



PROFACTOR®
DER DEUTSCHE QUALITÄTSSTANDARD

EN

TECHNICAL DATA SHEET AND USER MANUAL



**PRODUCT
CODE**

PF PF 400 –
PF PF 499

PF MIP 270 –
PF MIP 272

**BRASS COMPRESSION
FITTINGS**

1. PURPOSE AND SCOPE

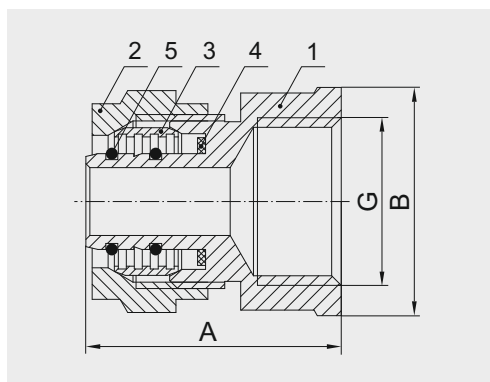
Brass compression fittings are designed to create detachable connections in multilayer composite pipe systems. Manifold connectors are intended for connecting multilayer composite pipes directly to shut-off and control valves or manifold assemblies.

They are used in cold and hot water supply systems, drinking and domestic water systems, heating systems for residential and public buildings, and as connectors for pipelines transporting liquids that are non-aggressive to the materials of the fittings.

2. TECHNICAL SPECIFICATIONS

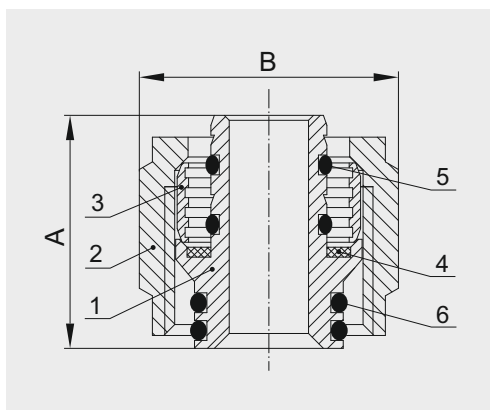
Product Code	PF	PF 400-418, PF 430-444, PF 450-464, PF 492-499, MIP 270-272	PF 420-428, PF 446-449, PF 466-488	Standard
Connection thread	G	1/2", 3/4", 1"	—	ISO 228/1, DIN 259
Outside diameter of the connected pipes	DN, mm	16, 20, 26, 32	—	—
Maximum pressure	bar	25	—	—
Working pressure	bar	16		
Operating medium temperature	°C	–30° to +110°	—	—
Average service life	years	30	IEC 60050 (191): 1990-12, NEQ	

3. DESIGN



PF PF 400 – 499:

- 1 – Body
- 2 – Union nut
- 3 – Split compression ring
- 4 – Dielectric gasket
- 5 – Sealing rings



PF MIP 270 – 272:

- 1 – Union
- 2 – Union nut
- 3 – Split compression ring
- 4 – Dielectric gasket
- 5, 6 – Sealing rings

Knurling is provided on the external pipe thread to improve adhesion with the sealing material during installation.

All cylindrical pipe threads are in an accordance with ISO 228-1:2000, DIN 259, and all metric threads are in an accordance with ISO 261:1998.

Compression fittings are compatible with multilayer composite pipes having the following geometric parameters:

Outside pipe diameter DN, mm	16	20	26	32
Wall thickness of the pipe, mm	2	2	3	3

4. MATERIALS

Body/Union (1) and Union nut (2) — Brass CW617N (DIN EN 12165) with nickel-plated surfaces

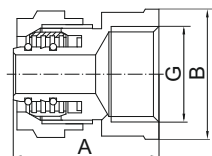
Split compression ring (3) — Brass CW614N (DIN EN 12165)

