



V2420/V2430

Verafix-E

Presettable and drainable lockshield valve

APPLICATION

The Verafix-E is a presettable radiator lockshield valve for the return connection of radiators or heat exchangers. It is used:

- in typical two-pipe heating systems
- in special applications in one-pipe heating systems for shut-off and regulation of individual radiators. Together with a draining adapter (see 'Accessories') radiators can be drained or filled with the system in operation. The presetting isn't affected by this.

Installation in supply also possible, draining/filling function isn't supported.

The lockshield valve is suitable for hot water and low pressure steam heating systems and cold water cooling systems.



SPECIAL FEATURES

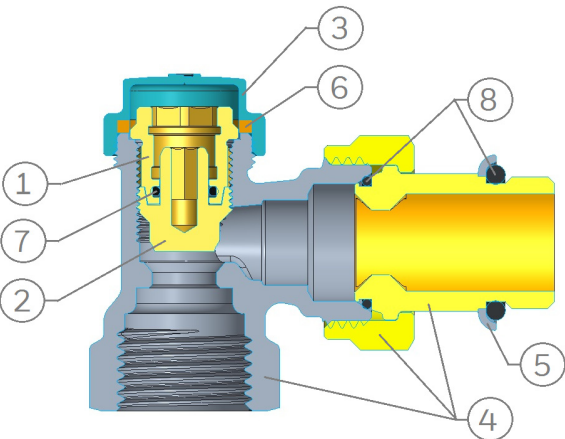
- Presetting, shut-off and draining/filling with one valve
- Presettable by stroke limitation
- Optional flow direction. Performance values apply for both directions
- Piston externally O-ring sealed
- Body dimensions to DIN3842
- Connection to all types of pipe DN10 - DN20

TECHNICAL DATA

Media	
Medium:	Water, water-glycol mixture Quality to VDI2035
pH-value:	8 - 9.5
Connection/Sizes	
Sizes:	DN10, DN15, DN20
Pipe-side connections:	internal thread connection to DIN EN 10226-1 3/4" Euroconus (EN 16313)
Radiator-side connections:	external thread connection to DIN EN 10226-1 with union-nut and radiator tailpiece external thread connection to DIN/ISO228 with union-nut and soft sealing radiator tailpiece
Operating temperatures	
Max. operating temperature:	130 °C
Min. operating temperature medium:	-10 °C non-freezing

Pressure values		
Max. operating pressure:	PN10, 10 bar (1000kPa)	
Max. differential pressure:	1.0 bar (100 kPa)	
Differential pressure recommended for quiet operation:	≤0.2 bar (20 kPa)	
Flow rates		
k _{VS} -value:	Straight DN10, DN15	1.25
	Angle DN10, DN15	1.70
	Straight, Angle DN20	1.80
Identification		
cover cap with embossed logo		

CONSTRUCTION

Overview	Components	Materials
	1 Insert cartridge for radiator draining	Brass
	2 Plunger for regulation and outlet pipe isolation	
	3 Cap for fail-safe sealing after draining	
	4 Valve body, tailpiece, nut	
	5 Radiator connection o-ring retaining plate (only V2430 and V2437)	
	6 Secondary seal for fail-safe sealing after draining	PTFE
	7 Plunger o-ring	EPDM 70
	8 Radiator tailpiece o-rings (only V2430 and V2437)	

METHOD OF OPERATION

The Verafix-E connects the return of a radiator or heat exchanger to the heating loop and has the functions of regulation, shut-off and draining/filling.

Regulation:

The flow can be regulated by presetting the Verafix-E to a certain value derived from the flow diagram. By presetting, the opening between valve insert and valve seat is reduced. In this way the flow is throttled. The Verafix-E is supplied set fully open.

Shut-off:

The return of the radiator can be shut-off by closing the valve insert.

Draining:

Draining or filling of the radiator is carried out with the draining adapter (see 'Accessories'). Draining of individual radiators using the Verafix-E has no influence on the water loop or other radiators in the loop.

Detailed illustrations of above functions chapter Shut-off/ Draining and Presetting.

