



# V2000SL

## SL type TRV Body

Radiator valve with stroke limited cartridge

### APPLICATION

Thermostatic radiator valve bodies (TRV bodies) are fitted on the supply or return of radiators or heat exchangers. Together with a radiator thermostat, for example the Thera-4, they control the room temperature by regulating the flow of hot water into the radiator or heat exchanger. The temperature of different rooms is controlled individually and energy is saved.

TRV bodies of this type have quiet operation and are fitted to the supply of radiators on two-pipe systems with medium flow rates.

The valve insert can be replaced while the system is running and without draining using the service tool (see 'Accessories').

TRV bodies of this type are suitable for

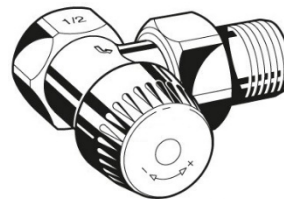
- Honeywell Home radiator thermostats with M30 x 1.5 connection
- Certain Honeywell Home MT4 actuators
- Honeywell Home Hometronic HR80 and Roomtronic HR40 actuators

### AT-CONCEPT

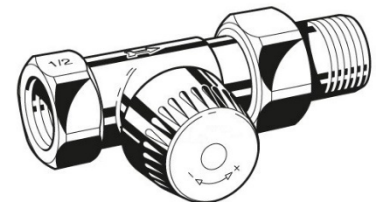
AT-Concept valves share the same valve housing design. The valve insert can be replaced by any other AT-Concept valve insert, i.e. BB, KV, UBG, SL, VS, FS, FV and SC.

### FEATURES

- With adjustable stroke limitation
- Quiet operation
- Valve insert can be replaced while system is operating and without draining the system
- Standard M30 x 1.5 thermostat connection



Angle to DIN



Straight to DIN



### SPECIFICATIONS

Medium:	Heating water, water quality to VDI2035	
Max. operating temperature:	130 °C (266°F)	
Operating pressure:	PN10	
Max. differential pressure:	100 kPa (1 bar, 14.5 psi) – 20 kPa (0.2 bar, 2.9 psi) recommended for quiet operation	
k <sub>Vs</sub> (c <sub>Vs</sub> )-value:	DN10	1.70 (1.99)
	DN15	1.85 (2.16)
	DN20	1.95 (2.28)
Nominal flow:	190 kg/h	
Body-head connection:	M30 x 1.5	
Closing dimension:	11.5 mm	
Stroke:	2.5 mm	

## DESIGN

The thermostatic radiator valve body consists of:

- Valve housing PN10, DN10, 15 or 20 with
  - internal thread connection to DIN2999 (ISO7) for threaded, copper or precision steel pipe on inlet (compression ring fittings see 'Accessories')
  - external thread connection to DIN/ISO228 with union-nut and radiator tailpiece on outlet
  - angle to DIN and straight to DIN bodies with dimensions according to EN215, Appendix A, Series D
  - angle to NF and straight to NF bodies with dimensions according to EN215, Appendix A, Series F
- Valve insert with SL type stroke limited cartridge
- Protection cap
- Union-nut and radiator tailpiece

## MATERIALS

- Valve housing made of nickel-plated hot-forged brass
- Valve insert made of brass with EPDM O-rings and soft seals and stainless steel spindle
- Protection cap made of white plastic
- Union-nut and tailpiece made of nickel-plated brass

## FUNCTION

Thermostatic radiator valves enable individual control of room temperature and thus save energy.

The TRV body is controlled by the radiator thermostat. Air from the room passing over the sensor of the radiator thermostat causes the sensor to expand when the temperature rises. The sensor acts onto the valve spindle and this causes the TRV body to close. When the temperature falls the sensor contracts and the spring-loaded valve spindle is opened. The TRV opens in proportion to the temperature of the sensor. Only the amount of water required to maintain the room temperature set on the radiator thermostat can flow into the radiator.

