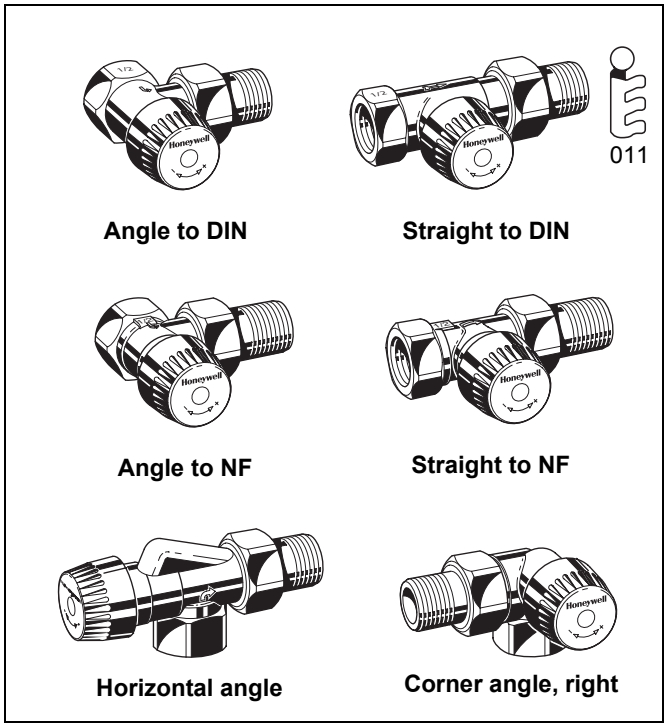
Honeywell

V2000VS
VS type TRV Body

PRESETTABLE RADIATOR VALVE WITH FLUSH POSITION

PRODUCT DATA



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[1] (compression ring fittings see 'Accessories')
  - external thread connection with union-nut and radiator tailpiece on outlet[1] (Eurocone for DN15)
  - 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
- Pre-settable valve insert with flush position
- Protection cap
- Union-nut and radiator tailpiece

Materials

- Angle/straight to NF, corner angle and horizontal angle: valve housing made of nickel-plated hot-forged brass
- Angle/straight to DIN: valve housings made of nickel-plated red bronze
- Valve insert made of brass with EPDM O-rings and soft seals, stainless steel spindle and plastic presetting dial
- Protection cap made of beige plastic
- Union-nut and tailpiece made of nickel-plated brass

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 flow rate can be preset according to system requirements.

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 radiator thermostats with M30 x 1.5 connection
- Certain Honeywell MT4 actuators
- Honeywell 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

- **Pre-settable fine-adjustment valve disc**
- **Tamper-proof presetting, visible when radiator thermostat is removed**
- **For heating systems with medium flow rates**
- **With extra position for system flushing**
- **Quiet operation**
- **DIN type bodies with dimensions according to EN215, Appendix A, Series D**
- **NF type bodies with dimensions according to EN215, Appendix A, Series F**
- **AT-Concept valve housing and insert**
- **Valve insert can be replaced while system is operating and without draining the system**
- **Valve opening spring is not in the water**
- **Standard M30 x 1.5 thermostat connection**

Specifications

Medium	Heating water, water quality to VDI2035
Operating temperature	max. 130 °C (262°F)
Operating pressure	PN10
Differential pressure	max. 2 bar (29 psi) – max. 0.2 bar (2.9 psi) recommended for quiet operation
k_{vs} (c_{vs})-value	0.75 (0.87)
Nominal flow	130 kg/h
Thermostat connection	M30 x 1.5
Closing dimension	11.5 mm
Stroke	2.5 mm

Identification

- Beige protection cap, ‘V’ embossed on top of cap
- Beige plastic scale on top of valve insert

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.