TRANSPORTATION AND STORAGE

Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

Parameter	Value
Environment:	clean, dry and dust free
Min. ambient temperature:	0 °C
Max. ambient temperature:	50 °C
Max. ambient relative humidity:	75 % *

*non condensing

INSTALLATION GUIDELINES

Setup requirements

- To avoid stone deposit and corrosion the composition of the medium should conform with VDI-Guideline 2035
- Additives have to be suitable for EPDM sealings
- System has to be flushed thoroughly before initial operation with all valves fully open
- Any complaints or costs resulting from non-compliance with above rules will not be accepted by Resideo
- Please contact us if you should have any special requirements or needs

Installation Example

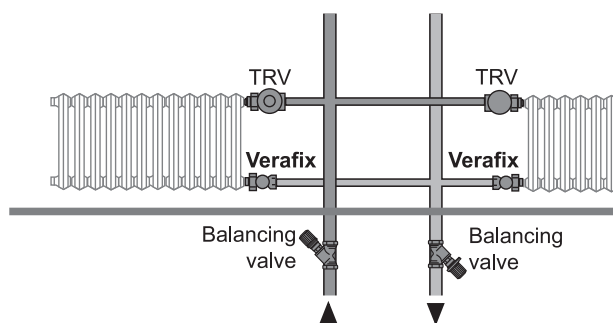


Fig. 1. Installation example heating system

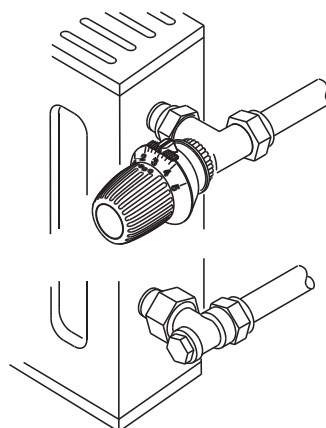
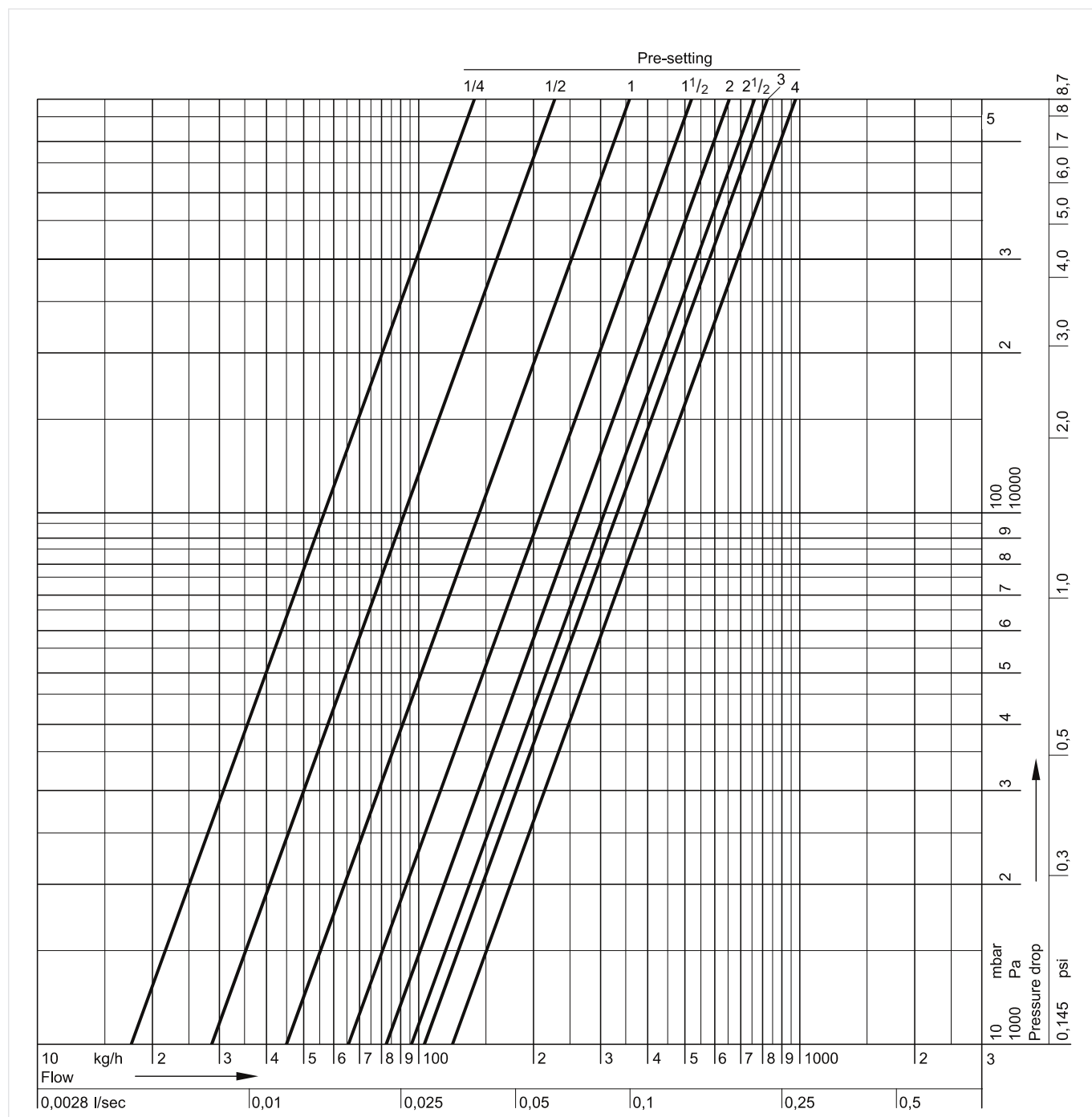


