



PE-RT
Plumbing System
Product Range

General information

Abbreviations

PB	Polybutylene
PE	Polyethylene
PP	Polypropylene
PEX	Cross-linking Polyethylene
d	Pipe outside diameter
EPDM	Ethylene propylene rubber
e	Pipe wall thickness
dc _u	Copper pipe outside diameter
DN	Nominal Diameter
∅	Diameter
LK	Hole circle
SW	Dimension across flats(A/F)
G	Pipe thread, not pressure tight in the thread(with flat seat) to ISO 228
R	Taper male thread, pressure tight in the thread to ISO 7
Rp	Parallel female thread, pressure tight in the thread to ISO 7
M	Metric thread to ISO 261
m	Meter
SP	Items per standard pack
g	Gramme

Dimensions

All dimensions are given in mm and are intended as nominal or average sizes. Subject to alteration resulting from modifications in design.

SW of the compression fittings

d 16 SW-24

d 20 SW-27

For compressed air applications with air containing mineral oil, EPDM gaskets must be replaced by NBR units. This mainly concerns unions and flange connections.

NBR gaskets are not contained in this Product Range. Please contact the Georg Fischer sales consultant or sales support office assigned to your sales area.

Attention when the pipe connects with water heater:

According US "Uniform Plumbing Code 2000" rule for plastic pipes:

The piping system connects with water heater outlet, don't use plastic pipe directly in 500 mm at the beginning of the outlet.

So our PE-RT piping system requires adding at least 500 mm copper or stainless steel pipe or other metal pipe between PE-RT pipe and water heater outlet.



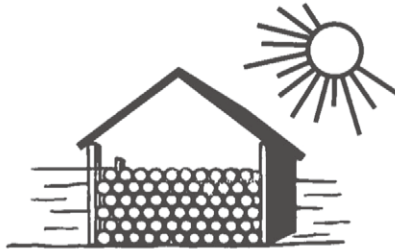
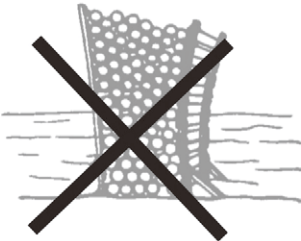
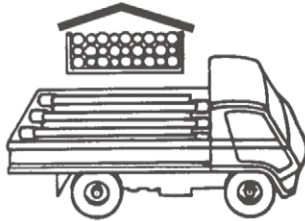
+GF+ is registered trademark.

Working with plastic pipes and fittings

Transport and storage of plastic pipes

WRONG

RIGHT



Plastics are materials sensitive to impact and crushing at low temperatures. The temperature limit depends on the relevant material.



PE-RT	-40°C
PP-R PVC-C	+5°C
PB	-10°C
PE	-40°C

Below these temperatures pipes and fittings would have to be protected particularly from impacts, crushing and other external mechanical stresses.

Plastic pipes and plastic fittings must be protected in principle from external influences. Direct sunlight, impacts and compressive stresses should be avoided. The pipes and fittings must be left in their packing until used. They should not be stored out of doors.



Safety instruction

The material PE-RT (DOWLEX® 2388)

PE-RT (Poly Ethylene for Raised Temperatures) is a thermoplastic from the polyolefin group with excellent pressure/temperature performance.

High flexibility and the wide range of applicable jointing methods make the material convenient to work with. Fusion and compression joints produce equally reliable results.

PE-RT materials can be divided into two grades: PE-RT Type 1 & PE-RT Type 2.

Type 1 is widely used for floor heating and low temperature radiator heating systems whereas the higher performance of PE-RT Type 2 makes the material suitable for hot and cold water plumbing applications.

DOWLEX®2388

DOWLEX®2388 is a PE-RT Type 2 grade resin produced by "The DOW Chemical Company".

DOWLEX®2388 is an ethylene/octene-1 copolymer. It has a unique molecular structure with a controlled side chain distribution, which provides excellent stress crack resistance properties combined with outstanding long-term hydrostatic strength.

Unlike PEX materials DOWLEX®2388 needn't be cross-linked in order to reach its strength, hence being a safe and environmental friendly alternative.

GF uses DOWLEX® material for all its PE-RT products

The low elasticity modulus of the material makes pipes of all dimensions flexible. Bending without pre-heating increases the speed of installation and saves fittings.

The material offers various advantages:

- High temperature resistance (95°C)
- Excellent stress crack resistance
- Good flexibility even at low temperatures
- Suitable for drinking water
- Low brittleness fracture temperature
- Good creep behaviour
- Fusible
- Environmental friendly

DOWLEX®2388 has gained global acceptance and is approved for "noncross-linked applications" in most European countries as well as in Asia and America.

Physical & mechanical properties

Physical property	Unit	Test method	Values
Melt Index, 190°C/2.16kg	g/10min	ISO 1133	0.85
Melt Index, 190°C/5kg	g/10min	ISO 1133	2.91
Density	g/cm ³	ASTM D-792	0.941
Vicat Softening Point	°C	ASTM D-1525	124.5
Thermal Conductivity W/(m·K) at 60°C	W/(m·K)	DIN 52612-1	0.4
Thermal Exp Coefficient	10 ⁻⁴ /(m·K)	DIN 53752 A	1.8
Physical characteristics	Unit	Test method	Values
Hardness, Shore D		ISO 868	61.4
Tensile Yield	MPa	ISO 527-2	20.6
Tensile Yield Elongation	%	ISO 527-2	13
Ultimate Tensile)	MPa	ISO 527-2	36
Ultimate Elongation	%	ISO 527-2	760
Flexural Modulus	MPa	ISO 178	955
Elastic Modulus	MPa	ISO 527-2	650
Izod Impact	kJ/m ²	ISO 180	23.3

Material features PE-RT (DOWLEX® 2388)

DOWLEX® material application history is more than 20 years, the pipes made by DOWLEX® material is very popular and the length is more than 1,000,000 km.

