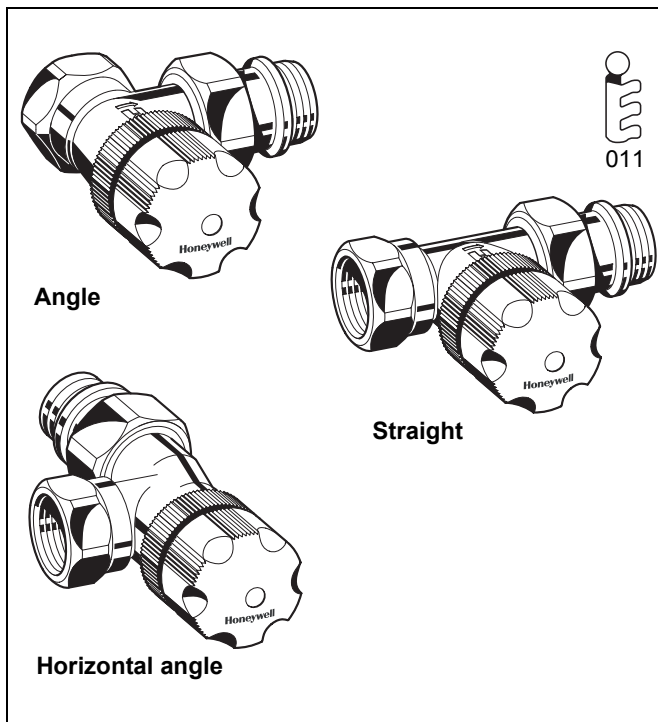


V310

VENUS Series Premium Manual Valve

RADIATOR VALVE WITH TRV INSERT, INTERNAL THREADS

PRODUCT DATA



Application

The VENUS series is a thermostatic valve, supplied with a manual handwheel. Thermostatic radiator valves individually control room temperatures and thus save energy. VENUS series type thermostatic radiator valves have quiet operation and are fitted to the supply of radiators in 2-pipe systems with medium flow rates.

The VENUS series is supplied with a fully operational handwheel for manual operation of the valve. To convert the VENUS series to thermostatic operation the handwheel needs to be replaced by a radiator thermostat, e.g. Honeywell Thera-4.

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

- For heating systems with medium flow rates
- For 2-pipe systems
- 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
- Supplied with fully operational manual handwheel
- Standard M30 x 1.5 thermostat connection
- Easily upgradable to thermostatic operation by simply replacing the handwheel with a radiator thermostat
- Tail piece with integrated EPDM O-ring
- Wide range of pipework connections available
- Quiet operation

Design

The premium manual valves consist of:

- Valve housing PN10, DN10 or DN15 with
 - internal thread connection to ISO228-1 on inlet
 - external thread connection with union-nut and radiator tail-piece on outlet
- Valve insert
- Handwheel
- Union-nut and radiator tailpiece

Materials

- Valve housing made of nickel-plated brass
- Valve insert made of brass with EPDM O-rings, soft seals and stainless steel spindle
- Handwheel made of plastic
- Union-nut and tailpiece made of nickel plated brass with EPDM O-ring

Specifications

Medium	Heating water, water quality to VDI2035
ph-value	8...9.5
Operating temperature	max. 120°C (248°F)
Operating pressure	PN 10
Differential pressure	max. 0.2 bar (2.9 psi) recommended for quiet operation
k_{vs}(cv)-values	0.59 (0.69)
Thermostat connection	M30 x 1.5
Closing dimension	11.5 mm
Stroke	2.5

Function

Thermostatic valves individually control room temperatures and thus save energy.

Delivered with handwheel for individual manual room temperature control. By replacing the manual handwheel with a TRV head the room temperature is automatically controlled.

The valves are controlled by the thermostatic sensor and actuator. Air from the room passing over the sensor causes expansion of the sensor medium as the temperature rises and this causes the valve to start closing. Conversely, when the temperature falls the sensor medium contracts and the aperture becomes larger. The size of the opening for water to flow through changes in proportion to the temperature of the sensor. The valve permits only the amount of water to flow to the radiator which is required to maintain the room temperature set on the thermostat.

