V310

VENUS Series Premium Manual Valve

Radiator valve with TRV insert, internal threads

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 Home 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 EN 215, 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
- Tailpiece with integrated EPDM O-ring
- Wide range of pipework connections available
- Quiet operation

SPECIFICATIONS

Medium:	Heating water, quality to VDI 2035
pH-value:	8 - 9.5
Max. operating temperature:	120°C (248°F)
Operating pressure:	PN10
Max. differential pressure:	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

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 tailpiece 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

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

DIMENSIONS AND ORDERING INFORMATION

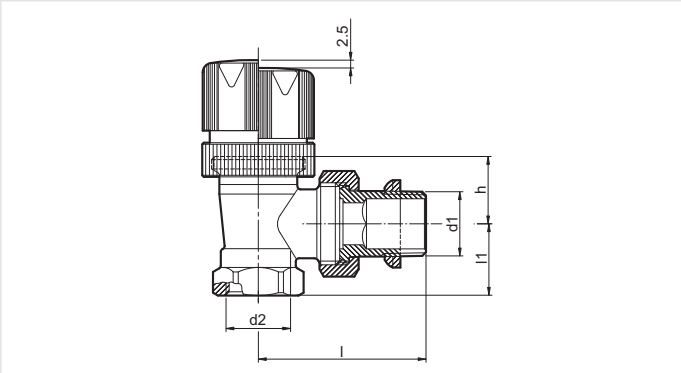


Fig. 1. Angle

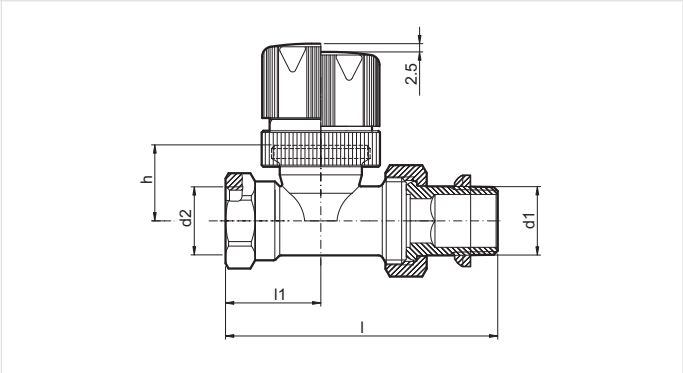


Fig. 2. Straight

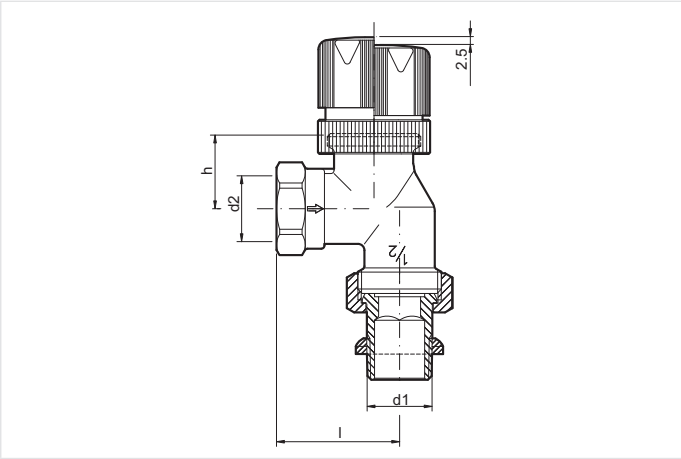


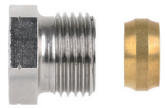
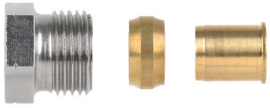
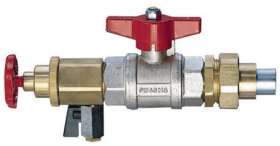
Fig. 3. Horizontal angle