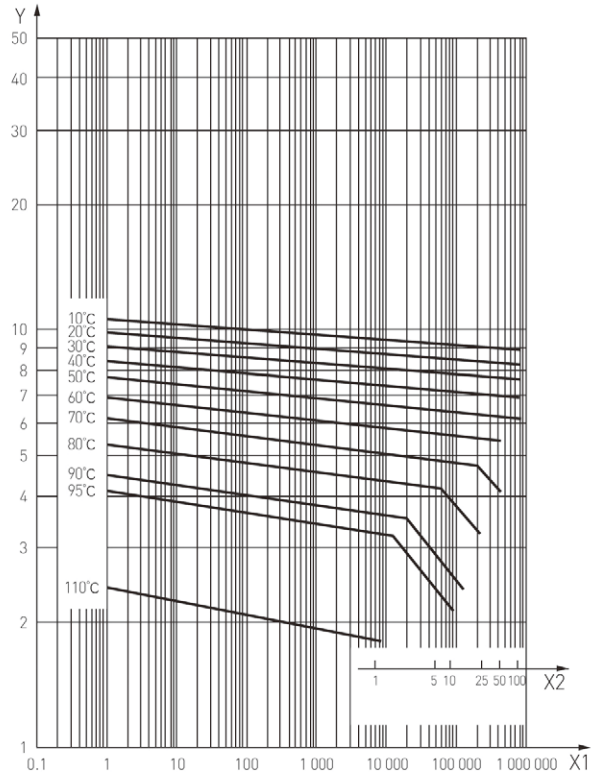
According to the long-term hydrostatic strength, PE-RT can be divided 2 types, PE-RT type 1 and type 2

DOWLEX®2388 is the only PE-RT which can cope with the high requirements of hot water plumbing installations

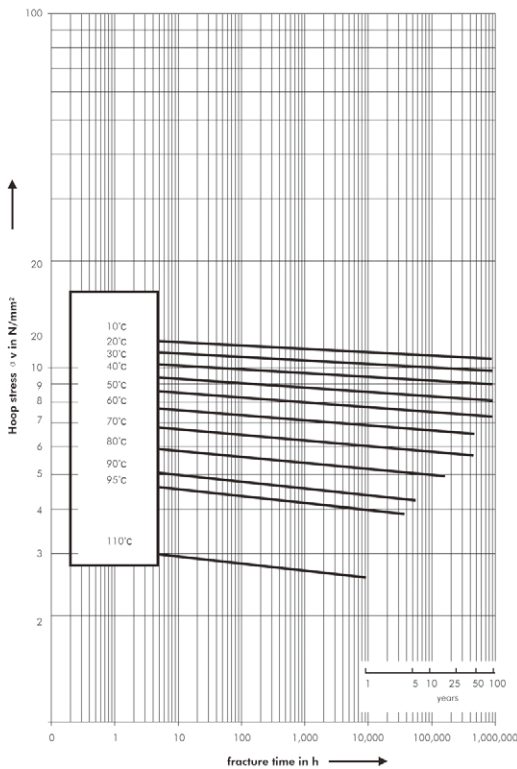
PE-RT material hydrostatic strength comparison

Temperature °C	Time Year	PE-RT hydrostatic strength, MPa		
		Type 1	Type 2	DOWLEX® 2388
20	50	8.3	9.4	9.8
30	50	7.6	8.5	9.0
40	50	6.9	7.6	8.2
50	50	6.2	6.8	7.4
60	50	5.4	5.9	6.5
70	50	4.1	5.1	5.7
80	18	3.4	4.4	4.8
90	(15)	(2.4)	(3.6)	(4.0)
95	(10)	(2.2)	(3.3)	(3.6)

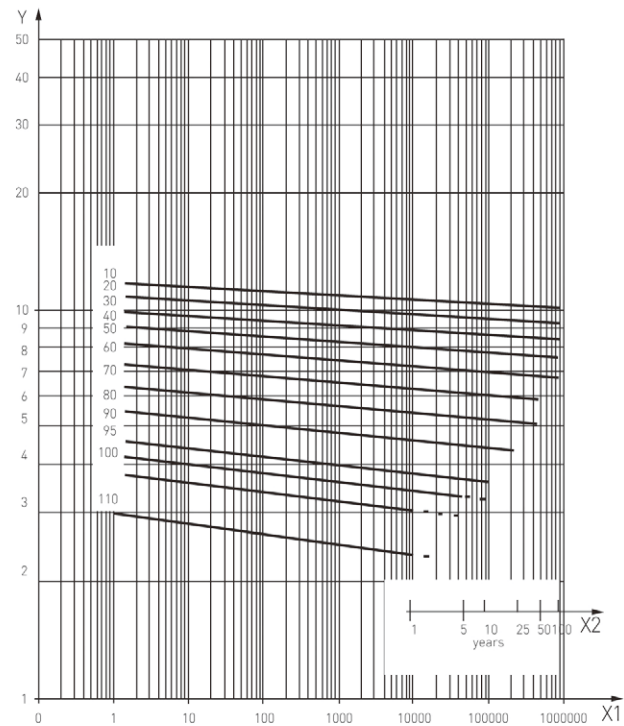
Remark: the data in bracket is by calculation



1 PE-RT I fracture time in h



2 DOWLEX® 2388 fracture time in h



3 PE-RT II fracture time in h

GF PE-RT piping system

System application

GF PE-RT Piping system fulfils ISO Class 1 and ISO Class 2 requirements in construction hot and cold water system.

Class	T ₀		T _{max}		T _m		Example of application
	°C	Year	°C	Year	°C	Hour	
1	60	49	80	1	95	100	Hot water supply(60°C)
2	70	49	80	1	95	100	Hot water supply(70°C)
4	20	2.5	70	2.5	100	100	Under floor heating and low-temperature radiators
	40	20					
	60	25					
5	20	14	90	1	100	100	High temperature radiators
	60	25					
	80	10					

Remark: 1 Class 3 is few used
2 Every class application is based on 50 years service time(ISO 10508)

Pressure design

According to different class hoop stress, we can calculate the application pressure of the pipe. For example, GF PE-RT d63X7.1, application in hot water supply 70°C, reference PE-RT product standard we get σ_D equal 3.79 Mpa, the pipe pressure we can calculate as follows:

$$P = \frac{\sigma_D}{S} \times 10 = \frac{\sigma_D \times 2e}{d - e} \times 10$$

P: Maximum operation pressure [Bar]

σ_D : Hoop stress (MPa)

