



# V2420/V2430

## Verafix-E

Pre-settable and drainable lockshield valve

### APPLICATION

The Verafix-E is a pre-settable 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 pre-setting 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

- Pre-setting, shut-off and draining/filling with one valve
- Pre-settable 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

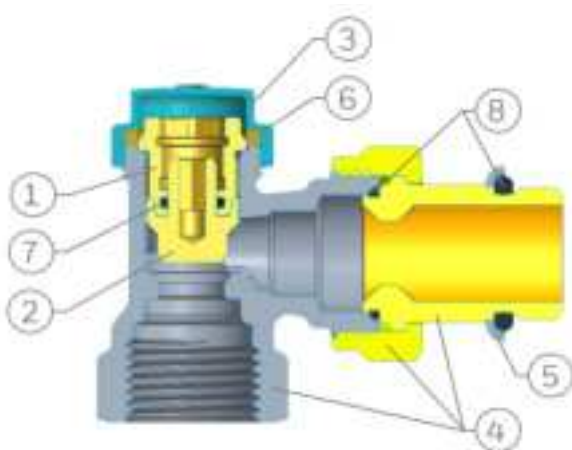
### TECHNICAL DATA

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

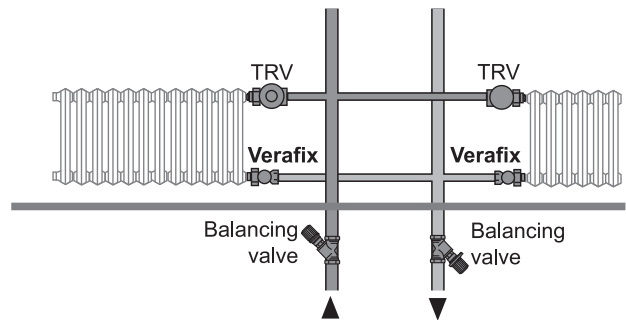


Fig. 1. Installation example heating system

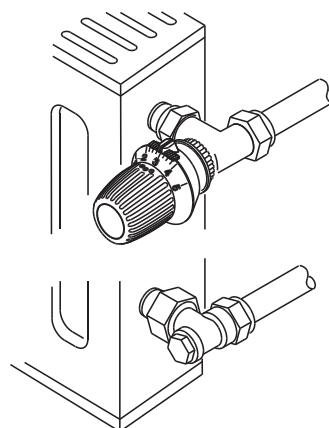
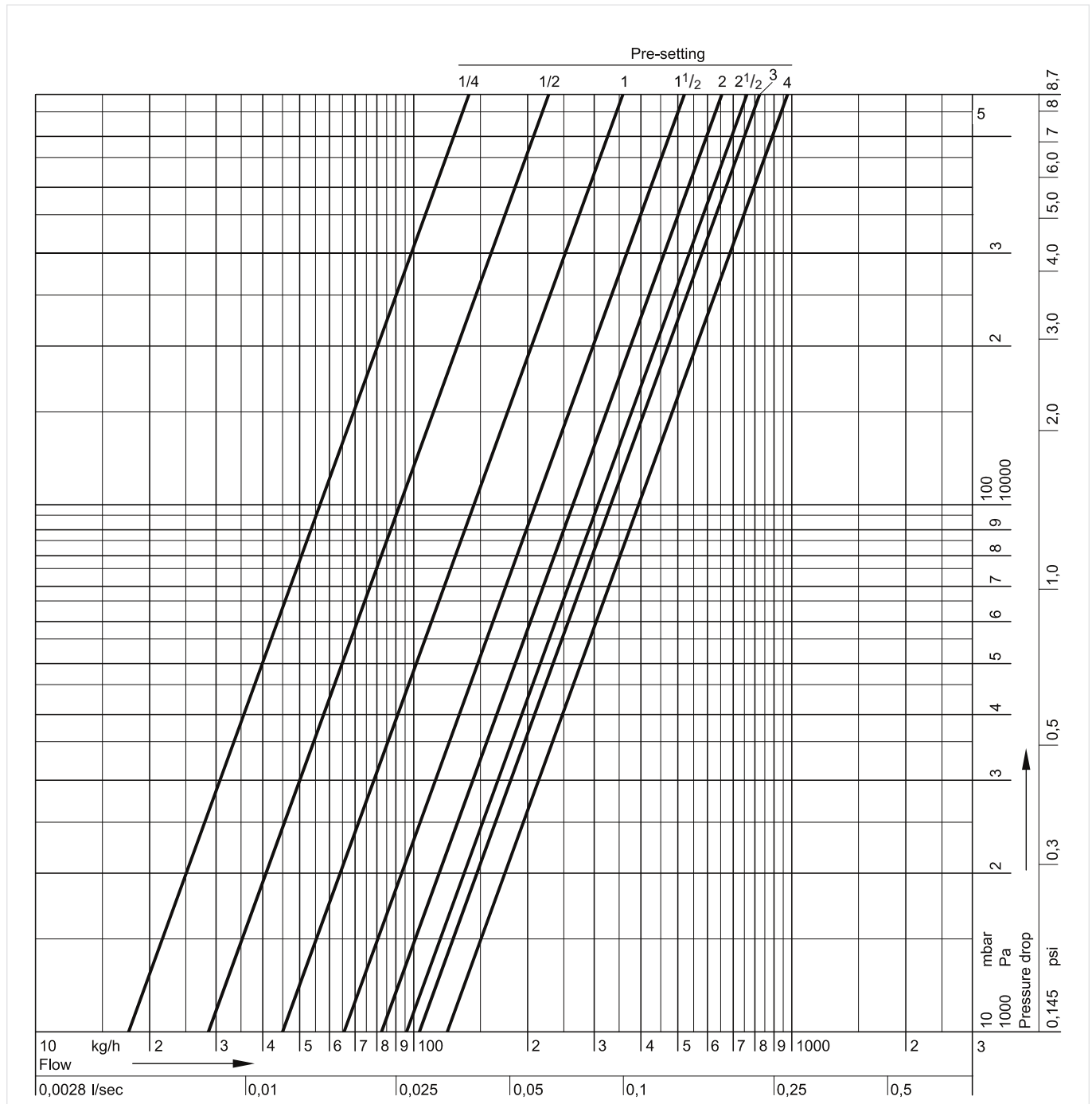


