	25
709 375 628	24	709 385 208	25	709 385 315	28	709 385 622	25
709 375 632	24	709 385 209	25	709 385 316	28	709 385 623	25
709 375 634	24	709 385 210	25	709 385 317	28	709 385 624	25
709 385 004	28	709 385 211	25	709 385 318	28	709 385 625	25
709 385 005	28	709 385 212	25	709 385 319	28	709 385 626	25
709 385 006	28	709 385 213	25	709 385 320	28	709 385 627	25
709 385 007	28	709 385 214	25	709 385 321	28	709 385 628	25
709 385 008	28	709 385 215	25	709 385 322	28	709 385 629	25
709 385 009	28	709 385 216	25	709 385 323	28	709 385 630	25
709 385 010	28	709 385 217	25	709 385 324	28	709 385 631	25
709 385 011	28	709 385 218	25	709 385 325	28	709 385 632	25
709 385 012	28	709 385 219	25	709 385 326	28	709 385 633	25
709 385 013	28	709 385 220	25	709 385 327	28	709 385 634	25
709 385 014	28	709 385 221	25	709 385 328	28	709 385 635	25
709 385 015	28	709 385 222	25	709 385 329	28	709 385 636	25
709 385 016	28	709 385 223	25	709 385 330	28	709 385 637	25
709 385 017	28	709 385 224	25	709 385 331	28	709 385 638	25
709 385 018	28	709 385 225	25	709 385 332	28	709 385 639	25
709 385 019	28	709 385 226	25	709 385 333	28	709 385 640	25
709 385 020	28	709 385 227	25	709 385 334	28	709 385 641	26
709 385 021	28	709 385 228	25	709 385 335	28	709 385 642	26
709 385 022	28	709 385 229	25	709 385 336	28	709 385 643	26
709 385 023	28	709 385 230	25	709 385 337	28	709 385 644	26
709 385 024	28	709 385 231	25	709 385 338	28	709 385 645	26
709 385 025	28	709 385 232	25	709 385 339	28	709 385 646	26
709 385 026	28	709 385 233	25	709 385 340	28	709 385 647	26
709 385 027	28	709 385 234	25	709 385 341	29	709 385 648	26
709 385 028	28	709 385 235	25	709 385 342	29	709 385 649	25
709 385 029	28	709 385 236	25	709 385 343	29	709 385 650	25
709 385 030	28	709 385 237	25	709 385 344	29	709 385 651	25
709 385 031	28	709 385 238	25	709 385 345	29	709 385 652	25
709 385 032	28	709 385 239	25	709 385 346	29	709 385 653	25
709 385 033	28	709 385 240	25	709 385 347	29	709 385 654	26
709 385 034	28	709 385 241	26	709 385 348	29	709 385 655	26
709 385 035	28	709 385 242	26	709 385 349	28	709 385 656	26
709 385 036	28	709 385 243	26	709 385 350	28	709 385 657	26
709 385 037	28	709 385 244	26	709 385 351	28	709 385 658	26
709 385 038	28	709 385 245	26	709 385 352	28	709 390 030	53

