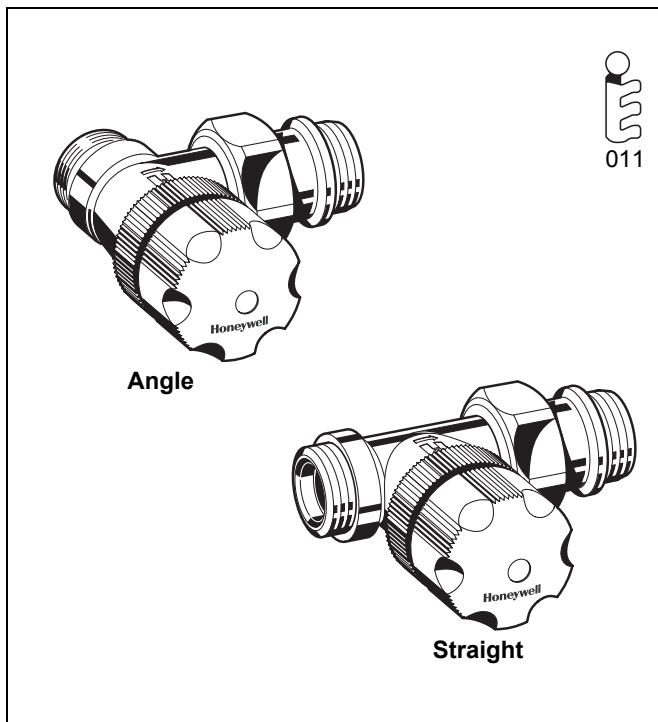


V300

MARS Series Premium Manual Valve

RADIATOR VALVE WITH TRV INSERT, EXTERNAL THREADS

PRODUCT DATA



Design

The premium manual valves consist of:

- Valve housing PN10, DN10 or DN15 with
 - external thread connection M22x1.5 to ISO 965-1 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

Application

The MARS Series is a thermostatic valve, supplied with a manual handwheel. Thermostatic radiator valves individually control room temperatures and thus save energy. MARS 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 MARS Series is supplied with a fully operational hand-wheel for manual operation of the valve. To convert the MARS 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

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	0.62 (0.73)
Thermostat connection	M30 x 1.5
Closing dimension	11.5 mm
Stroke	2.5

Function

The orifice between valve seat and valve cartridge increases when the valve is opened by turning the handwheel anti-clockwise. More heating water can flow into the radiator or heat exchanger and the room temperature rises.

The orifice between valve seat and valve cartridge decreases when the valve is closed by turning the handwheel clockwise and the supply of heating water into the radiator or heat exchanger is throttled. At the right limit stop the valve is closed except for a possible leakage rate.

Dimensions and Ordering Information

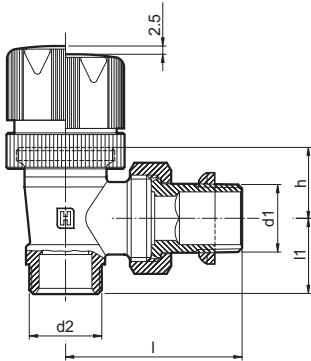


Fig. 1. Angle

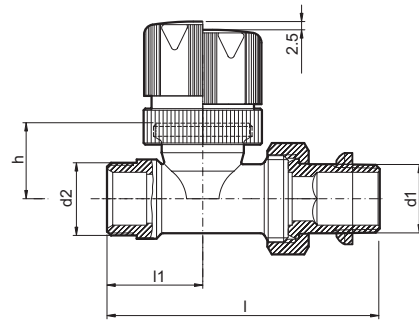


Fig. 2. Straight

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

Versions	DN	EN215 certified	k _{vs} -values	Dimensions					OS-No.
				d1	d2 pipe connection	l1	l	h	
Angle (Fig. 1)	10	•	1.62	G 3/8"	M22x1,5	20.0	50.0	21.5	V300EBB10
	15	•	1.62	G 1/2"	M22x1,5	23.0	53.5	21.5	V300EBB15
Straight (Fig. 2)	10	•	1.47	G 3/8"	M22x1,5	25.0	76.0	23.0	V300DBB10
	15	•	1.47	G 1/2"	M22x1,5	29.0	82.5	23.0	V300DBB15

NOTE: All dimensions in mm unless stated otherwise.

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

Accessories

Connections

Compression fitting for **COPPER** and **STEEL** pipe.

Consisting of one-piece (preassembled) nut.

Soft sealing connection. For valves with external thread **M22x1.5** to **ISO 965-1**.



Connection	Pipe dimension	Part number	Pcs/ pack
M22x1.5	10 mm	FEM22CS10	1
M22x1.5	12 mm	FEM22CS12	1
M22x1.5	12 mm	FEM22CS12-10	10
M22x1.5	14 mm	FEM22CS14	1
M22x1.5	14 mm	FEM22CS14-10	10
M22x1.5	15 mm	FEM22CS15	1
M22x1.5	15 mm	FEM22CS15-10	10
M22x1.5	16 mm	FEM22CS16	1

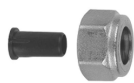
NOTE: Reinforcing insert for copper or soft steel pipe with 1,0 mm wall thickness not required. Max. operating temperature 90°C, max. operating pressure 10 bar.

Compression fitting for **PEX** pipe.

Consisting of one-piece (preassembled) nut and reinforcing insert.

Soft sealing connection.

