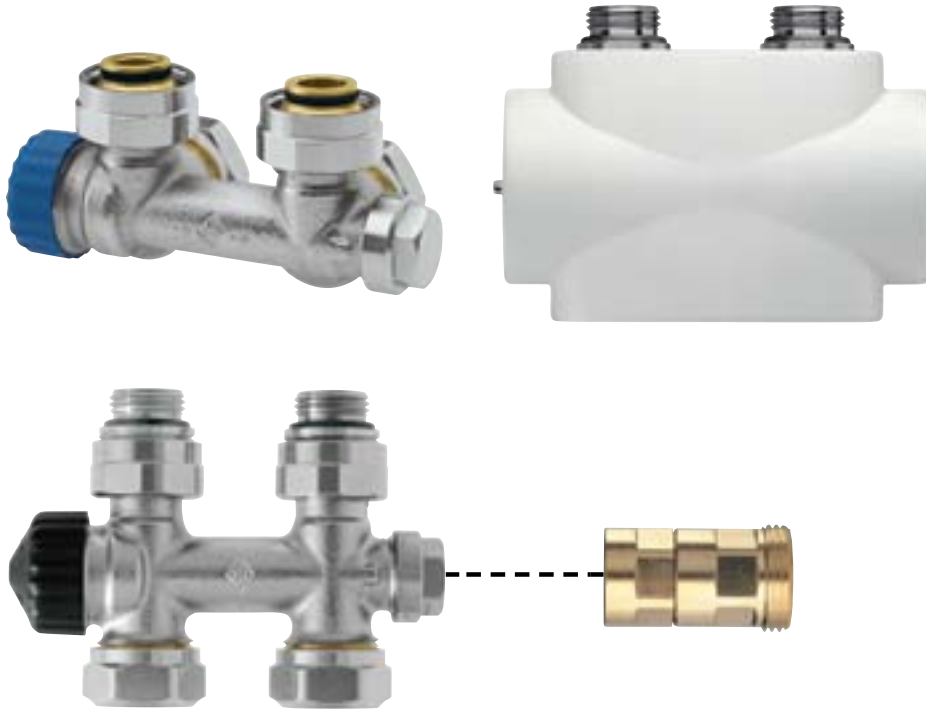


Multilux

Multilux with two point connection for single and two-pipe systems



HEIMEIER >

Pressurisation & Water Quality > Balancing & Control > Thermostatic Control

ENGINEERING ADVANTAGE

Multilux

Description

HEIMEIER Multilux thermostatic valve body made of corrosion resistant nickel plated gunmetal for radiators with lower two point connection.

Single and two-pipe versions as angle or straight type with R 1/2 and G 3/4 connection.

Single-pipe version: The mass flow share to the radiator is always 35%.

Centre to centre distance of the connections 50 mm. Tolerance compensation ± 1.0 mm by means of special union nuts and flexible flat sealing system for stressfree mounting.

The Multilux thermostatic valve bodies fit all HEIMEIER thermostatic heads and actuators.

The Niro steel stem is provided with a double O-ring. The outer O-ring and the whole of the thermostat upper part are replaceable under pressure. Separate regulating cone for reproducible presetting, operation with a screw driver.

Return pipe can be shut off with an allen key size 5 AF while not changing the presetting during opening and closing.

Sealing on stems by means of EPDM O-rings.

Drain-off is possible at the return pipe shut-off with a draining off and filling device. Available as an accessory for 1/2"-hose connection.

G 3/4 connection on pipe side with compression fitting for plastic, copper, precision steel or multi-layer pipe.

Use only the designated compression fittings for HEIMER fittings (e.g. designation 15 THE).

Excellent connection design using well shaped cover made of white or chromed plastic, see accessories.

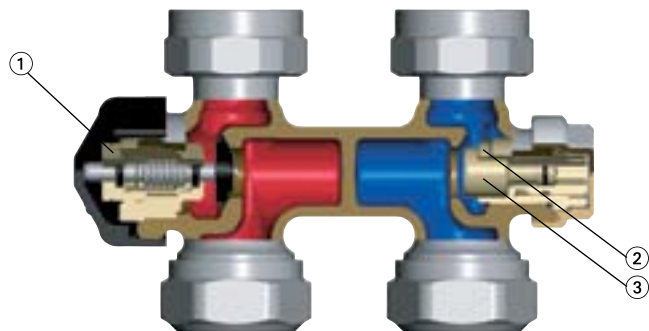
Permitted operating temperature TB 120°C (248°F), with cover TB 90°C (194°F). Permitted operating pressure PB 10 bar.