Index

Code	Page	Code	Page	Code	Page	Code	Page
709 390 032	53	709 401 278	42	709 405 082	18	709 405 636	17
709 390 034	53	709 401 281	42	709 405 086	18	709 405 638	17
709 390 036	53	709 401 282	42	709 405 088	18	709 405 648	17
709 390 038	53	709 401 286	42	709 405 089	18	709 405 678	17
709 390 040	53	709 401 288	42	709 405 090	18	709 405 681	18
709 390 043	53	709 401 289	42	709 405 092	18	709 405 682	18
709 390 046	53	709 401 290	42	709 405 093	18	709 405 686	18
709 390 048	54	709 401 292	42	709 405 094	18	709 405 688	18
709 390 053	54	709 401 293	42	709 405 095	18	709 405 689	18
709 390 054	54	709 401 294	42	709 405 096	18	709 405 690	18
709 390 056	54	709 401 295	42	709 405 097	18	709 405 691	18
709 390 078	54	709 401 296	42	709 405 218	17	709 405 692	18
709 390 079	54	709 401 297	42	709 405 220	17	709 405 693	18
709 390 080	54	709 401 318	42	709 405 224	17	709 405 694	18
709 390 081	54	709 401 320	42	709 405 232	17	709 405 695	18
709 390 082	54	709 401 324	42	709 405 236	17	709 405 696	18
709 390 083	54	709 401 332	42	709 405 238	17	709 405 697	18
709 390 130	53	709 401 336	42	709 405 248	17	709 405 698	18
709 390 132	53	709 401 338	42	709 405 278	17	709 405 699	18
709 390 134	53	709 401 348	42	709 405 281	17	709 405 700	18
709 390 136	53	709 401 378	42	709 405 282	17	709 405 701	18
709 390 138	53	709 401 381	42	709 405 286	17	709 405 702	18
709 390 140	53	709 401 382	42	709 405 288	17	709 405 703	18
709 390 143	53	709 401 386	42	709 405 289	17	709 405 704	18
709 390 146	53	709 401 388	42	709 405 290	17	709 451 008	44
709 390 148	54	709 401 389	42	709 405 291	18	709 451 018	44
709 390 153	54	709 401 390	42	709 405 292	17	709 451 024	44
709 390 154	54	709 401 392	42	709 405 293	17	709 451 032	44
709 390 156	54	709 401 393	42	709 405 294	17	709 451 036	44
709 390 178	54	709 401 394	43	709 405 295	17	709 451 038	44
709 390 179	54	709 401 395	43	709 405 296	17	709 451 039	44
709 390 180	54	709 401 396	43	709 405 297	17	709 451 078	44
709 390 181	54	709 401 397	43	709 405 298	18	709 451 080	44
709 390 182	54	709 401 618	42	709 405 299	18	709 451 084	44
709 390 183	54	709 401 620	42	709 405 300	18	709 451 086	44
709 401 018	42	709 401 624	42	709 405 302	18	709 451 088	44
709 401 020	42	709 401 632	42	709 405 303	18	709 451 090	44
709 401 024	42	709 401 636	42	709 405 304	18	709 451 092	44
709 401 032	42	709 401 638	42	709 405 318	18	709 451 208	44
709 401 036	42	709 401 648	42	709 405 320	18	709 451 218	44
709 401 038	42	709 401 678	42	709 405 324	18	709 451 224	44
709 401 048	42	709 401 681	42	709 405 332	18	709 451 232	44
709 401 078	42	709 401 682	42	709 405 336	18	709 451 236	44
709 401 081	42	709 401 686	42	709 405 338	18	709 451 238	44
709 401 082	42	709 401 688	42	709 405 348	18	709 451 239	44
709 401 086	42	709 401 689	42	709 405 378	18	709 451 278	44
709 401 088	42	709 401 690	42	709 405 381	18	709 451 280	44
709 401 089	42	709 401 692	42	709 405 382	18	709 451 284	44
709 401 090	42	709 401 693	42	709 405 386	18	709 451 286	44
709 401 092	42	709 401 694	42	709 405 388	18	709 451 288	44
709 401 093	42	709 401 695	42	709 405 389	18	709 451 290	44
709 401 094	43	709 401 696	42	709 405 390	18	709 451 292	44
709 401 095	43	709 401 697	42	709 405 392	18	709 451 308	44
709 401 096	43	709 405 018	17	709 405 393	18	709 451 318	44
709 401 097	43	709 405 020	17	709 405 394	18	709 451 324	44
709 401 218	42	709 405 024	17	709 405 395	18	709 451 332	44
709 401 220	42	709 405 032	17	709 405 396	18	709 451 336	44
709 401 224	42	709 405 036	17	709 405 397	18	709 451 338	44
709 401 232	42	709 405 038	17	709 405 618	17	709 451 339	44
709 401 236	42	709 405 048	17	709 405 620	17	709 451 378	44
709 401 238	42	709 405 078	17	709 405 624	17	709 451 380	45
709 401 248	42	709 405 081	18	709 405 632	17	709 451 384	45