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

Dimensions and Ordering Information

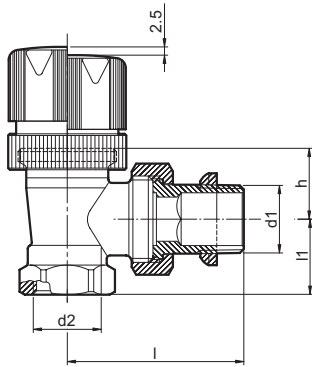


Fig. 1. Angle

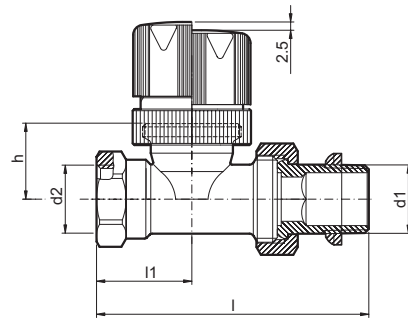


Fig. 2. Straight

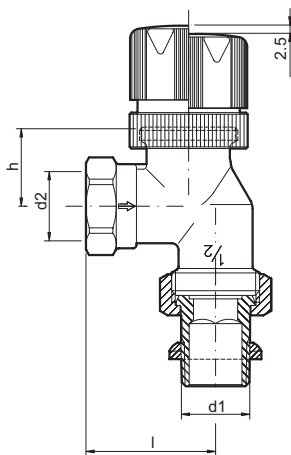


Fig. 3. Horizontal angle

Table 1. Available versions and OS-Nos (OS=Ordering Specification)


Versions	DN	EN215 certified	Dimensions					OS-No.
			d1	d2 pipe connection	l1	l	h	
Angle to EN215 (F) (Fig. 1)	10	•	G 3/8"	RP 3/8"	20.0	50.0	21.5	V310EBB10
	15	•	G 1/2"	RP 1/2"	23.0	53.5	21.5	V310EBB15
Straight to EN215 (F) (Fig. 2)	10	•	G 3/8"	RP 3/8"	25.0	76.0	23.0	V310DBB10
	15	•	G 1/2"	RP 1/2"	29.0	82.5	23.0	V310DBB15
Horizontal angle (Fig. 3)	15		G 1/2"	RP 1/2"	—	38.5	23.5	V310RBB15

NOTE: All dimensions in mm unless stated otherwise.

Accessories


Connections

Compression fitting for COPPER and STEEL pipe.
Consisting of compression nut and compression ring.
For valves with internal thread.

	Valve size	Pipe dimension	Part number	Pcs/pack
	3/8" (DN10)	10 mm	FIG3/8CS10	1
	3/8" (DN10)	12 mm	FIG3/8CS12	1
	1/2" (DN15)	10 mm	FIG1/2CS10	1
	1/2" (DN15)	12 mm	FIG1/2CS12	1
	1/2" (DN15)	14 mm	FIG1/2CS14	1
	1/2" (DN15)	15 mm	FIG1/2CS15	1
	1/2" (DN15)	15 mm	FIG1/2CS15-10	10
	1/2" (DN15)	16 mm	FIG1/2CS16	1
	3/4" (DN20)	18 mm	FIG3/4CS18	1
	3/4" (DN20)	22 mm	FIG3/4CS22	1

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.

Compression fitting for COPPER and SOFT STEEL pipe.
Consisting of compression nut, compression ring and support insert.
For valves with internal thread.

	Valve size	Pipe dimension	Part number	Pcs/pack
	3/8" (DN10)	12 mm	FIG3/8CSS12	1
	1/2" (DN15)	12 mm	FIG1/2CSS12	1
	1/2" (DN15)	14 mm	FIG1/2CSS14	1
	1/2" (DN15)	15 mm	FIG1/2CSS15	1
	1/2" (DN15)	16 mm	FIG1/2CSS16	1
	1/2" (DN15)	18 mm	FIG1/2CSS18	1
	3/4" (DN20)	18 mm	FIG3/4CSS18	1

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.

Compression fitting for MULTILAYER pipe.
Consisting of compression nut, compression ring and support insert.
For valves with internal thread.

	Valve size	Pipe dimension	Part number	Pcs/pack
	1/2" (DN15)	16 mm	FIG1/2M16X2	1


NOTE: Max. operating temperature 90°C, max. operating pressure 10 bar.