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

Installation Examples

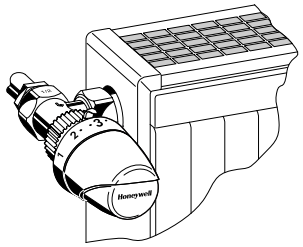


Fig. 1. Angle

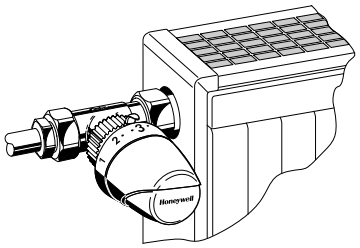


Fig. 2. Straight

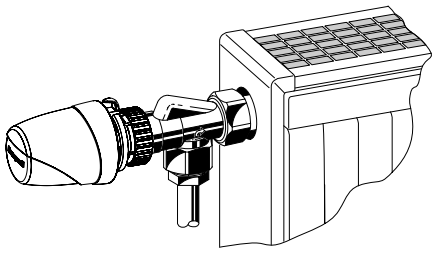


Fig. 3. Horizontal angle

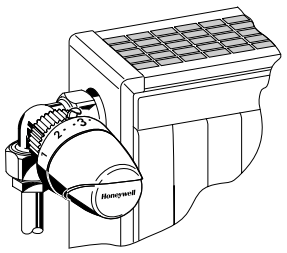


Fig. 4. Corner angle

Dimensions and Ordering Information

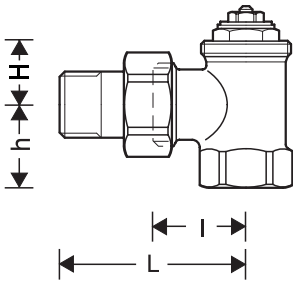


Fig. 5. Angle

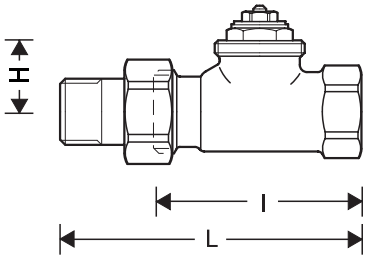


Fig. 6. Straight

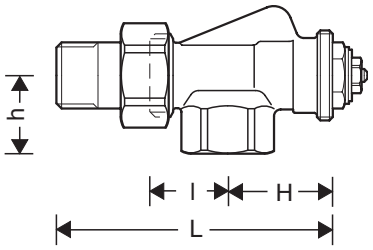


Fig. 7. Horizontal angle

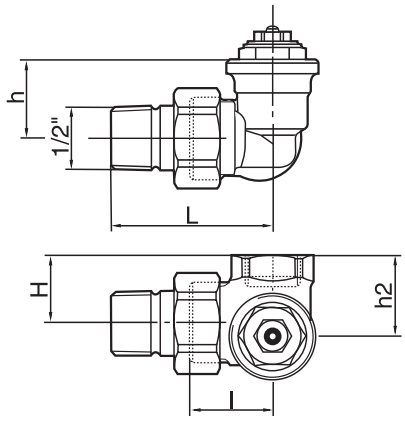


Fig. 8. Corner angle

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

Body type	DN	EN215 certified	$k_{VS}(c_{VS})$-value	Pipe connection	l	L	h	H	h2	OS-No.
For the supply										
Angle to EN215 (D) (Fig. 5)	**10**	•	0.75 (0.87)	**Rp 3/8"**	26	52	22	20	—	V2000EVS10
	15	•	0.75 (0.87)	**Rp 1/2"**	29	58	26	20	—	V2000EVS15
	20	•	0.75 (0.87)	**Rp 3/4"**	34	66	29	19	—	V2000EVS20
Straight to EN215 (D) (Fig. 6)	**10**	•	0.75 (0.87)	**Rp 3/8"**	59	85	—	25	—	V2000DVS10
	15	•	0.75 (0.87)	**Rp 1/2"**	66	95	—	25	—	V2000DVS15
	20	•	0.75 (0.87)	**Rp 3/4"**	74	106	—	25	—	V2000DVS20
Angle to EN215 (F) (Fig. 5)	**10**	•	0.75 (0.87)	**Rp 3/8"**	24	49	20	21	—	V2020EVS10
	15	•	0.75 (0.87)	**Rp 1/2"**	26	53	23	22	—	V2020EVS15
	20		0.75 (0.87)	**Rp 3/4"**	34	66	29	18	—	V2020EVS20
Straight to EN215 (F) (Fig. 6)	**10**	•	0.75 (0.87)	**Rp 3/8"**	50	75	—	26	—	V2020DVS10
	15	•	0.75 (0.87)	**Rp 1/2"**	55	82	—	26	—	V2020DVS15
	20		0.75 (0.87)	**Rp 3/4"**	74	106	—	24	—	V2020DVS20
Horizontal angle (Fig. 7)	**10**		0.75 (0.87)	**Rp 3/8"**	24	50	22	33	—	V2000AVS10
	15		0.75 (0.87)	**Rp 1/2"**	26	54	26	35	—	V2000AVS15
Corner angle, radiator connection left (Fig. 8)	**10**		0.75 (0.87)	**Rp 3/8"**	24	53	26	22	26.5	V2000LVS10
	15		0.75 (0.87)	**Rp 1/2"**	24	53	26	26	30.5	V2000LVS15
Corner angle, radiator connection right (Fig. 8)	**10**		0.75 (0.87)	**Rp 3/8"**	24	53	26	22	26.5	V2000RVS10
	15		0.75 (0.87)	**Rp 1/2"**	24	53	26	26	30.5	V2000RVS15