Fig. 2. Installation example radiator

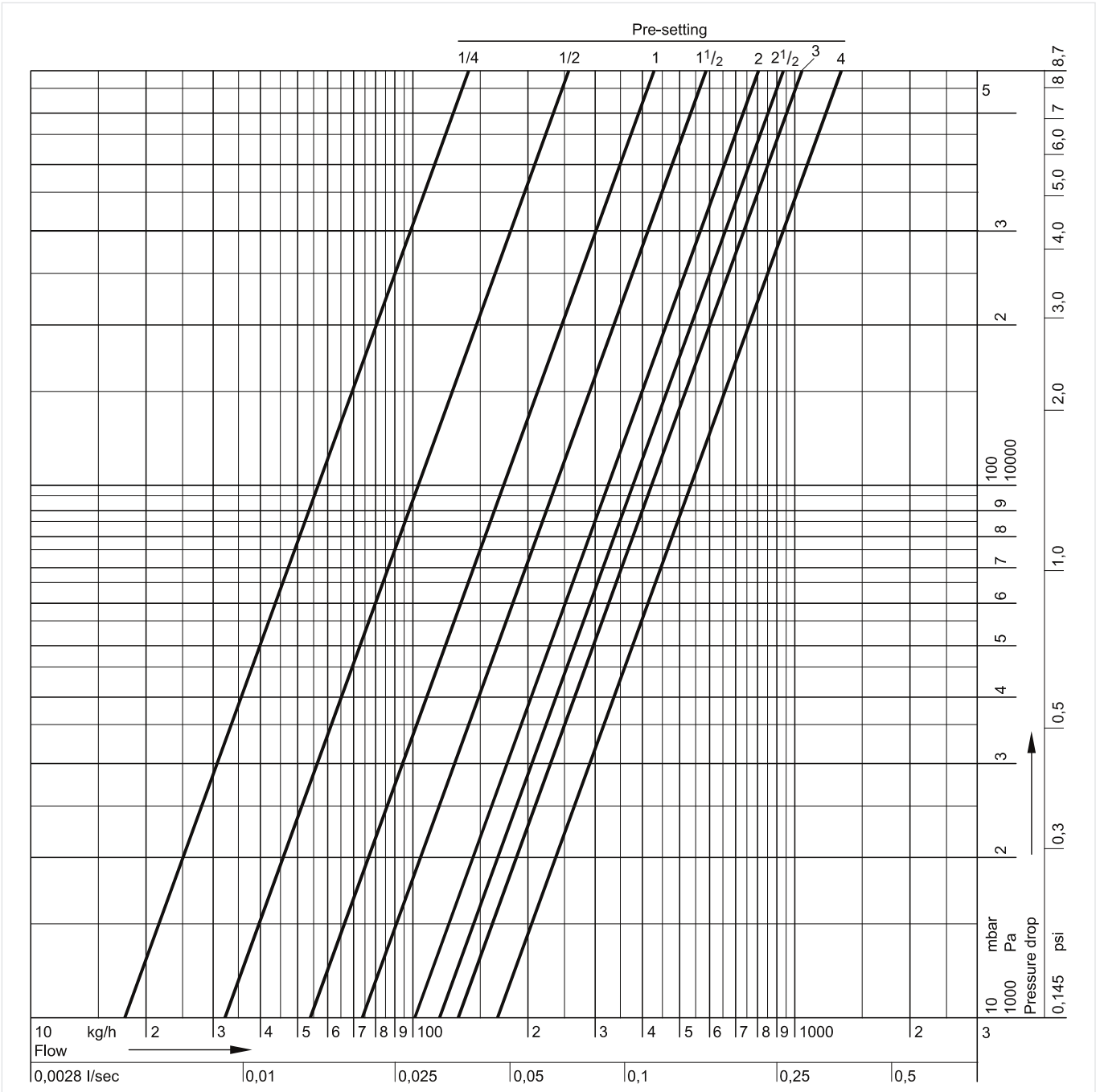
TECHNICAL CHARACTERISTICS

Flow Diagram for Verafix Straight, DN10 (V2420D0010), DN15 (V2420D0015)

