

Product Range 2014

iJOINT Compression Fittings



The iJOINT focuses on safety and ergonomic handling – real benefits for our customers

The new line of compression fittings from GF Piping Systems has been specially developed for use in water systems, assuring a quicker and easier installation compared to a traditional compression fitting. The lip sealing system makes this product both unique and long-lasting. Superb quality and innovative features predestine iJOINT for the drinking water market worldwide. iJOINT comprises all the benefits of plastics: no rust and no incrustation, lightweight construction, no leakage, excellent pressure resistance – just to name a few. To sum it up: iJOINT provides an excellent cost-benefit ratio with a life cycle of at least 50 years.

+ Features



iJOINT – the next generation of polypropylene compression fittings

+ Benefits



iJOINT is the result of GF Piping Systems' unremitting commitment to continuous improvement and a culture based on innovation and ingenuity. The innovative design provides essential benefits like fast, forgiving and effort-free installation methods in challenging trench and weather situations, ensuring maximum lifetime and high flow capacity for top performance in water applications. The iJOINT range contains straight and reducing joiners, tees, elbows, threaded connectors, end caps and metal transition adaptors ranging from d20 to d110 mm.

Fast and easy installation

iJOINT comes ready for installation, no disassembling of the fitting is required. Easy pipe insertion even for bigger dimensions due to the fact, that there is no contact between the clamp ring and the pipe during insertion. No special tools or equipment are required for the installation.

Lip gasket

The special lubricated NBR lip gasket allows a smooth pipe insertion even without pre-lubrication of the pipe. The special lip profile provides outstanding hydraulic performance even in case of ovalized, scratched or undersized pipes.



Safe design and long life time

The special design in combination with the use of top quality raw materials enables high pressure and pull-out resistance throughout the complete range, also in case of water hammer. The end-stop for the nut works as a very helpful indicator of the proper nut closing position. An antirotation stop prevents the nut from working itself loose. All components are fixed in the body so that they cannot be lost even in the unlucky event of disassembly.

Conformity to all important standards and availability in a wide range of diameters makes iJOINT your first choice

iJOINT compression fittings are suitable for use with all types of polyethylene pipes PE 80, PE 100, PEX and PVC-U with special transition kit. The fitting is ready to be installed out of the box without any preparation. The pipe can be inserted directly without loosening the nut or disassembling the fitting. There is a 16 bar resistance throughout the complete range of iJOINT fittings, with approvals according to the most stringent regulations worldwide. The special lip gasket grants a perfect performance even with ovalised, scratched and undersized pipes.

+ Technical specifications

From ø 20 to 63		From ø 75 to 110	
	Pressure range MOP of 16 bar for the complete range of iJOINT fittings from d20 to d110 mm (complete range DVGW approved PN16)		
	Temperature range -10 °C to +45 °C		Materials Body and thrust ring UV stabilized polypropylene impact Copolymer with high long term aging stability complying with ISO 9080. Nut UV stabilized blue polypropylene Impact Copolymer Clamp ring Polyacetal (POM) Lubricated lip gasket Food-safe NBR rubber suitable for potable water. Reinforcement ring (for female thread) Stainless steel AISI 430
	Regulation for drinking water iJOINT compression fittings comply with the strictest worldwide regulations, e.g.: – W270 and KTW (Germany) – ATA (Netherlands) – DM 174-06/04/2004 (Italy) – Global Mark (Australia) – ACS (France)		Approvals – DVGW (Germany) – IIP (Italy) – SVGW (Switzerland) – KIWA (Netherlands) – ACS (France) – Global Mark (Australia)
	Standards For PE pipes: DIN EN 12201; ISO 11922-1; DIN 8074; EN 12201-1/2; AS/NZS 4130; BS 6572; BS 6730; ISO 4427; UNI 7990; ISO 12162 Threads DIN EN 10226 (ISO 7-1); BS 21; AS 1722.1 Flanges DIN EN1092-1; DIN 2501.1		Test standards ISO 14236; DIN 8076-3; AS/NZS 4129; BRL K534/03 –UNI; ISO 3501; ISO 3503; ISO 3458; ISO 3459; VP609

The comprehensive iJOINT system is ideal for new installations as well as renovations or extensions of existing water lines

iJOINT is designed for use in house connections and service lines. This wide-ranging system lends itself to new installations as well as to renovation or extension work on existing water lines. iJOINT can be used for diverse applications and its design benefits a vast number of industries. In addition, iJOINT is the perfect solution for bypass systems, where temporarily laid lines need to be disassembled in a quick and easy way.

+ Applications



Water Distribution Lines



House Connections



High-end Irrigation



1

- Water Distribution Lines
- House Connections and Service Lines
- Pressure Sewage

2

- Industrial Applications
- Mining Industry

3

- Leisure Parks
- Golf Courses
- Camping Grounds

4

- Farming
- Greenhouses
- High-end Irrigation

iJOINT Installation manual



Observe installation manual

The installation manual is part of the product and an important module of the safety concept.

- Read and observe installation manual.
- Installation manual must be available for the product.
- Pass installation manual to following users of the product.

Intended use

The iJOINT fittings are intended exclusively for conveying media in the allowable pressure and temperature range in piping systems into which they have been installed.

Application: Water

Regarding to this document

The document describes all important information to install the product.

Related documents to this installation manual

- Georg Fischer Planning Fundamentals

This document may be obtained from your GF Piping Systems sales company or via www.gfps.com

Requirements for user and operator responsibility

For safety use and to guarantee the operation please note:

- The iJOINT fittings must only be used according to the specifications
- Assembly and Installation must be carried out by qualified personnel
- Piping system must be installed by professionals.
- Users and operators must be instructed on a regular basis in all aspects of work safety and environmental protection especially those pertaining to pressure-bearing piping system

Users and operators must be familiar with the operating instructions and must adhere to the information contained therein.

Transport and storage

- The iJOINT fittings should be transported and stored in its original packaging
- The iJOINT fittings must be protected from harmful influences such as dirt and especiheat and UV radiation

The technical data are not binding. They neither constitute expressly warranted characteristics nor guaranteed properties nor a guaranteed

+ Installation manual

Ø 20 - 63mm

Before proceeding with the assembly, check the presence of all components (clamp ring, thrust ring and lip gasket).



Insert Depth

Fittings

Ø	mm
20	51
25	56
32	63
40	73
50	84
63	99

Flanged Fittings

Ø	mm
50	102
63	118

1-2.



Cut the pipe square and deburr it. Mark the insert depth on the pipe (see table: insert depth).

3.



Push the pipe into the fitting until the first stop, meaning you have reached the gasket.

4.



Push the pipe through the gasket until you reach the pipe stop of the fitting. Check the mark of the insert depth on the pipe for correct assembly.

5.

Tighten the nut as tightly as possible by hand up to d32 mm and use the Georg Fischer tool or a wrench for fittings from d40 mm. For maximum pull out resistance tighten the nut until the stop ring.