Service Parts


Replacement valve insert

	BB type	VS1200BB01
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Handwheel

	Pack of 10 pieces	H100-1/2A
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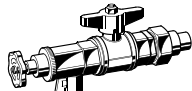
Pressure cap – for shutting off valves on radiator outlet

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

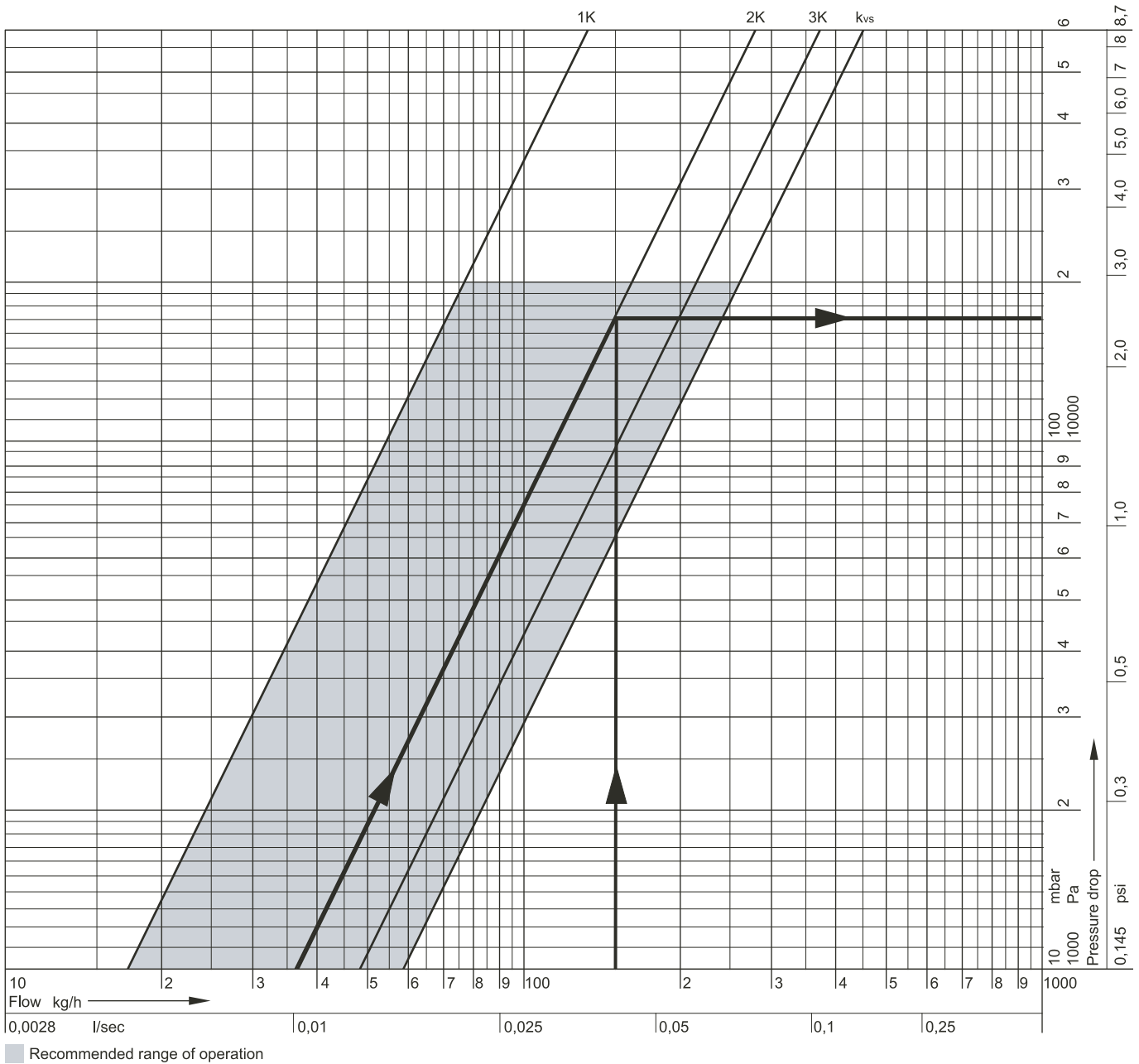
Sealing ring for pressure cap

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

Service tool to replace valve insert

	for all sizes	VA8200A001
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Flow Diagram



P-Band	1K	2K	3K	open = kvs
k _v -value	0.17	0.36	0.49	0.59
cv-value	0.20	0.42	0.57	0.69

Design Example

Given: Flow rate 150 kg/h
 Required: Pressure loss (Δp) 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: $\Delta p = 170 \text{ mbar} = 17\,000 \text{ Pa}$

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