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

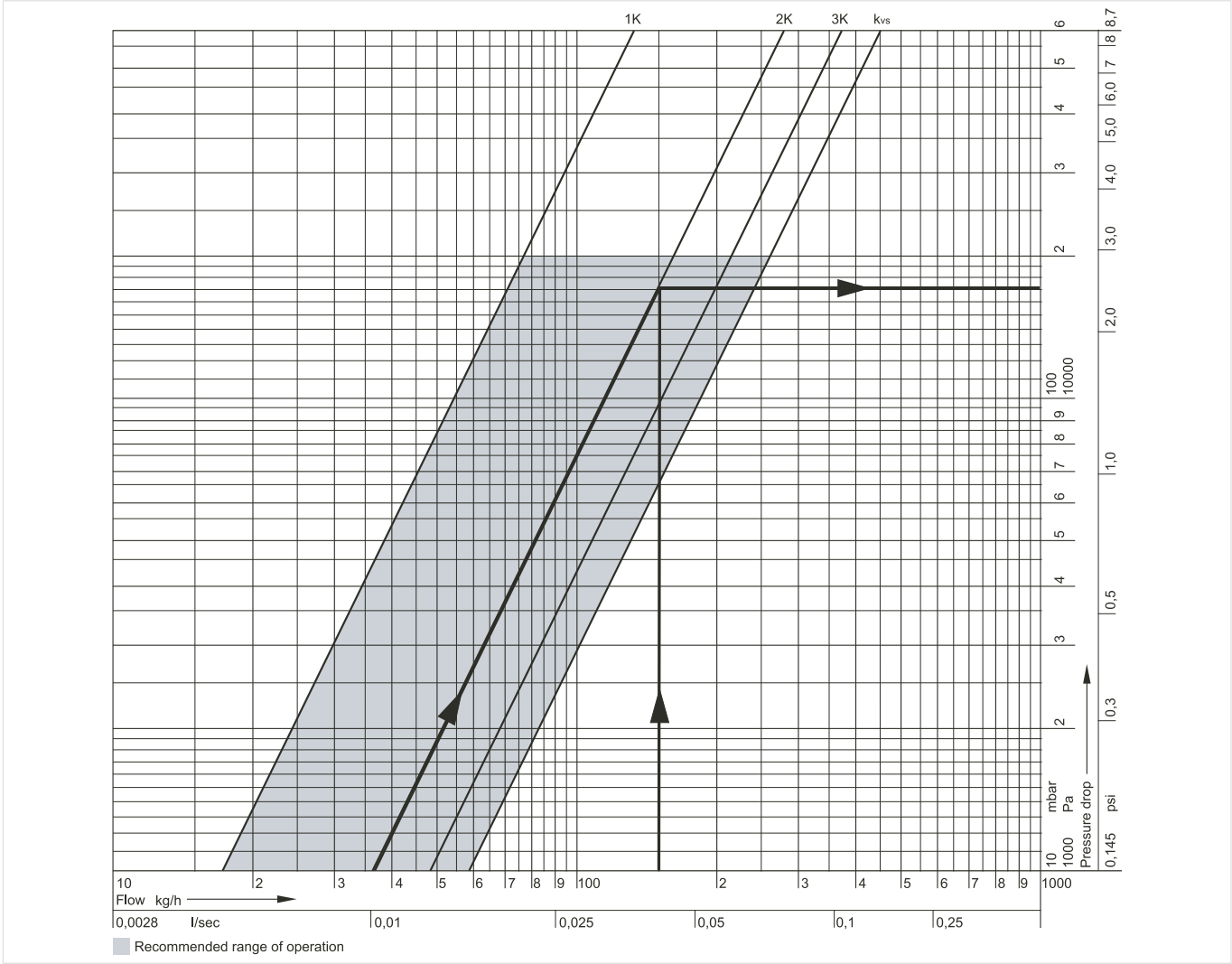
Versions	DN	EN215 certified	Dimensions					OS-No.
			d1	d2 pipe connection	l1	l	h	
Angle to EN215 (F)	10	•	G 3/8"	Rp 3/8"	20.0	50.0	21.5	V310EBB10
(Fig. 1)	15	•	G 1/2"	Rp 1/2"	23.0	53.5	21.5	V310EBB15
Straight to EN215 (F)	10	•	G 3/8"	Rp 3/8"	25.0	76.0	23.0	V310DBB10
(Fig. 2)	15	•	G 1/2"	Rp 1/2"	29.0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

	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
		$^3/_4$", DN18	18 mm	FIG3/4CS18
		$^3/_4$", DN22	22 mm	FIG3/4CS22
	**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
	**VS1200**	**Replacement valve insert**		
		BB type		VS1200BB01
	**H100**	**Handwheel**		
		Pack of 10 pieces		H100-1/2A
	**VA2202Axxx**	**Pressure cap – for shutting off valves on radiator outlet**		
		for valves DN10 ($^3/_8$")		VA2202A010
		for valves DN15 ($^1/_2$")		VA2202A015
	**VA5090**	**Sealing ring for pressure cap**		
		for valves DN10 ($^3/_8$")		VA5090A010
		for valves DN15 ($^1/_2$")		VA5090A015
	**VA8200A**	**Service tool to replace valve insert**		
			for all sizes	VA8200A001

FLOW DIAGRAM



P-Band	1K	2 K	3 K	open = k_{VS}
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:	Δp = 170 mbar = 17 000 Pa

For more information

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