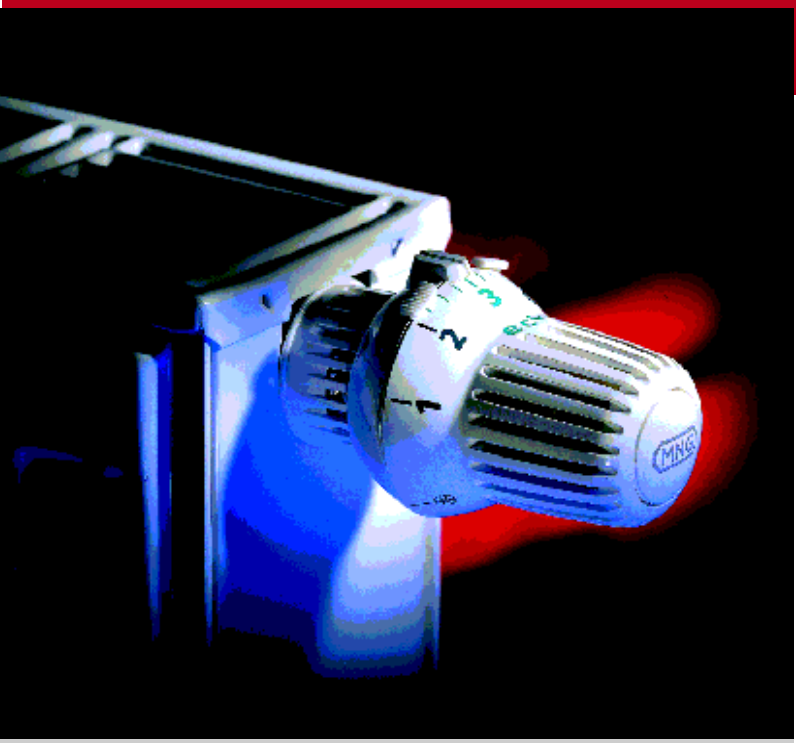
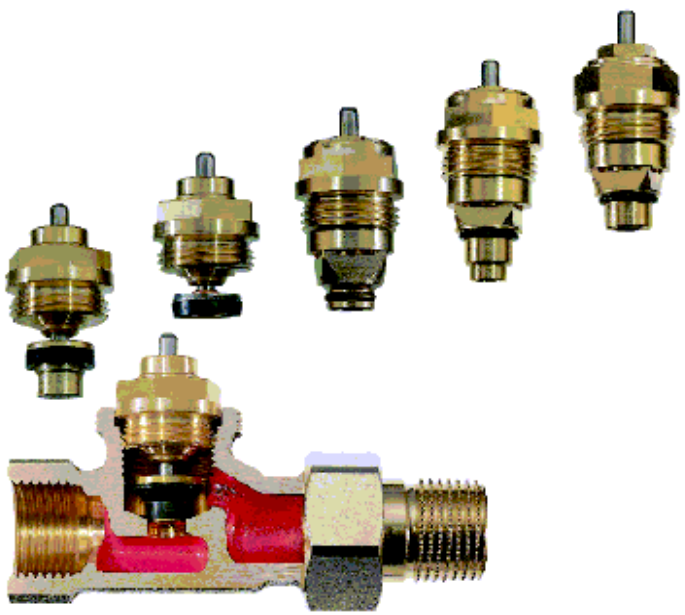
Honeywell

Radiatorventiler

och termostatdelar

.





2004:1

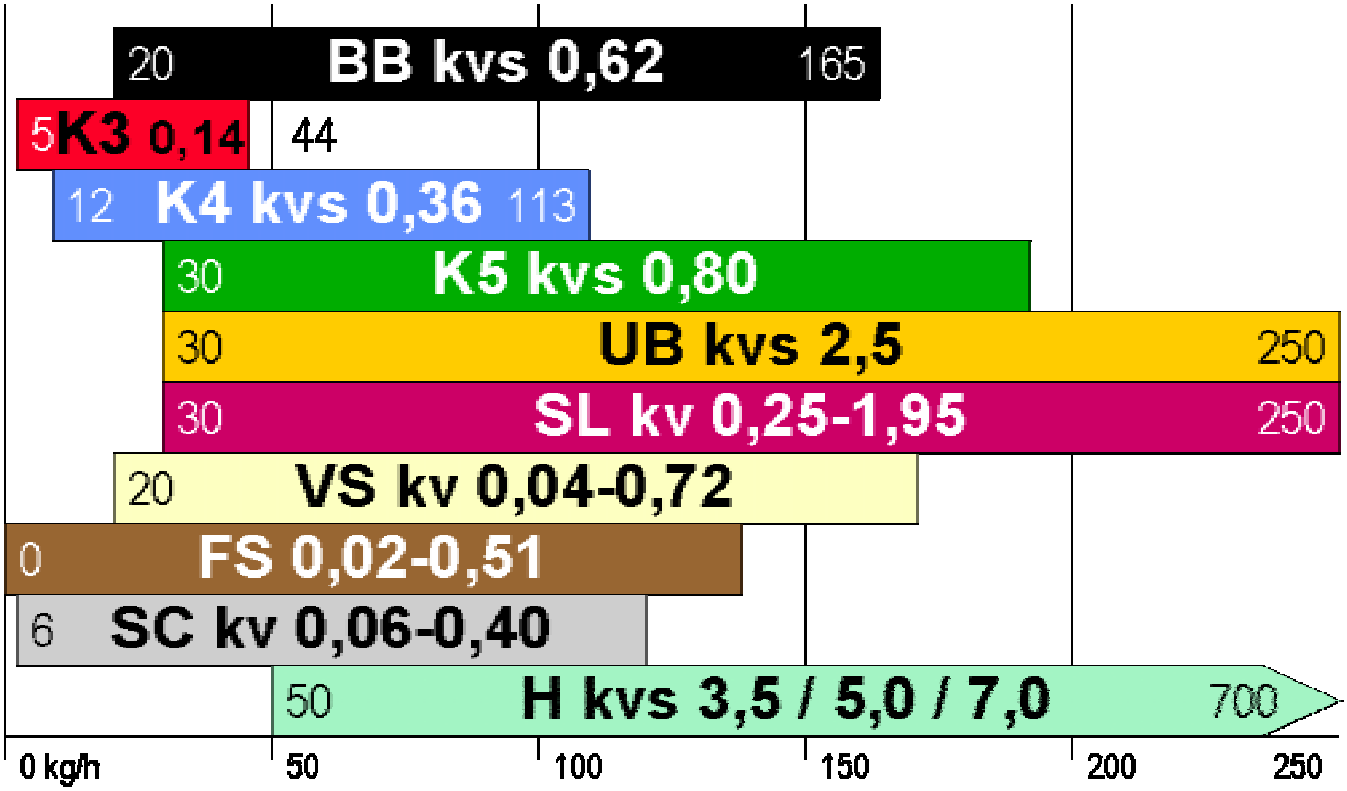
Hometronic compatible

V2000 OCH V2050 KAPACITETSDIAGRAM

KAPACITETSOMRÅDEN MED OLIKA VENTILINSATSER

PRODUCT DATA

Kapacitetsdiagram



Tabell på V2000- och V2050-serien med olika ventilinsatser

Modell	Kvs				Fast Kvs	Justerbart Kvs	Differens-tryck*
	DN10	DN15	DN20	DN25			
BB	0,62	0,62	0,62	---	X		1 (0,2) bar
K3	0,14	0,14	0,14	---	X		
K4	0,36	0,36	0,36	---	X		
K5	0,80	0,80	0,80	---	X		
UB	1,70	1,85	1,95	2,50	X		
SL	0,25-1,70	0,25-1,85	0,25-1,95	---		Lyfthöjdsbegr.	
VS	0,04-0,72	0,04-0,72	0,04-0,72	---		Finjustering	2 (0,2) bar
FS	0,02-0,51	0,02-0,51	0,02-0,51	---		Finjustering	
SC	0,06-0,40	0,06-0,40	0,06-0,40	---		Lyfthöjdsbegr.	1 (0,2) bar
H	---	3,5./.5,0	5,0 / 7.0	5,0 / 7.0	X		0,03 bar

* Max differenstryck, max differenstryck för tyst ventil visas inom parantes. 1bar=10mvp=100kPa

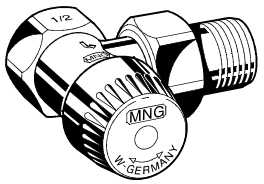
Honeywell

Hometronic compatible

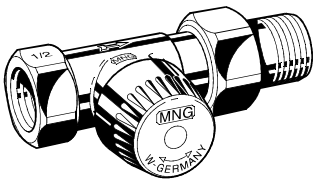
V2000-FAMILY TRV Body

RADIATOR VALVE WITH DIFFERENT CARTRIDGES

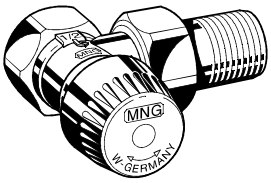
PRODUCT DATA



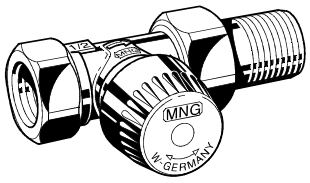
Angle to DIN



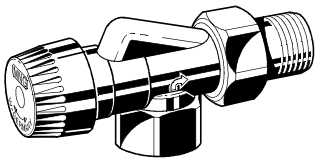
Straight to DIN



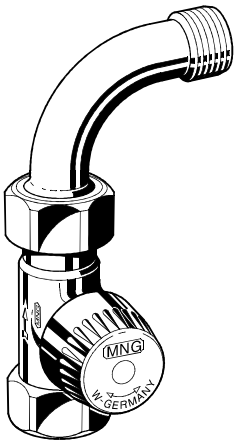
Compact angle/ Angle to NF



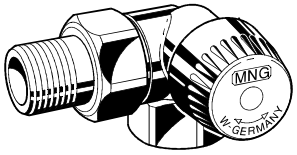
Compact straight/ Straight to NF



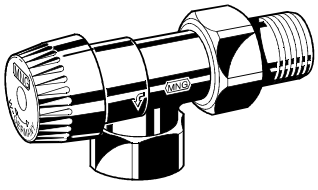
Horizontal angle



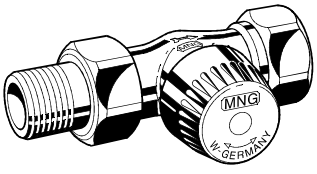
Straight with swanneck



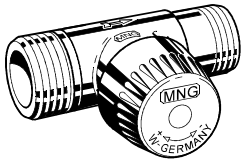
Corner angle, right



Horizontal angle (return)



Straight (return)



Straight with external threads

Application

Thermostatic radiator valve bodies (TRV bodies) are fitted to radiators or heat exchangers. Together with a radiator thermostat, for example the Thera-3, they control the room temperature by regulating the flow of hot water into the radiator. The temperature of different rooms is controlled individually and energy is saved.

The TRV bodies have quiet operation and are fitted to the supply of radiators in one-pipe systems or in two-pipe systems with medium to high flow rates.

The valve insert can be replaced while the system is running and without draining using the service tool (see ‘Accessories’ on page 3).

The TRV bodies are suitable for

- Honeywell radiator thermostats with M30 x 1,5 connection;
- Honeywell M100, Z100 and various M7410 actuators;
- Honeywell **Hometronic** HR50 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, GB, SL, V, FV and SC.