S: Pipe series

d: Pipe outside diameter (mm)

e: Pipe wall thickness (mm)



$$P = \frac{3.79 \text{ MPa}}{S} \times 10 = \frac{3.79 \text{ MPa} \times 2 \times 7.1}{63 - 7.1} \times 10 = 9.63 \text{ bar}$$

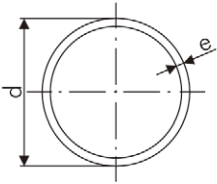
Comparison to other piping materials:

ISO Class	1	2	4	5
PEX	3.86	3.55	4.01	3.25
PB	5.73	5.04	5.46	4.31
DOWLEX® 2388	3.99	3.79	3.93	3.30
PP-R	3.10	2.10	3.30	1.90

Pipes

9000

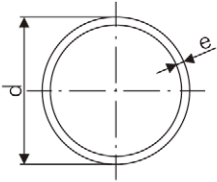
Pipe PE-RT in bars of 3m (S4)



dxe	Code	SP	kg/m	S	SDR	Application limits (based on 50 years)
16×2.2	763 000 050	3m	0.099	3.2	7.4	ISO Class 2(70°C)/11.8bar
20×2.3	763 000 071	3m	0.138	4	9	ISO Class 2(70°C)/9.5bar
25×2.8	763 000 052	3m	0.200	4	9	ISO Class 2(70°C)/9.5bar
32×3.6	763 000 053	3m	0.327	4	9	ISO Class 2(70°C)/9.5bar
40×4.5	763 000 054	3m	0.509	4	9	ISO Class 2(70°C)/9.5bar
50×5.6	763 000 055	3m	0.788	4	9	ISO Class 2(70°C)/9.5bar
63×7.1	763 000 056	3m	1.260	4	9	ISO Class 2(70°C)/9.5bar
75×8.4	763 000 057	5m	1.790	4	9	ISO Class 2(70°C)/9.5bar
90×10.1	763 000 058	5m	2.590	4	9	ISO Class 2(70°C)/9.5bar
110×12.3	763 000 059	5m	3.840	4	9	ISO Class 2(70°C)/9.5bar

9000

Pipe PE-RT in bars of 3m (S5)

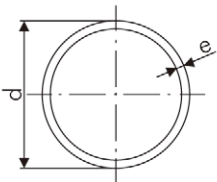


dxe	Code	SP	kg/m	S	SDR	Application limits (based on 50 years)
20×2.0	763 000 061	3m	0.085	5	11	20°C/15.8bar
25×2.3	763 000 062	3m	0.171	5	11	20°C/15.8bar
32×2.9	763 000 063	3m	0.272	5	11	20°C/15.8bar
40×3.7	763 000 064	3m	0.430	5	11	20°C/15.8bar
50×4.6	763 000 065	3m	0.670	5	11	20°C/15.8bar
63×5.8	763 000 066	3m	1.050	5	11	20°C/15.8bar
75×6.8	763 000 067	5m	1.440	5	11	20°C/15.8bar
90×8.2	763 000 068	5m	2.070	5	11	20°C/15.8bar
110×10.0	763 000 069	5m	3.080	5	11	20°C/15.8bar

S5 pipe applied in
ISO Class 2:
70°C/7.6bar

9000

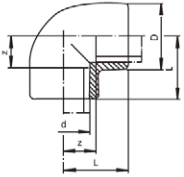
Pipe PE-RT in coils of 60m (S3.2)



dxe	Code	SP	kg/m	S	SDR	Application limits (based on 50 years)
16×2.2	763 000 040	60m	0.099	3.2	7.4	ISO Class 2(70°C)/11.8bar
20×2.3	763 000 042	60m	0.138	4	9	ISO Class 2(70°C)/9.5bar
25×2.3	763 000 043	180m	0.171	5	11	20°C/15.8bar
25×2.8	763 000 044	180m	0.200	4	9	ISO Class 2(70°C)/9.5bar

Socket fusion fittings

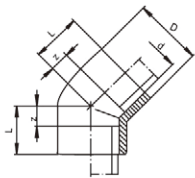
9005



Elbow 90°

d	Code	SP	kg	L	D	z
16	763 000 600	50	0.009	25	22	10
20	763 000 601	50	0.012	28	26	13
25	763 000 602	20	0.020	32	32	14
32	763 000 603	10	0.035	38	40	18
40	763 000 604	10	0.064	44	51	22
50	763 000 605	10	0.111	51	64	26
63	763 000 606	10	0.216	62	81	34
75	763 000 607	2	0.392	76	98	45
90	763 000 608	2	0.666	88	118	53
110	763 000 609	1	1.211	106	144	65

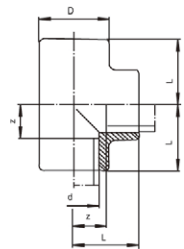
9010



Elbow 45°

d	Code	SP	kg	L	D	z
16	763 000 610	50	0.008	21	22	6
20	763 000 611	50	0.010	22	26	7
25	763 000 612	20	0.016	25	32	7
32	763 000 613	10	0.030	30	40	10
40	763 000 614	10	0.050	34	51	12
50	763 000 615	10	0.090	39	64	26
63	763 000 616	10	0.167	45	81	34
75	763 000 617	10	0.297	51	98	20
90	763 000 618	2	0.480	58	118	23
110	763 000 619	2	0.808	68	144	27

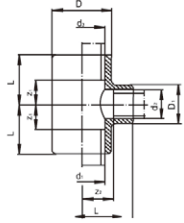
9015



Tee 90° equal

d	Code	SP	kg	L	D	z
16	763 000 620	50	0.011	25	22	10
20	763 000 621	20	0.016	28	26	13
25	763 000 622	10	0.025	32	32	14
32	763 000 623	10	0.045	38	40	18
40	763 000 624	10	0.083	44	51	22
50	763 000 625	10	0.143	51	64	26
63	763 000 626	10	0.290	62	81	34
75	763 000 627	2	0.501	76	98	45
90	763 000 628	2	0.849	88	118	53
110	763 000 629	1	1.506	105	144	64

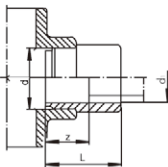
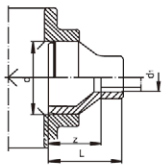
9020