Dielectric gasket (4) — PTFE

Sealing rings (5, 6) — EPDM

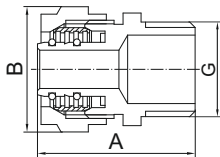
5. NOMENCLATURE AND DIMENSIONS

Straight compression fitting with Female thread coupling



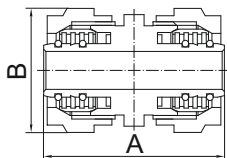
Product Code	Outside pipe diameter DN, mm Connection thread G	A, mm	B, mm	Weight, g
PF PF 400	16 x 1/2"	32	28,5	68
PF PF 401	16 x 3/4"	32	33,5	75
PF PF 402	20 x 1/2"	33	27,5	85
PF PF 403	20 x 3/4"	31,5	33,5	89
PF PF 405	26 x 3/4"	38	33,5	135
PF PF 406	26 x 1"	39	42	160
PF PF 407	32 x 3/4"	39,5	32	200
PF PF 408	32 x 1"	43	41,5	205

Straight compression fitting with Male thread coupling



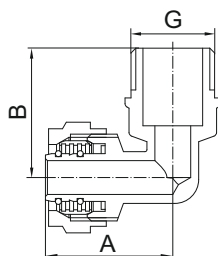
Product Code	Outside pipe diameter DN, mm Connection thread G	A, mm	B, mm	Weight, g
PF PF 410	16 x 1/2"	35	27,5	62
PF PF 411	16 x 3/4"	36	27,5	75
PF PF 412	20 x 1/2"	34,5	32,5	83
PF PF 413	20 x 3/4"	35,5	32,5	87
PF PF 415	26 x 3/4"	38	39	130
PF PF 416	26 x 1"	38	39	126
PF PF 417	32 x 3/4"	40	48,5	190
PF PF 418	32 x 1"	39	48,5	200

Straight double compression fitting



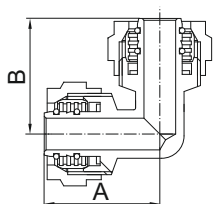
Product Code	Outside pipe diameter DN, mm Connection thread G	A, mm	B, mm	Weight, g
PF PF 420	16 x 16	40,5	27,5	95
PF PF 421	20 x 16	41,5	32,5	120
PF PF 422	20 x 20	40	32,5	128
PF PF 424	26 x 20	43	39	175
PF PF 425	26 x 26	45	39	200
PF PF 428	32 x 32	47	48,5	310

Compression elbow fitting with Male thread coupling



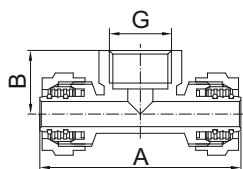
Product Code	Outside pipe diameter DN, mm Connection thread G	A, mm	B, mm	Weight, g
PF PF 438	16 x 1/2"	32	32,5	86
PF PF 439	16 x 3/4"	35	27	105
PF PF 440	20 x 1/2"	33	33,5	100
PF PF 441	20 x 3/4"	36	30	110
PF PF 442	26 x 3/4"	35	39,5	155
PF PF 443	26 x 1"	37	39	165
PF PF 444	32 x 1"	40	35,5	200

Double compression elbow fitting



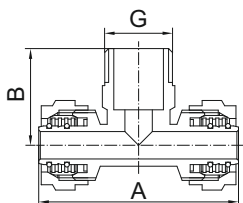
Product Code	Outside pipe diameter DN, mm	A, mm	B, mm	Weight, g
PF PF 446	16 x 16	31	31	100
PF PF 447	20 x 20	34	34	142
PF PF 448	26 x 26	37,5	37,5	195
PF PF 449	32 x 32	42,5	42,5	320

Compression tee joint with Female thread coupling



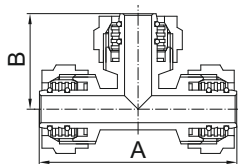
Product Code	Outside pipe diameter DN, mm Connection thread G	A, mm	B, mm	Weight, g
PF PF 450	16 x 1/2" x 16	68	21,5	140
PF PF 452	20 x 1/2" x 20	69	22	170
PF PF 453	20 x 3/4" x 20	74	24	188
PF PF 454	26 x 3/4" x 26	78	26,5	240
PF PF 455	26 x 1" x 26	83,5	30	290
PF PF 456	32 x 1" x 32	83,5	33	430