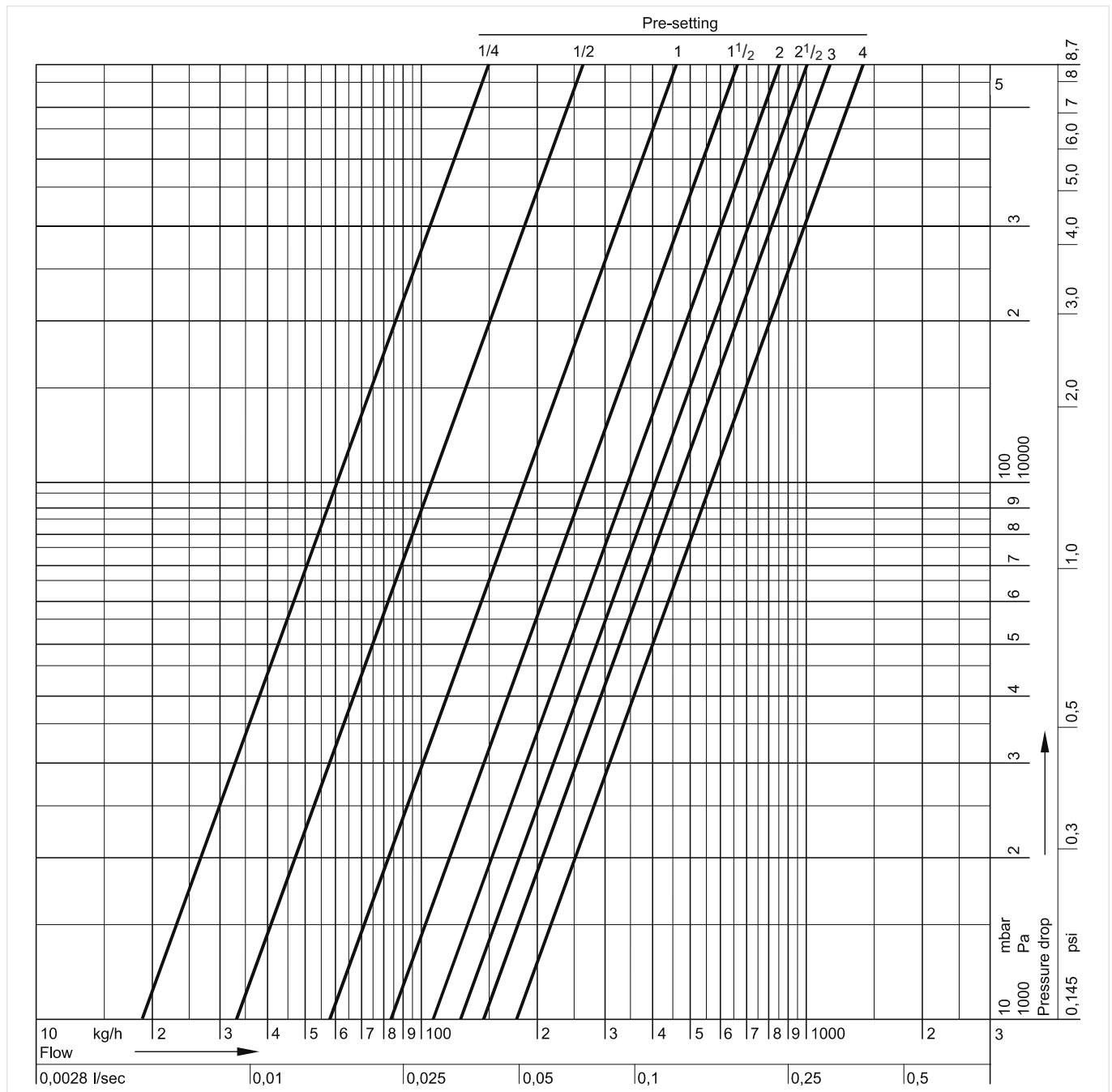


Turns of presetting screw	1/4	1/2	1	1 1/2	2	2 1/2	3	4 = open = k_{VS}
k_V -value	0.18	0.29	0.45	0.66	0.84	0.96	1.06	1.25
c_v -value	0.21	0.34	0.53	0.77	0.98	1.12	1.23	1.47