Ø 75 - 110mm

Before proceeding with the assembly, check the presence of all components (clamp ring, thrust ring and gasket).



1.



Cut the pipe square and deburr it without chamfer.

2.



Push the pipe into the fitting until you have reached the pipe stop.

3.

Tighten the nut as tightly as possible using the Georg Fischer tool or a wrench for fittings. For maximum pull out resistance tighten the nut until the stop ring.

iJOINT Repair coupling



+ Installation manual



Before proceeding with the assembly, check the presence of all components (clamp ring, thrust ring and lip gasket).

1.



Cut the pipe close to the damage.

2.



The maximum pipe gap (Z) is marked on the fitting body and corresponds to the fitting diameter (see also table for pipe gap). Chamfer the pipes. Lubrication of the gasket will facilitate insertion.

3.



Mark the pipe as indicated above.

4.



Insert the fitting on one side of the pipe. If necessary, lubricate the gasket with a lubricant approved for potable water.

5.



Align the two pipes and slide the fitting till the marks on the pipes.

6.



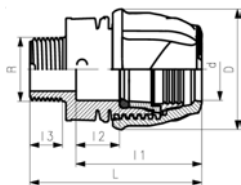
Tighten the nuts as tightly as possible using the GF Piping Systems tool for the iJoint or a wrench for fittings. For an maximum pull out resistance tighten the nut until the stop ring.

Pipe gap

Ø (mm)	Z (mm)	
	min.	max.
20	5	20
25	5	25
32	5	32
40	5	40
50	5	50
63	5	63
75	20	75
90	20	90
110	20	110

iJOINT COMPRESSION FITTINGS

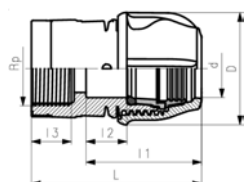
Male adaptor



- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- male thread: ISO 7 (conical)
- colour: blue-black

d	R	PN	code	SP	GP	weight	D	L	I1	I2	I3
[mm]	[inch]	[bar]				[kg]	[mm]	[mm]	[mm]	[mm]	[mm]
20	½	16	158 400 123	1	220	0.037	45	73	54	19	14
20	¾	16	158 400 124	1	220	0.040	45	74	54	19	15
20	1	16	158 400 125	1	220	0.038	45	77	54	19	17
25	½	16	158 400 126	1	180	0.050	53	79	59	21	14
25	¾	16	158 400 127	1	180	0.056	53	80	59	21	15
25	1	16	158 400 128	1	170	0.057	53	83	59	21	17
32	¾	16	158 400 129	1	120	0.088	64	88	66	23	15
32	1	16	158 400 130	1	120	0.091	64	91	66	23	17
32	1 ¼	16	158 400 131	1	120	0.092	64	93	66	23	20
32	1 ½	16	158 400 132	1	115	0.098	64	93	66	23	20
40	1	16	158 400 133		70	0.136	75	102	76	26	17
40	1 ¼	16	158 400 134		70	0.153	75	104	76	26	20
40	1 ½	16	158 400 135		70	0.142	75	104	76	26	20
40	2	16	158 400 136		60	0.154	75	109	76	26	24
50	1	16	158 400 137		40	0.265	97	114	88	30	17
50	1 ¼	16	158 400 138		40	0.267	97	117	88	30	20
50	1 ½	16	158 400 139		40	0.247	97	117	88	30	20
50	2	16	158 400 140		40	0.730	97	121	88	30	24
63	1 ½	16	158 400 141		20	0.421	114	135	104	35	20
63	2	16	158 400 142		20	0.437	114	139	104	35	24
63	2 ½	16	158 400 143		20	0.427	114	143	104	35	28
75	2	16	158 400 144		18	0.768	135	170	133	41	24
75	2 ½	16	158 400 145		18	0.763	135	174	133	41	28
75	3	16	158 400 146		18	0.791	135	177	133	41	30
90	2	16	158 400 147		8	1.225	161	189	150	44	24
90	2 ½	16	158 400 148		8	1.139	161	193	150	44	28
90	3	16	158 400 149		8	1.144	161	196	150	44	30
90	4	16	158 400 150		8	1.201	161	202	150	44	36
110	3	16	158 400 151		6	1.831	185	222	175	53	30
110	4	16	158 400 152		6	1.854	185	228	175	53	36

Female adaptor



- with stainless steel reinforcement ring (AISI430)
- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- female thread: ISO 7 (parallel)
- colour: blue-black

d	Rp	PN	code	SP	GP	weight	D	L	I1	I2	I3
[mm]	[inch]	[bar]				[kg]	[mm]	[mm]	[mm]	[mm]	[mm]
20	½	16	158 400 088	1	220	0.040	45	75	54	19	15
20	¾	16	158 400 089	1	200	0.047	45	77	54	19	16
25	½	16	158 400 090	1	175	0.059	53	81	59	21	15
25	¾	16	158 400 091	1	175	0.063	53	81	59	21	16
25	1	16	158 400 092	1	150	0.072	53	87	59	21	20
32	¾	16	158 400 093	1	110	0.095	64	90	66	23	16
32	1	16	158 400 094	1	110	0.100	64	94	66	23	20
32	1 ¼	16	158 400 095	1	100	0.116	64	97	66	23	22
40	1	16	158 400 096		70	0.163	75	105	76	26	20
40	1 ¼	16	158 400 097		70	0.164	75	107	76	26	22

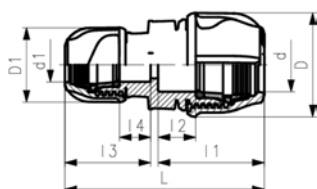
table continued next page

d	Rp	PN	code	SP	GP	weight	D	L	I1	I2	I3
[mm]	[inch]	[bar]				[kg]	[mm]	[mm]	[mm]	[mm]	[mm]
40	1 ½	16	158 400 098		70	0.175	75	108	76	26	22
50	1	16	158 400 099		40	0.280	97	117	88	30	20
50	1 ¼	16	158 400 100		40	0.287	97	119	88	30	22
50	1 ½	16	158 400 101		40	0.291	97	119	88	30	22
50	2	16	158 400 102		40	0.327	97	125	88	30	26
63	1 ½	16	158 400 103		20	0.439	114	137	104	35	22
63	2	16	158 400 104		20	0.461	114	141	104	35	26
63	2 ½	16	158 400 105		18	0.530	114	148	104	35	31
75	2	16	158 400 106		18	0.811	135	173	133	41	26
75	2 ½	16	158 400 107		18	0.843	135	178	133	41	31
75	3	10	158 400 108		16	0.906	135	183	133	41	34
90	2	16	158 400 109		8	1.264	161	192	150	44	26
90	2 ½	16	158 400 110		8	1.297	161	197	150	44	31
90	3	10	158 400 111		8	1.354	161	199	150	44	34
110	3	10	158 400 112		6	1.927	185	226	175	53	34
110	4	10	158 400 113		6	2.009	185	232	175	53	40