Features

- **For one-pipe heating systems and two-pipe systems with medium to high flow rates**
- **Available for installation on the supply or return**
- **Quiet operation**
- **DIN type bodies with dimensions according to HD1215, Part 2, Series D**
- **NF type bodies with dimensions according to HD1215, Part 2, 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**
- **Supplied with white protection cap for clear identification**

Overleaf: Design, Materials, Specifications and Function

Design

The thermostatic radiator valve body consists of:

- Valve housing PN10, DN10, 15, 20 or 25 with
  - internal thread connection to DIN2999 (ISO7) for threaded, copper or precision steel pipe on inlet[1] (compression ring fittings see 'Accessories' on page 3); and
  - external thread connection to DIN/ISO228 with union-nut and radiator tailpiece on outlet[1] (Eurocone) or
  - external thread connections to DIN/ISO228 on inlet and outlet, without union-nut and radiator tailpiece
  - Angle to DIN and straight to DIN bodies with dimensions according to HD1215, Part 2, Series D.
  - Angle to NF and straight to NF bodies with dimensions according to HD1215, Part 2, Series F.
- Protection cap

NOTE: [1]Vice versa for return type valve bodies.

Materials

- Angle/straight to DIN, straight with swanneck and straight with external threads: valve housings made of nickel-plated red bronze
- Compact angle/straight, angle/straight to NF, corner angle and horizontal angle: 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 brass, union-nut nickel-plated, tailpiece optionally nickel-plated

Specifications

Medium	Heating water, quality to VDI2035
Operating temperature	max. 130°C (266°F)
Differential pressure	max. 1 bar / 2 bar max. 0,2 bar recommended for quiet operation
k_{VS} (cv)-value	See different versions
Body to head thread	M30 x 1,5
Stroke	2,5 mm

Identification

- Different coloured caps

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.

Dimensions and Ordering Information

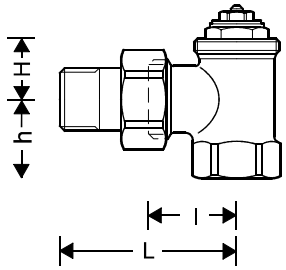


Fig. 1. Angle

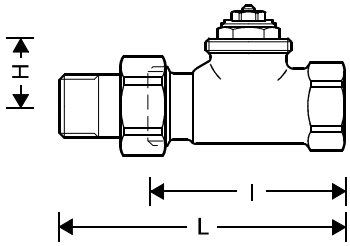


Fig. 2. Straight

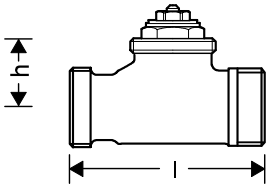


Fig. 2a. Straight with external threads

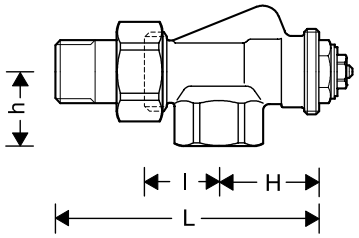


Fig. 3. Horizontal angle

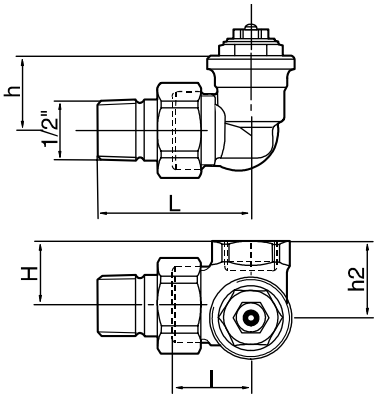


Fig. 4. Corner angle

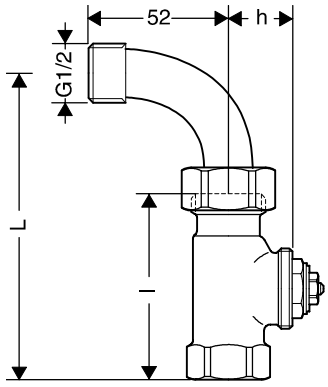
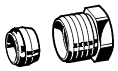


Fig. 5. Straight with swanneck

Accessories

Pipe Connections

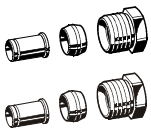
Compression ring and nut



3/8” x 10 mm	VA620A1010
3/8” x 12 mm	VA620A1012
1/2” x 10 mm	VA620A1510
1/2” x 12 mm	VA620A1512
1/2” x 14 mm	VA620A1514
1/2” x 15 mm	VA620A1515
1/2” x 16 mm	VA620A1516
3/4” x 18 mm	VA620A2018
3/4” x 22 mm	VA620A2022

NOTE: Support inserts have to be used for copper or soft steel pipe with 1,0 mm wall thickness.

Compression ring and nut with support insert (2 pcs each)



3/8” x 12 mm	VA621A1012
1/2” x 12 mm	VA621A1512
1/2” x 15 mm	VA621A1515
1/2” x 16 mm	VA621A1516
3/4” x 18 mm	VA621A2018

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
for valves DN25 (1”)	VA5201A025

Extended radiator tailpiece, to be shortened as required

3/8” x 70 mm (for DN10), thread approx. 50 mm	VA5204A010
1/2” x 76 mm (for DN15), thread approx. 65 mm	VA5204A015
3/4” x 70 mm (for DN20), thread approx. 60 mm	VA5204A020

Soldering tailpiece

3/8” x 12 mm (for DN10)	VA5230A010
1/2” x 15 mm (for DN15)	VA5230A015
3/4” x 20 mm (for DN20)	VA5230A020

Valve Accessories

Manual handwheel cap

Pre-settable, with integrated locking device	VA2200D001

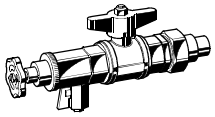
Pressure cap – for shutting off valves on radiator outlet

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 for replacing valve insert without draining system



for all sizes	VA8200A001

Replacement valve insert

UBG type	VS1200UB01

Installation Examples

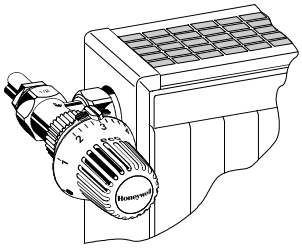


Fig. 6 Angle

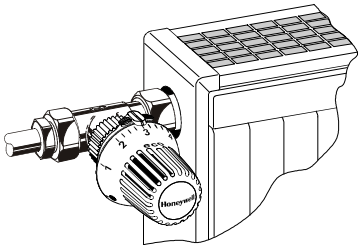


Fig. 7 Straight

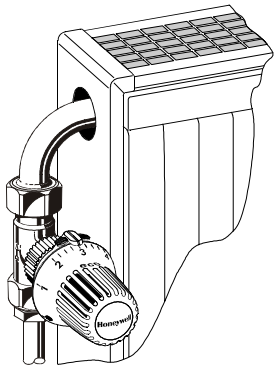


Fig. 10 Straight with swanneck

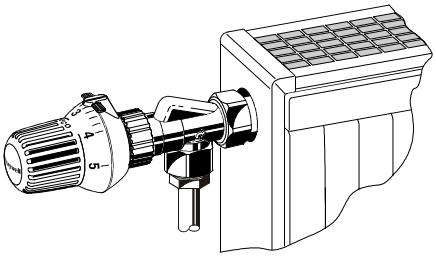


Fig. 8 Horizontal angle

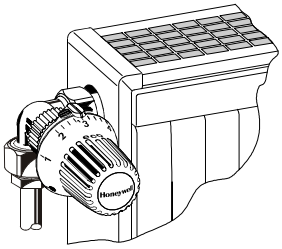


Fig. 9 Double angle

Hometronic H compatible

at CONCEPT

V2000BB
BB type TRV Body

RADIATOR VALVE WITH BROADBAND CARTRIDGE

PRODUCT DATA

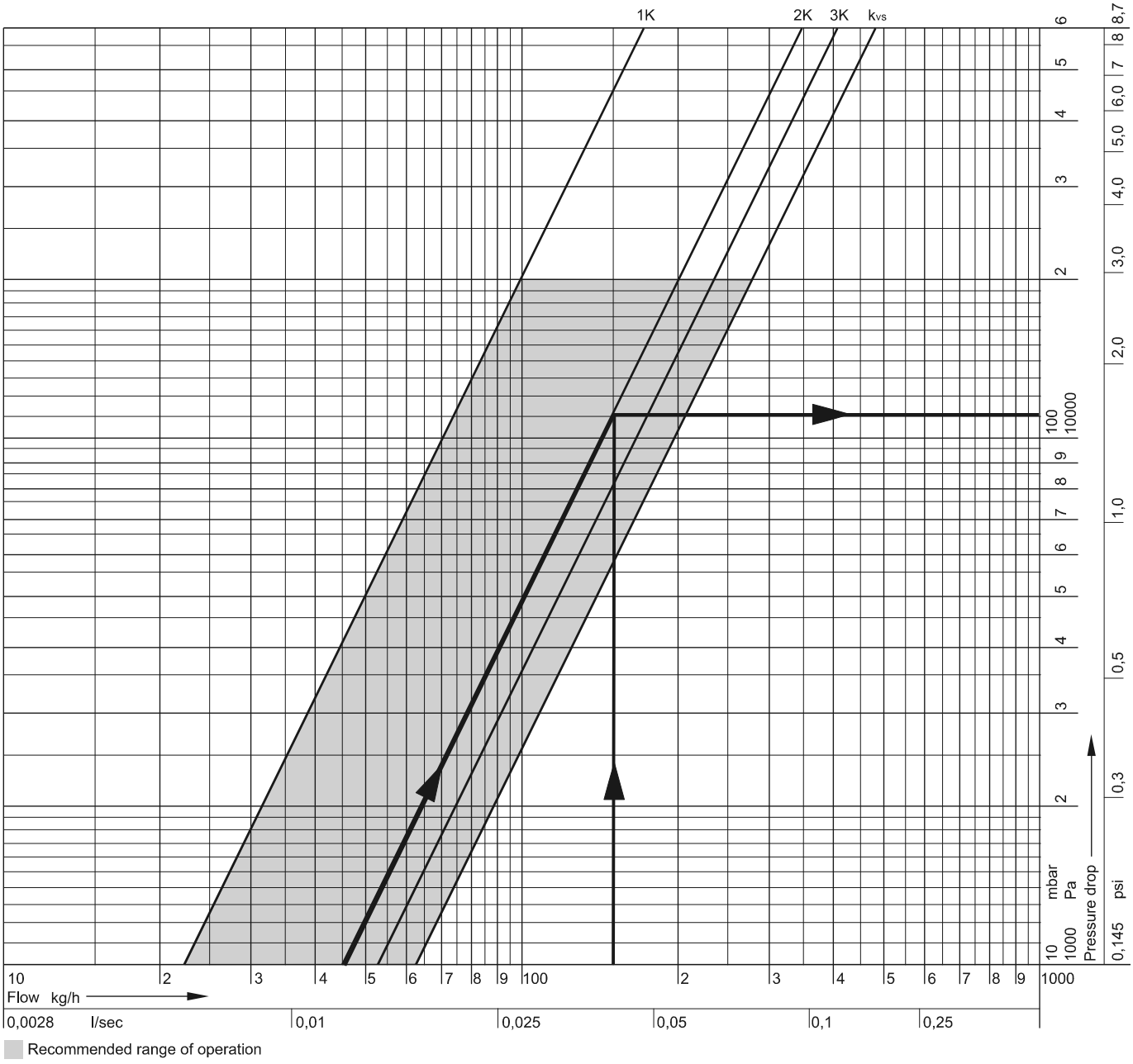
Table 1. Dimensions and OS-Nos (OS=Ordering System)