NOTE: All dimensions in mm unless stated otherwise.

Accessories

Pipe Connections

Compression fitting for copper and soft steel pipe

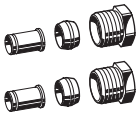
Consisting of compression nut and compression ring; for ports with internal thread, 1 pc per pack

Valve Size	Pipe diameter	
3/8" (DN10)	10 mm	VA620A1010
3/8" (DN10)	12 mm	VA620A1012
1/2" (DN15)	10 mm	VA620A1510
1/2" (DN15)	12 mm	VA620A1512
1/2" (DN15)	14 mm	VA620A1514
1/2" (DN15)	15 mm	VA620A1515
1/2" (DN15)	16 mm	VA620A1516
3/4" (DN20)	18 mm	VA620A2018
3/4" (DN20)	22 mm	VA620A2022

NOTE: Support inserts have to be used for copper or soft steel pipe with 1.0 mm wall thickness

Compression fitting for copper and soft steel pipe

Consisting of compression nut, compression ring and support insert; for ports with internal thread; 2 pcs per pack

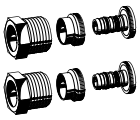


Valve Size	Pipe diameter	
3/8" (DN10)	12 mm	VA621A1012
1/2" (DN15)	12 mm	VA621A1512
1/2" (DN15)	14 mm	VA621A1514
1/2" (DN15)	15 mm	VA621A1515
1/2" (DN15)	16 mm	VA621A1516
1/2" (DN15)	18 mm	VA621A1518
3/4" (DN20)	18 mm	VA621A2018

NOTE: Support inserts have to be used for copper or soft steel pipe with 1.0 mm wall thickness

Compression fitting for multiskin pipe

Consisting of compression nut, ring and support insert; for ports with internal thread 1/2“; 2 pcs per pack



Valve Size	Pipe diameter	
1/2" (DN15)	14 mm	VA622B1514
1/2" (DN15)	16 mm	VA622B1516

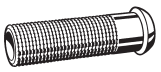
Reduction piece

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

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

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

Valve Accessories

Manual handwheel cap

Pre-settable, with integrated locking device VA2200D001

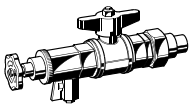
Pressure cap – for shutting off valves on radiator outlet

for valves DN10 (3/8")	VA2202A010
for valves DN15 (1/2")	VA2202A015
for valves DN20 (3/4")	VA2202A020

Sealing ring for pressure cap

for valves DN10 (3/8")	VA5090A010
for valves DN15 (1/2")	VA5090A015
for valves DN20 (3/4")	VA5090A020