Flow Diagram for Verafix Angle, DN10 (V2420E0010), DN15 (V2420E0015)



Turns of presetting screw	1/4	1/2	1	1 1/2	2	2 1/2	3	4 = open = k _{VS}
k _v -value	0.18	0.33	0.55	0.77	1.03	1.20	1.34	1.70
c _v -value	0.22	0.38	0.64	0.90	1.20	1.39	1.55	1.98

Flow Diagram for Verafix Angle, Straight DN20 (V2420E0020, V2420D0020)


Turns of presetting screw	1/4	1/2	1	1 1/2	2	2 1/2	3	4 = open = k_{VS}
k_V-value	0.20	0.34	0.59	0.85	1.10	1.29	1.48	1.80
c_V-value	0.23	0.39	0.69	0.99	1.28	1.50	1.72	2.09

DIMENSIONS AND ORDERING INFORMATION

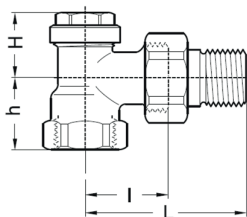


Fig. 3. Angled

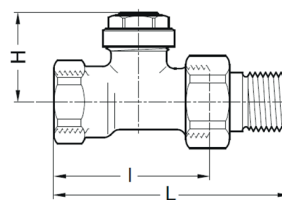


Fig. 4. Straight

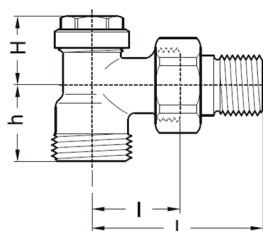


Fig. 5. Angled with external thread

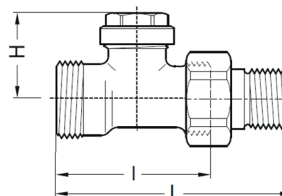


Fig. 6. Straight with external thread

Ranges

V2420	V2427	V2430	V2437
Bodies with internal threads and metal-to-metal sealing radiator tailpieces	Bodies with internal threads and metal-to-metal sealing radiator tailpieces	Bodies with internal threads and soft sealing radiator tailpieces	Bodies with internal threads and soft sealing radiator tailpieces
			

Tab. 1 V2420: Bodies with internal threads and metal-to-metal sealing radiator tailpieces

Type	DN	Pipe connection	k_{VS} -value	L	I	H	h	OS-No.
Angle (Fig. 3)	10	Rp 3/8"	1.70	52	26	23	-	V2420E0010
	15	Rp 1/2"	1.70	58	29	23	-	V2420E0015
	20	Rp 3/4"	1.80	66	34	27	-	V2420E0020
Straight (Fig. 4)	10	Rp 3/8"	1.25	75	49	30	-	V2420D0010
	15	Rp 1/2"	1.25	80	51	30	-	V2420D0015
	20	Rp 3/4"	1.80	91	59	30	-	V2420D0020

Note: All dimensions in mm unless stated otherwise.

Tab. 2 V2430: Bodies with internal threads and soft sealing radiator tailpieces

Type	DN	Pipe connection	k_{VS} -value	L	I	H	h	OS-No.
Angle (Fig. 3)	10	Rp 3/8"	1.70	52	26	23	22	V2430E0010
	15	Rp 1/2"	1.70	58	29	23	26	V2430E0015A
Straight (Fig. 4)	10	Rp 3/8"	1.25	75	49	30	-	V2430D0010
	15	Rp 1/2"	1.25	80	51	30	-	V2430D0015

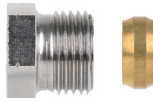
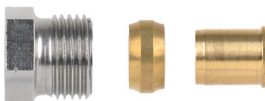
Tab. 3 V2427: Bodies with external threads and metal-to-metal sealing radiator tailpieces