Fig. 2. Installation example radiator

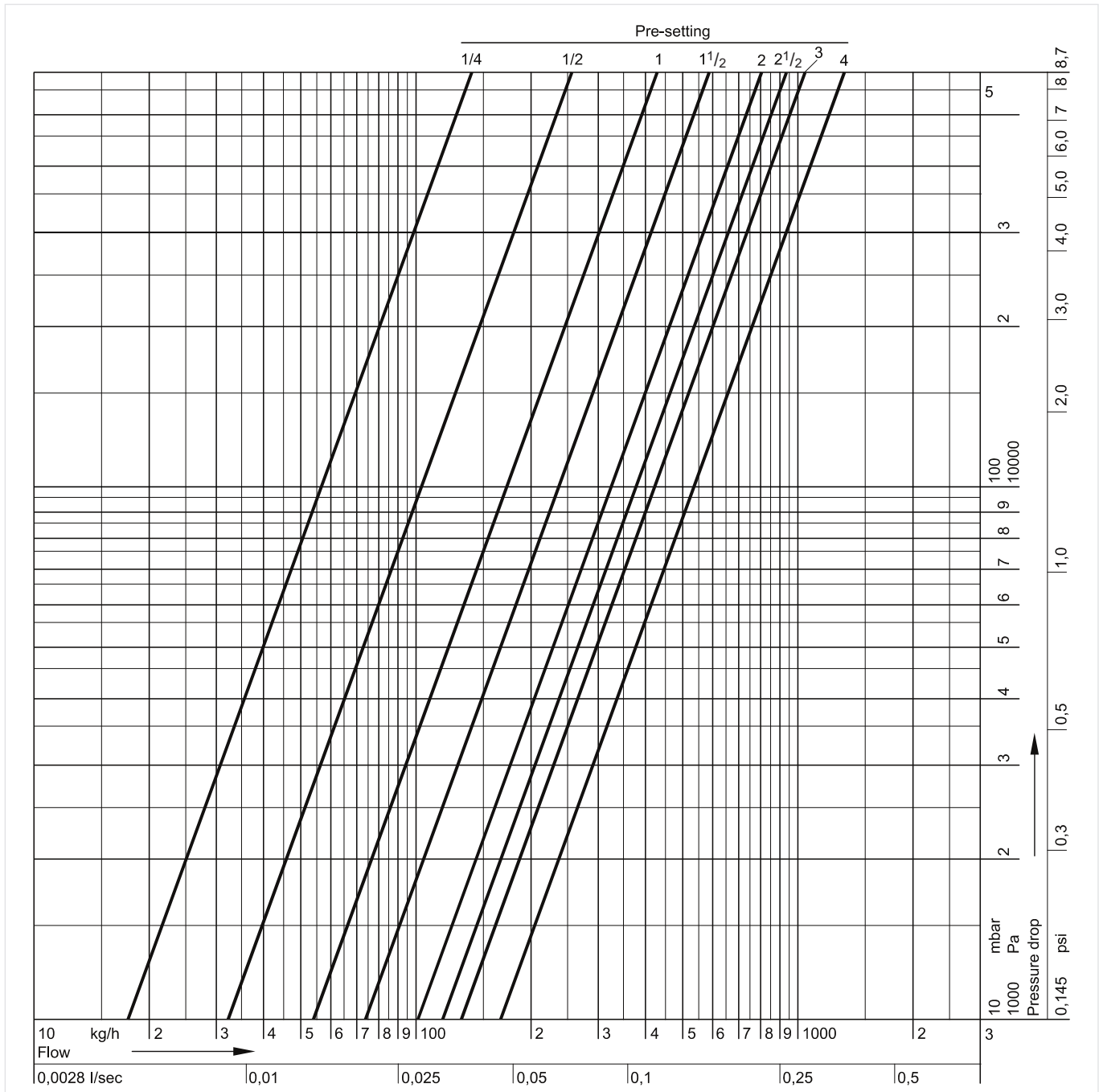
## TECHNICAL CHARACTERISTICS

### Flow Diagram for Verifix Straight, DN10 (V2420D0010), DN15 (V2420D0015)



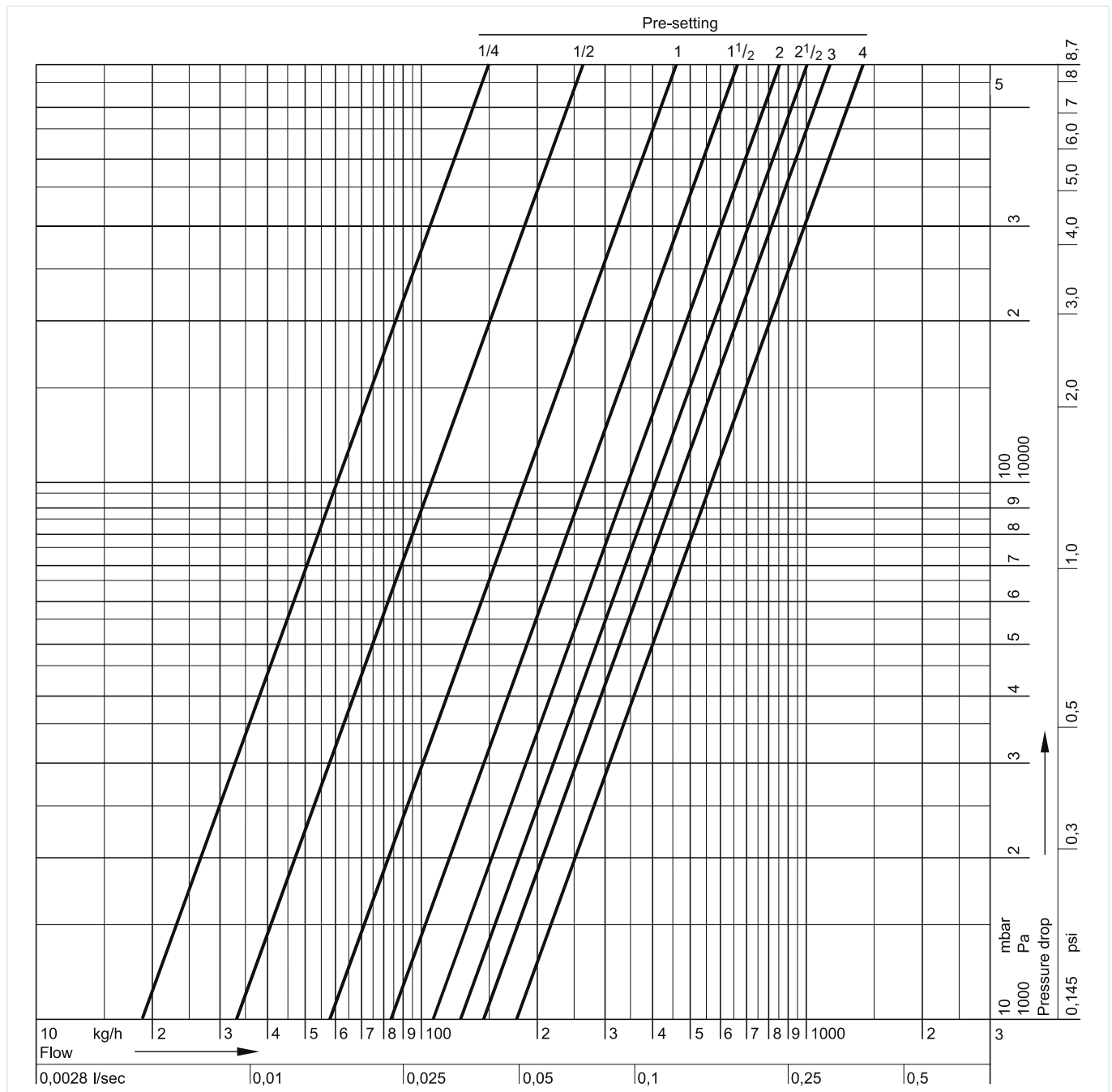
Turns of presetting screw	1/4	1/2	1	1 1/2	2	2 1/2	3	4 = open = $k_{vs}$
<b><math>k_v</math>-value</b>	0.18	0.29	0.45	0.66	0.84	0.96	1.06	1.25
<b><math>cv</math>-value</b>	0.21	0.34	0.53	0.77	0.98	1.12	1.23	1.47

**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 <sub>VS</sub>
<b>k<sub>v</sub>-value</b>	0.18	0.33	0.55	0.77	1.03	1.20	1.34	1.70
<b>cv-value</b>	0.22	0.38	0.64	0.90	1.20	1.39	1.55	1.98