Compression tee joint with Male thread coupling



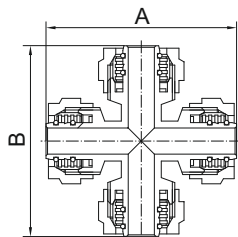
Product Code	Outside pipe diameter DN, mm Connection thread G	A, mm	B, mm	Weight, g
PF PF 458	16 x 1/2" x 16	62	30	132
PF PF 460	20 x 1/2" x 20	63	31	160
PF PF 461	20 x 3/4" x 20	74	33	190
PF PF 462	26 x 3/4" x 26	77,5	32	250
PF PF 463	26 x 1" x 26	83,5	36	300
PF PF 464	32 x 1" x 32	83,5	39	434

Compression tee joint



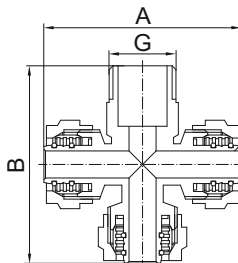
Product Code	Outside pipe diameter DN, mm	A, mm	B, mm	Weight, g
PF PF 466	16 x 16 x 16	62	30	147
PF PF 467	16 x 20 x 16	65,5	33,5	178
PF PF 468	20 x 16 x 16	66,5	33	180
PF PF 469	20 x 16 x 20	68	33	186
PF PF 471	20 x 20 x 20	68,5	34	192
PF PF 472	20 x 26 x 20	72	38	252
PF PF 475	26 x 20 x 20	69	37,5	252
PF PF 476	26 x 16 x 26	75	36	261
PF PF 477	26 x 20 x 26	71	37,5	270
PF PF 479	26 x 26 x 26	76	38	285
PF PF 480	26 x 32 x 26	86	43,5	395
PF PF 486	32 x 32 x 32	84	42,5	500

Compression cross tee joint



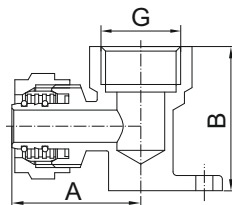
Product Code	Outside pipe diameter DN, mm	A, mm	B, mm	Weight, g
PF PF 487	16 x 16 x 16 x 16	62	30	147
PF PF 488	20 x 20 x 20 x 20	71	71	260

Compression cross tee joint with Male thread coupling



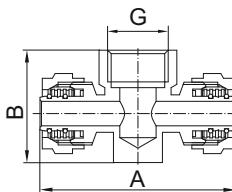
Product Code	Outside pipe diameter DN, mm Connection thread G	A, mm	B, mm	Weight, g
PF PF 492	16 x 16 x 16 x 1/2"	62	62	180

Wall-mounted compression elbow with Female thread coupling



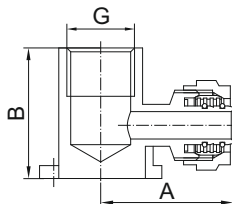
Product Code	Outside pipe diameter DN, mm Connection thread G	A, mm	B, mm	Weight, g
PF PF 494	16 x 1/2"	34	38	115
PF PF 495	16 x 3/4"	38	38	130
PF PF 496	20 x 1/2"	34,5	38	130
PF PF 497	20 x 3/4"	38,5	38	145

Wall-mounted straight compression tee with Female thread coupling



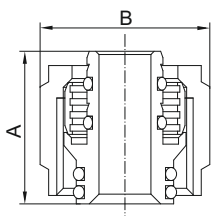
Product Code	Outside pipe diameter DN, mm Connection thread G	A, mm	B, mm	Weight, g
PF PF 498	16 x 1/2" x 16	68,5	39	170

Wall-mounted angled compression tee with Female thread coupling



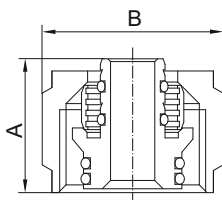
Product Code	Outside pipe diameter DN, mm Connection thread G	A, mm	B, mm	Weight, g
PF PF 499	16 x 1/2" x 16	41	40	210

Manifold connector for multilayer composite pipes



Product Code	Outside pipe diameter DN, mm Connection thread G	A, mm	B, mm	Weight, g
PF MIP 270	1/2"/15 x 16	23,5	26	48

Manifold connector with Eurocone for multilayer composite pipes



Product Code	Outside pipe diameter DN, mm Connection thread G	A, mm	B, mm	Weight, g
PF MIP 271	3/4"/18 x 16	24	33	69
PF MIP 272	3/4"/18 x 20	24	33	68

6. INSTALLATION INSTRUCTIONS

Before assembling multilayer composite pipe connections using compression fittings, cut the pipe strictly perpendicular to its axis, then calibrate the pipe end and remove the inner burr. Place the union nut onto the pipe, followed by the split compression ring. Push the pipe onto the fitting body nipple until it stops. Be careful not to damage the sealing rings!