Index

Code	Page	Code	Page	Code	Page	Code	Page
709 451 386	45	709 455 338	21	709 465 616	22	709 597 234	54
709 451 388	45	709 455 339	21	709 465 617	22	709 597 236	54
709 451 390	45	709 455 378	21	709 465 618	22	709 597 238	54
709 451 392	45	709 455 380	21	709 465 619	22	709 597 240	54
709 451 608	44	709 455 384	21	709 465 620	22	709 597 243	54
709 451 618	44	709 455 386	21	709 465 621	22	709 597 246	54
709 451 624	44	709 455 388	21	709 465 624	22	709 597 248	54
709 451 632	44	709 455 389	35	709 465 628	22	709 597 253	54
709 451 636	44	709 455 390	21	709 471 014	46	709 597 254	54
709 451 638	44	709 455 391	35	709 471 016	46	709 597 256	54
709 451 639	44	709 455 392	21	709 471 020	46	709 597 260	55
709 451 678	44	709 455 394	35	709 471 214	46	709 597 262	55
709 451 680	44	709 455 533	37	709 471 216	46	709 597 264	55
709 451 684	44	709 455 539	37	709 471 220	46	709 597 276	55
709 451 686	44	709 455 559	37	709 471 314	46	709 597 277	54
709 451 688	44	709 455 581	37	709 471 316	46	709 597 278	54
709 451 690	44	709 455 608	20	709 471 320	46	709 597 279	54
709 451 692	44	709 455 618	20	709 471 614	46	709 597 280	54
709 455 008	20	709 455 624	20	709 471 616	46	709 597 281	54
709 455 018	20	709 455 632	20	709 471 620	46	709 597 282	54
709 455 024	20	709 455 636	20	709 475 014	33	709 597 283	54
709 455 032	20	709 455 638	20	709 475 016	33	709 597 287	55
709 455 036	20	709 455 639	20	709 475 020	33	709 597 290	54
709 455 038	20	709 455 678	20	709 475 214	33	709 597 291	54
709 455 039	20	709 455 680	20	709 475 216	33	709 597 292	54
709 455 078	20	709 455 684	20	709 475 220	33	709 597 293	54
709 455 080	20	709 455 686	20	709 475 314	33	709 597 294	54
709 455 084	20	709 455 688	20	709 475 316	33	709 597 299	55
709 455 086	20	709 455 689	35	709 475 320	33	709 597 312	54
709 455 088	20	709 455 690	20	709 475 614	33	709 597 313	54
709 455 089	35	709 455 691	35	709 475 616	33	709 597 314	54
709 455 090	20	709 455 692	20	709 475 620	33	709 597 315	54
709 455 091	35	709 455 694	35	709 495 023	34	709 597 630	54
709 455 092	20	709 455 695	21	709 495 030	34	709 597 632	54
709 455 094	35	709 455 696	21	709 495 036	34	709 597 634	54
709 455 208	20	709 455 697	21	709 495 048	34	709 597 636	54
709 455 218	20	709 455 698	21	709 495 061	34	709 597 638	54
709 455 224	20	709 455 699	21	709 495 067	34	709 597 640	54
709 455 232	20	709 465 016	22	709 495 073	34	709 597 643	54
709 455 236	20	709 465 017	22	709 495 223	34	709 597 646	54
709 455 238	20	709 465 018	22	709 495 230	34	709 597 648	54
709 455 239	20	709 465 019	22	709 495 236	34	709 597 653	54
709 455 278	20	709 465 020	22	709 495 248	34	709 597 654	54
709 455 280	20	709 465 021	22	709 495 261	34	709 597 656	54
709 455 284	20	709 465 024	22	709 495 267	34	709 597 677	54
709 455 286	20	709 465 028	23	709 495 273	34	709 597 678	54
709 455 288	20	709 465 216	22	709 495 323	34	709 597 679	54
709 455 289	35	709 465 217	22	709 495 330	34	709 597 680	54
709 455 290	20	709 465 218	22	709 495 336	34	709 597 681	54
709 455 291	35	709 465 219	22	709 495 348	34	709 597 682	54
709 455 292	20	709 465 220	22	709 495 361	34	709 597 683	54
709 455 294	35	709 465 221	22	709 495 367	34	709 597 690	54
709 455 295	21	709 465 224	22	709 495 373	34	709 597 691	54
709 455 296	21	709 465 228	22	709 495 623	34	709 597 692	54
709 455 297	21	709 465 316	22	709 495 630	34	709 597 693	54
709 455 298	21	709 465 317	22	709 495 636	34	709 597 694	54
709 455 299	21	709 465 318	22	709 495 648	34	709 597 712	54
709 455 308	21	709 465 319	22	709 495 661	34	709 597 713	54
709 455 318	21	709 465 320	22	709 495 667	34	709 597 714	54
709 455 324	21	709 465 321	22	709 495 673	34	709 597 715	54
709 455 332	21	709 465 324	22	709 597 230	54	709 900 000	56
709 455 336	21	709 465 328	23	709 597 232	54	724 201 061	81