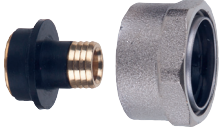
Type	DN	Pipe connection	k_{VS} -value	L	I	H	h	OS-No.
Angle (Fig. 5)	15	G 3/4"	1.70	58	29	23	26	V2427E0015
Straight (Fig. 6)	15	G 3/4"	1.25	80	51	30	-	V2427D0015

Tab. 4 V2437: Bodies with external threads and soft sealing radiator tailpieces

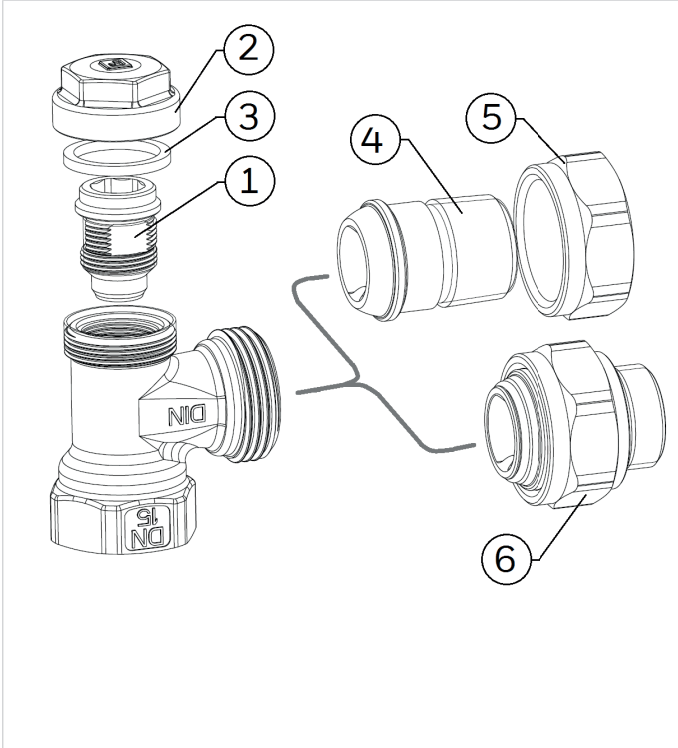
Type	DN	Pipe connection	k_{VS} -value	L	I	H	h	OS-No.
Angle (Fig. 5)	15	G 3/4"	1.70	58	29	23	26	V2437E0015
Straight (Fig. 6)	15	G 3/4"	1.25	80	51	30	-	V2437D0015

Accessories

	Description	Dimension	Part No.	
	FIG3/8CS	Compression fitting for COPPER and STEEL pipe		
		Consisting of compression nut and compression ring. For valves with internal thread.		
		Note: Support inserts have to be used for copper or soft steel pipe with 1.0 mm wall thickness. Max. operating temperature 120 °C, max. operating pressure 10 bar.		
		3/8", DN10	10 mm	FIG3/8CS10
		3/8", DN10	12 mm	FIG3/8CS12
		1/2", DN15	10 mm	FIG1/2CS10
		1/2", DN15	12 mm	FIG1/2CS12
		1/2", DN15	14 mm	FIG1/2CS14
		1/2", DN15	15 mm	FIG1/2CS15
		1/2", DN15	15 mm	FIG1/2CS15-10
		1/2", DN15	16 mm	FIG1/2CS16
	FIG3/8CSS	Compression fitting for COPPER and STEEL pipe		
		Consisting of compression nut and compression ring and support insert. For valves with internal thread.		
		Note: Support inserts have to be used for copper or soft steel pipe with 1.0 mm wall thickness. Max. operating temperature 120 °C, max. operating pressure 10 bar.		
		3/8", DN10	12 mm	FIG3/8CSS12
		1/2", DN15	12 mm	FIG1/2CSS12
		1/2", DN15	14 mm	FIG1/2CSS14
		1/2", DN15	15 mm	FIG1/2CSS15
		1/2", DN15	16 mm	FIG1/2CSS16
		1/2", DN15	18 mm	FIG1/2CSS18
		3/4", DN20	18 mm	FIG3/4CSS18
		FIG1/2M	Compression fitting for MULTILAYER pipe. Consisting of compression nut, compression ring and support insert. For valves with internal thread.	
		Note: Max. operating temperature 90°C, max. operating pressure 10 bar		
		1/2", DN15	16 mm	FIG1/2M16X2
	FEG3/4CS	Compression fitting for COPPER and STEEL pipe.		
		Consisting of one-piece (preassembled) nut. Soft sealing connection. For valves with external thread G ³ /4".		
		Note: Reinforcing insert for copper or soft steel pipe with 1.0 mm wall thickness not required. Max. operating temperature 90°C, max. operating pressure 10 bar.		
		G ³ /4", 1 pcs.	10 mm	FEG3/4CS10
		G ³ /4", 1 pcs.	12 mm	FEG3/4CS12
		G ³ /4", 1 pcs.	14 mm	FEG3/4CS14
		G ³ /4", 10 pcs.	14 mm	FEG3/4CS14-10
		G ³ /4", 1 pcs.	15 mm	FEG3/4CS15
		G ³ /4", 10 pcs.	15 mm	FEG3/4CS15-10
		G ³ /4", 1 pcs.	16 mm	FEG3/4CS16
	G ³ /4", 1 pcs.	18 mm	FEG3/4CS18	
	FEG3/4P	Compression fitting for PEX pipe.		
		Consisting of one-piece (preassembled) nut and reinforcing insert. Soft sealing connection. For valves with external thread G ³ /4".		
		Note: Max. operating temperature 90°C, max. operating pressure 10 bar.		
		G ³ /4", 1 pcs.	12 x 1.1 mm	FEG3/4P12X1.1
		G ³ /4", 1 pcs.	16 x 1.5 mm	FEG3/4P16X1.5