Body type	DN	k_{vs} (cv)-value	Pipe connection	l	L	h	H	h_2	OS-No.
For the supply									
Angle to DIN (Fig. 1)	**10**	0,62 (0,73)	**Rp 3/8”**	26	52	20	22	—	V2000EBB10[2]
	15	0,62 (0,73)	**Rp 1/2”**	29	58	20	26	—	V2000EBB15[2]
	20	0,62 (0,73)	**Rp 3/4”**	34	66	19	29	—	V2000EBB20[2]
Straight to DIN (Fig. 2)	**10**	0,62 (0,73)	**Rp 3/8”**	59	85	25	—	—	V2000DBB10[2]
	15	0,62 (0,73)	**Rp 1/2”**	66	95	25	—	—	V2000DBB15[2]
	20	0,62 (0,73)	**Rp 3/4”**	74	106	25	—	—	V2000DBB20[2]
Angle, compact dimensions (Fig. 1)	**10**	0,62 (0,73)	**Rp 3/8”**	24	55,5	22	20	—	V2010EBB10
	15	0,62 (0,73)	**Rp 1/2”**	26	59,5	23	23	—	V2010EBB15
Straight, compact dimensions (Fig. 2)	**10**	0,62 (0,73)	**Rp 3/8”**	50	81,5	27	—	—	V2010DBB10
	15	0,62 (0,73)	**Rp 1/2”**	55	88,5	27	—	—	V2010DBB15
Angle to NF (Fig. 1)	**10**	0,62 (0,73)	**Rp 3/8”**	24	55,5	22	20	—	V2020EBB10
	15	0,62 (0,73)	**Rp 1/2”**	26	59,5	23	23	—	V2020EBB15
Straight to NF (Fig. 2)	**10**	0,62 (0,73)	**Rp 3/8”**	50	81,5	27	—	—	V2020DBB10
	15	0,62 (0,73)	**Rp 1/2”**	55	88,5	27	—	—	V2020DBB15
Horizontal angle (Fig. 3)	**10**	0,62 (0,73)	**Rp 3/8”**	24	50	33	22	—	V2000ABB10[2]
	15	0,62 (0,73)	**Rp 1/2”**	26	54	35	26	—	V2000ABB15[2]
Corner angle, radiator connection left (Fig. 4)	**10**	0,62 (0,73)	**Rp 3/8”**	24	53	26	22	26,5	V2000LBB10
	15	0,62 (0,73)	**Rp 1/2”**	24	53	26	26	30,5	V2000LBB15
radiator connection right (Fig. 4)	**10**	0,62 (0,73)	**Rp 3/8”**	24	53	26	22	26,5	V2000RBB10
	15	0,62 (0,73)	**Rp 1/2”**	24	53	26	26	30,5	V2000RBB15
Swanneck (Fig. 5)	**15**	0,62 (0,73)	**Rp 1/2”**	66	108	25	—	—	V2000BBB15
For the return									
Horizontal angle (Fig. 3)	**10**	0,62 (0,73)	**Rp 3/8”**	25	52	21	22	—	V2000HBB10
	15	0,62 (0,73)	**Rp 1/2”**	29	58	23	26	—	V2000HBB15
Straight (Fig. 2)	**10**	0,62 (0,73)	**Rp 3/8”**	57	85	23	—	—	V2000IBB10
	15	0,62 (0,73)	**Rp 1/2”**	65	95	23	—	—	V2000IBB15

NOTE: All dimensions in mm unless otherwise stated.

NOTE: [2]Alternatively available with nickel-plated radiator tailpiece. Please change OS-No. to V200**2**... Other bodies also available with nickel-plated radiator tailpiece on request.

Flödesdiagram V2000BB



P-Band	1K	2K	3K	open = k_{vs}
k_v (cv)-value	0,22 (0,26)	0,45 (0,53)	0,52 (0,61)	0,62 (0,73)

Hometronic H compatible

at CONCEPT

V2000FS
FV type TRV Body

RADIATOR VALVE WITH FINELY PRE-SETTABLE CARTRIDGE

PRODUCT DATA

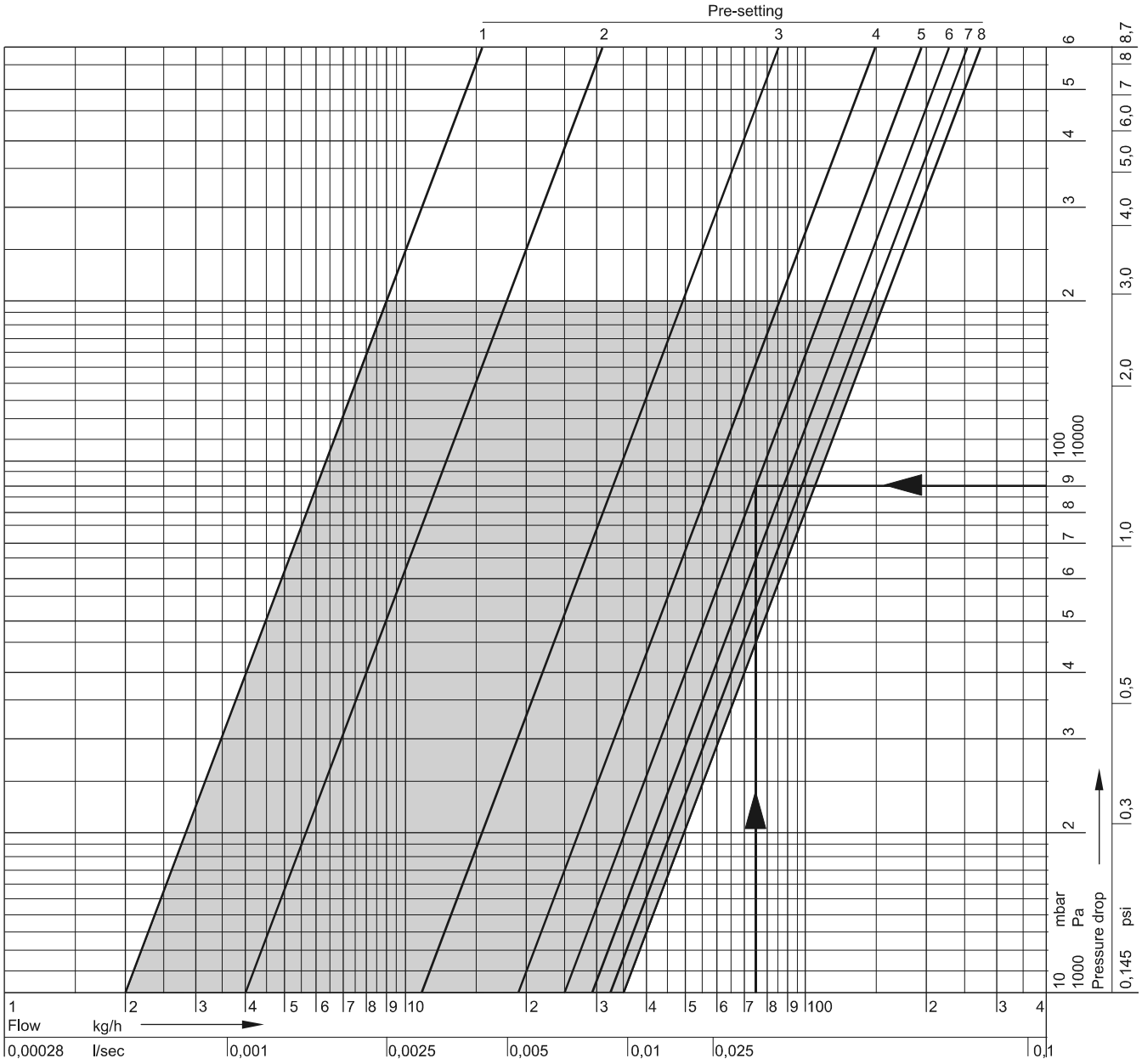
Table 1. Dimensions and OS-Nos (OS=Ordering System)

Body type	DN	k_{vs}-value	Pipe connection	l	L	h	H	h_2	OS-No.
For the supply									
Angle to DIN (Fig. 1)	**10**	0,51	**Rp 3/8”**	26	52	20	22	—	V2000EFS10[2]
	15	0,51	**Rp 1/2”**	29	58	20	26	—	V2000EFS15[2]
	20	0,51	**Rp 3/4”**	34	66	19	29	—	V2000EFS20[2]
Straight to DIN (Fig. 2)	**10**	0,51	**Rp 3/8”**	59	85	25	—	—	V2000DFS10[2]
	15	0,51	**Rp 1/2”**	66	95	25	—	—	V2000DFS15[2]
	20	0,51	**Rp 3/4”**	74	106	25	—	—	V2000DFS20[2]
Angle, compact dimensions (Fig. 1)	**10**	0,51	**Rp 3/8”**	24	55,5	22	20	—	V2010EFS10
	15	0,51	**Rp 1/2”**	26	59,5	23	23	—	V2010EFS15
Straight, compact dimensions (Fig. 2)	**10**	0,51	**Rp 3/8”**	50	81,5	27	—	—	V2010DFS10
	15	0,51	**Rp 1/2”**	55	88,5	27	—	—	V2010DFS15
Straight to NF (Fig. 2)	**10**	0,51	**Rp 3/8”**	50	81,5	27	—	—	V2020DFS10
Horizontal angle (Fig. 3)	**10**	0,51	**Rp 3/8”**	24	50	33	22	—	V2000AFS10[2]
	15	0,51	**Rp 1/2”**	26	54	35	26	—	V2000AFS15[2]
Corner angle, radiator connection left (Fig. 4)	**10**	0,51	**Rp 3/8”**	24	53	26	22	26,5	V2000LFS10
	15	0,51	**Rp 1/2”**	24	53	26	26	30,5	V2000LFS15[2]
radiator connection right (Fig. 4)	**10**	0,51	**Rp 3/8”**	24	53	26	22	26,5	V2000RFS10
	15	0,51	**Rp 1/2”**	24	53	26	26	30,5	V2000RFS15[2]
For the return									
Horizontal angle (Fig. 3)	**10**	0,51	**Rp 3/8”**	25	52	21	22	—	V2000HFS10
	15	0,51	**Rp 1/2”**	29	58	23	26	—	V2000HFS15
Straight (Fig. 2)	**10**	0,51	**Rp 3/8”**	57	85	23	—	—	V2000IFS10
	15	0,51	**Rp 1/2”**	65	95	23	—	—	V2000IFS15

NOTE: All dimensions in mm unless otherwise stated.

NOTE: [2]Alternatively available with nickel-plated radiator tailpiece. Please change OS-No. to V200**2**... Other bodies also available with nickel-plated radiator tailpiece on request.

Flödesdiagram V2000FS



Pre-setting	1	2	3	4	5	6	7	8[3]
xP = 1K (m³/h)	0,02	0,04	0,10	0,14	0,16	0,17	0,18	0,18
xP = 2K (m³/h)	0,02	0,04	0,11	0,19	0,25	0,29	0,32	0,35
k_{VS}-value (m³/h)	0,02	0,04	0,12	0,21	0,30	0,37	0,45	0,51

NOTE: [3] Factory setting.