Index

Code	Page	Code	Page	Code	Page	Code	Page
724 201 062	82	724 208 030	63	724 208 218	62	724 209 163	64
724 201 063	82	724 208 037	61	724 208 219	63	724 209 164	65
724 201 073	81	724 208 038	62	724 208 226	61	724 209 165	65
724 201 074	82	724 208 039	63	724 208 227	62	724 209 172	64
724 201 075	82	724 208 046	61	724 208 228	63	724 209 173	65
724 201 076	83	724 208 047	62	724 208 235	61	724 209 174	65
724 201 097	81	724 208 048	63	724 208 236	62	724 209 181	64
724 201 098	82	724 208 055	61	724 208 237	63	724 209 182	65
724 201 099	82	724 208 056	62	724 208 244	61	724 209 183	65
724 201 100	83	724 208 057	63	724 208 245	62	724 209 190	64
724 201 101	83	724 208 064	61	724 208 246	63	724 209 191	65
724 201 102	84	724 208 065	62	724 208 253	61	724 209 192	65
724 201 133	81	724 208 066	63	724 208 254	62	724 209 199	64
724 201 134	82	724 208 073	61	724 208 255	63	724 209 200	65
724 201 135	82	724 208 074	62	724 208 262	61	724 209 201	65
724 201 136	83	724 208 075	63	724 208 263	62	724 209 209	65
724 201 137	83	724 208 082	61	724 208 264	63	724 209 210	65
724 201 138	84	724 208 083	62	724 208 271	61	724 209 218	65
724 201 169	81	724 208 084	63	724 208 272	62	724 209 219	65
724 201 170	82	724 208 091	61	724 208 273	63	724 209 227	65
724 201 171	82	724 208 092	62	724 208 280	61	724 209 228	65
724 201 172	83	724 208 093	63	724 208 281	62	724 209 236	65
724 201 173	83	724 208 100	61	724 208 282	63	724 209 237	65
724 201 174	84	724 208 101	62	724 208 289	61	724 209 245	65
724 201 193	81	724 208 102	63	724 208 290	62	724 209 246	65
724 201 194	82	724 208 109	61	724 208 291	63	724 209 254	65
724 201 195	82	724 208 110	62	724 208 298	61	724 209 255	65
724 201 196	83	724 208 111	63	724 208 299	62	724 209 263	65
724 201 197	83	724 208 118	61	724 208 300	63	724 209 264	65
724 201 198	84	724 208 119	62	724 208 307	61	724 209 272	65
724 201 205	81	724 208 120	63	724 208 308	62	724 209 273	65
724 201 206	82	724 208 127	61	724 208 309	63	724 209 281	65
724 201 207	82	724 208 128	62	724 209 010	64	724 209 282	65
724 201 208	83	724 208 129	63	724 209 019	64	724 209 291	65
724 201 209	83	724 208 136	61	724 209 028	64	724 209 300	65
724 201 210	84	724 208 137	62	724 209 037	64	724 209 309	65
724 201 217	81	724 208 138	63	724 209 046	64	724 209 318	65
724 201 218	82	724 208 145	61	724 209 055	64	724 211 010	66
724 201 219	82	724 208 146	62	724 209 064	64	724 211 011	66
724 201 220	83	724 208 147	63	724 209 065	64	724 211 026	66
724 201 221	83	724 208 154	61	724 209 073	64	724 211 027	66
724 201 222	84	724 208 155	62	724 209 074	64	724 211 042	66
724 201 241	81	724 208 156	63	724 209 082	64	724 211 043	66
724 201 242	82	724 208 163	61	724 209 083	64	724 211 058	66
724 201 243	82	724 208 164	62	724 209 091	64	724 211 059	66
724 201 244	83	724 208 165	63	724 209 092	64	724 211 075	66
724 201 245	83	724 208 172	61	724 209 100	64	724 211 076	67
724 201 246	84	724 208 173	62	724 209 101	64	724 211 091	66
724 201 253	81	724 208 174	63	724 209 109	64	724 211 092	67
724 201 254	82	724 208 181	61	724 209 110	64	724 211 107	66
724 201 255	82	724 208 182	62	724 209 118	64	724 211 108	67
724 201 256	83	724 208 183	63	724 209 119	64	724 211 123	66
724 201 257	83	724 208 190	61	724 209 127	64	724 211 124	67
724 201 258	84	724 208 191	62	724 209 128	64	724 211 139	66
724 208 010	61	724 208 192	63	724 209 136	64	724 211 140	67
724 208 011	62	724 208 199	61	724 209 137	64	724 211 141	68
724 208 012	63	724 208 200	62	724 209 145	64	724 211 142	69
724 208 019	61	724 208 201	63	724 209 146	64	724 211 155	66
724 208 020	62	724 208 208	61	724 209 147	65	724 211 156	67
724 208 021	63	724 208 209	62	724 209 154	64	724 211 157	68
724 208 028	61	724 208 210	63	724 209 155	64	724 211 158	69
724 208 029	62	724 208 217	61	724 209 156	65	724 211 159	70