## INSTALLATION EXAMPLE

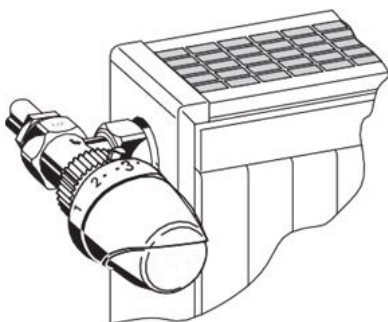


Fig. 1. Angle

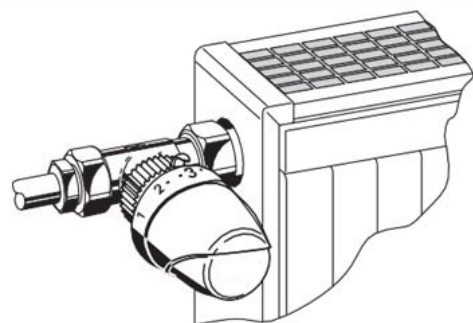


Fig. 2. Straight

## IDENTIFICATION

- White protection cap
- Brass valve insert with black plastic scale on top

## PLEASE NOTE:

- 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 Honeywell Home
- Please contact us if you should have any special requirements or needs

## PRESETTING

Presetting is done by first closing and then opening the black presetting ring on the top side of the valve to the number derived from the flow diagram. Presetting 10 is 1 complete turn of the presetting screw.

## DIMENSIONS AND ORDERING INFORMATION

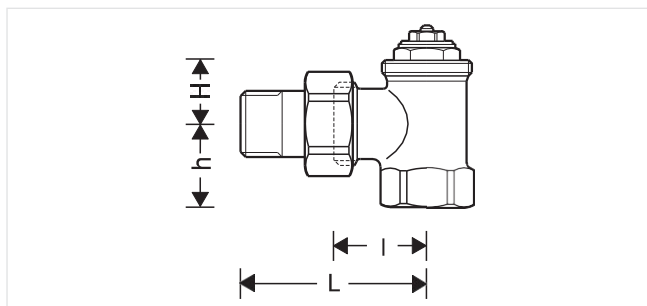


Fig. 3. Angle

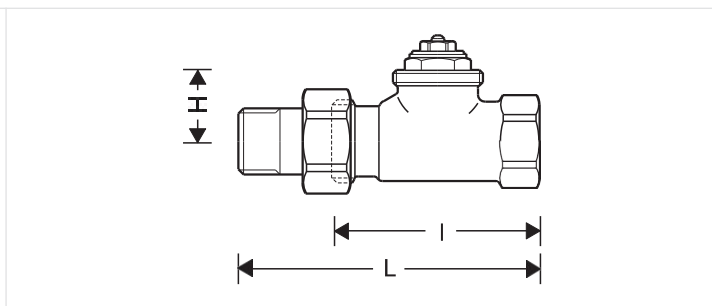


Fig. 4. Straight

**Tab. 1 Dimensions and OS-Nos (OS=Ordering System)**

Body type	DN	EN 215 certified	$k_{vs}(c_{vs})$ -value	Pipe connection	I	L	h	H	h <sub>2</sub>	OS-No.
Angle to EN 215 (D) (Fig. 3)	15	•	1.85 (2.16)	Rp 1/2"	29	58	26	20	-	V2000ESL15
	20	•	1.95 (2.28)	Rp 3/4"	34	66	29	19	-	V2000ESL20
Straight to EN 215 (D) (Fig. 4)	15	•	1.85 (2.16)	Rp 1/2"	66	95	-	25	-	V2000DSL15
	20	•	1.95 (2.28)	Rp 3/4"	74	106	-	25	-	V2000DSL20
Angle to EN 215 (F) (Fig. 3)	10	•	1.70 (1.99)	Rp 3/8"	24	49	20	21	-	V2020ESL10
	15	•	1.85 (2.16)	Rp 1/2"	26	53	23	22	-	V2020ESL15
	20	•	1.95 (2.28)	Rp 3/4"	34	66	29	18	-	V2020ESL20
Straight to EN 215 (F) (Fig. 4)	10	•	1.70 (1.99)	Rp 3/8"	50	75	-	26	-	V2020DSL10
	15	•	1.85 (2.16)	Rp 1/2"	55	82	-	26	-	V2020DSL15
	20	•	1.95 (2.28)	Rp 3/4"	74	106	-	24	-	V2020DSL20