Hometronic H compatible

at CONCEPT

V2000Kx
KV type TRV Body

RADIATOR VALVE WITH KV-SPECIALIZED CARTRIDGE

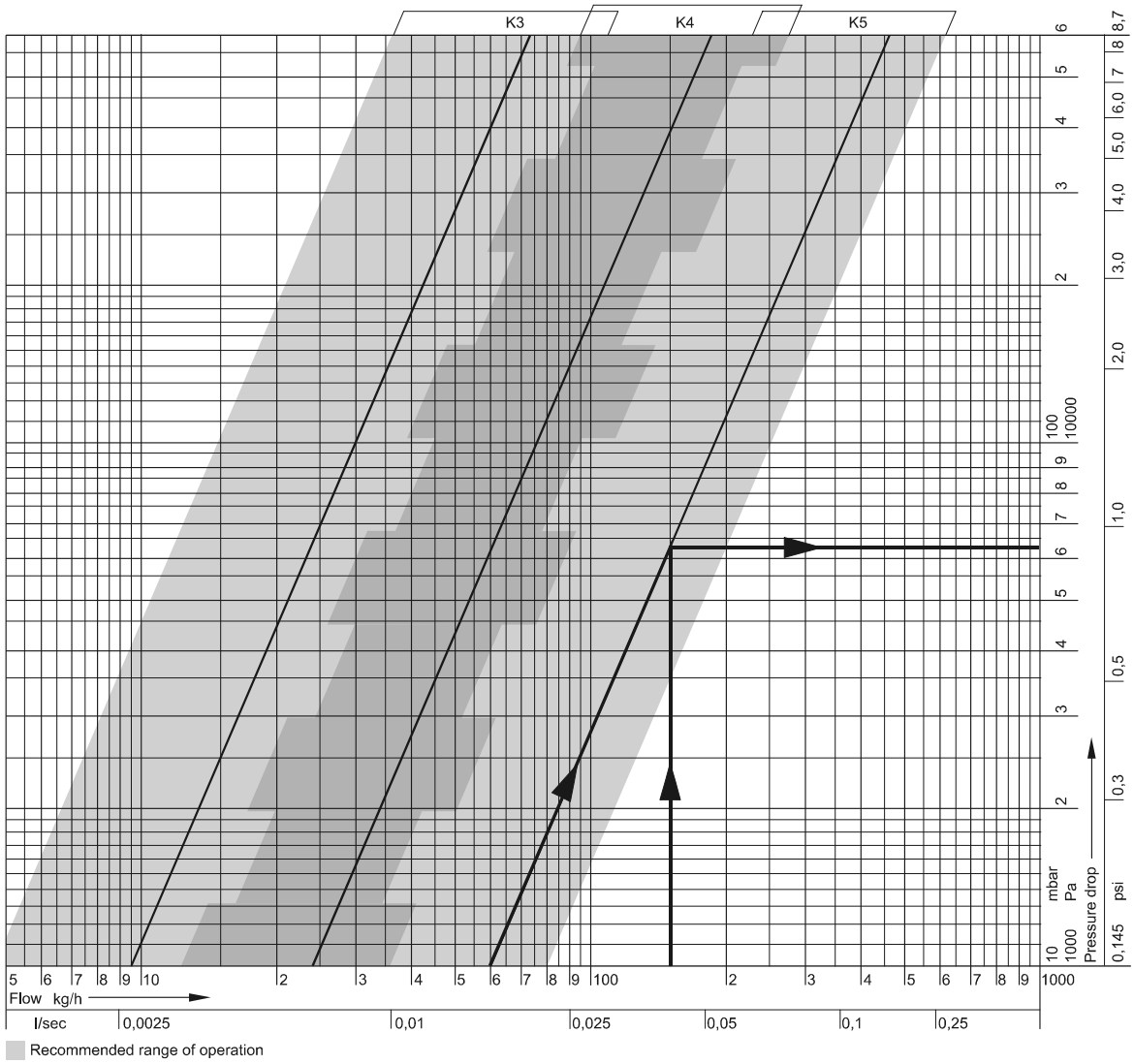
PRODUCT DATA

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

Body type		DN	k_{vs} (cv)-value	Pipe connection	l	L	h	H	h_2	OS-No.
For the supply										
Angle to DIN (Fig. 1)	K3 K4 K5	**10**	0,140 (0,164) 0,360 (0,421) 0,800 (0,936)	**Rp 3/8”**	26	52	20	22	—	V2000EK310 V2000EK410[2] V2000EK510[2]
	K3 K4 K5	**15**	0,140 (0,164) 0,360 (0,421) 0,800 (0,936)	**Rp 1/2”**	29	58	20	26	—	V2000EK315[2] V2000EK415[2] V2000EK515[2]
	K3 K4 K5	**20**	0,140 (0,164) 0,360 (0,421) 0,800 (0,936)	**Rp 3/4”**	34	66	19	29	—	V2000EK320 V2000EK420[2] V2000EK520
Straight to DIN (Fig. 2)	K3 K4 K5	**10**	0,140 (0,164) 0,360 (0,421) 0,800 (0,936)	**Rp 3/8”**	59	85	25	—	—	V2000DK310 V2000DK410 V2000DK510
	K3 K4 K5	**15**	0,140 (0,164) 0,360 (0,421) 0,800 (0,936)	**Rp 1/2”**	66	95	25	—	—	V2000DK315[2] V2000DK415[2] V2000DK515[2]
	K3 K4 K5	**20**	0,140 (0,164) 0,360 (0,421) 0,800 (0,936)	**Rp 3/4”**	74	106	25	—	—	V2000DK320 V2000DK420[2] V2000DK520[2]
Angle to NF (Fig. 1)	K3 K4 K5	**10**	0,140 (0,164) 0,360 (0,421) 0,800 (0,936)	**Rp 3/8”**	24	55,5	22	20	—	V2020EK310 V2020EK410 V2020EK510
	K3 K4 K5	**15**	0,140 (0,164) 0,360 (0,421) 0,800 (0,936)	**Rp 1/2”**	26	59,5	23	23	—	V2020EK315 V2020EK415 V2020EK515
Straight to NF (Fig. 2)	K3 K4 K5	**10**	0,140 (0,164) 0,360 (0,421) 0,800 (0,936)	**Rp 3/8”**	50	81,5	27	—	—	V2020DK310 V2020DK410 V2020DK510
	K3 K4 K5	**15**	0,140 (0,164) 0,360 (0,421) 0,800 (0,936)	**Rp 1/2”**	55	88,5	27	—	—	V2020DK315 V2020DK415 V2020DK515
Horizontal angle (Fig. 3)	K3 K4 K5	**10**	0,140 (0,164) 0,360 (0,421) 0,800 (0,936)	**Rp 3/8”**	24	50	33	22	—	V2000AK310 V2000AK410 V2000AK510
	K3 K4 K5	**15**	0,140 (0,164) 0,360 (0,421) 0,800 (0,936)	**Rp 1/2”**	26	54	35	26	—	V2000AK315[2] V2000AK415[2] V2000AK515[2]
Corner angle, radiator connection left (Fig. 4)	K3 K4 K5	**10**	0,140 (0,164) 0,360 (0,421) 0,700 (0,820)	**Rp 3/8”**	24	53	26	22	26,5	V2000LK310 V2000LK410 V2000LK510

	K3 K4 K5	**15**	0,140 (0,164) 0,360 (0,421) 0,700 (0,820)	**Rp 1/2”**	24	53	26	26	30,5	V2000LK315 V2000LK415[2] V2000LK515
Corner angle, radiator connection right (Fig. 4)	K3 K4 K5	**10**	0,140 (0,164) 0,360 (0,421) 0,700 (0,820)	**Rp 3/8”**	24	53	26	22	26,5	V2000RK310 V2000RK410 V2000RK510
	K3 K4 K5	**15**	0,140 (0,164) 0,360 (0,421) 0,700 (0,820)	**Rp 1/2”**	24	53	26	26	30,5	V2000RK315 V2000RK415[2] V2000RK515
Swanneck (Fig. 5)	K3 K4 K5	**15**	0,140 (0,164) 0,360 (0,421) 0,800 (0,936)	**Rp 1/2”**	66	108	25	—	—	V2000BK315 V2000BK415 V2000BK515

Flow Diagram V2000Kx



P-Band	1K	2K	3K
k_v (cv)-value - valve disc K3	0,047 (0,055)	0,095 (0,111)	0,140 (0,164)
k_v (cv)-value - valve disc K4	0,120 (0,140)	0,240 (0,281)	0,360 (0,421)
k_v (cv)-value - valve disc K5	0,300 (0,351)	0,600 (0,702)	0,800[3] (0,936)

NOTE: [3] k_v (cv)= 0,7 (0,82) for corner angle versions

Hometronic compatible

V2000SC
SC type TRV Body

SELF-CLOSING PRE-SETTABLE RADIATOR VALVE

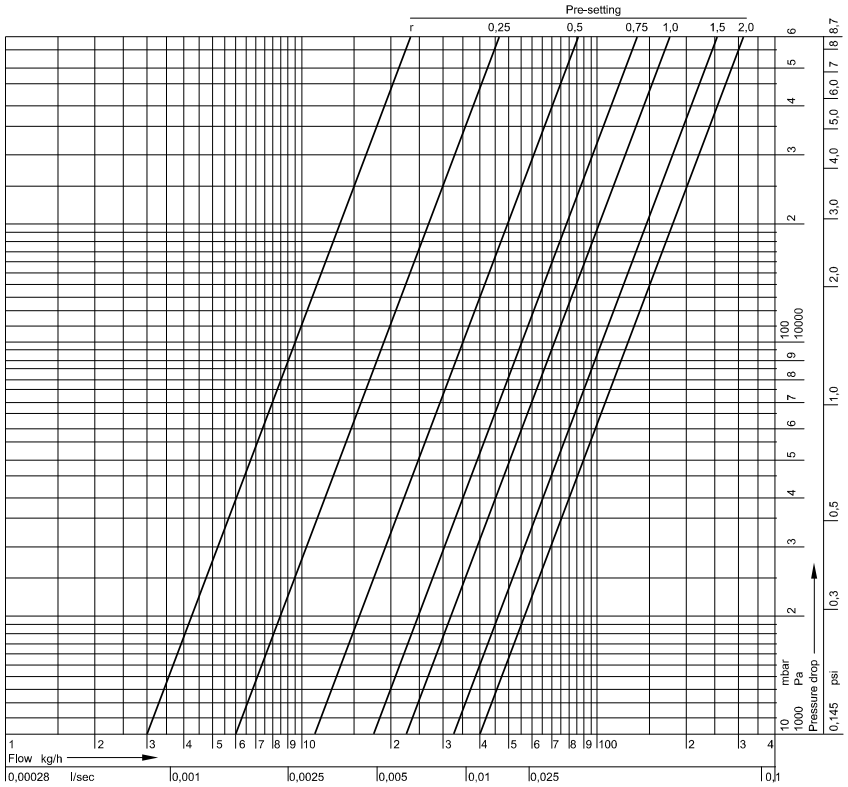
PRODUCT DATA

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

Body type	DN	k_{VS} (cv)-value	Pipe connection	l	L	h	H	h_2	OS-No.
Angle to DIN (Fig. 1)	**10**	0,40 (0,47)	**Rp 3/8”**	26	52	20	22	—	V2000ESC10
	15	0,40 (0,47)	**Rp 1/2”**	29	58	20	26	—	V2000ESC15
	20	0,40 (0,47)	**Rp 3/4”**	34	66	19	29	—	V2000ESC20
Straight to DIN (Fig. 2)	**10**	0,40 (0,47)	**Rp 3/8”**	59	85	25	—	—	V2000DSC10
	15	0,40 (0,47)	**Rp 1/2”**	66	95	25	—	—	V2000DSC15
	20	0,40 (0,47)	**Rp 3/4”**	74	106	25	—	—	V2000DSC20

NOTE: All dimensions in mm unless otherwise stated.