Tee 90° reduced

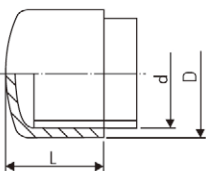
d1-d2-d3	Code	SP	kg	D	D1	L	z1	z2
20-16-20	763 000 914	20	0.015	26	22	28	13	13
20-16-16	763 000 915	20	0.010	26	22	28	13	13
25-16-25	763 000 917	10	0.025	32	26	32	14	17
25-20-25	763 000 918	10	0.023	32	26	32	14	17
32-20-32	763 000 922	10	0.046	40	26	38	18	23
32-25-32	763 000 923	10	0.043	40	32	38	18	20
40-25-40	763 000 924	10	0.077	51	34	44	22	26
50-25-50	763 000 925	10	0.013	64	34	51	26	33
63-25-63	763 000 926	10	0.0252	81	35	62	34	44

9045



Reducer

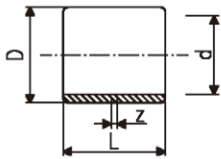
d-d1	Code	SP	kg	L	z
20-16	763 000 670	50	0.005	30	15
25-16	763 000 671	50	0.007	33	18
25-20	763 000 672	50	0.007	33	18
32-20	763 000 674	20	0.011	40	25
32-25	763 000 675	20	0.012	40	22
40-20	763 000 677	20	0.017	42	27
40-25	763 000 678	10	0.017	42	24
40-32	763 000 679	10	0.020	42	22
50-20	763 000 681	10	0.034	55	40
50-25	763 000 682	10	0.031	55	37
50-32	763 000 683	10	0.034	55	35
50-40	763 000 684	10	0.040	55	33
63-20	763 000 686	20	0.052	58	43
63-25	763 000 687	20	0.052	58	40
63-32	763 000 688	20	0.052	58	38
63-40	763 000 689	10	0.056	58	36
63-50	763 000 690	10	0.066	58	33
75-63	763 000 742	10	0.149	72	44
90-63	763 000 746	5	0.180	74	46
90-75	763 000 745	5	0.225	82	51
110-63	763 000 747	2	0.282	86	58
110-75	763 000 749	2	0.294	86	55
110-90	763 000 748	2	0.377	90	55



d	Code	SP	kg	L	D
16	763000650	10	0.006	22	22
20	763000651	10	0.010	24	26
25	763000652	10	0.014	28	32
32	763000653	10	0.022	32	41
40	763000654	10	0.024	38	51
50	763000655	10	0.050	44	64
63	763000656	5	0.079	50	81

9040

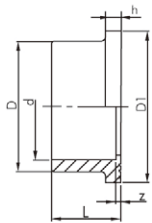
Socket



d	Code	SP	kg	L	D	z
16	763 000 660	50	0.006	33	22	3
20	763 000 661	50	0.007	33	26	3
25	763 000 662	20	0.012	39	32	3
32	763 000 663	20	0.021	43	40	3
40	763 000 664	10	0.037	48	51	4
50	763 000 665	10	0.064	54	64	4
63	763 000 666	10	0.115	60	81	4
75	763 000 667	5	0.204	70	98	4
90	763 000 668	2	0.346	81	118	7
110	763 000 669	2	0.616	96	144	8

9030

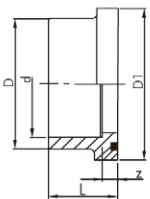
Flange adaptor flat (used together with 5085)



d	Code	SP	kg	L	D	D1	z	h
40	763 000 634	10	0.025	27	50	61	5	8
50	763 000 635	10	0.034	30	61	73	5	8
63	763 000 636	10	0.060	33	76	90	5	9
75	763 000 637	10	0.086	35	91	106	3	11
90	763 000 638	5	0.142	42	109	125	5	12
110	763 000 639	2	0.234	49	132	150	6	13

9031

Flange adaptor (excluding EPDM O-Ring)

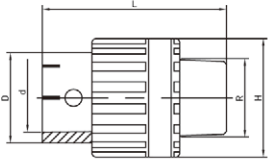


d	Code	SP	kg	L	D	D1	z
*16	763 000 630	10	0.005	19	22	29	2
*20	763 000 631	10	0.006	19	27	32	2
*25	763 000 632	10	0.009	22	33	38	2
*32	763 000 633	10	0.013	24	41	46	2
40	763 000 644	10	0.030	32	50	61	10
50	763 000 645	10	0.040	35	61	73	10
63	763 000 646	2	0.071	38	76	90	10

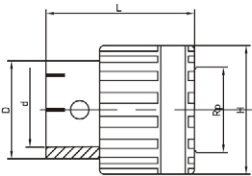
*Without O-ring groove

PE-RT get metal adaptors

Coupler with male thread

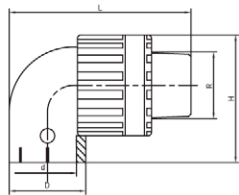


d-R	Code	SP	kg	D	L	H
20- ¹ / ₂	763 000 350	10	0.088	26	61	37
25- ³ / ₄	763 000 351	10	0.121	32	65	42
32-1	763 000 354	10	0.132	42	67	48



Coupler with female thread

d-Rp	Code	SP	kg	D	L	H
20- ¹ / ₂	763 000 360	10	0.068	26	46	37
25- ³ / ₄	763 000 361	10	0.084	32	49	42
32-1	763 000 366	10	0.090	42	47	48

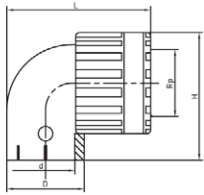


90° elbow with male thread

d-R	Code	SP	kg	D	L	H
20- ¹ / ₂	763 000 352	10	0.094	26	66	47
25- ³ / ₄	763 000 353	10	0.134	32	76	53
32-1	763 000 355	10	0.154	42	65	62



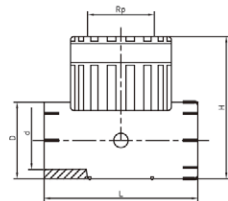
90° elbow with female thread



d-Rp	Code	SP	kg	D	L	H
20- ¹ / ₂	763 000 362	10	0.073	26	51	47
25- ³ / ₄	763 000 363	10	0.096	32	60	53
32-1	763 000 369	10	0.113	42	68	62