	FEG3/4PM	Compression fitting for PEX and MULTILAYER pipe. Consisting of one-piece nut with preassembled antitorsion elastic compression ring and one-piece reinforcing insert. For valves with external thread G ^{3/4} ". Note: Max. operating temperature 90°C, max. operating pressure 10 bar.		
		G ^{3/4} ", 1 pcs.	14 x 2 mm	FEG3/4PM14X2
		G ^{3/4} ", 1 pcs.	16 x 2 mm	FEG3/4PM16X2
		G ^{3/4} ", 1 pcs.	16 x 2.2 mm	FEG3/4PM16X2.2
		G ^{3/4} ", 1 pcs.	17 x 2 mm	FEG3/4PM17X2
		G ^{3/4} ", 1 pcs.	18 x 2 mm	FEG3/4PM18X2
		G ^{3/4} ", 1 pcs.	20 x 2 mm	FEG3/4PM20X2
	VA5201Axxx	Radiator tailpiece with thread up to collar		
		for valves DN10 (³ / ₈ ")		VA5201A010
		for valves DN15 (¹ / ₂ ")		VA5201A015
		for valves DN20 (³ / ₄ ")		VA5201A020
	VA5204Bxxx	Extended radiator tailpiece, nickel-plated, to be shortened as required		
		³ / ₈ " x 70 mm (for DN10) thread approx. 50 mm		VA5204B010
		¹ / ₂ " x 76 mm (for DN15) thread approx. 65 mm		VA5204B015
		³ / ₄ " x 70 mm (for DN20) thread approx. 60 mm		VA5204B020
	VA3300	Draining adapter		
		for all sizes		VA3300A001
	VA8300	Verafix-key		
		for all sizes		VA8300A001
	VA2202A	Pressure cap – for shutting off valves on radiator outlet		
		G ⁵ / ₈ " internal thread - for DN10 valves		VA2202A010
		G ³ / ₄ " internal thread - for DN15 valves		VA2202A015
	VA5090	PTFE sealing ring		
		for valves DN10		VA5090A010
		for valves DN15		VA5090A015
		for valves DN20		VA5090A020

Spare Parts

Overview	Description	Dimension	Part No.
	1 Replacement valve insert		
	Verafix type		VS1300VF02
	2 Cap for fail-safe sealing after draining		
	for all sizes		VS3301C001
	3 Secondary seal for fail-safe sealing after draining		
	for all sizes		VS3302A001
	4 Metal-to-metal sealing radiator tailpiece		
		3/8", DN10	VA5200B010
		1/2", DN15	VA5200B015
		3/4", DN20	VA5200B020
	5 Coupling nut, nickel plated		
		DN10, nut with G 5/8" internal thread	VA5000B010
		DN15, nut with G 3/4" internal thread	VA5000B015
		DN20, nut with G 1" internal thread	VA5000B020
	6 Soft sealing radiator tailpiece with nut		
		3/8", DN10, nut with G 5/8" internal thread	VA5536A010
		1/2", DN15, nut with G 3/4" internal thread	VA5536A015

For more information
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