Reducing coupling



- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- colour: blue-black



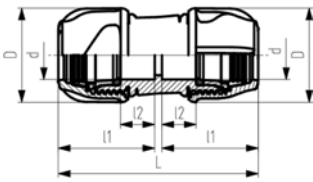
d-d	d	PN	code	SP	GP	weight
[mm]	[mm]	[bar]				[kg]
25 - 20	25	16	158 400 153	1	120	0.088
32 - 20	32	16	158 400 154	1	90	0.118
32 - 25	32	16	158 400 155	1	90	0.128
40 - 25	40	16	158 400 156		50	0.179
40 - 32	40	16	158 400 157		50	0.208
50 - 32	50	16	158 400 158		25	0.326
50 - 40	50	16	158 400 159		25	0.351
63 - 32	63	16	158 400 160		20	0.492
63 - 40	63	16	158 400 161		20	0.519
63 - 50	63	16	158 400 162		15	0.624
75 - 50	75	16	158 400 163		12	0.973
75 - 63	75	16	158 400 164		12	1.082
90 - 63	90	16	158 400 165		6	1.536
90 - 75	90	16	158 400 166		6	1.836
110 - 90	110	16	158 400 167		3	2.827

d-d	d1	D	D1	L	I1	I2	I3	I4
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
25 - 20	20	53	45	117	59	21	54	19
32 - 20	20	64	45	130	66	23	54	19
32 - 25	25	64	53	130	66	23	59	21
40 - 25	25	75	53	160	76	26	59	21
40 - 32	32	75	64	164	76	26	66	23
50 - 32	32	97	64	175	88	30	66	23
50 - 40	40	97	75	204	88	30	76	26
63 - 32	32	114	64	210	104	35	66	23
63 - 40	40	114	75	216	104	35	76	26
63 - 50	50	114	97	216	104	35	88	30
75 - 50	50	135	97	237	133	41	88	30
75 - 63	63	135	114	249	133	41	104	35
90 - 63	63	161	114	292	150	44	104	35
90 - 75	75	161	135	366	150	44	133	41
110 - 90	90	185	161	363	175	53	150	44



Coupling

- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- colour: blue-black

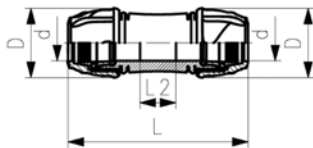


d [mm]	PN [bar]	code	SP	GP	weight [kg]	D [mm]	L [mm]	I1 [mm]	I2 [mm]
20	16	158 400 001	1	150	0.066	45	112	54	19
25	16	158 400 002	1	100	0.095	53	123	59	21
32	16	158 400 003	1	70	0.155	64	138	66	23
40	16	158 400 004		35	0.243	75	157	76	26
50	16	158 400 005		25	0.424	97	181	88	30
63	16	158 400 006		15	0.727	114	213	104	35
75	16	158 400 007		12	1.347	135	273	133	41
90	16	158 400 008		4	2.164	161	306	150	44
110	16	158 400 009		3	3.168	185	358	175	53



Repairing coupling (without pipe stop)

- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- colour: blue-black

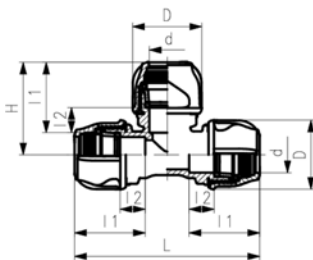


d [mm]	PN [bar]	code	SP	GP	weight [kg]	D [mm]	L [mm]	I2 [mm]
20	16	158 400 168	1	140	0.071	45	129	21
25	16	158 400 169	1	100	0.107	53	144	25
32	16	158 400 170	1	50	0.171	63	165	33
40	16	158 400 171		35	0.275	75	193	41
50	16	158 400 172		24	0.542	97	225	50
63	16	158 400 173		14	0.879	114	270	63
75	16	158 400 174		8	1.574	135	340	74
90	16	158 400 175		5	2.329	161	394	90
110	16	158 400 176		2	3.793	185	464	110



90° Tee

- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- colour: blue-black

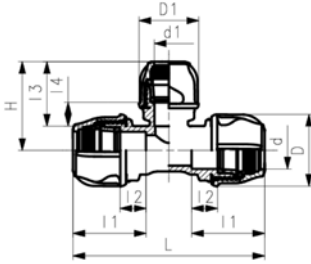


d [mm]	PN [bar]	code	SP	GP	weight [kg]	D [mm]	L [mm]	I1 [mm]	I2 [mm]	H [mm]
20	16	158 400 223	1	100	0.098	45	134	54	19	67
25	16	158 400 224	1	50	0.147	53	150	59	21	75
32	16	158 400 225	1	30	0.238	64	173	66	23	87
40	16	158 400 226		20	0.391	75	203	76	26	87
50	16	158 400 227		12	0.753	97	239	88	30	119
63	16	158 400 228		6	1.203	114	288	104	35	144
75	16	158 400 229		5	2.207	135	360	133	41	180
90	16	158 400 230		2	3.596	161	413	150	44	207
110	16	158 400 231		1	5.342	185	484	175	53	242



90° Reducing-Increasing Tee

- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- colour: blue-black



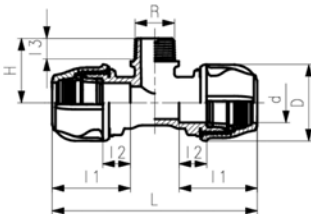
d-d-d [mm]	PN [bar]	code	SP	GP	weight [kg]
20 - 25 - 20	16	158 400 200	1	75	0.100
25 - 20 - 25	16	158 400 232	1	75	1.289
25 - 32 - 25	16	158 400 201	1	50	0.181
32 - 25 - 32	16	158 400 233	1	45	0.213
40 - 32 - 40	16	158 400 234		20	0.348
50 - 32 - 50	16	158 400 235		15	0.596
50 - 40 - 50	16	158 400 236		12	0.643
63 - 32 - 63	16	158 400 237		12	0.921
63 - 50 - 63	16	158 400 238		8	1.076
75 - 63 - 75	16	158 400 239		5	1.915
90 - 75 - 90	16	158 400 240		2	3.196
110 - 63 - 110	16	158 400 241		1	4.148
110 - 90 - 110	16	158 400 242		1	4.865

d-d-d [mm]	d [mm]	d1 [mm]	D [mm]	D1 [mm]	L [mm]	I1 [mm]	I2 [mm]	I4 [mm]	I3 [mm]	H [mm]
20 - 25 - 20	20	25	45	53	134	54	19	59	21	81
25 - 20 - 25	25	20	53	45	150	59	21	54	19	71
25 - 32 - 25	25	32	53	64	150	59	21	66	23	93
32 - 25 - 32	32	25	64	53	173	66	23	59	21	81
40 - 32 - 40	40	32	75	64	203	76	26	66	23	93
50 - 32 - 50	50	32	97	64	239	88	30	66	23	99
50 - 40 - 50	50	40	97	75	239	88	30	76	26	109
63 - 32 - 63	63	32	114	64	288	104	35	66	23	108
63 - 50 - 63	63	50	114	97	288	104	35	88	30	129
75 - 63 - 75	75	63	135	114	360	133	41	104	35	157
90 - 75 - 90	90	75	161	135	413	150	44	133	41	196
110 - 63 - 110	110	63	185	144	484	175	53	104	35	182
110 - 90 - 110	110	90	185	161	484	175	53	150	44	224