Index

Code	Page	Code	Page	Code	Page	Code	Page
724 211 171	66	724 211 352	71	724 211 526	69	724 211 704	71
724 211 172	67	724 211 363	66	724 211 527	70	724 211 705	72
724 211 173	68	724 211 364	67	724 211 528	71	724 211 716	67
724 211 174	69	724 211 365	68	724 211 540	67	724 211 717	68
724 211 175	70	724 211 366	69	724 211 541	68	724 211 718	69
724 211 187	66	724 211 367	70	724 211 542	69	724 211 719	70
724 211 188	67	724 211 368	71	724 211 543	70	724 211 720	71
724 211 189	68	724 211 379	66	724 211 544	71	724 211 721	72
724 211 190	69	724 211 380	67	724 211 556	67	724 211 732	68
724 211 191	70	724 211 381	68	724 211 557	68	724 211 733	68
724 211 203	66	724 211 382	69	724 211 558	69	724 211 734	69
724 211 204	67	724 211 383	70	724 211 559	70	724 211 735	70
724 211 205	68	724 211 384	71	724 211 560	71	724 211 736	71
724 211 206	69	724 211 395	66	724 211 572	67	724 211 737	72
724 211 207	70	724 211 396	67	724 211 573	68	724 211 748	68
724 211 219	66	724 211 397	68	724 211 574	69	724 211 749	69
724 211 220	67	724 211 398	69	724 211 575	70	724 211 750	69
724 211 221	68	724 211 399	70	724 211 576	71	724 211 751	70
724 211 222	69	724 211 400	71	724 211 588	67	724 211 752	71
724 211 223	70	724 211 411	66	724 211 589	68	724 211 753	72
724 211 235	66	724 211 412	67	724 211 590	69	724 211 764	68
724 211 236	67	724 211 413	68	724 211 591	70	724 211 765	69
724 211 237	68	724 211 414	69	724 211 592	71	724 211 766	70
724 211 238	69	724 211 415	70	724 211 604	67	724 211 767	70
724 211 239	70	724 211 416	71	724 211 605	68	724 211 768	71
724 211 251	66	724 211 427	66	724 211 606	69	724 211 769	72
724 211 252	67	724 211 428	67	724 211 607	70	724 211 780	68
724 211 253	68	724 211 429	68	724 211 608	71	724 211 781	69
724 211 254	69	724 211 430	69	724 211 620	67	724 211 782	70
724 211 255	70	724 211 431	70	724 211 621	68	724 211 783	71
724 211 267	66	724 211 432	71	724 211 622	69	724 211 784	71
724 211 268	67	724 211 443	67	724 211 623	70	724 211 785	72
724 211 269	68	724 211 444	67	724 211 624	71	724 211 796	68
724 211 270	69	724 211 445	68	724 211 625	72	724 211 797	69
724 211 271	70	724 211 446	69	724 211 636	67	724 211 798	70
724 211 283	66	724 211 447	70	724 211 637	68	724 211 799	71
724 211 284	67	724 211 448	71	724 211 638	69	724 211 800	71
724 211 285	68	724 211 459	67	724 211 639	70	724 211 801	72
724 211 286	69	724 211 460	67	724 211 640	71	724 211 812	68
724 211 287	70	724 211 461	68	724 211 641	72	724 211 813	69
724 211 299	66	724 211 462	69	724 211 652	67	724 211 814	70
724 211 300	67	724 211 463	70	724 211 653	68	724 211 815	71
724 211 301	68	724 211 464	71	724 211 654	69	724 211 816	71
724 211 302	69	724 211 475	67	724 211 655	70	724 211 817	72
724 211 303	70	724 211 476	67	724 211 656	71	724 211 828	68
724 211 315	66	724 211 477	68	724 211 657	72	724 211 829	69
724 211 316	67	724 211 478	69	724 211 668	67	724 211 830	70
724 211 317	68	724 211 479	70	724 211 669	68	724 211 831	71
724 211 318	69	724 211 480	71	724 211 670	69	724 211 832	71
724 211 319	70	724 211 491	67	724 211 671	70	724 211 833	72
724 211 320	71	724 211 492	67	724 211 672	71	724 212 058	72
724 211 331	66	724 211 493	68	724 211 673	72	724 212 059	73
724 211 332	67	724 211 494	69	724 211 684	67	724 212 060	74
724 211 333	68	724 211 495	70	724 211 685	68	724 212 061	74
724 211 334	69	724 211 496	71	724 211 686	69	724 212 062	75
724 211 335	70	724 211 508	67	724 211 687	70	724 212 074	72
724 211 336	71	724 211 509	68	724 211 688	71	724 212 075	73
724 211 347	66	724 211 510	69	724 211 689	72	724 212 076	74
724 211 348	67	724 211 511	70	724 211 700	67	724 212 077	74
724 211 349	68	724 211 512	71	724 211 701	68	724 212 078	75
724 211 350	69	724 211 524	67	724 211 702	69	724 212 090	72
724 211 351	70	724 211 525	68	724 211 703	70	724 212 091	73