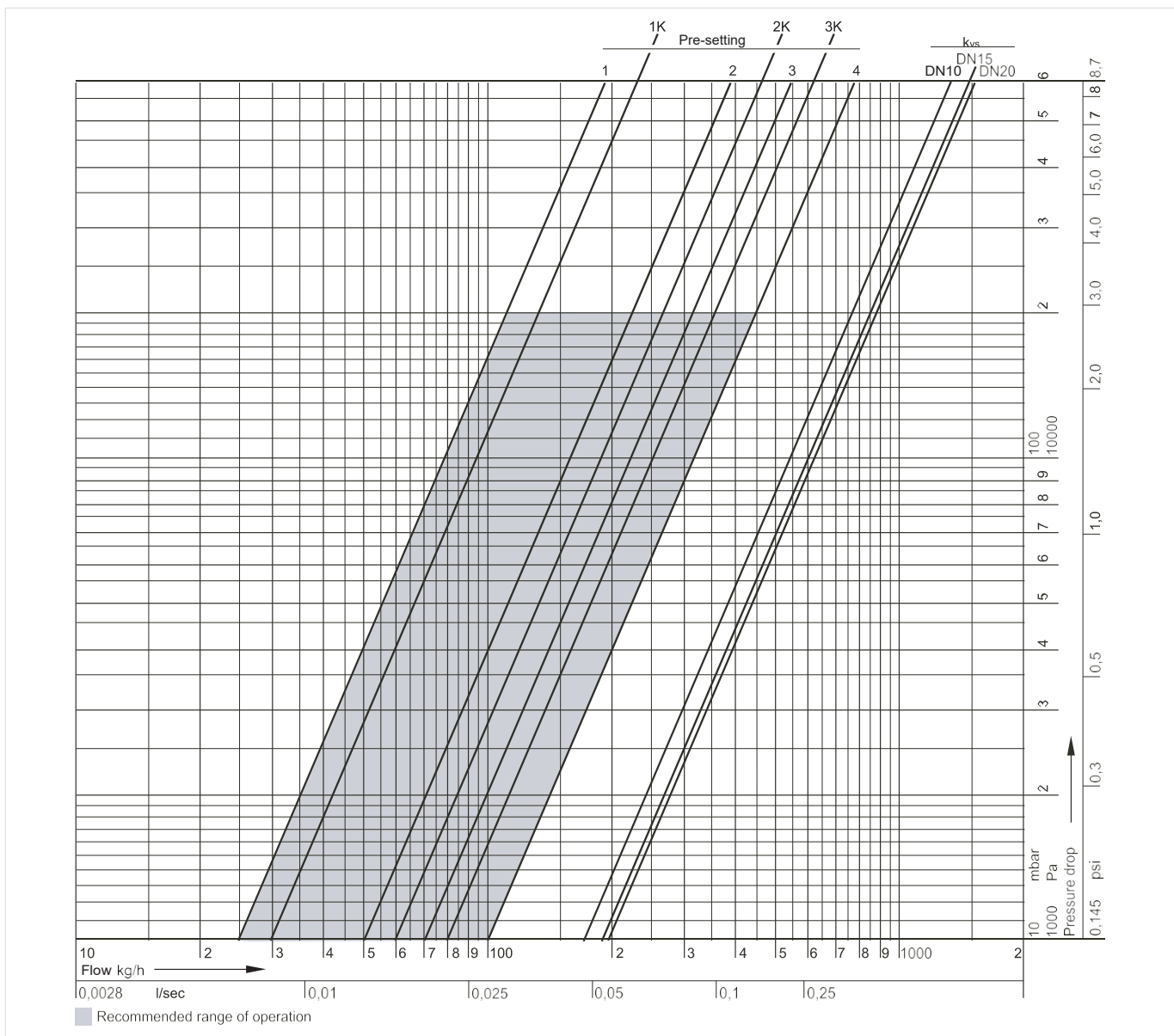
Note: All dimensions in mm unless stated otherwise.

## 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, 1 pcs.	10 mm	FIG3/8CS10
	3/8", DN10, 1 pcs.	12 mm	FIG3/8CS12
	1/2", DN15, 1 pcs.	10 mm	FIG1/2CS10
	1/2", DN15, 1 pcs.	12 mm	FIG1/2CS12
	1/2", DN15, 1 pcs.	14 mm	FIG1/2CS14
	1/2", DN15, 1 pcs.	15 mm	FIG1/2CS15
	1/2", DN15, 10 pcs.	15 mm	FIG1/2CS15-10
	1/2", DN15, 1 pcs.	16 mm	FIG1/2CS16
	3/4", DN20, 1 pcs.	18 mm	FIG3/4CS18
	3/4", DN20, 1 pcs.	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.		
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	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