90° Tee with threaded male off take

- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- male thread: ISO 7 (conical)
- colour: blue-black



d [mm]	R [inch]	PN [bar]	code	SP	GP	weight [kg]	D [mm]	L [mm]	I1 [mm]	I2 [mm]	I3 [mm]	H [mm]
20	½	16	158 400 202	1	120	0.072	45	134	54	19	14	41
20	¾	16	158 400 203	1	120	0.073	45	134	54	19	15	42
25	½	16	158 400 204	1	85	0.108	53	150	59	21	14	44
25	¾	16	158 400 205	1	85	0.110	53	150	59	21	15	46
25	1	16	158 400 206	1	80	0.115	53	150	59	21	17	48
32	¾	16	158 400 207	1	60	0.178	64	173	66	23	15	51
32	1	16	158 400 208	1	55	0.179	64	173	66	21	17	53
40	¾	16	158 400 209		30	0.282	75	203	76	26	15	57
40	1 ¼	16	158 400 210		30	0.297	75	203	76	26	20	62
40	1 ½	16	158 400 211		30	0.300	75	203	76	26	20	62
50	¾	16	158 400 212		16	0.532	97	239	88	30	15	65
50	1 ¼	16	158 400 213		16	0.501	97	239	88	30	20	70
50	1 ½	16	158 400 214		16	0.557	97	239	88	30	20	70
63	1 ¼	16	158 400 215		8	0.874	114	288	104	35	20	81
63	1 ½	16	158 400 216		8	0.905	114	288	104	35	20	81

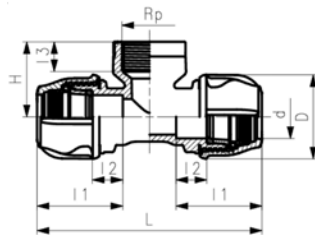
table continued next page

d	R	PN	code	SP	GP	weight	D	L	I1	I2	I3	H
[mm]	[inch]	[bar]				[kg]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
63	2	16	158 400 217		8	0.880	114	288	104	35	24	85
63	2 ½	16	158 400 218		8	0.926	114	288	104	35	28	89
75	2 ½	16	158 400 219		7	1.621	135	360	133	41	28	101
75	3	16	158 400 220		6	1.738	135	360	133	41	30	104
90	3	16	158 400 221		2	2.647	161	413	150	44	30	116
110	4	16	158 400 222		2	4.022	185	484	175	53	36	138



90° Tee with threaded female off take

- with stainless steel reinforcement ring (AISI430)
- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- female thread: ISO 7 (parallel)
- colour: blue-black

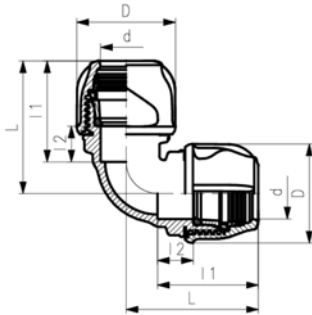


d	Rp	PN	code	SP	GP	weight	D	L	I1	I2	I3	H
[mm]	[inch]	[bar]				[kg]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
20	½	16	158 400 177	1	100	0.079	45	134	54	19	15	40
20	¾	16	158 400 178	1	100	0.080	45	134	54	19	16	41
25	½	16	158 400 179	1	80	0.105	53	150	59	21	15	40
25	¾	16	158 400 180	1	80	0.117	53	150	59	21	16	44
25	1	16	158 400 181	1	75	0.125	53	150	59	21	20	49
32	½	16	158 400 182	1	50	0.172	64	173	66	23	15	42
32	¾	16	158 400 183	1	50	0.182	64	173	66	23	16	46
32	1	16	158 400 184	1	50	0.188	64	173	66	23	20	54
32	1 ¼	16	158 400 185	1	50	0.208	64	173	66	23	22	57
40	¾	16	158 400 186		35	0.283	75	203	76	26	16	49
40	1	16	158 400 187		35	0.295	75	203	76	26	20	57
40	1 ¼	16	158 400 188		35	0.310	75	203	76	26	22	62
40	1 ½	16	158 400 189		35	0.322	75	206	76	26	22	63
50	1	16	158 400 190		22	0.547	97	239	88	30	20	61
50	1 ¼	16	158 400 191		22	0.569	97	239	88	30	22	66
50	1 ½	16	158 400 192		22	0.585	97	171	88	30	22	70
50	2	16	158 400 193		18	0.613	97	239	88	30	26	75
63	1 ¼	16	158 400 194		10	0.882	114	288	104	35	22	73
63	1 ½	16	158 400 195		10	0.908	114	288	104	35	22	76
63	2	16	158 400 196		10	0.948	114	207	104	35	26	83
75	2 ½	16	158 400 197		6	1.683	135	360	133	41	31	101
90	3	10	158 400 198		3	2.620	161	413	150	44	34	116
110	4	10	158 400 199		2	4.162	185	484	175	53	40	135



90° Elbow

- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- colour: blue-black

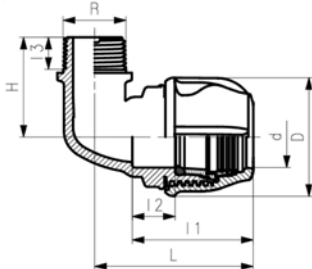


d [mm]	PN [bar]	code	SP	GP	weight [kg]	D [mm]	L [mm]	I1 [mm]	I2 [mm]
20	16	158 400 070	1	150	0.066	45	67	54	19
25	16	158 400 071	1	100	0.099	53	75	59	21
32	16	158 400 072	1	65	0.172	64	87	66	23
40	16	158 400 073		30	0.265	75	102	76	26
50	16	158 400 074		20	0.509	97	119	88	30
63	16	158 400 075		10	0.821	114	144	104	35
75	16	158 400 076		8	1.479	135	180	133	41
90	16	158 400 077		3	2.435	161	207	150	44
110	16	158 400 078		2	3.584	185	242	175	53



90° Elbow with threaded male off take

- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- male thread: ISO 7 (conical)
- colour: blue-black