Index

Code	Page	Code	Page	Code	Page	Code	Page
724 212 092	74	724 212 286	76	724 212 509	75	724 212 751	77
724 212 093	74	724 212 298	73	724 212 510	76	724 212 752	77
724 212 094	75	724 212 299	73	724 212 511	77	724 212 767	77
724 212 106	72	724 212 300	74	724 212 524	74	724 212 768	77
724 212 107	73	724 212 301	75	724 212 525	75	724 212 783	77
724 212 108	74	724 212 302	76	724 212 526	76	724 212 784	78
724 212 109	75	724 212 314	73	724 212 527	77	724 212 799	77
724 212 110	75	724 212 315	73	724 212 528	77	724 212 800	78
724 212 122	72	724 212 316	74	724 212 541	75	724 212 815	77
724 212 123	73	724 212 317	75	724 212 542	76	724 212 816	78
724 212 124	74	724 212 318	76	724 212 543	77	724 212 831	77
724 212 125	75	724 212 330	73	724 212 544	77	724 212 832	78
724 212 126	76	724 212 331	73	724 212 557	75	724 213 060	78
724 212 138	72	724 212 332	74	724 212 558	76	724 213 061	78
724 212 139	73	724 212 333	75	724 212 559	77	724 213 076	78
724 212 140	74	724 212 334	76	724 212 560	77	724 213 077	78
724 212 141	75	724 212 346	73	724 212 573	75	724 213 092	78
724 212 142	76	724 212 347	73	724 212 574	76	724 213 093	78
724 212 154	72	724 212 348	74	724 212 575	77	724 213 108	78
724 212 155	73	724 212 349	75	724 212 576	77	724 213 109	78
724 212 156	74	724 212 350	76	724 212 589	75	724 213 110	79
724 212 157	75	724 212 363	73	724 212 590	76	724 213 124	78
724 212 158	76	724 212 364	74	724 212 591	77	724 213 125	78
724 212 170	72	724 212 365	75	724 212 592	77	724 213 126	79
724 212 171	73	724 212 366	76	724 212 605	75	724 213 140	78
724 212 172	74	724 212 367	76	724 212 606	76	724 213 141	78
724 212 173	75	724 212 379	73	724 212 607	77	724 213 142	79
724 212 174	76	724 212 380	74	724 212 608	77	724 213 156	78
724 212 186	72	724 212 381	75	724 212 621	75	724 213 157	78
724 212 187	73	724 212 382	76	724 212 622	76	724 213 158	79
724 212 188	74	724 212 383	76	724 212 623	77	724 213 172	78
724 212 189	75	724 212 395	73	724 212 624	77	724 213 173	78
724 212 190	76	724 212 396	74	724 212 637	75	724 213 174	79
724 212 202	72	724 212 397	75	724 212 638	76	724 213 175	79
724 212 203	73	724 212 398	76	724 212 639	77	724 213 188	78
724 212 204	74	724 212 399	76	724 212 640	77	724 213 189	78
724 212 205	75	724 212 411	73	724 212 653	75	724 213 190	79
724 212 206	76	724 212 412	74	724 212 654	76	724 213 191	79
724 212 218	72	724 212 413	75	724 212 655	77	724 213 204	78
724 212 219	73	724 212 414	76	724 212 656	77	724 213 205	79
724 212 220	74	724 212 415	76	724 212 669	75	724 213 206	79
724 212 221	75	724 212 428	74	724 212 670	76	724 213 207	79
724 212 222	76	724 212 429	75	724 212 671	77	724 213 221	79
724 212 234	72	724 212 430	76	724 212 672	77	724 213 222	79
724 212 235	73	724 212 431	76	724 212 685	75	724 213 223	79
724 212 236	74	724 212 444	74	724 212 686	76	724 213 237	79
724 212 237	75	724 212 445	75	724 212 687	77	724 213 238	79
724 212 238	76	724 212 446	76	724 212 688	77	724 213 239	79
724 212 250	72	724 212 447	77	724 212 701	75	724 213 240	80
724 212 251	73	724 212 460	74	724 212 702	76	724 213 253	79
724 212 252	74	724 212 461	75	724 212 703	77	724 213 254	79
724 212 253	75	724 212 462	76	724 212 704	77	724 213 255	79
724 212 254	76	724 212 463	77	724 212 717	75	724 213 256	80
724 212 266	72	724 212 476	74	724 212 718	76	724 213 270	79
724 212 267	73	724 212 477	75	724 212 719	77	724 213 271	79
724 212 268	74	724 212 478	76	724 212 720	77	724 213 272	80
724 212 269	75	724 212 479	77	724 212 733	75	724 213 286	79
724 212 270	76	724 212 492	74	724 212 734	76	724 213 287	80
724 212 282	72	724 212 493	75	724 212 735	77	724 213 288	80
724 212 283	73	724 212 494	76	724 212 736	77	724 213 302	79
724 212 284	74	724 212 495	77	724 212 749	75	724 213 303	80
724 212 285	75	724 212 508	74	724 212 750	76	724 213 304	80