Move the split compression ring and union nut towards the fitting body, then screw the union nut onto the fitting body thread by hand as far as possible. Next, while holding the fitting body with one wrench, tighten the union nut with another wrench of the appropriate size by the following number of turns: for pipes with a diameter of 16 mm — tighten 1½ turns after hand tightening; for pipes with a diameter of 20 mm — 1¼ turns; for pipes with a diameter of 26 mm and 32 mm — 1 turn. Use only open-end wrenches.

When installing manifold connectors (PF MIP 270, PF MIP 271, PF MIP 272) onto a manifold, nipple, or other fitting, after placing the pipe onto the fitting nipple, insert the nipple's other end into the corresponding outlet of the connected fitting. Move the split compression ring and union nut toward the fitting, screw the union nut by hand onto the thread of the connected fitting, and then tighten by the required number of turns depending on the pipe diameter.

Since compression joints are detachable, embedding them in building structures is prohibited. When connecting compression fittings that also have pipe threads to a steel pipeline, the thread length on the steel pipe must be at least 20 mm. Otherwise, the brass body of the fitting may be damaged due to wedging at the thread run-out. Connections of fittings with multilayer composite pipes do not require additional sealing.

When connecting fittings (with pipe threads) to steel or brass pipes, use PTFE-tape, polyamide thread with silicone, or flax fiber with special sealing pastes as sealing materials.

After installation, plumbing system assemblies must be tested for tightness. They should be tested using the hydrostatic (hydraulic) or bubble (pneumatic) method.

7. OPERATING AND MAINTENANCE

Compression fittings must be operated without exceeding the pressure and temperature values specified in the technical characteristics table (p. 2).

Installation and disassembly of the fittings must be carried out only when the system is depressurized. Operation of compression fittings without sealing rings and/or without a dielectric gasket is strictly prohibited.

After hydraulic testing of the system with compression fittings, as well as after the first five hours of operation of a system with a transported medium temperature above 50°C, it is necessary to check the tightness of the union nuts on the fittings. If any leakage is detected, the union nuts must be retightened.

The tightness of the union nuts of compression fittings must be checked at least once a year — for heating systems before the start of the heating season, and for domestic hot water systems after the scheduled summer shutdown of the hot water supply.

8. WARRANTY OBLIGATIONS

The warranty period is 24 months from the date of sale to the end consumer. Throughout the entire warranty period, the manufacturer guarantees the proper functioning of the product and its compliance with safety requirements, provided that the consumer follows the rules for storage, transportation, installation, operation, and maintenance of the product. The warranty covers all defects arising through the manufacturer's fault.

The warranty does not cover defects resulting from:

- Violation of storage, transportation, installation, operation, or maintenance conditions;
- Exposure to substances aggressive to the materials of the product;
- Signs of mechanical damage;
- Damage caused by fire, natural disasters, or other force majeure circumstances;
- Damage caused by improper actions of the user;
- Evidence of unauthorized interference with the product design.

The product described in this technical manual is a technically complex device that must be installed by a qualified specialist with appropriate experience working with this type of equipment.

Installation and commissioning must be carried out by an authorized and certified company.

Profactor Armaturen GmbH reserves the right to make changes to the product design that do not affect its technical characteristics or functional features.



INTERNATIONAL WARRANTY CARD

NAME OF THE PRODUCT

PRODUCT CODE, SIZE

QUANTITY

SELLER NAME AND ADDRESS

DATE OF PURCHASE

SELLER STAMP

SELLER SIGNATURE

For the warranty term refer to the Warranty obligation clause in the technical manual

FOLD LINE

FOLD LINE

In case of any claims to the product quality the following documents should be submitted:

1. Application with customer and product details:

- Name of the customer, actual address and phone number
- Article of the product
- Reason for the claim and photo
- Plumbing system where installed (name, address, phone number)

2. Invoice copy and receipt

3. Warranty card

RETURN/EXCHANGE COMMENTS

DATE

SIGNATURE



Profactor Armaturen GmbH

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