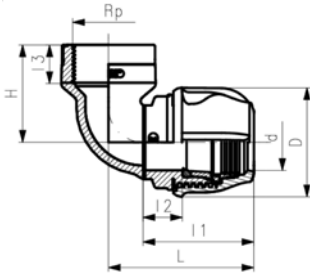


d [mm]	R [inch]	PN [bar]	code	SP	GP	weight [kg]	D [mm]	L [mm]	I1 [mm]	I2 [mm]	I3 [mm]	H [mm]
20	½	16	158 400 047	1	200	0.041	45	67	54	19	14	41
20	¾	16	158 400 048	1	200	0.043	45	67	54	19	15	42
25	½	16	158 400 049	1	150	0.062	53	75	59	21	14	44
25	¾	16	158 400 050	1	150	0.062	53	75	59	21	15	46
25	1	16	158 400 051	1	150	0.067	53	75	59	21	17	48
32	½	16	158 400 052	1	120	0.100	64	87	66	23	14	49
32	¾	16	158 400 053	1	115	0.098	64	87	66	23	15	51
32	1	16	158 400 054	1	100	0.105	64	87	66	23	17	53
40	1	16	158 400 055		50	0.159	75	102	76	26	17	60
40	1 ¼	16	158 400 056		50	0.175	75	102	75	26	20	62
40	1 ½	16	158 400 057		50	0.175	75	102	75	26	20	62
50	1 ¼	16	158 400 058		40	0.301	97	119	88	30	20	70
50	1 ½	16	158 400 059		35	0.316	97	117	88	30	20	70
63	1 ¼	16	158 400 060		15	0.478	114	144	104	35	20	81
63	1 ½	16	158 400 061		15	0.492	114	144	104	35	20	81
63	2	16	158 400 062		15	0.513	114	144	104	35	24	85
63	2 ½	16	158 400 063		15	0.534	114	144	104	35	28	89
75	2 ½	16	158 400 064		12	0.932	135	180	133	41	28	101
75	3	16	158 400 065		10	0.969	135	180	133	41	30	104
90	3	16	158 400 066		5	1.421	161	207	150	44	30	116
90	4	16	158 400 067		4	1.598	161	207	150	44	36	122
110	3	16	158 400 068		2	2.168	185	242	175	53	30	131
110	4	16	158 400 069		2	2.239	185	242	175	53	36	138



90° Elbow with threaded female off take

- with stainless steel reinforcement ring (AISI430)
- gasket: NBR quality for drinkable water
- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- female thread: ISO 7 (parallel)
- colour: blue-black

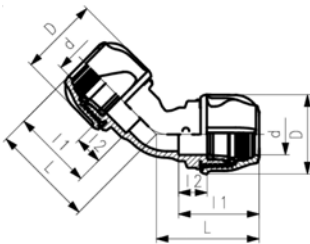


d [mm]	Rp [inch]	PN [bar]	code	SP	GP	weight [kg]	D [mm]	L [mm]	I1 [mm]	I2 [mm]	I3 [mm]	H [mm]
20	½	16	158 400 022	1	180	0.047	45	67	54	19	15	40
20	¾	16	158 400 023	1	180	0.049	45	67	54	19	16	40
25	½	16	158 400 024	1	150	0.060	53	75	59	21	15	40
25	¾	16	158 400 025	1	150	0.060	53	75	59	21	16	44
25	1	16	158 400 026	1	125	0.078	53	75	59	21	16	44
32	½	16	158 400 027	1	110	0.089	64	87	66	23	15	43
32	¾	16	158 400 028	1	110	0.106	64	87	66	23	16	46
32	1	16	158 400 029	1	100	0.117	64	87	66	23	20	54
32	1 ¼	16	158 400 030	1	90	0.127	64	87	66	23	22	57
40	¾	16	158 400 031		50	0.159	75	102	76	26	16	49
40	1	16	158 400 032		50	0.178	75	102	76	26	20	57
40	1 ¼	16	158 400 033		50	0.182	75	102	76	26	22	62
40	1 ½	16	158 400 034		50	0.198	75	102	76	26	22	63
50	1	16	158 400 035		30	0.281	97	119	88	30	20	61
50	1 ¼	16	158 400 036		30	0.320	97	119	88	30	22	66
50	1 ½	16	158 400 037		30	0.335	97	119	88	30	22	70
50	2	16	158 400 038		30	0.348	97	119	88	30	26	75
63	1 ¼	16	158 400 039		15	0.502	114	144	104	35	22	73
63	1 ½	16	158 400 040		15	0.513	114	144	104	35	22	76
63	2	16	158 400 041		15	0.564	114	144	104	35	26	83
75	2	16	158 400 042		12	0.949	135	180	133	41	26	91
75	2 ½	16	158 400 043		12	0.988	135	180	133	41	31	101
75	3	10	158 400 044		10	1.105	135	180	133	41	34	108
90	3	10	158 400 045		6	1.607	161	207	150	44	34	116
110	4	10	158 400 046		3	2.482	185	242	175	53	40	135



45° Elbow

- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- colour: blue-black

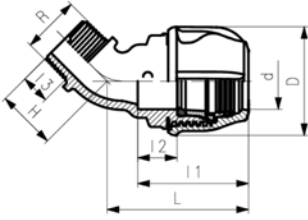


d [mm]	PN [bar]	code	SP	GP	weight [kg]	D [mm]	L [mm]	I1 [mm]	I2 [mm]
20	16	158 400 016	1	150	0.065	45	65	54	19
25	16	158 400 017	1	90	0.100	53	82	59	21
32	16	158 400 018	1	60	0.164	64	84	66	23
40	16	158 400 019		30	0.264	75	96	76	26
50	16	158 400 020		20	0.511	97	113	88	30
63	16	158 400 021		10	0.819	114	133	104	35

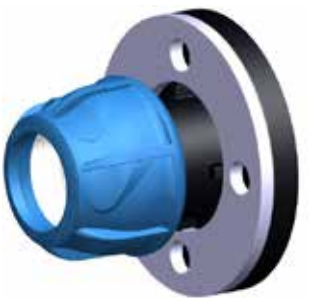


45° Elbow with threaded male off take

- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- male thread: ISO 7 (conical)
- colour: blue-black

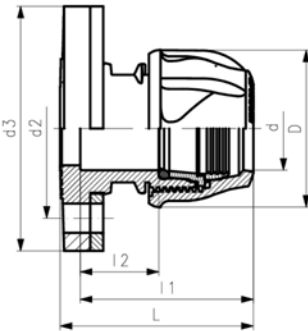


d	R	PN	code	SP	GP	weight	D	L	I1	I2	I3	H
[mm]	[inch]	[bar]				[kg]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
20	¾	16	158 400 010	1	150	0.037	45	65	54	19	14	26
20	¾	16	158 400 011	1	150	0.052	53	75	59	21	15	30
32	1	16	158 400 012	1	100	0.096	64	84	66	23	17	35
40	1 ¼	16	158 400 013		50	0.157	75	96	76	26	20	41
50	1 ½	16	158 400 014		35	0.269	97	113	88	30	20	44
63	2	16	158 400 015		20	0.482	114	133	104	35	24	53