Index

Code	Page	Code	Page	Code	Page	Code	Page
724 213 318	79	DN100C-N	57	DN300RC-N	59	DN700C-N	57
724 213 319	80	DN100F-N	58	DN300RF-N	60	DN700F-N	58
724 213 320	80	DN100RC-N	59	DN350C-N	57	DN700L400N	85
724 213 334	79	DN100RF-N	60	DN350F-N	58	DN700L500N	86
724 213 335	80	DN1100C-N	57	DN350L300N	84	DN700L600N	86
724 213 336	80	DN1100F-N	58	DN350L400N	85	DN700L750N	87
724 213 350	79	DN1100RC-N	59	DN350L500N	86	DN700RC-N	59
724 213 351	80	DN1100RF-N	60	DN350L600N	86	DN700RF-N	60
724 213 352	80	DN1200C-N	57	DN350RC-N	59	DN750L500N	86
724 213 367	80	DN1200F-N	58	DN350RF-N	60	DN750L600N	86
724 213 368	80	DN1200RC-N	59	DN400C-N	57	DN750L750N	87
724 213 383	80	DN1200RF-N	60	DN400F-N	58	DN800C-N	57
724 213 384	80	DN1300C-N	57	DN400L400N	85	DN800F-N	58
724 213 399	80	DN1300F-N	58	DN400L500N	86	DN800L500N	86
724 213 400	80	DN1300RC-N	59	DN400L600N	86	DN800L600N	86
724 213 415	80	DN1300RF-N	60	DN400L750N	87	DN800L750N	87
724 213 416	80	DN1400C-N	57	DN400RC-N	59	DN800RC-N	59
724 213 431	80	DN1400F-N	58	DN400RF-N	60	DN800RF-N	60
724 213 432	80	DN1400RC-N	59	DN40C-N	57	DN80C-N	57
724 213 447	80	DN1400RF-N	60	DN40F-N	58	DN80F-N	58
724 213 448	80	DN1500C-N	57	DN40RC-N	59	DN80RC-N	59
724 213 463	80	DN1500F-N	58	DN40RF-N	60	DN80RF-N	60
724 213 464	80	DN1500RC-N	59	DN450C-N	57	DN900C-N	57
724 213 479	80	DN1500RF-N	60	DN450F-N	58	DN900F-N	58
724 213 480	80	DN1600C-N	57	DN450L400N	85	DN900RC-N	59
724 213 495	80	DN1600F-N	58	DN450L500N	86	DN900RF-N	60
724 213 496	80	DN1600RC-N	59	DN450L600N	86	flangeDN100	87
724 213 511	80	DN1600RF-N	60	DN450L750N	87	flangeDN125	87
724 213 512	80	DN1700C-N	57	DN450RC-N	59	flangeDN150	87
724 213 527	80	DN1700F-N	58	DN450RF-N	60	flangeDN200	87
724 213 528	80	DN1700RC-N	59	DN500C-N	57	flangeDN250	87
724 213 543	80	DN1700RF-N	60	DN500F-N	58	flangeDN300	87
724 213 544	80	DN1800C-N	57	DN500L400N	85	flangeDN50	87
724 213 559	80	DN1800F-N	58	DN500L500N	86	flangeDN65	87
724 213 560	80	DN1800RC-N	59	DN500L600N	86	flangeDN80	87
724 213 575	80	DN1800RF-N	60	DN500L750N	87	thread1	81
724 213 576	80	DN1900C-N	57	DN500RC-N	59	thread1.1/2	81
724 213 591	80	DN1900F-N	58	DN500RF-N	60	thread1.1/4	81
724 213 592	80	DN1900RC-N	59	DN50C-N	57	thread1/2	81
724 213 730	88	DN1900RF-N	60	DN50F-N	58	thread2	81
724 213 746	88	DN2000C-N	57	DN50RC-N	59	thread2.1/2	81
724 213 762	88	DN2000F-N	58	DN50RF-N	60	thread3	81
724 213 778	88	DN2000RC-N	59	DN550C-N	57	thread3/4	81
724 213 794	88	DN2000RF-N	60	DN550F-N	58	thread4	81
724 213 810	88	DN200C-N	57	DN550RC-N	59		
724 213 826	88	DN200F-N	58	DN550RF-N	60		
724 233 730	88	DN200RC-N	59	DN600C-N	57		
724 233 746	88	DN200RF-N	60	DN600F-N	58		
724 233 762	88	DN2100C-N	57	DN600L400N	85		
724 233 778	88	DN2100F-N	58	DN600L500N	86		
724 233 794	88	DN2100RC-N	59	DN600L600N	86		
724 233 810	88	DN2100RF-N	60	DN600L750N	87		
95-104L300N	84	DN2200C-N	57	DN600RC-N	59		
95-104L400N	85	DN2200F-N	58	DN600RF-N	60		
95-104L500N	85	DN2200RC-N	59	DN650C-N	57		
98-108L300N	84	DN2200RF-N	60	DN650F-N	58		
98-108L400N	85	DN250C-N	57	DN650RC-N	59		
98-108L500N	85	DN250F-N	58	DN650RF-N	60		
DN1000C-N	57	DN250RC-N	59	DN65C-N	57		
DN1000F-N	58	DN250RF-N	60	DN65F-N	58		
DN1000RC-N	59	DN300C-N	57	DN65RC-N	59		
DN1000RF-N	60	DN300F-N	58	DN65RF-N	60		