Service tool to replace valve insert



for all sizes VA8200A001

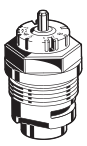
Precision pre-setting key

for all VS and FS type valves VA8201FV03

Pre-setting key

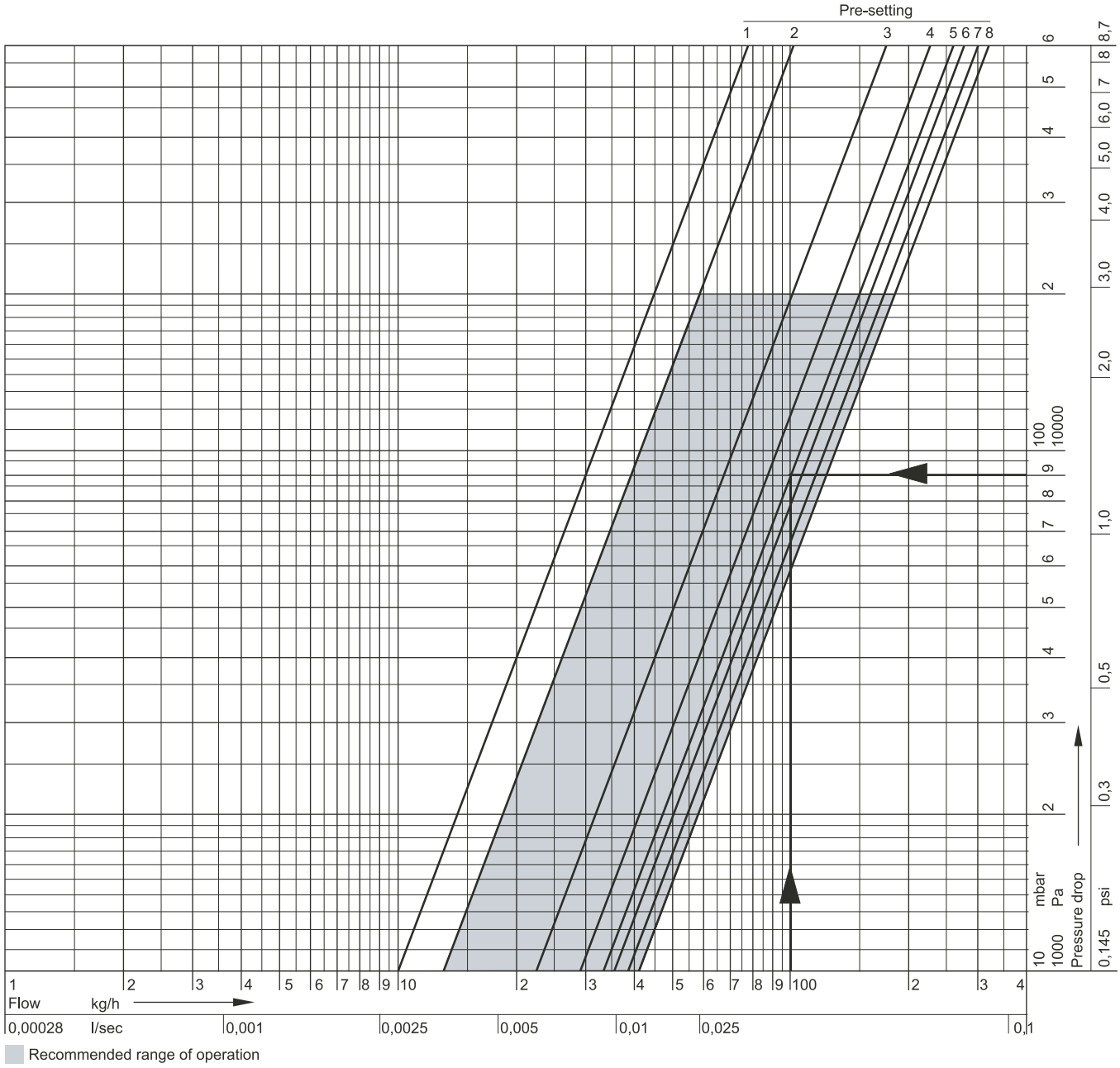
for all VS, V, FS and FV type valves VA8201FV02

Replacement valve insert



VS type VS1200VS01

Flow Diagram



Pre-setting	1	2	3	4	5	6	7	8
xP = 1K (m^3/h)	0.10	0.12	0.15	0.18	0.19	0.20	0.20	0.20
xP = 2K (m^3/h)	0.10	0.13	0.22	0.29	0.33	0.36	0.38	0.41
k_V-value (m^3/h)	0.10	0.15	0.25	0.35	0.45	0.57	0.65	0.75
c_V-value (m^3/h)	0.12	0.17	0.29	0.41	0.52	0.66	0.75	0.87

NOTE: Pre-setting 8 = flush position, set by factory

Design example

Given:	Flow 100 kg/h
Required:	Pre-setting for a required pressure loss Δp = 90 mbar = 9 000 Pa with a P-band of 2K
Solution:	The required pressure loss is found at the intersection of the flow line with the line for the chosen valve performance P=2K
Result:	Presetting 5

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