Flödesdiagram V2000SC



Pre-setting	r	1/4	1/2	3/4	1	1 1/2	2
k_V (cv)-value	0,03 (0,04)	0,06 (0,07)	0,11 (0,13)	0,17 (0,20)	0,22 (0,26)	0,32 (0,37)	0,40 (0,47)

NOTE: r = leakage rate when thermostat is removed

Hometronic H compatible

at CONCEPT

V2000SL
SL type TRV Body

RADIATOR VALVE WITH STROKE LIMITED CARTRIDGE

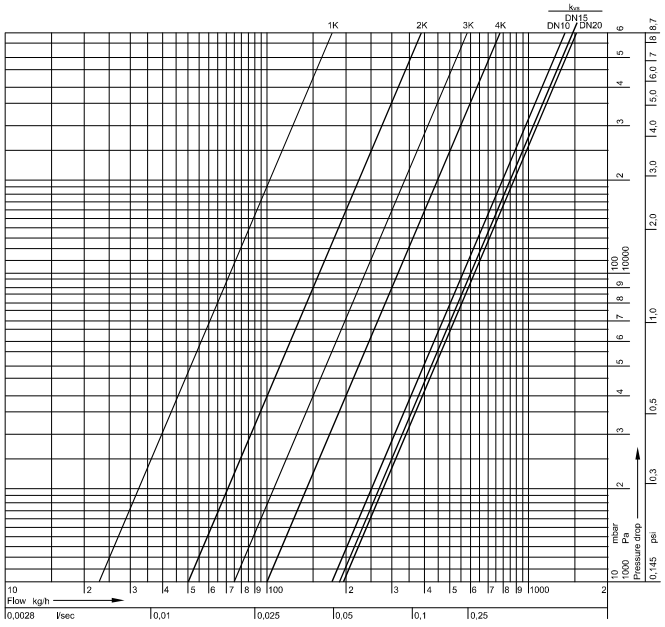
PRODUCT DATA

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

Body type	DN	k_{VS} (cv)-value	Pipe connection	l	L	h	H	h_2	OS-No.
Angle to DIN (Fig. 1)	**10**	1,70 (1,99)	**Rp 3/8"**	26	52	20	22	—	V2000ESL10
	15	1,85	**Rp 1/2"**	29	58	20	26	—	V2000ESL15
	20	1,95 (2,28)	**Rp 3/4"**	34	66	19	29	—	V2000ESL20
Straight to DIN (Fig. 2)	**10**	1,70 (1,99)	**Rp 3/8"**	59	85	25	—	—	V2000DSL10
	15	1,85	**Rp 1/2"**	66	95	25	—	—	V2000DSL15
	20	1,95 (2,28)	**Rp 3/4"**	74	106	25	—	—	V2000DSL20
Angle to NF (Fig. 1)	**10**	1,70 (1,99)	**Rp 3/8"**	24	55,5	22	20	—	V2020ESL10
	15	1,85	**Rp 1/2"**	26	59,5	23	23	—	V2020ESL15
Straight to NF (Fig. 2)	**10**	1,70 (1,99)	**Rp 3/8"**	50	81,5	27	—	—	V2020DSL10
	15	1,85	**Rp 1/2"**	55	88,5	27	—	—	V2020DSL15

NOTE: All dimensions in mm unless otherwise stated

Flow Data



Pre-setting	1	2	3	4	5	7	open = kvs
k_V-value for DN10	0,25	0,50	0,70	1,00	1,25	1,50	1,70
k_V-value for DN15	0,25	0,50	0,70	1,00	1,25	1,50	1,85
k_V-value for DN20	0,25	0,50	0,70	1,00	1,25	1,50	1,95

NOTE: Pre-settings above are unsuitable for operation with radiator thermostats and should only be used with actuators.

Hometronic compatible

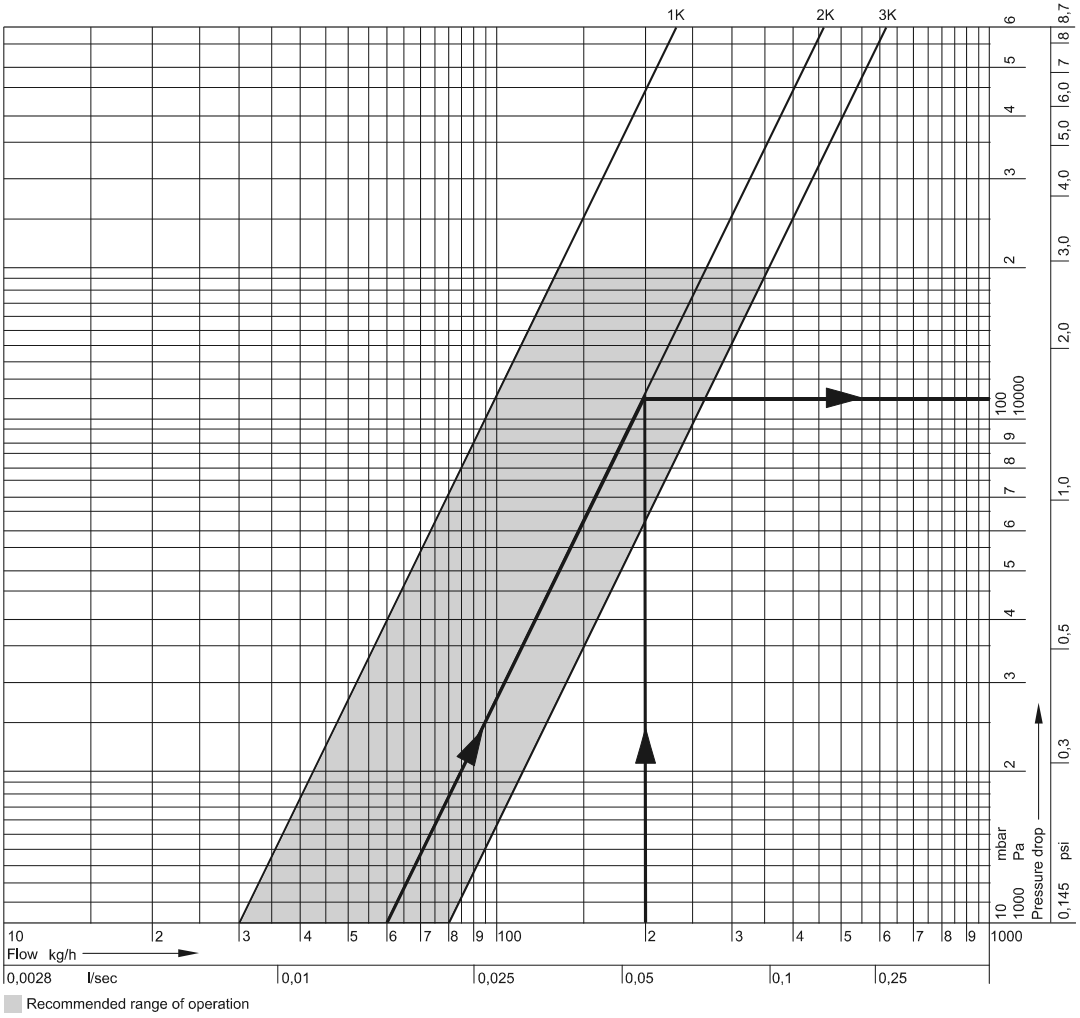
V2000UB
UBG type TRV Body
RADIATOR VALVE WITH UNLIMITED CARTRIDGE

PRODUCT DATA

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

Body type	DN	k_{vs} (cv)-value	Pipe connection	l	L	h	H	h_2	OS-No.
For the supply									
Angle to DIN (Fig. 1)	**10**	1,70 (1,99)	**Rp 3/8”**	26	52	20	22	—	V2000EUB10[2]
	15	1,85 (2,16)	**Rp 1/2”**	29	58	20	26	—	V2000EUB15[2]
	20	1,95 (2,28)	**Rp 3/4”**	34	66	19	29	—	V2000EUB20[2]
	25	2,50 (2,93)	**Rp 1"**	41,5	73	26	33	—	V2000EUB25[3]
Straight to DIN (Fig. 2)	**10**	1,70 (1,99)	**Rp 3/8”**	59	85	25	—	—	V2000DUB10[2]
	15	1,85 (2,16)	**Rp 1/2”**	66	95	25	—	—	V2000DUB15[2]
	20	1,95 (2,28)	**Rp 3/4”**	74	106	25	—	—	V2000DUB20[2]
	25	2,20 (2,57)	**Rp 1"**	80	112,5	30	—	—	V2000DUB25[3]
Angle, compact dimensions (Fig. 1)	**10**	1,80 (2,11)	**Rp 3/8”**	24	55,5	22	20	—	V2010EUB10
	15	1,80 (2,11)	**Rp 1/2”**	26	59,5	23	23	—	V2010EUB15
Straight, compact dimensions (Fig. 2)	**10**	0,80 (0,94)	**Rp 3/8”**	50	81,5	27	—	—	V2010DUB10
	15	1,10 (1,29)	**Rp 1/2”**	55	88,5	27	—	—	V2010DUB15
Angle to NF (Fig. 1)	**10**	1,80 (2,11)	**Rp 3/8”**	24	55,5	22	20	—	V2020EUB10
	15	1,80 (2,11)	**Rp 1/2”**	26	59,5	23	23	—	V2020EUB15
Straight to NF (Fig. 2)	**10**	0,80 (0,94)	**Rp 3/8”**	50	81,5	27	—	—	V2020DUB10
	15	1,10 (1,29)	**Rp 1/2”**	55	88,5	27	—	—	V2020DUB15
Horizontal angle (Fig. 3)	**10**	1,20 (1,40)	**Rp 3/8”**	24	50	33	22	—	V2000AUB10[2]
	15	1,20 (1,40)	**Rp 1/2”**	26	54	35	26	—	V2000AUB15[2]
Corner angle, radiator connection left (Fig. 4)	**10**	1,00 (1,17)	**Rp 3/8”**	24	53	26	22	26,5	V2000LUB10
	15	1,00 (1,17)	**Rp 1/2”**	24	53	26	26	30,5	V2000LUB15
radiator connection right (Fig. 4)	**10**	1,00 (1,17)	**Rp 3/8”**	24	53	26	22	26,5	V2000RUB10
	15	1,00 (1,17)	**Rp 1/2”**	24	53	26	26	30,5	V2000RUB15
Swanneck (Fig. 5)	**15**	1,60 (1,87)	**Rp 1/2”**	66	108	25	—	—	V2000BUB15
For the return									
Horizontal angle (Fig. 3)	**10**	1,20 (1,40)	**Rp 3/8”**	25	52	21	22	—	V2000HUB10
	15	1,20 (1,40)	**Rp 1/2”**	29	58	23	26	—	V2000HUB15
Straight (Fig. 2)	**10**	1,20 (1,40)	**Rp 3/8”**	57	85	23	—	—	V2000IUB10
	15	1,20 (1,40)	**Rp 1/2”**	65	95	23	—	—	V2000IUB15
For the supply or return									
Straight to DIN with external threads (Fig. 2a)	**15**	1,60 (1,87)	**G 3/4" A**	66	—	25	—	—	V2060DUB15

Flödesdiagram V2000UB



P-Band	1K	2K	3K
k_v (cv)-value	0,3 (0,35)	0,6 (0,70)	0,8 (0,94)

k_{vs} (cv)-values

	DN10 (3/8”)	DN15 (1/2”)	DN20 (3/4”)	DN25 (1”)
Angle to DIN	1,70 (1,99)	1,85 (2,16)	1.95 (2,28)	2,50 (2,93)
Straight to DIN	1,70 (1,99)	1,85 (2,16)	1.95 (2,28)	2,20 (2,57)
Compact angle/to NF	1,80 (2,11)	1,80 (2,11)	—	—
Compact straight/to NF	0,80 (0,94)	1,10 (1,29)	—	—
Horizontal angle	1,20 (1,40)	1,20 (1,40)	—	—
Corner angle	1,00 (1,17)	1,00 (1,17)	—	—
Swanneck	—	1,60 (1,87)	—	—
Return valve bodies (all)	1,20 (1,40)	1,20 (1,40)	—	—
Straight with external threads	—	1,60 (1,87)	—	—