Flanged joint with metal flange

- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- flange: steel
- colour: blue-black

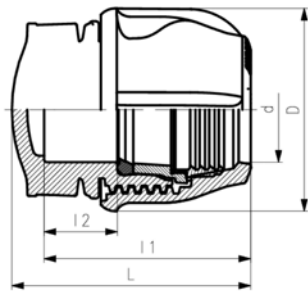


d	DN	DN	PN	code	GP	weight	D	d2	d3	L	I1	I2
[mm]	[mm]	[inch]	[bar]			[kg]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
50	40	1 ½	16	158 400 114	16	1.131	97	110	150	118	88	30
50	50	2	16	158 400 115	16	1.680	97	125	160	119	88	30
63	50	2	16	158 400 116	12	1.277	114	125	160	13	104	35
63	65	2 ½	16	158 400 117	12	1.621	114	145	187	137	104	35
75	65	2 ½	16	158 400 118	8	1.932	135	145	187	170	133	41
75	80	3	16	158 400 119	6	2.131	135	160	205	168	133	41
90	80	3	16	158 400 120	5	2.561	161	160	205	192	150	44
90	100	4	16	158 400 121	5	2.892	161	180	220	195	150	44
110	100	4	16	158 400 122	4	3.133	185	180	220	223	175	53



End cap

- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- colour: blue-black

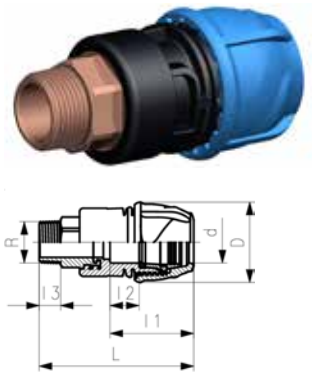


d	PN	code	SP	GP	weight	D	L	I1	I2
[mm]	[bar]				[kg]	[mm]	[mm]	[mm]	[mm]
20	16	158 400 079	1	250	0.036	45	60	54	19
25	16	158 400 080	1	180	0.054	53	67	59	21
32	16	158 400 081	1	130	0.084	64	76	66	23
40	16	158 400 082		60	0.136	75	89	76	26
50	16	158 400 083		40	0.266	97	104	88	30
63	16	158 400 084		20	0.422	114	124	104	35
75	16	158 400 085		18	0.777	135	155	133	41
90	16	158 400 086		8	1.230	161	178	150	44
110	16	158 400 087		6	1.882	185	209	175	53



Metal tightening wrench for iJOINT fittings

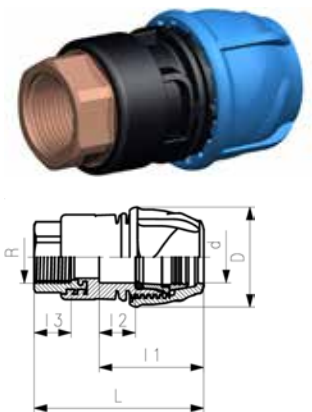
d-d [mm]	code	GP	weight [kg]	L [mm]	L1 [mm]
20 - 75	158 500 998	2	0.626	540	115
63 - 110	158 500 999	2	1.642	659	162



Metal transition coupling male

- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP / brass
- gasket: NBR quality for drinkable water
- male thread: ISO 7 (conical) brass
- Metal insert with hexagon starting from R 1 1/4"
- colour: blue-black

d [mm]	R [inch]	code	GP	weight [kg]	D [mm]	L [mm]	I3 [mm]	I1 [mm]	I2 [mm]
20	1/2	158 400 281	25	0.121	45	100.6	14.7	54	19
25	3/4	158 400 282	15	0.210	53	108.9	15.0	59	21
32	3/4	158 400 283	12	0.241	64	117.2	15.0	66	23
32	1	158 400 284	12	0.356	64	122.7	17.0	66	23
32	1 1/4	158 400 285	12	0.549	64	136.1	19.0	66	23
32	1 1/2	158 400 286	10	0.561	64	139.4	20.0	66	23
40	1	158 400 287	4	0.455	75	138.2	17.0	76	26
40	1 1/4	158 400 288	4	0.633	75	143.9	19.0	76	26
40	1 1/2	158 400 289	4	0.689	75	147.2	20.0	76	26
40	2	158 400 290	3	0.906	75	160.8	25.0	76	26
50	1 1/4	158 400 291	3	0.684	97	157.1	19.0	88	30
50	1 1/2	158 400 292	3	0.749	97	160.4	20.0	88	30
63	1 1/2	158 400 293	2	0.975	114	180.5	20.0	104	35
63	2	158 400 294	2	1.217	114	190.5	25.0	104	35



Metal transition coupling female

- installation without disassembling
- suitable for PE and PEX pipes
- water PN16
- material: PP / brass
- gasket: NBR quality for drinkable water
- female thread: ISO 7 (parallel) brass
- Metal insert with hexagon starting from Rp 1 1/4"
- colour: blue-black

d [mm]	Rp [inch]	code	weight [kg]	D [mm]	L [mm]	I3 [mm]	I1 [mm]	I2 [mm]
20	1/2	158 400 295	0.105	45	87.1	54	19	13.2
25	3/4	158 400 296	0.170	53	97.9	59	21	21.0
32	1	158 400 297	0.298	64	107.7	66	23	23.5
40	1 1/4	158 400 301	0.528	75	127.2	76	26	22.0
50	1 1/2	158 400 302	0.647	97	141.9	88	30	22.0
63	2	158 400 303	1.036	114	165.5	104	85	25.0



Reduction KIT

- water PN16
- material: PP
- gasket: NBR quality for drinkable water
- non-compliance with iJOINT repairing coupling

d-d [mm]	code	SP	GP	weight [kg]
25 - 20	158 400 304	1	10	0.021
32 - 20	158 400 305	1	10	0.040
32 - 25	158 400 306	1	10	0.032
40 - 20	158 400 307	1	8	0.070
40 - 25	158 400 308	1	8	0.075
40 - 32	158 400 309	1	8	0.065
50 - 25	158 400 310	1	6	0.101
50 - 32	158 400 311	1	6	0.122
50 - 40	158 400 312	1	6	0.104
63 - 25	158 400 313	1	5	0.178
63 - 32	158 400 314	1	5	0.195
63 - 40	158 400 315	1	5	0.195
63 - 50	158 400 316	1	5	0.192