Tee with female thread

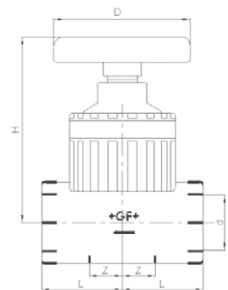


d-Rp	Code	SP	kg	D	L	H
20- ¹ / ₂	763 000 364	10	0.076	26	56	51
25- ³ / ₄	763 000 365	10	0.098	32	64	60
32-1	763 000 367	10	0.121	42	76	65



PE-RT valve

- Both ends with socket fusion
- EPDM sealing material and quality for drinking water
- Handwheel with red/blue changeover disk

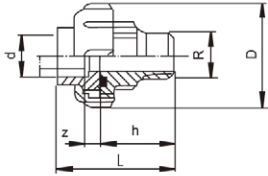


d	Code	kg	H	L	z	D
20	300 124 011	0.130	60	29	13	50
25	300 124 012	0.208	75	33	17	50
32	300 124 013	0.311	75	39	18	50

Union adaptors

9036

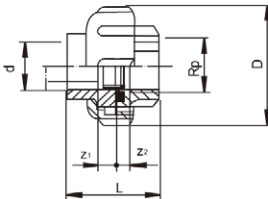
Union adaptor socket-male thread (with EPDM O-ring)



d-R	Code	SP	kg	L	h	z	D
16-1/2	763 000 698	10	0.132	52	33	2	39
20-1/2	763 000 699	10	0.139	52	33	2	44
25-3/4	763 000 700	10	0.175	57	35	2	50
32-1	763 000 701	10	0.235	62	62	2	59
40-1 1/4	763 000 702	10	0.560	80	48	10	83
50-1 1/2	763 000 703	10	0.800	83	48	10	90
63-2	763 000 704	2	0.900	92	54	10	110

9037

Union adaptor socket-female thread (with EPDM O-ring)

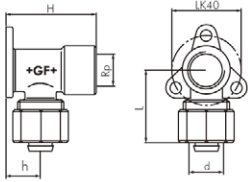


d-Rp	Code	SP	kg	L	z1	z2	D
16-1/2	763 000 705	10	0.109	39	2	6	39
20-1/2	763 000 706	10	0.123	39	2	6	44
25-3/4	763 000 707	10	0.140	42	2	6	50
32-1	763 000 708	10	0.195	44	2	6	59
40-1 1/4	763 000 709	10	0.600	58	10	7	83
50-1 1/2	763 000 710	10	0.700	61	10	7	90
63-2	763 000 711	2	0.720	66	10	5	110

Brass adaptors

3032

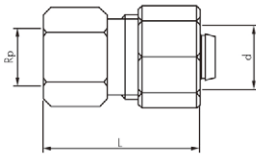
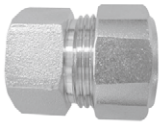
Wall outlet with flange



dx-Rp	Code	SP	kg	H	h	L
d16x2.2-1/2	761 062 814	5	0.220	52	20	47

3301

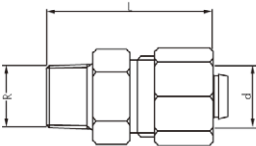
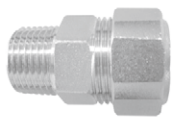
Adaptor with female thread



dx-Rp	Code	SP	kg	L
d16x2.2-1/2	761 062 751	5	0.108	33
d20x2.0-1/2	761 062 752	5	0.105	33
d20x2.3-1/2	761 062 753	5	0.105	33

3310

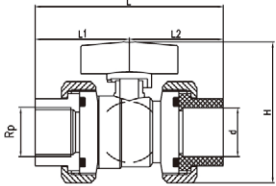
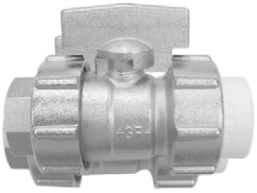
Adaptor with male thread



dx-R	Code	SP	kg	L
d16x2.2-1/2	761 062 741	5	0.112	42
d20x2.0-1/2	761 062 742	5	0.109	42
d20x2.3-1/2	761 062 743	5	0.109	42

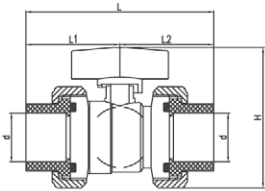
Brass valves

Brass valve with PE-RT union end and union female thread



d-Rp	Code	SP	kg	L	L1	L2	H
25- ³ / ₄	300 124 022	1	0.517	90.5	44	46.5	70
32-1	300 124 023	1	0.738	101	49	52	84

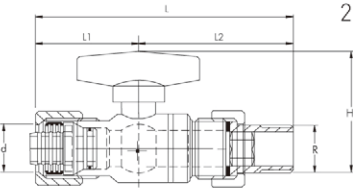
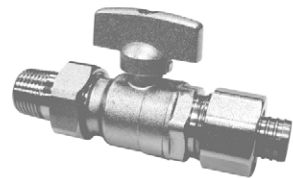
Brass valve with PE-RT union ends



d-d	Code	SP	kg	L	L1	L2	H
25-25	300 124 032	1	0.467	94	47.5	46.5	70
32-32	300 124 033	1	0.600	106	54	52	84

3433

Brass valve with Euroconus pipe adaptor and loose-nut male thread adaptor



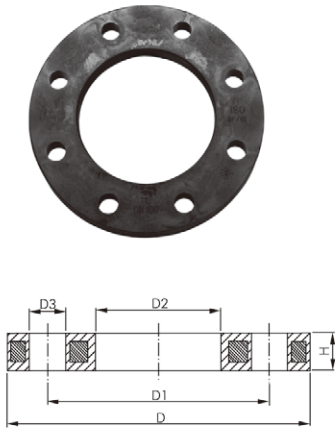
d×e-R	Code	SP	kg	L	L1	L2	H
16×2.2- ¹ / ₂	761 062 314	1	0.380	103	40	63	58
16×2.2- ³ / ₄	761 062 315	1	0.400	110	40	70	58
20×2.0- ¹ / ₂	761 062 316	1	0.380	103	40	63	58
20×2.0- ³ / ₄	761 062 317	1	0.400	110	40	70	58
20×2.3- ¹ / ₂	761 062 320	1	0.380	103	40	63	58
20×2.3- ³ / ₄	761 062 321	1	0.400	110	40	70	58