For valves with external thread **M22x1.5** to **ISO 965-1**.



Connection	Pipe dimension	Part number	Pcs/ pack
M22x1.5	12x1.1 mm	FEM22P12X1.1	1
M22x1.5	16x1.5 mm	FEM22P16X1.5	1

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

Compression fitting for **PEX** and **MULTILAYER** pipe.

Consisting of one-piece nut with preassembled compression ring and one-piece reinforcing insert.

For valves with external thread **M22x1.5** to **ISO 965-1**.



Connection	Pipe dimension	Part number	Pcs/ pack
M22x1.5	14x2 mm	FEM22PM14X2	1
M22x1.5	16x2 mm	FEM22PM16X2	1
M22x1.5	16x2 mm	FEM22PM16X2-10	10
M22x1.5	16x2.25 mm	FEM22PM16X2.25	1

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

Service Parts

Replacement valve insert



BB type

VS1200BB01

Handwheel



Pack of 10 pieces

H100-1/2A

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



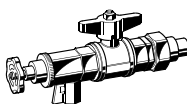
for valves DN10 (3/8")

VA5090A010

for valves DN15 (1/2")

VA5090A015

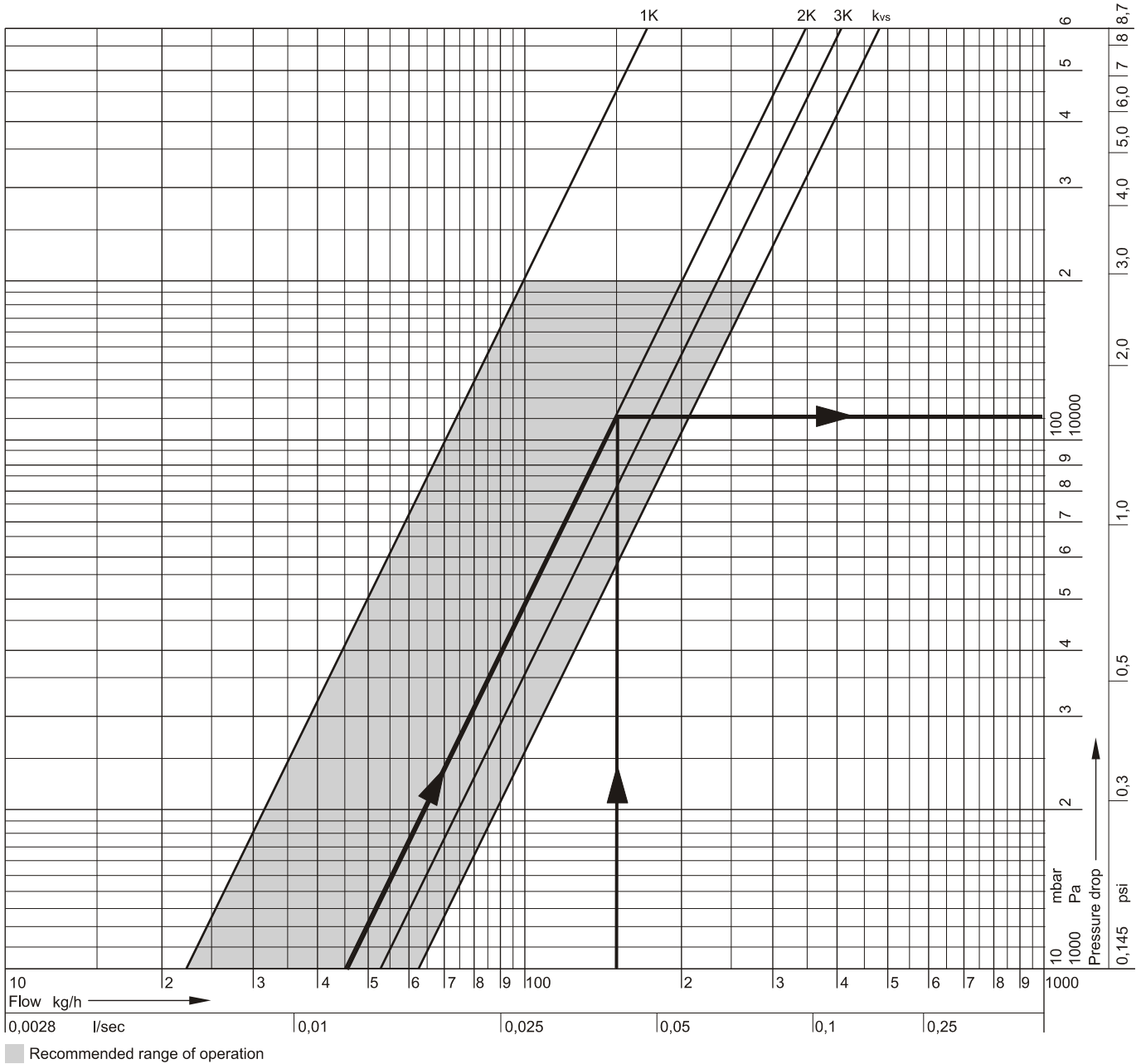
Service tool to replace valve insert



for all sizes

VA8200A001

Flow Diagram



P-Band	1K	2K	3K	open = k_{vs}
k_v -value	0.22	0.45	0.52	0.62
c_v -value	0.26	0.53	0.61	0.73

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: $\Delta p = 110 \text{ mbar} = 11\,000 \text{ Pa}$

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