PVC KIT

- suitable for PVC-U and ABS pipes
- with PVC-U pipe: maximum operating pressure PN16
- with ABS pipe: maximum operating pressure PN16
- material: PP and stainless steel AISI304
- non-compliance with iJOINT repairing coupling

d [mm]	code	SP	GP	weight [kg]
20	158 400 317	1	25	0.001
25	158 400 318	1	25	0.003
32	158 400 319	1	25	0.004
40	158 400 320	1	25	0.006
50	158 400 321	1	25	0.010
63	158 400 322	1	25	0.025

iJOINT SPARE PARTS

Nut



d [mm]	code	GP	weight [kg]
20	158 400 266	96	0.015
25	158 400 267	45	0.022
32	158 400 268	36	0.036
40	158 400 269	12	0.055
50	158 400 270	9	0.095
63	158 400 271	8	0.169
75	158 400 272	36	0.310
90	158 400 273	16	0.469
110	158 400 274	9	0.760

Gasket



	d [mm]	code	weight [kg]
A	20	158 400 254	0.001
A	25	158 400 255	0.002
A	32	158 400 256	0.004
A	40	158 400 257	0.008
A	50	158 400 258	0.011
A	63	158 400 259	0.019
B	75	158 400 260	0.020
B	90	158 400 261	0.020
B	110	158 400 262	0.040

Repairing coupling gasket



d [mm]	code	weight [kg]
20	158 400 275	0.003
25	158 400 276	0.003
32	158 400 277	0.004
40	158 400 278	0.008
50	158 400 279	0.011
63	158 400 280	0.019



A



B

Split ring

	d [mm]	code	weight [kg]	
A	20	158 400 244	0.003	
A	25	158 400 245	0.003	
A	32	158 400 246	0.004	
A	40	158 400 247	0.006	
A	50	158 400 248	0.014	
A	63	158 400 249	0.018	
B	75	158 400 250	0.044	
B	90	158 400 251	0.078	
B	110	158 400 252	0.098	



A



B

Thrust ring

	d [mm]	code	weight [kg]	
A	20	158 400 323	0.004	
A	25	158 400 324	0.006	
A	32	158 400 325	0.008	
A	40	158 400 326	0.018	
A	50	158 400 327	0.026	
A	63	158 400 328	0.041	
B	75	158 400 263	0.080	
B	90	158 400 264	0.126	
B	110	158 400 265	0.175	

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Code	Page	Code	Page	Code	Page
158 400 001	10	158 400 069	13	158 400 137	8
158 400 002	10	158 400 070	13	158 400 138	8
158 400 003	10	158 400 071	13	158 400 139	8
158 400 004	10	158 400 072	13	158 400 140	8
158 400 005	10	158 400 073	13	158 400 141	8
158 400 006	10	158 400 074	13	158 400 142	8
158 400 007	10	158 400 075	13	158 400 143	8
158 400 008	10	158 400 076	13	158 400 144	8
158 400 009	10	158 400 077	13	158 400 145	8
158 400 010	15	158 400 078	13	158 400 146	8
158 400 011	15	158 400 079	15	158 400 147	8
158 400 012	15	158 400 080	15	158 400 148	8
158 400 013	15	158 400 081	15	158 400 149	8
158 400 014	15	158 400 082	15	158 400 150	8
158 400 015	15	158 400 083	15	158 400 151	8
158 400 016	14	158 400 084	15	158 400 152	8
158 400 017	14	158 400 085	15	158 400 153	9
158 400 018	14	158 400 086	15	158 400 154	9
158 400 019	14	158 400 087	15	158 400 155	9
158 400 020	14	158 400 088	8	158 400 156	9
158 400 021	14	158 400 089	8	158 400 157	9
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General Conditions of Supply

1. General

1.1 These general conditions shall apply to all goods supplied by Georg Fischer TPA srl to the Purchaser. They shall also apply to all future business even when no express reference is made to them.

1.2 Any deviating or supplementary conditions, especially Purchaser's general conditions of purchase, and verbal agreements shall only be applicable if accepted in writing by Georg Fischer TPA srl.

2. Tenders

Tenders shall only be binding if they contain a specifically stated period for acceptance.

3. Scope of Delivery

3.1 Georg Fischer TPA srl's product range is subject to change.

3.2 The confirmation of order shall govern the scope and execution of the contract.

4. Data and Documents

4.1 Technical documents such as drawings, descriptions, illustrations and data on dimensions, performance and weight as well as the reference to standards are for information purposes only. They are not warranted characteristics and are subject to change.

4.2 All technical documents shall remain the exclusive property of Georg Fischer TPA srl and may only be used for the agreed purposes or as Georg Fischer TPA srl may consent.

4.3 In the context of the contractual relation with the Purchaser personal data may be processed. The Purchaser agrees to the disclosure of said data to third parties, such as foreign subcontractors and suppliers etc.

5. Local Laws and Regulations

The Purchaser shall bring to the attention of Georg Fischer TPA srl all local laws and regulations at the place of destination which bear connection with the execution of the contract and the adherence to relevant safety regulations and approval procedures.

6. Prices

6.1 Unless agreed otherwise, the prices shall be deemed quoted net, ex works, including standard packing. All supplementary costs, such as the cost of carriage, insurance, export and import licences, etc. shall be borne by the Purchaser. The Purchaser shall also bear the costs of all taxes, fees, duties, etc. connected with the contract.

6.2 If the costs of packing, carriage, insurance, fees and other supplementary costs are included in the tender price or contract price or are referred to specifically in the tender or confirmation of order, Georg Fischer TPA srl reserve the right to revise their prices accordingly should any change occur in the relevant tariffs.

7. Payment

7.1 The Purchaser shall make payment in the manner agreed by the parties to the Georg Fischer works conducting the account without any deductions such as discounts, costs, taxes or dues.

7.2 The Purchaser may only withhold or off-set payments due against counter-claims which are either expressly acknowledged by Georg Fischer TPA srl or finally awarded to the Purchaser. In particular, payment shall still be made when unessential items are still outstanding provided, however, that the goods already delivered are not rendered unusable as a result.

8. Retention of Title

8.1 The goods shall remain the property of Georg Fischer TPA srl until the Purchaser shall have settled all claims, present and future, which Georg Fischer TPA srl may have against him.

8.2 Should the Purchaser sell goods to which title is reserved he shall then be deemed to have tacitly assigned to Georg Fischer TPA srl the proceeds deriving from their sale together with all collateral rights, securities and reservations of title until all claims held by Georg Fischer TPA srl shall have been settled.

8.3 To the extent the value of the goods to which title is reserved together with collateral securities should exceed Georg Fischer TPA srl's claims against the Purchaser by more than 20%, Georg Fischer TPA srl shall reassign the above proceeds to Purchaser at his request.

8.4 In case of default on the part of the Purchaser, in particular in case of arrears, Georg Fischer shall be entitled to repossession of the goods after having given notice to this effect, and the Purchaser shall be obligated to surrender the goods.

9. Delivery

9.1 The term of delivery shall commence as soon as the contract has been entered into, all official formalities such as import and payment permits have been obtained and all essential technical points have been settled. The term of delivery shall be deemed duly observed when, upon its expiry, the goods are ready for despatch.