Flanges

Backing flanges, PP/steel

PP-GF (30% glass-fibre reinforced) with steel ring

Connecting dimensions: ISO 7005, EN 1092, BS 4504, DIN 4504, DIN 2501; bolt circle PN10

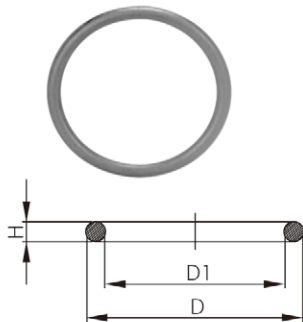


d	DN	PN	Code	D	D1	D2	D3	H	AL	bolt
40	32	16	727 700 209C	140	100	51	18	20	4	M16
50	40	16	727 700 210C	150	110	62	18	20	4	M16
63	50	16	727 700 211C	165	125	78	18	20	4	M16
75	65	16	727 700 212C	185	145	92	18	20	4	M16
90	80	16	727 700 213C	200	160	110	18	20	8	M16
110	100	16	727 700 214C	220	180	133	18	20	8	M16

*d40-d75mm suitable for fittings with socket fusion and butt fusion, d90-110 only suitable for fittings with socket fusion.

5080

O-ring with drinking water approval



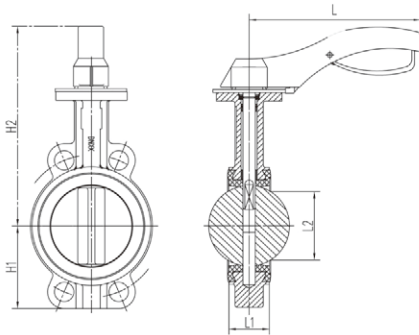
d	Code	SP	kg	D1	D	H
20	761 066 720C	10	0.002	23.4	30.5	3.5
25	761 066 721C	10	0.002	28.2	35.2	3.5
32	761 066 722C	10	0.002	36.1	43.2	3.5
40	761 066 723C	10	0.003	43.8	54.5	3.5
50	761 066 724C	10	0.004	53.3	64.0	5.3
63	761 066 725C	10	0.005	69.2	79.9	5.3

Metal-butterfly valves

Butterfly valves wafer, metric and inch ANSI

Butterfly valves 037-M (with hand lever)

Material housing: Ductile iron



d (DN)	Code	Inch	PN	H1	H2	L	L1	L2
63 (50)	300 148 800	2	16	70	193	170	42.6	32
75 (65)	300 148 801	2 1/2	16	76	205	170	45.6	47
90 (80)	300 148 802	3	16	89	218	170	45.6	65
110 (100)	300 148 803	4	16	104	243	200	51.6	91

Tools

5101



Heating element 220V (without heating bushes)

d	Code	SP	kg
16-63	763 000 751	1	1.800 (800W)

- temperature adjustable
- 220V
- without support and heating bushes

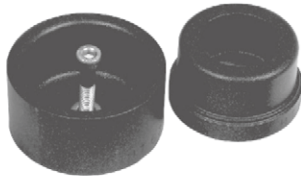
5102



Support for heating element

	Code	SP	kg
	790 105 063C	1	0.300

5130



Heating bushes

d	Code	SP	kg
16	761 066 756C	1	0.080
20	761 066 757C	1	0.120
25	761 066 758C	1	0.150
32	761 066 759C	1	0.210
40	761 066 760C	1	0.310
50	761 066 761C	1	0.450
63	761 066 762C	1	0.600
75	799 300 212	1	0.965
90	799 300 213	1	1.440
110	799 300 214	1	2.210

5310



Tempil sticks

	Code	SP	kg
253°C	761 066 796	1	0.04
274°C	761 066 797	1	0.04

5312

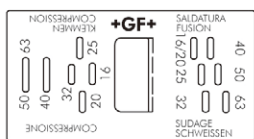
Timer



	Code	SP	kg
	761 066 798C	1	0.042

5314

Template



d	Code	SP	kg
16-63	761 066 800	1	0.040

3908

Pipe shears



d	Code	SP	kg
16-25	760 853 279C	1	0.269

5300

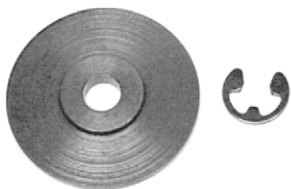
Pipe cutters



d	Code	SP	kg
10-63	790 109 001	1	0.700
50-110	790 109 002	1	1.430

5301

Spare blades for pipe cutter



d	Code	SP	kg
10-63	790 109 011		0.005
50-110	790 109 012		0.010

5305

Peeling tools



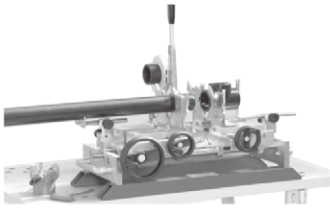
d	Code	SP
16	761 064 804	1
20	761 064 805	1
25	761 066 806	1
32	761 066 807	1
40	761 066 808	1
50	761 066 809	1
63	761 066 810	1
75	761 064 811	1
90	761 064 812	1
110	761 064 813	1

5110

Tools case



	Code	SP	kg
	761 066 752C	1	4.150



SG110 bench fusion machine for socket fusion

d	Code	SP	kg
20-110	790 310 001	1	45.000

- Heater element 220V/1400W, with electronic temperature control, timer to clock fusion times.
- This code is just fusion machine, not including any heating bushes. Heating bushes need be purchased separately, (contact Georg Fischer)

General Conditions of Supply for Piping Systems

- 1. General**
 - 1.1 These general conditions shall apply to all Products supplied by Georg Fischer 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.
 - 1.3 The written form shall be deemed to be fulfilled by all forms of transmission, evidenced in the form of text, such as telefax, e-mail, etc.
 - 2. Tenders**