Hometronic compatible

V2000VS
V type TRV Body

RADIATOR VALVE WITH PRE-SETTABLE CARTRIDGE

PRODUCT DATA

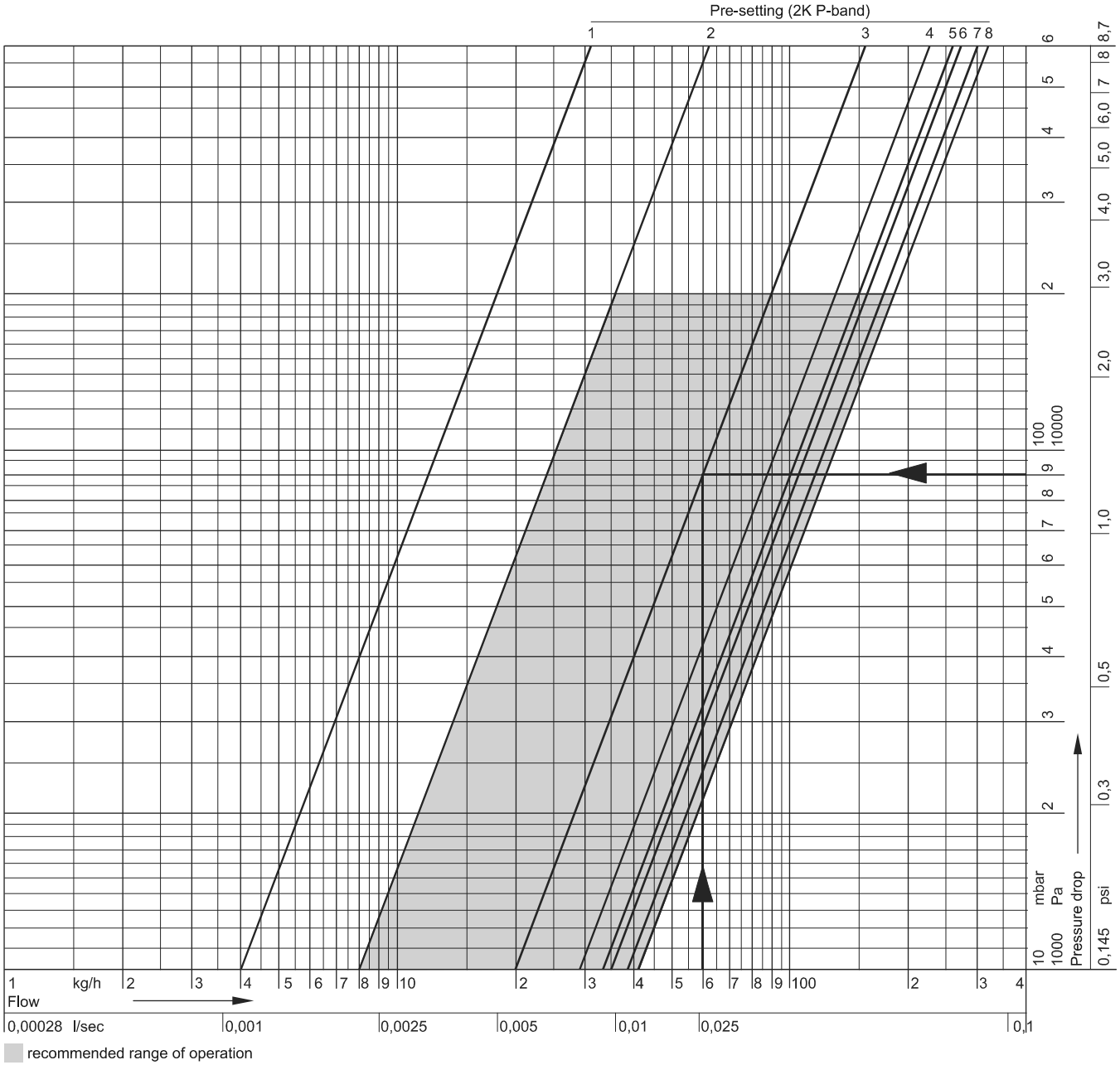
Table 1. Dimensions and OS-Nos (OS=Ordering System)

Body type	DN	k_{VS}-value	Pipe connection	l	L	h	H	h_2	OS-No.
For the supply									
Angle to DIN (Fig. 1)	**10**	0,72	**Rp 3/8”**	26	52	20	22	—	V2000EVS10[2]
	15	0,72	**Rp 1/2”**	29	58	20	26	—	V2000EVS15[2]
	20	0,72	**Rp 3/4”**	34	66	19	29	—	V2000EVS20[2]
Straight to DIN (Fig. 2)	**10**	0,72	**Rp 3/8”**	59	85	25	—	—	V2000DVS10[2]
	15	0,72	**Rp 1/2”**	66	95	25	—	—	V2000DVS15[2]
	20	0,72	**Rp 3/4”**	74	106	25	—	—	V2000DVS20[2]
Angle, compact dimensions (Fig. 1)	**10**	0,72	**Rp 3/8”**	24	55,5	22	20	—	V2010EVS10
	15	0,72	**Rp 1/2”**	26	59,5	23	23	—	V2010EVS15
Straight, compact dimensions (Fig. 2)	**10**	0,72	**Rp 3/8”**	50	81,5	27	—	—	V2010DVS10
	15	0,72	**Rp 1/2”**	55	88,5	27	—	—	V2010DVS15
Angle to NF (Fig. 1)	**10**	0,72	**Rp 3/8”**	24	55,5	22	20	—	V2020EVS10[2]
	15	0,72	**Rp 1/2”**	26	59,5	23	23	—	V2020EVS15[2]
Straight to NF (Fig. 2)	**10**	0,72	**Rp 3/8”**	50	81,5	27	—	—	V2020DVS10[2]
	15	0,72	**Rp 1/2”**	55	88,5	27	—	—	V2020DVS15[2]
Horizontal angle (Fig. 3)	**10**	0,72	**Rp 3/8”**	24	50	33	22	—	V2000AVS10[2]
	15	0,72	**Rp 1/2”**	26	54	35	26	—	V2000AVS15[2]
Corner angle, radiator connection left (Fig. 4)	**10**	0,72	**Rp 3/8”**	24	53	26	22	26,5	V2000LVS10
	15	0,72	**Rp 1/2”**	24	53	26	26	30,5	V2000LVS15
radiator connection right (Fig. 4)	**10**	0,72	**Rp 3/8”**	24	53	26	22	26,5	V2000RVS10
	15	0,72	**Rp 1/2”**	24	53	26	26	30,5	V2000RVS15
For the return									
Horizontal angle (Fig. 3)	**10**	0,72	**Rp 3/8”**	25	52	21	22	—	V2000HVS10
	15	0,72	**Rp 1/2”**	29	58	23	26	—	V2000HVS15
Straight (Fig. 2)	**10**	0,72	**Rp 3/8”**	57	85	23	—	—	V2000IVS10
	15	0,72	**Rp 1/2”**	65	95	23	—	—	V2000IVS15

NOTE: All dimensions in mm unless otherwise stated.

NOTE: [2]Alternatively available with nickel-plated radiator tailpiece. Please change OS-No. to V200**2**... Other bodies also available with nickel-plated radiator tailpiece on request.

Flödesdiagram V2000VS



Pre-setting	1	2	3	4	5	6	7	8[3]
xP = 1K (m^3/h)	0,04	0,06	0,13	0,16	0,19	0,19	0,19	0,19
xP = 2K (m^3/h)	0,04	0,08	0,20	0,29	0,33	0,35	0,38	0,41
k_{VS}-value (m^3/h)	0,04	0,09	0,22	0,35	0,43	0,51	0,62	0,72

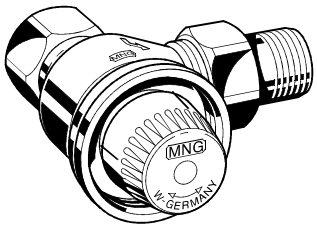
NOTE: [3] Factory setting.

Honeywell

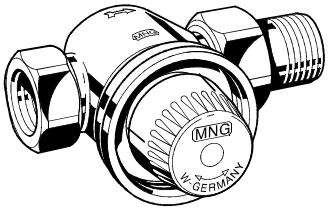
V2050
H type TRV Body

HI-FLOW THERMOSTATIC RADIATOR VALVE

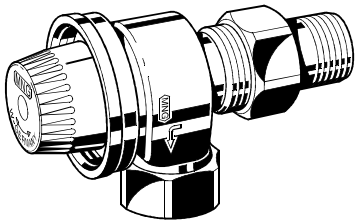
PRODUCT DATA



Angle



Straight



Horizontal angle (for the return)

Design

The valve consists of:

- Valve housing PN10, DN15, 20 or 25 with internal thread to DIN2999 (ISO7) on inlet and external thread for union-nut with radiator tailpiece on outlet. Inlet suitable for threaded pipe, DN15 and 20 also suitable for copper and precision steel pipe using compression fittings (see 'Accessories' on page 3)
- Valve insert
- Protection cap
- Union-nut and radiator tailpiece

Materials

- Valve housing made of red bronze
- Valve insert made of brass with EPDM O-rings and seat sealing
- Spindle made of stainless steel
- Protection cap made of white plastic
- Union-nut and radiator tailpiece made of brass

Application

Thermostatic radiator valves individually control room temperatures and thus save energy.

H type thermostatic radiator valves have quiet operation and are fitted to radiators on two-pipe systems with large flow rates or radiators in one-pipe systems. The H type flat valve disc gives unrestricted flow rate.

The valve cartridge can be replaced while the system is running and without draining (see 'Accessories' on page 3).

The bodies are suitable for all Honeywell radiator thermostats with M30 x 1,5 connection and 11,5 mm closing dimension.

Features

- **For heating-systems with high water flow rates**
- **Available for installation on the supply or, with horizontal angle body, on the return**
- **Reverse flow possible - note lower max. differential pressure**
- **Quiet operation**
- **Valve insert can be replaced while system is operating and without draining the system**
- **Valve opening spring is not in the water**
- **With white protection cap**

Specifications

Medium	Heating water	
pH-value	8...9,5	
Operating temperature	max. 130°C (266°F)	
Operating pressure	max. 10 bar (145 psi)	
Differential pressure	max. 0,3 bar (4,4 psi) max. 0,01 bar (0,15 psi) for reverse flow option	
$k_{vs\ (cv)}$-values	Angle, DN15	5,0 (5,85)
	Angle, DN20+25	7,0 (8,19)
	Straight, DN15	3,5 (4,10)
	Straight, DN20+25	5,0 (5,85)
	Horizontal angle	5,0 (5,85)
Thermostat thread	M30 x 1,5	
Closing dimension	11,5 mm	
Stroke	2,9 mm	

Function

Thermostatic valves individually control room temperatures and thus save energy.

The valve is controlled by the radiator thermostat. Air from the room passing over the sensor of the radiator thermostat 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.