## Flow Diagram for Verifix Angle, Straight DN20 (V2420E0020, V2420D0020)



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

## DIMENSIONS AND ORDERING INFORMATION



Fig. 3. Angled

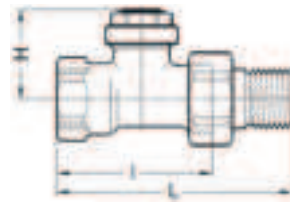


Fig. 4. Straight

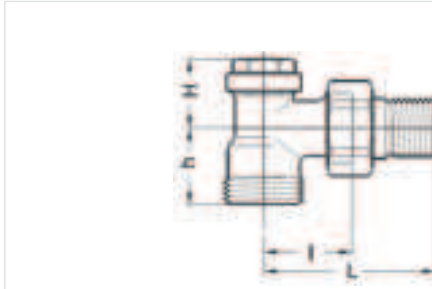


Fig. 5. Angled with external thread

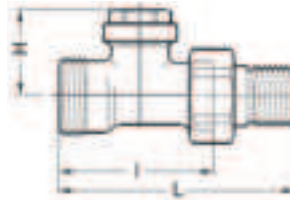


Fig. 6. Straight with external thread

### 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

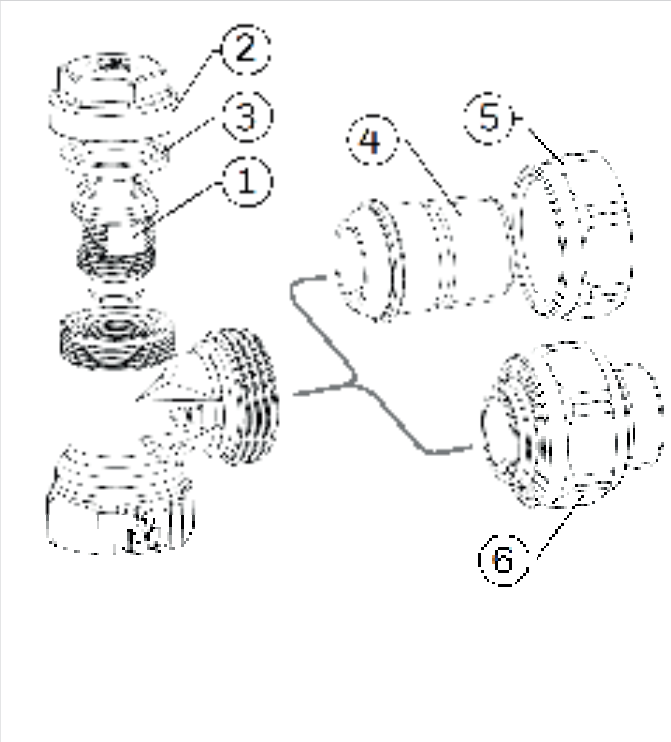
## Accessories

	Description	Dimension	Part No.	
	<b>FIG3/8CS</b>	<b>Compression fitting for COPPER and STEEL pipe</b>		
		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
	3/4", DN18	18 mm	FIG3/4CS18	
	3/4", DN22	22 mm	FIG3/4CS22	
	<b>FIG3/8CSS</b>	<b>Compression fitting for COPPER and STEEL pipe</b>		
		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	
	<b>FIG1/2M</b>	<b>Compression fitting for MULTILAYER pipe. Consisting of compression nut, compression ring and support insert. For valves with internal thread.</b>		
		Note: Max. operating temperature 90°C, max. operating pressure 10 bar		
	1/2", DN15	16 mm	FIG1/2M16X2	
	<b>FEG3/4CS</b>	<b>Compression fitting for COPPER and STEEL pipe.</b>		
		Consisting of one-piece (preassembled) nut. Soft sealing connection. For valves with external thread G <sup>3/4</sup> ".		
		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 <sup>3/4</sup> ", 1 pcs.	10 mm	FEG3/4CS10
		G <sup>3/4</sup> ", 1 pcs.	12 mm	FEG3/4CS12
		G <sup>3/4</sup> ", 1 pcs.	14 mm	FEG3/4CS14
		G <sup>3/4</sup> ", 10 pcs.	14 mm	FEG3/4CS14-10
		G <sup>3/4</sup> ", 1 pcs.	15 mm	FEG3/4CS15
		G <sup>3/4</sup> ", 10 pcs.	15 mm	FEG3/4CS15-10
	G <sup>3/4</sup> ", 1 pcs.	16 mm	FEG3/4CS16	
	G <sup>3/4</sup> ", 1 pcs.	18 mm	FEG3/4CS18	
	<b>FEG3/4P</b>	<b>Compression fitting for PEX pipe.</b>		
		Consisting of one-piece (preassembled) nut and reinforcing insert. Soft sealing connection. For valves with external thread G <sup>3/4</sup> ".		
		Note: Max. operating temperature 90°C, max. operating pressure 10 bar.		
	G <sup>3/4</sup> ", 1 pcs.	12 x 1.1 mm	FEG3/4P12X1.1	
	G <sup>3/4</sup> ", 1 pcs.	16 x 1.5 mm	FEG3/4P16X1.5	

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



## Spare Parts

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

[homecomfort.resideo.com/europe](http://homecomfort.resideo.com/europe)



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