Conditions of sale - Georg Fischer Waga N.V.

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 prior 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: 1646 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 for reusing them or not. We shall have the right to demand from principal that he gives his cooperation to signing 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 regarding capacities, results and/or performance to be expected of products to be supplied by us or operations to be carried out by us, if 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 by 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 complied 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 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.
5. 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 written 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 a later 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 materials or raw materials, as well as during storage or transport, whether executed by ourselves or not, and furthermore due to all other causes that have arisen for which we cannot be blamed or which have arisen through no action 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 in 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, 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 and 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 his normal business operations.
3. Principal shall immediately enable us 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 dismount and take into our possession the products supplied by us and fixed to movable or immovable objects, in the event that principal does not, 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 holds the view that he may have any claims, in whatever form, in respect of the delivery or the execution of the order, this shall not relieve him from the obligation to pay in the manner agreed upon and he shall not have the right to defer his obligation to pay.
2. Payment of additional work shall be effected as soon as we have invoiced 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 when security is given by means of documentary credit or bank guarantees, 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 and out of court, which are determined at 15% minimum 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 reading otherwise – 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 ensuing 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 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, complaints shall be submitted during such test or inspection and confirmed in writing.
2. Any defects which in reason cannot be established within the period stipulated hereinbefore 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 free to return the products before we have agreed thereto in writing.

Article XVII – Warranty

1. We grant warranty on defects in materials and manufacture for twelve months from delivery by principal to end user, however, for eighteen months maximum from 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 by us 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 be null and void if:
 - A. the relevant defects are the result of regulations issued by public authorities related to the quality or the nature of the materials used or to manufacture;
 - 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 Netherlands.

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 all cases to the size of the relevant contract price excluding VAT.
4. Principal shall be obliged to indemnify us and compensate us for all expenses, losses and interests which might have arisen for us as a direct consequence of claims of third parties on us in respect of events, 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, licenses 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 in Enschede, the Netherlands, dated 1 January 1994 under no. 080 58749.

Article XXI – Registration

Georg Fischer Waga N.V. (GF) has been registered under the Business Names Act with the Chamber of Commerce in Enschede, the Netherlands, under no. 080 58749.

Contact information

P.O. Box 290
8160 AG Epe
The Netherlands
T +31 578 678 378
www.waga.nl
waga.ps@georgfischer.com

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