9.2 Delivery is subject to the following conditions, i. e. the term of delivery shall be reasonably extended:

a) if Georg Fischer TPA srl are not supplied in time with the information necessary for the execution of the contract or if subsequent changes causing delays are made by the Purchaser.

b) if Georg Fischer TPA srl are prevented from performing the contract by force majeure. Force majeure shall equally be deemed to be any unforeseeable event beyond Georg Fischer TPA srl's control which renders Georg Fischer TPA srl's performance commercially unpracticable or impossible, such as delayed or defective supplies from subcontractors, labour disputes, governmental orders or regulations, shortages in materials or energy, serious disturbances in Georg Fischer TPA srl's works, such as the total or partial destruction of plant and equipment or the breakdown of essential facilities, serious disruptions in transport facilities, e.g. impassable roads. Should the effect of force majeure exceed a period of six months, either party may cancel the contract forthwith. Georg Fischer TPA srl shall not be liable for any damage or loss of any kind whatsoever resulting therefrom, any suspension or cancellation being without prejudice to Georg Fischer TPA srl's right to recover all sums due in respect of consignments delivered and costs incurred to date.

c) if the Purchaser fails to fulfil or delays in fulfilling his obligations under the contract, in particular if he does not adhere to the agreed conditions of payment.

9.3 If for reasons attributable to Georg Fischer TPA srl a reasonable term of delivery is exceeded, Georg Fischer TPA srl shall not be deemed in default until the Purchaser has granted to Georg Fischer TPA srl in writing a reasonable extension thereof of not less than one month which equally is not met. The Purchaser shall then be entitled to cancel the contract.

9.4 If the Purchaser fails to take delivery within a reasonable time of goods notified as ready for despatch, Georg Fischer TPA srl shall be entitled to store the goods at the Purchaser's expense and risk and to invoice them as delivered.

9.5 Partial shipments shall be allowed and Georg Fischer TPA srl shall be entitled to invoice for such deliveries.

9.6 If Georg Fischer TPA srl do not insist on the performance of a contract cancelled by the Purchaser, a penalty of 10% of the contract price shall become due unless Georg Fischer TPA srl can prove greater damages.

10. Packing

If the goods are provided with additional packing over and above the standard packing, such packing shall be invoiced separately and be non-returnable.

11. Passing of Risk

11.1 The risk in the goods shall pass to the Purchaser as soon as they have left Georg Fischer TPA srl's works, even if delivery is made carriage-paid, under similar clauses or including installation or when carriage is organized and managed by Georg Fischer TPA srl.

11.2 If delivery is delayed for reasons beyond Georg Fischer TPA srl's control, the risk shall pass to the Purchaser when he is notified that the goods are ready for despatch.

12. Carriage and Insurance

12.1 Unless agreed otherwise, the Purchaser shall bear the cost of carriage.

12.2 The Purchaser shall be responsible for insurance against damage of whatever kind. Even when such insurance is arranged by Georg Fischer TPA srl it shall be deemed taken out by the order of and for the account of the Purchaser and at his risk.

12.3 Special requests regarding carriage and insurance shall be communicated to Georg Fischer TPA srl in due time. Otherwise carriage shall be arranged by Georg Fischer TPA srl at their discretion, but without responsibility, by the quickest and cheapest method possible.

In case of carriage-paid delivery transport arrangements shall be made by Georg Fischer TPA srl. If the Purchaser specifies particular requirements, any extra costs involved shall be borne by him.

12.4 In the event of damage or loss of the goods during carriage the Purchaser shall mark the delivery documents accordingly and immediately have the damage ascertained by the carrier.

Not readily ascertainable damages sustained during carriage shall be notified to the carrier within six days after receipt of the goods.

13. Inspection and Acceptance

13.1 The goods will be subject to normal inspection by Georg Fischer TPA srl during manufacture. Additional tests required by the Purchaser shall be agreed upon in writing and shall be charged to the Purchaser.

13.2 It shall be a condition of Georg Fischer TPA srl's obligation under the warranties stated hereinafter that Georg Fischer TPA srl be notified in writing by the Purchaser of any purported defect immediately upon discovery. Notice concerning weight, numbers or apparent defects is to be given latest within 30 days from receipt of the goods, notice of other defects latest within the agreed warranty period.

14. Warranty

14.1 At the written request of the Purchaser, Georg Fischer TPA srl undertake to repair or replace, at their discretion, as quickly as possible and free of charge all goods supplied which demonstrably suffer from faulty design, materials or workmanship or from faulty operation or installation instructions. Replaced parts shall become property of Georg Fischer TPA srl.

14.2 The Purchaser shall be entitled to cancel the contract or to demand a reduction in the contract price if:

- repair or replacement is impossible, or

- Georg Fischer TPA srl are unable or refuse to remedy the defect or replace the defective goods within a reasonable period of time or are unduly delaying such remedy or replacement.

14.3 For goods which are manufactured to specifications, drawings or patterns supplied by the Purchaser, Georg Fischer TPA srl's warranty shall be restricted to proper materials and workmanship.

14.4 This warranty shall not apply to damage resulting from normal wear, improper storage and maintenance, failure to observe the operating instructions, overstressing or overloading, unsuitable operating media, improper repairs or alterations by the Purchaser or third parties, the use of non-genuine parts and other reasons beyond Georg Fischer TPA srl's control.

14.5 For goods or essential components manufactured by a third party and supplied by Georg Fischer TPA srl under this contract, Georg Fischer TPA srl's warranty is limited to the warranty provided by said third party.

14.6 No action or claim may be brought by the Purchaser on account of any alleged breach of warranty or any other obligation of Georg Fischer TPA srl after the expiration of twelve (12) months from receipt of the goods by the end user or at the latest within eighteen (18) months of the goods being despatched by Georg Fischer TPA srl.

15. Limitation of Liability

The warranties set forth above are expressly in lieu of any express warranty of any kind and in lieu of any implied warranty, including any warranty of merchantability or fitness for a particular purpose. Georg Fischer TPA srl shall not be liable for any incidental special or consequential damages, such as loss of profits, loss of production, loss of use or loss of contract, arising for any reason, including damages resulting from delayed delivery, defective design, materials or workmanship or from faulty instructions and whether such damages are claimed to arise from breach of contract, in tort, the theory of product liability or otherwise; reservation is solely being made for Georg Fischer TPA srl's statutory liability due to material breach of an essential contractual obligation, express representations, wrongful intent, gross negligence or product liability acts.

16. Place of Performance and Jurisdiction

16.1 Place of performance for the goods shall be the Georg Fischer TPA srl works from which the goods are despatched.

16.2 Any civil action based upon any alleged breach of this contract shall be filed and prosecuted exclusively in the courts having jurisdiction over the Georg Fischer TPA srl works invoicing the goods. Georg Fischer TPA srl however reserves the right to file actions in any court having jurisdiction over controversies arising out of or in connection with the present contract.

16.3 The contract shall be governed by the law applicable at the place of business of the Georg Fischer TPA srl works invoicing the goods in question.

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