Tenders shall only be binding if they contain a specifically stated period for acceptance.
 - 3. Scope of Delivery**
 - 3.1 Georg Fischer'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 and may only be used for the agreed purposes or as Georg Fischer may consent.
 - 5. Confidentiality, Protection of Personal Data**
 - 5.1 Each party shall keep in strict confidence all commercial or technical information relating to the business of the other party, of which it has gained knowledge in the course of its dealing with the other party. Such information shall neither be disclosed to third parties nor used for other purposes than those for which the information has been supplied.
 - 5.2 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.
 - 6. Local Laws and Regulations**
 - 6.1 The Purchaser shall bring to the attention of Georg Fischer 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.
 - 6.2 In case of re-exports, Purchaser shall be responsible for compliance with pertinent export control regulations
 - 7. Prices**
 - 7.1 Unless agreed otherwise, the prices shall be deemed quoted net, ex works (according to Incoterms of the ICC, latest version), including standard packing. All supplementary costs, such as the cost of carriage, insurance, export and import licenses, etc. shall be borne by the Purchaser. The Purchaser shall also bear the costs of all taxes, fees, duties, etc. connected with the contract.
 - 7.2 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 reserve the right to revise their price accordingly should any change occur in the relevant tariffs.
 - 8. Payments**
 - 8.1 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.
 - 8.2 The Purchaser may only withhold or offset payments due against counterclaims which are either expressly acknowledged by Georg Fischer or finally awarded to the Purchaser. In particular, payment shall still be made when unessential items are still outstanding provided, however, that the Products already delivered are not rendered unusable as a result.
 - 9. Retention of Title**
 - 9.1 The Products shall remain the property of Georg Fischer until the Purchaser shall have settled all claims, present and future, which Georg Fischer may have against him.
 - 9.2 Should the Purchaser sell Products to which title is reserved, in the ordinary course of business, he shall hereby be deemed to have tacitly assigned to Georg Fischer the proceeds deriving from their sale together with all collateral rights, securities and reservations of title until all claims held by Georg Fischer shall have been settled. Until revoked by Georg Fischer, this assignment shall not preclude Purchaser's right to collect the assigned receivables.
 - 9.3 To the extent the value of the Products to which title is reserved together with collateral securities should exceed Georg Fischer's claims against the Purchaser by more than 20%, Georg Fischer shall re-assign the above proceeds to Purchaser at his request.
 - 10. Delivery**
 - 10.1 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 Products are ready for dispatch.
 - 10.2 Delivery is subject to the following conditions, i.e. the term of delivery shall be reasonably extended:
 - a) if Georg Fischer 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 are prevented from performing the contract by force majeure. Force majeure shall equally be deemed to be any unforeseeable event beyond Georg Fischer's control which renders Georg Fischer's performance commercially unpractical or impossible, such as delayed or defective supplies from subcontractors, labor disputes, governmental orders or regulations, shortages in materials or energy, serious disturbances in Georg Fischer'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 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's right to recover all sums due in respect of consignments delivered and costs incurred to date.
 - c) If the Purchaser is in delay with the fulfilment of his obligations under the contract, in particular, if he does not adhere to the agreed conditions of payment or if he has failed to timely provide the agreed securities.
 - 10.3 If for reasons attributable to Georg Fischer the agreed term of delivery or a reasonable extension thereof is exceeded of delivery is exceeded, Georg Fischer shall not be deemed in default until the Purchaser has granted to Georg Fischer in writing a reasonable extension thereof of not less than one month which equally is not met. The Purchaser shall then be entitled to the remedies provided at law, it being however understood that, subject to limitations of Art. 16, damage claims shall be limited to max. 10% of the price of the delayed delivery.
 - 10.4 Partial shipments shall be allowed and Georg Fischer shall be entitled to invoice for such deliveries
 - 10.5 If the Purchaser fails to take delivery within a reasonable time of Products notified as ready for dispatch, Georg Fischer shall be entitled to store the Products at the Purchaser's expense and risk and to invoice them as delivered. If Purchaser fails to effect payment, Georg Fischer shall be entitled to dispose of the Products.
 - 10.6 Should Purchaser cancel an order without justification and should Georg Fischer not insist on the performance of the contract, Georg Fischer shall be entitled to damages in the amount of 20% of the contract price, unless Georg Fischer can prove higher damages.
- 11. Packing**

If the Products are provided with additional packing over and above the standard packing. Such packing shall be invoiced separately and be non-returnable.
- 12. Passing of Risk**
 - 12.1 The risk in the Products shall pass to the Purchaser as soon as they have left Georg Fischer's works, [EX WORKS, Incoterms, ICC, latest version] even if delivery is made carriage-paid, under similar clauses or including installation or when carriage is organized and managed by Georg Fischer.
 - 12.2 If delivery is delayed for reasons beyond Georg Fischer's control, the risk shall pass to the Purchaser when he is notified that the Products are ready for dispatch.
- 13. Carriage and Insurance**
 - 13.1 Unless agreed otherwise, the Purchaser shall bear the cost of carriage.
 - 13.2 The Purchaser shall be responsible for insurance against damage of whatever kind. Even when such insurance is arranged by Georg Fischer it shall be deemed taken out by the order of and for the account of the Purchaser and at his risk.
 - 13.3 Special requests regarding carriage and insurance shall be communicated to Georg Fischer in due time. Otherwise carriage shall be arranged by Georg Fischer 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. If the Purchaser specifies particular requirements, any extra costs involved shall be borne by him.
 - 13.4 In the event of damage or loss of the Products during carriage, the Purchaser shall mark the delivery documents according 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 Products.
- 14. Inspection and Acceptance**
 - 14.1 The Products will be subject to normal inspection by Georg Fischer during manufacture. Additional tests required by the Purchaser shall be agreed upon in writing and shall be charged to the Purchaser.
 - 14.2 It shall be a condition of Georg Fischer's obligation under the warranties stated hereinafter that Georg Fischer be notified in writing by the Purchaser of any purported defect immediately upon discovery.