	<p><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></p> <p>Note:      Max. operating temperature 90°C, max. operating pressure 10 bar</p>								
	<p><b>VA6290</b>      <b>Reduction piece</b></p> <table border="1"> <tr> <td>1" pipe &gt; 1/2" valve</td> <td>VA6290A260</td> </tr> <tr> <td>1 1/4" pipe &gt; 1/2" valve</td> <td>VA6290A280</td> </tr> <tr> <td>1" pipe &gt; 3/4" valve</td> <td>VA6290A285</td> </tr> <tr> <td>1 1/4" pipe &gt; 3/4" valve</td> <td>VA6290A305</td> </tr> </table>	1" pipe > 1/2" valve	VA6290A260	1 1/4" pipe > 1/2" valve	VA6290A280	1" pipe > 3/4" valve	VA6290A285	1 1/4" pipe > 3/4" valve	VA6290A305
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	<p><b>VA5201Axxx</b>      <b>Radiator tailpiece with thread up to collar</b></p> <table border="1"> <tr> <td>for valves DN10 (3/8")</td> <td>VA5201A010</td> </tr> <tr> <td>for valves DN15 (1/2")</td> <td>VA5201A015</td> </tr> <tr> <td>for valves DN20 (3/4")</td> <td>VA5201A020</td> </tr> </table>	for valves DN10 (3/8")	VA5201A010	for valves DN15 (1/2")	VA5201A015	for valves DN20 (3/4")	VA5201A020		
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	<p><b>VA5204Bxxx</b>      <b>Extended radiator tailpiece, nickel-plated, to be shortened as required</b></p> <table border="1"> <tr> <td>3/8" x 70 mm (for DN10) thread approx. 50 mm</td> <td>VA5204B010</td> </tr> <tr> <td>1/2" x 76 mm (for DN15) thread approx. 65 mm</td> <td>VA5204B015</td> </tr> <tr> <td>3/4" x 70 mm (for DN20) thread approx. 60 mm</td> <td>VA5204B020</td> </tr> </table>	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		
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	<p><b>VA2200Dxxx</b>      <b>Manual handwheel cap</b></p> <p>Pre-settable, with integrated locking device</p> <p>VA2200D001</p>								
	<p><b>VA2202Axxx</b>      <b>Pressure cap – for shutting off valves on radiator outlet</b></p> <table border="1"> <tr> <td>for valves DN10 (3/8")</td> <td>VA2202A010</td> </tr> <tr> <td>for valves DN15 (1/2")</td> <td>VA2202A015</td> </tr> <tr> <td>for valves DN20 (3/4")</td> <td>VA2202A020</td> </tr> </table>	for valves DN10 (3/8")	VA2202A010	for valves DN15 (1/2")	VA2202A015	for valves DN20 (3/4")	VA2202A020		
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	<p><b>VA5090</b>      <b>Sealing ring for pressure cap</b></p> <table border="1"> <tr> <td>for valves DN10 (3/8")</td> <td>VA5090A010</td> </tr> <tr> <td>for valves DN15 (1/2")</td> <td>VA5090A015</td> </tr> <tr> <td>for valves DN20 (3/4")</td> <td>VA5090A020</td> </tr> </table>	for valves DN10 (3/8")	VA5090A010	for valves DN15 (1/2")	VA5090A015	for valves DN20 (3/4")	VA5090A020		
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	<p><b>VA8200A</b>      <b>Service tool to replace valve insert</b></p> <p>for all sizes      VA8200A001</p>								
	<p><b>VS1200SL</b>      <b>Replacement valve insert</b></p> <p>SL type      VS1200SL11</p>								

# FLOW



## DIAGRAM

Pre-setting	1	2	3	4	5	7	17.5 = open = $k_{vs}$
$k_{vs}$ ( $c_{vs}$ )-value for DN10	0.25	0.50	0.70	1.00	1.25	1.50	1.70
$k_{vs}$ ( $c_{vs}$ )-value for DN15	0.25	0.50	0.70	1.00	1.25	1.50	1.85
$k_{vs}$ ( $c_{vs}$ )-value for DN20	0.25	0.50	0.70	1.00	1.25	1.50	1.95

Note: Pre-sets above 4 are unsuitable for operation with radiator thermostats and should only be used with actuators (open/close operation).

P-Band	1 K	2 K	3 K
$k_v$ -value	0.3	0.6	0.8

### For more information

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