Dimensions

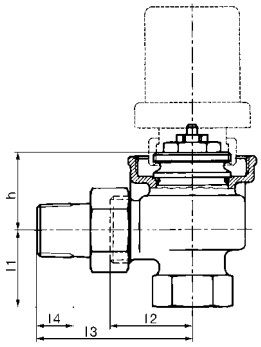


Fig. 1. Angle body

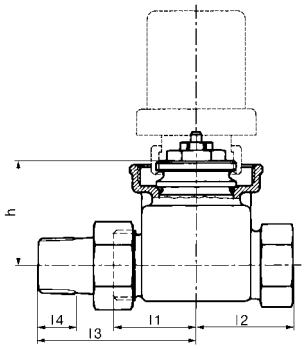


Fig. 2. Straight body

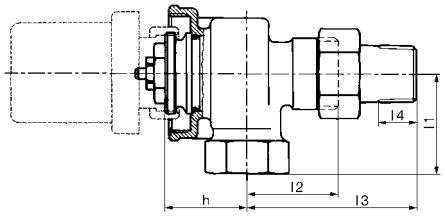


Fig. 3. Horizontal angle body

NOTE: Radiator thermostat is not supplied with valve.

Table 1. Dimensions

Body type	DN	Pipe connection	h	l1	l2	l3	l4
Angle (Fig. 1)	**15**	**Rp 1/2"**	39,5	31,0	36,5	59,0	13,2
	20	**Rp 3/4"**	39,5	34,5	40,5	66,5	14,5
	25	**Rp 1"**	40,0	42,0	48,0	75,0	16,8
Straight (Fig. 2)	**15**	**Rp 1/2"**	30,5	30	32	60	13,2
	20	**Rp 3/4"**	32,0	34,0	36,0	68,0	14,5
	25	**Rp 1"**	32,0	37,5	41,5	74,5	16,8
Horizontal angle (Fig. 3)	**15**	**Rp 1/2"**	30,5	37,0	30,0	58,0	13,2
	20	**Rp 3/4"**	32,0	40,0	34,0	66,0	14,5

NOTE: All dimensions in mm unless otherwise stated.

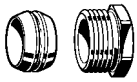
Ordering Information

Table 2. Ordering information and OS-Nos. (OS = Ordering System)

Body type	DN	Pipe connection	k_{VS} (cv)-value	OS-No.
Angle (supply)	15	Rp 1/2"	5,0 (5,85)	V2050EH015
	20	Rp 3/4"	7,0 (8,19)	V2050EH020
	25	Rp 1"	7,0 (8,19)	V2050EH025
Straight (supply)	15	Rp 1/2"	3,5 (4,10)	V2050DH015
	20	Rp 3/4"	5,0 (5,85)	V2050DH020
	25	Rp 1"	5,0 (5,85)	V2050DH025
Horizontal angle (return)	15	Rp 1/2"	5,0 (5,85)	V2050HH015
	20	Rp 3/4"	5,0 (5,85)	V2050HH020

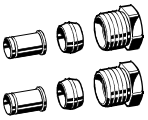
Accessories

Compression fitting for copper and steel pipe



1/2" x 12 mm	VA620A1512
1/2" x 14 mm	VA620A1514
1/2" x 15 mm	VA620A1515
1/2" x 16 mm	VA620A1516
3/4" x 18 mm	VA620A2018
3/4" x 22 mm	VA620A2022

Compression fitting with support inserts (2 each) for copper and soft steel pipe



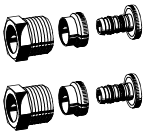
1/2" x 15 mm	VA621A1515
1/2" x 16 mm	VA621A1516
3/4" x 18 mm	VA621A2018

NOTE: Support inserts have to be used for soft steel and copper pipe (wall thickness 1 mm).

Compression fitting with support insert for composite pipe

1/2" x 14 mm	VA622A1514
1/2" x 16 mm	VA622A1516

Compression fitting with support insert for composite pipe (2 each)

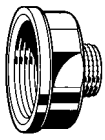


1/2" x 14 mm	VA622B1514
1/2" x 16 mm	VA622B1516

Soldering tailpiece

1/2" x 15 mm (for DN15)	VA5230A015
1/2" x 16 mm (for DN20)	VA5230A020

Reduction piece

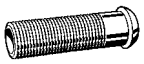


1" pipe > 1/2" valve	VA6290A260
1 1/4" pipe > 1/2" valve	VA6290A280
1" pipe > 3/4" valve	VA6290A285
1 1/4" pipe > 3/4" valve	VA6290A305

Tailpiece with thread up to collar

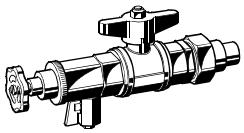
for valves DN15 (1/2")	VA5201A015
for valves DN20 (3/4")	VA5201A020
for valves DN25 (1")	VA5201A025

Extension tailpiece



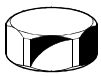
1/2" x 76 mm (for DN15), approx. 65 mm thread	VA5204A015
3/4" x 70 mm (for DN20), approx. 60 mm thread	VA5204A020

Service tool for exchanging valve inserts without draining the system



VA8200A002

Heavy-duty shut-off cap



for valves 1/2"	VA2202A015
for valves 3/4"	VA2202A020

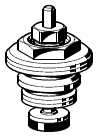
Sealing for heavy-duty cap

for valves 1/2"	VA5090A015
for valves 3/4"	VA5090A020

Handwheel

pre-settable, with integrated blocking function	VA2200D001

Exchange valve insert



H type	VS1200H020

Flow Data

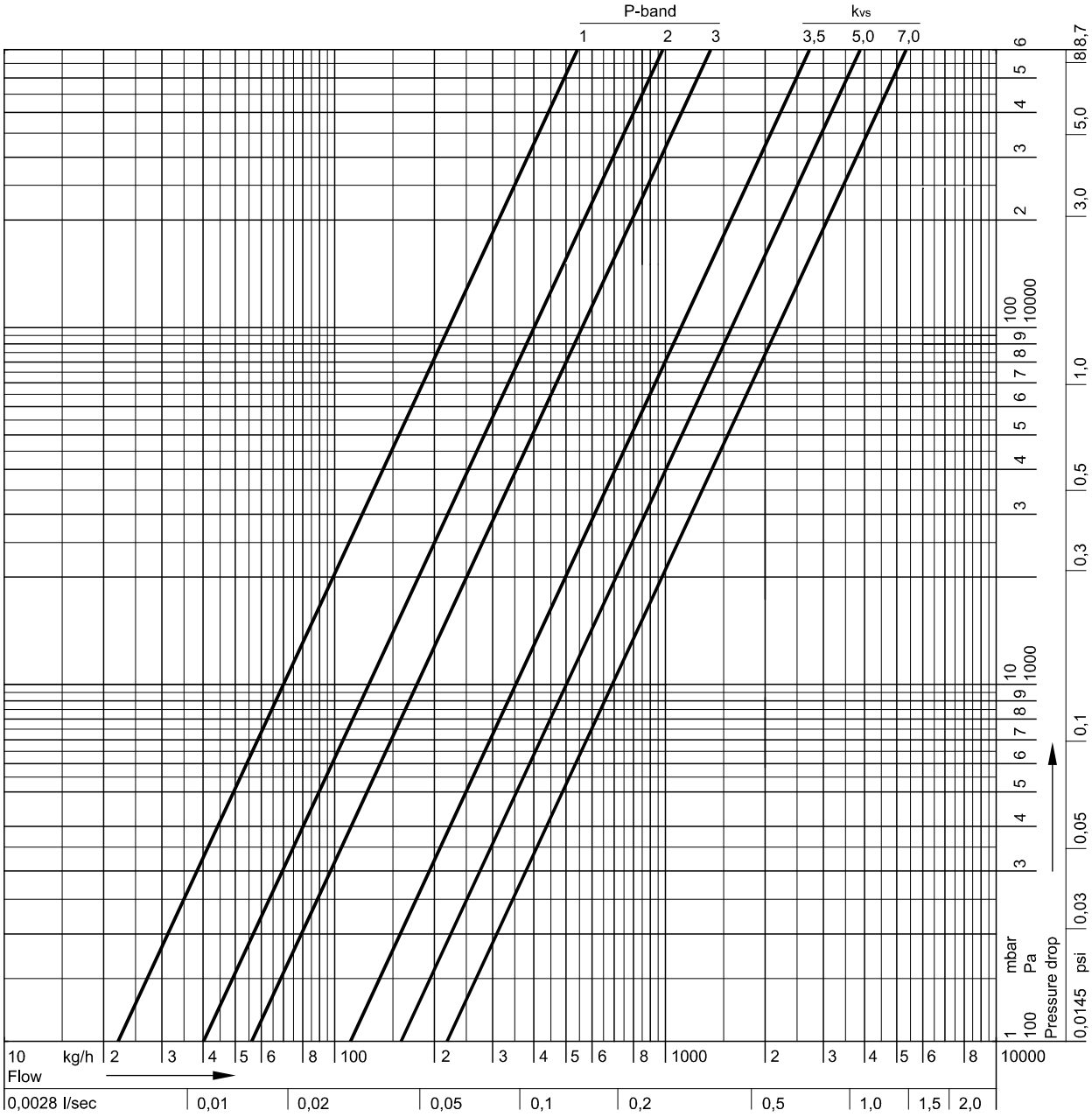


Table 3. k_V (cv)-values

Body type	DN	P-Band					k_{VS}-value
		1K	2K	3K	5K	7K	
Angle, horizontal angle	15	0,7 (0,82)	1,25 (1,46)	1,8 (2,11)	3,0 (3,51)	3,5 (4,10)	5,0 (5,85)
	20, 25	0,7 (0,82)	1,25 (1,46)	1,8 (2,11)	3,0 (3,51)	4,3 (5,03)	7,0 (8,19)
Straight	15	0,7 (0,82)	1,25 (1,46)	1,8 (2,11)	2,5 (2,93)	3,0 (3,51)	3,5 (4,10)
	20, 25	0,7 (0,82)	1,25 (1,46)	1,8 (2,11)	2,7 (3,16)	3,7 (4,33)	5,0 (5,85)

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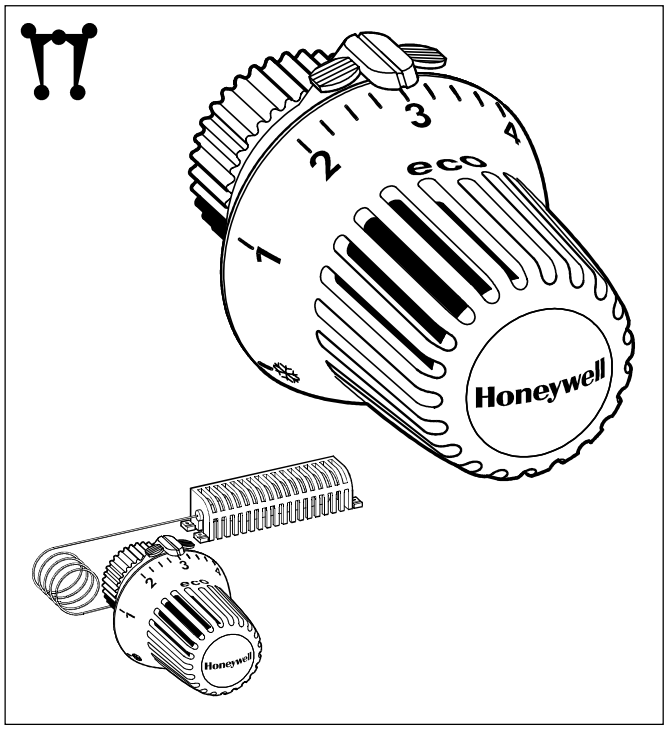
T6000 Series
Thera-3

RADIATOR THERMOSTATS WITH ERGONOMICAL DESIGN

PRODUCT DATA



Design

The thermostat consists of:

- Handwheel with lid and socket
- Sensor with support cage
- Spindle assembly
- Connection nut

Materials

- Handwheel, lid and socket made of plastic, white to RAL9010 or anthracite
- Support cage and spindle construction made of plastic
- Sensor filled with liquid or wax
- Connection nut made of brass, nickel-plated

Application

Thermostats are installed onto thermostatic valve bodies (TRV bodies). The combination of thermostat and TRV body, (TRV), controls the room temperature by regulating the flow of heating water into a heat exchanger.