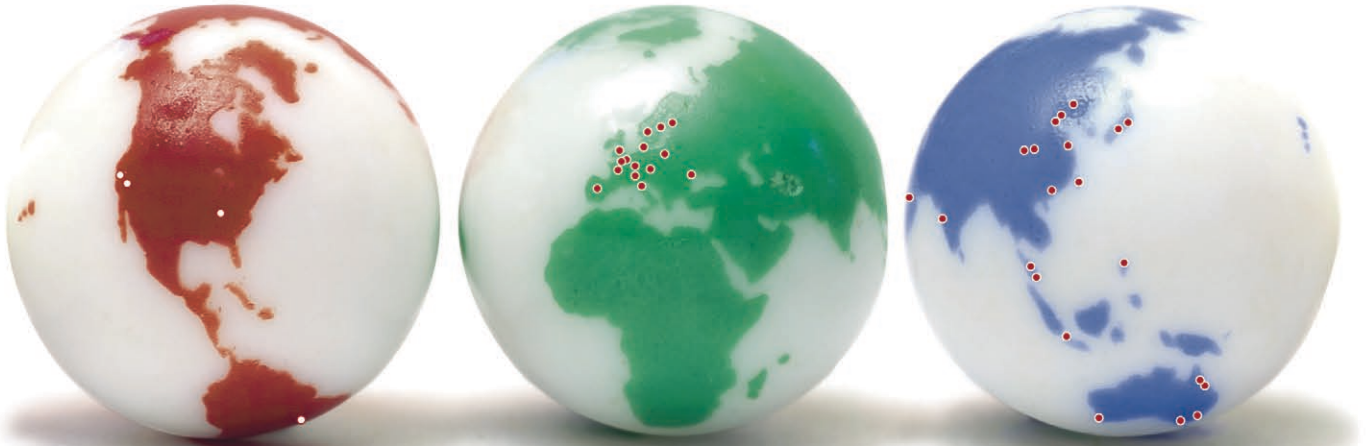
Notice concerning weight, numbers or apparent defects is to be given latest within 30 days from receipt of the Products, notice of other defects latest within the agreed warranty period.
 - 14.3 Purchaser shall not dispose of any allegedly defective Products until all warranty and/or damage claims are finally settled. At its request, defective Products are to be placed at Georg Fischer's disposal.
 - 14.4. At its request, Georg Fischer shall be given the opportunity to inspect the damage, prior to commencement of remedial work, either itself or by third party experts.
- 15. Warranty**
 - 15.1 At the written request of the Purchaser, Georg Fischer undertake to repair or replace, at their discretion, as quickly as possible and free of charge all Products supplied which demonstrably suffer from faulty design, materials or workmanship or from faulty operating or installation instructions. Replaced parts shall become property of Georg Fischer. For products which are manufactured to specifications drawings or patterns supplied by the Purchaser, Georg Fischer's warranty shall be restricted to proper materials and workmanship.
 - 15.2 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 are unable or refuse to remedy the defect or replace the defective Products within a reasonable period of time, or
 - Georg Fischer are unduly delaying such remedy or replacement
 - 15.3 For Products or essential components manufactured by a third party and supplied by Georg Fischer under this contract, Georg Fischer's warranty is limited to the warranty provided by said third party.
 - 15.4 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, unsuitable construction work or unsuitable building grounds, improper repairs or alterations by the Purchaser or third parties, the use of non-genuine parts and other reasons beyond Georg Fischer's control.
 - 15.5 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 after the expiration of twelve (12) months from receipt of the Products by the end user or at the latest within eighteen (18) months of the Products being dispatched by Georg Fischer.
 - 15.6 in case of Products for use in domestic installation or in utilities
 - Georg Fischer will assume the costs of dismantling the Products and restoring the damaged object as well as, in case of negligence, all other direct damages caused by the defective Products (damage to property and injury to or death of persons) up to a CHF 1,000,000 per occurrence.
 - The statute of limitations for warranty or damage claims - contrary to 15.5 - will be 5 years from the date installation.
- 16. Limitation of Liability**

All cases of breach of contract and the relevant consequences as well as all rights and claims on the part of the customer, irrespective on what ground they are based, are exhaustively covered by these general conditions of supply. In particular, any claim not expressly mentioned for damages reduction of price, termination of or withdrawal from the contract are excluded. In no case whatsoever shall the customer be entitled to claim damages other than compensation for costs of remedying defects in the supplies. This in particular refers, but shall not be limited, to loss of production, loss of use, loss of orders, loss of profit and other direct or indirect or consequential damage. The exclusion of liability, however does not apply, to unlawful intent or gross negligence on the part of Georg Fischer and in case of strict liability under applicable product liability statutes, but does apply to unlawful intent and gross negligence of persons employed or appointed by the supplier to perform any of its obligations.
- 17. Severability**

Should any term or clause of these General Conditions in whole or in part be found to be unenforceable or void, all other provisions shall remain in full force and effect and the unenforceable or void provision shall be replaced by a valid provision which comes closest to the original intention of the unenforceable or invalid provision.
- 18. Place of Performance and Jurisdiction**
 - 18.1 Place of performance for the Products shall be the Georg Fischer works from which the Products are dispatched.
 - 18.2 Any civil action based upon any alleged breach of this contract shall be filed and prosecuted exclusively in the courts of Shanghai, PR China. Georg Fischer however reserves the right of file actions in any court having jurisdiction over controversies arising out of or in connection with the present contract.
 - 18.3 The contract shall be governed by the Chinese law without regard to conflict of law provisions that would require the application of another law.

GF Piping Systems → Worldwide

Our sales companies and representatives ensure local customer support in over 100 countries.



For more information, please visit our company website:
www.cn.piping.georgfischer.com

Georg Fischer Piping Systems Ltd., Shanghai

Address: No. 218 East Kang Qiao Road, Pudong, Shanghai
201319, P.R. China
Tel: +86(0)21 5813 3333
Fax: +86(0)21 5813 3366
Website: www.cn.piping.georgfischer.com
E-mail: china.ps@georgfischer.com

Beijing Branch

Address: Rm.1205A, Prime Tower, No.22 Chaowai Street,
Chaoyang District, Beijing 100020, P.R.China
Tel: +86(0)10 6588 6550
Fax: +86(0)10 6588 5316

Shenzhen Branch

Address: Rm.1401, Shenzhen Development Central Building,
South Renmin Road, Shenzhen 518001, P.R. China
Tel: +86(0)755 8228 0172/73
Fax: +86(0)755 2519 2297

Chengdu Branch

Address: Rm.E, 12F, Vancouver Plaza, Qingjiang Road,
Chengdu 610072, P.R.China
Tel: +86(0)28 8775 0344/0361
Fax: +86(0)28 8773 5873