TRVs are installed in water-based heating systems at the supply or, less commonly at the return connection of radiators or other heat exchangers.

Thera-3 type thermostats conform to the European Standard EN215 when used with Honeywell TRV bodies according to table 2 on page 8.

Thera-3 with **M30 x 1,5 connection** are suitable for all Honeywell TRV bodies and radiator inserts as well as other TRV bodies and radiator inserts with M30 x 1,5 connection and 11,5 mm closing dimension.

Thera-3-DA with **Danfoss type connection** are suitable for TRV bodies and valve inserts with a Danfoss RA type compatible snap connection.

Thera-3-HZ with **Herz type connection** are suitable for TRV bodies with M28 x 1,5 connection and 9,5 mm closing dimension.

Features

- **Thera-3 with M30 x 1.5 connection conforms to European standard EN215**
- **Available with liquid- or wax-filled sensing element**
- **Modern ergonomical design**
- **Equipped with easy to use limiting tabs**

Specifications

Thermostat connection	• M30 x 1,5 • Danfoss type snap connection • M28 x 1,5 (HZ-type)
Setpoint range	• 0 - ❄ - 1..5 (with zero-position) • ❄ - 1..5 (without zero-position)
Temperature range	With zero-position (‘0’): 1...28°C (34...82°F) Without zero-position: 6...28°C (43...82°F)
Closing dimension	11,5 mm (Thera-3) 9,5 mm (Thera-3-HZ)

NOTE: Zero-position is also thermostatically controlled – when temperature falls the TRV may open.

Dimensions

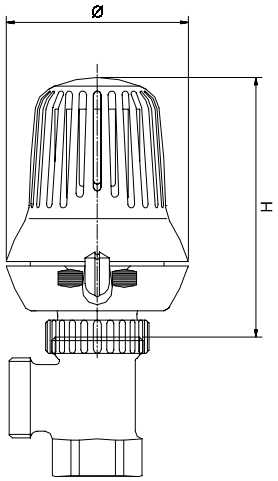


Fig. 1. Thera-3 with internal sensor

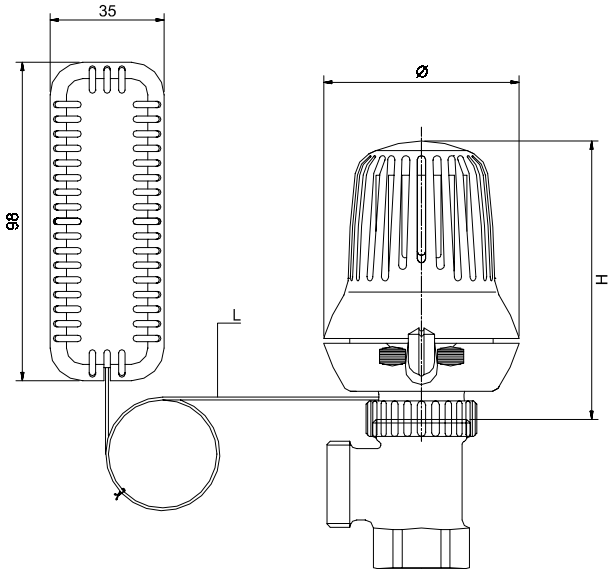


Fig. 2. Thera-3 with remote sensor

Table 1. Dimensions

Item	H closed	H open	Ø	L
Fig. 1 and Fig. 2	87	93	60	0,8 – 2,0 – 5,0 – 8,0 m

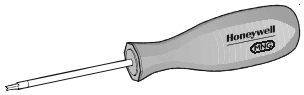
All dimensions in mm if not stated differently.

Accessories

Theft-protection ring, white

TA6900A001

Screwdriver for theft-protection ring



TA6900B001

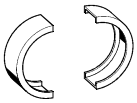
Cover cap for customer specific logos, white

TA6000A001

Trim ring, white

TA1000B001

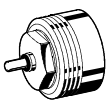
Cover ring, white



TA1000A001

Adapters

DA-Adapter from Danfoss snap connection to M30 x 1.5 — TA1010DA01



HZ-Adapter from M28 x 1.5 with 9,5 mm closing dimension to M30 x 1.5 with 11,5 mm closing dimension — TA1010HZ01

Ordering Information

Item	Zero-position ('0')	Connection	Capillary tube length	Colour	Cap	OS-No.
Thera-3, Thera-3-DA and Thera-3-HZ with internal sensor						
Liquid-filled sensing element		M30 x 1,5	—	white	MNG	T6001
		M30 x 1,5	—	white	none	T6001C
		M30 x 1,5	—	white	Honeywell	T6001H
	•	M30 x 1,5	—	white	MNG	T6001W0
	•	M30 x 1,5	—	white	none	T6001W0C
	•	M30 x 1,5	—	white	Honeywell	T6001W0H
		M30 x 1,5	—	anthracite	MNG	T6011
	•	M30 x 1,5	—	anthracite	MNG	T6011W0
		DA type	—	white	MNG	T6001DA
		DA type	—	white	none	T6001DAC
		DA type	—	white	Honeywell	T6001DAH
	•	DA type	—	white	MNG	T6001DAW0
	•	DA type	—	white	none	T6001DAW0C
	•	DA type	—	white	Honeywell	T6001DAW0H
		M28 x 1,5	—	white	MNG	T6001HZ
	•	M28 x 1,5	—	white	MNG	T6001HZW0
Wax-filled sensing element		M30 x 1,5	—	white	MNG	T6002
		M30 x 1,5	—	white	none	T6002C
		M30 x 1,5	—	white	Honeywell	T6002H
	•	M30 x 1,5	—	white	MNG	T6002W0
	•	M30 x 1,5	—	white	none	T6002W0C
	•	M30 x 1,5	—	white	Honeywell	T6002W0H
Thera-3 and Thera-3-DA with remote sensor						
Liquid-filled sensing element		M30 x 1,5	0,8 m	white	MNG	T600108
		M30 x 1,5	2,0 m	white	MNG	T600120
		M30 x 1,5	5,0 m	white	MNG	T600150
		M30 x 1,5	8,0 m	white	MNG	T600180
	•	M30 x 1,5	0,8 m	white	MNG	T600108W0
	•	M30 x 1,5	2,0 m	white	MNG	T600120W0
	•	M30 x 1,5	5,0 m	white	MNG	T600150W0
	•	M30 x 1,5	8,0 m	white	MNG	T600180W0
	•	M30 x 1,5	0,8 m	white	Honeywell	T600108W0H
	•	M30 x 1,5	2,0 m	white	Honeywell	T600120W0H
		DA type	2,0 m	white	MNG	T600120DA
	•	DA type	2,0 m	white	MNG	T600120DAW0

EN215 Information

OS-Nos. T6001, T6001W0, T6002, T6002W0, T6001xx and T6001xxW0 type Thera-3 thermostats in connection with below TRV bodies (marked ●) conform to the European Standard EN215. The highlighted boxes identify available body patterns of one certain valve type.

Table 2. Comparison of Thera-3 specs and EN 215 requirements

	Thera-3	EN 215 requirements
Min. setpoint temperature	6°C (43°F)	5...12°C (41...54°F)
Max. setpoint temperature	28°C (82°F)	≤ 32°C (90°F)
Hysteresis	≤ 0,3K	≤ 1,0K
Influence of differential pressure	0,1...0,5K	≤ 1,0K
Influence of static pressure	0,4K	≤ 1,0K
Influence of heating medium	0,4K	≤ 1,5K
Response time	22 min.	≤ 40 min.

NOTE: Influence of differential pressure depends on used TRV body.

Table 3. EN 215 cross reference

Valve type	Angle to DIN	Straight to DIN	Angle to NF	Straight to NF	Compact angle	Compact straight	Horizontal angle	Corner angle	Swanneck	Other	Angle (re-turn)	Straight (return)
BB	•	•	•	•	•	•						
KV_3												
KV_4												
KV_5	•	•	•	•								
UBG	•	•	•	•								
GB										•		
SL	•	•	•	•								
V	•	•	•	•	•	•						
FV	•	•	•	•	•	•						
SC												
H												

Setpoint

Thera-3 type thermostats with zero-position (‘0’)

Setpoint	**0**	❄	**1**	**2**	**3**	**4**	**5**
°C	1	6	12	16	20	24	28
°F	34	43	54	61	68	75	82

Thera-3 type thermostats without zero-position (‘0’)

Setpoint		❄	**1**	**2**	**3**	**4**	**5**
°C		6	12	16	20	24	28
°F		43	54	61	68	75	82

NOTE: All °C and °F-values approximate.

NOTE: Heating can freeze when thermostats with zero-position are set at position ‘0’.

NOTE: Zero-position is also thermostatically controlled – when temperature falls the TRV may open.

Installation Examples

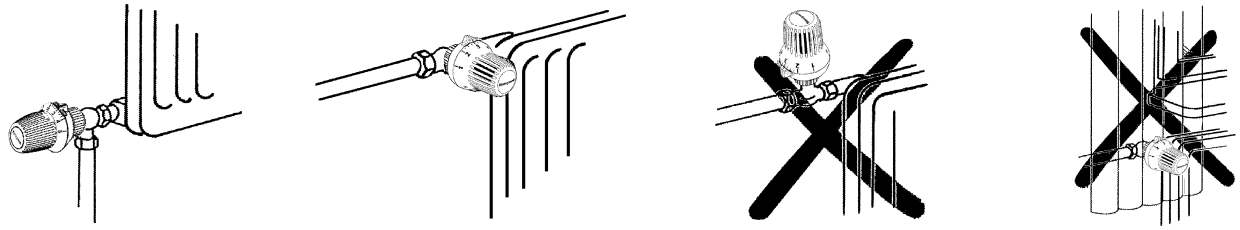


Fig. 3. Installation of Thera-3 with internal sensor

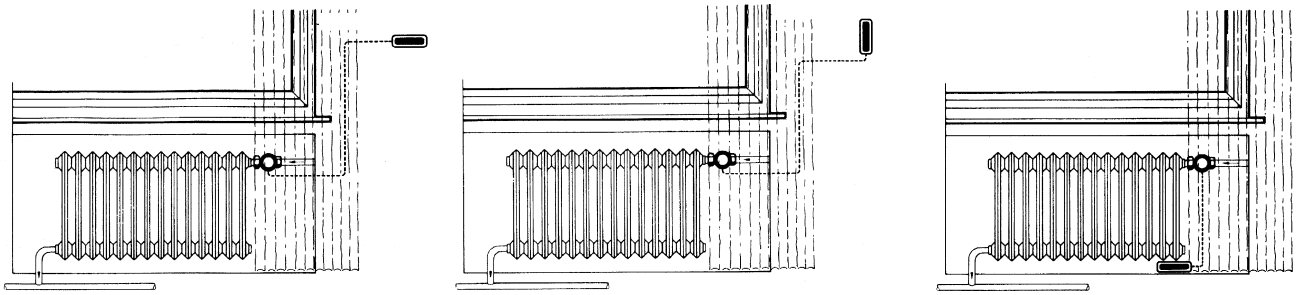


Fig. 4. Installation of Thera-3 with remote sensor

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