Assembly

Two-pipe system

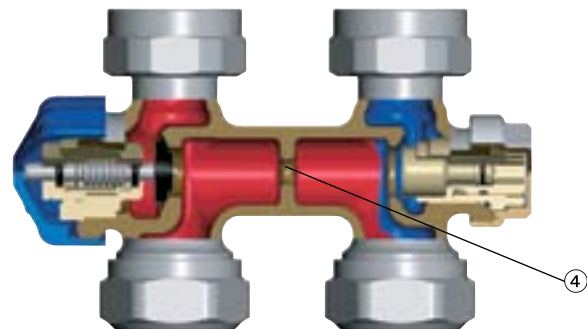
Protection cap, black



1. Thermostat upper part
2. Shut-off cone
3. Regulating cone

Single-pipe system

Protection cap, blue



4. Bypass hole

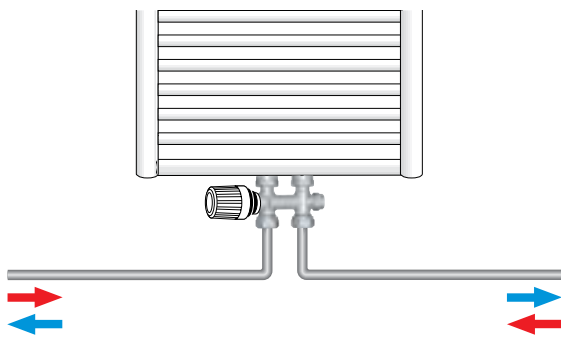
- cover for angle and straight forms
- body made of corrosion resistant nickel plated gunmetal
- supply and return are reversible
- two-pipe design with reproducible presetting
- easy draining off and filling
- with return pipe shut-off
- universal connections
- for all HEIMEIER thermostatic heads and actuators

Application

The Multilux thermostatic valve body is used for the connection to radiators with a lower two point connection, e.g. bath radiators, universal radiators etc. The two-pipe version is suitable for pump heating systems with normal spread of temperature. The regulating cone integrated into the shut-off cone enables hydraulic compensation, the aim of which is to supply all heaters with hot water according to their requirement. The presetting is reproducible, i.e. it is not changed by operation of the shut-off. The single-pipe version is used in conventional single-pipe heating systems in which all radiators of a heating circuit are connected to the a loop. For the calculation of the whole mass flow for the loop you should consider a mass flow of 35% for the radiator (Multilux) and 65% for the loop. By means of the bypass the mass flow is also maintained in the shut-off condition so that the circulation in the loop is not interrupted. This also allows hand towel heaters to be included in floor heating circuits. Multilux allows the individual opportunity of sht-off, drain-off and fitting. Decorating or service work can therefore be carried out without interruption. **Supply and return are reversible** to avoid crossing of pipework.

Sample application

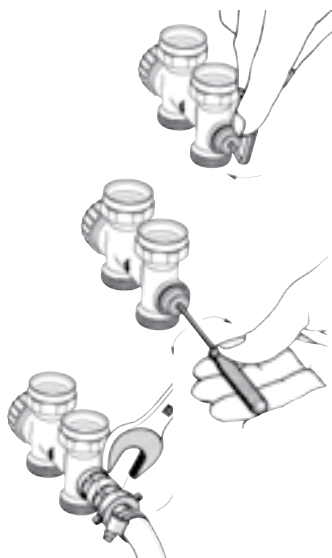
Bath radiator



Notes

- To avoid damage and the formation of scale deposit in the hot water heating system, the composition of the heat transfer medium should be in accordance with the VDI guideline 2035. For industrial and long-distance energy systems, see the applicable codes VdTÜV and 1466/AGFW FW 510. A heat transfer medium containing mineral oils, or any type of lubricant containing mineral oil can have extremely negative effects on the source apparatus and usually lead to the disintegration of EPDM seals. When using nitrite-free frost and corrosion resistance solutions with an ethylene glycol base, pay close attention to the details outlined in the manufacturers' documentation, particularly concerning concentration and specific additives.
- The thermostatic valve bodies can be used with all HEIMEIER thermostatic heads and thermal or motorized actuators. The optimal tuning of the components guarantees maximum safety. When using actuators from other manufacturers, make sure that the pressure power is appropriate for thermostatic valve bodies with soft sealing valve discs.

Operation



Shut-off

The Multilux return pipe shut-off is operated with an allen key size 5 AF. The return pipe shut-off is closed by turning clockwise (Fig.). The supply pipe to the thermostatic valve body is shut off by turning the protection cap clockwise.

Presetting (two-pipe system)

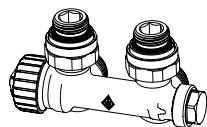
Close return pipe shut-off (see shut-off). Screw in regulating cone with 4 mm screwdriver by turning clockwise to the limit. Afterwards adjust to the required presetting by turning the screwdriver anticlockwise (Fig.). Open return pipe shut-off.

Draining off

Close return pipe shut-off and thermostatic valve insert (see shut-off). Slightly loosen the pressure piece by turning anticlockwise with an allen key size 10 AF. Screw draining off and filling device on to Multilux and slightly tighten the lower hexagon with an open jawed spanner size 22 AF. Screw hose threaded joint (1/2") on to draining off and filling device.

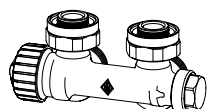
Loosen the upper hexagon on the hose connection side with an open jawed spanner size 22 AF and unscrew to the limit by turning anticlockwise (Fig.).

Article numbers



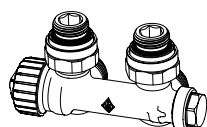
Angle Female thread, Nickel plated gunmetal

Connection radiator	kv-value [m ³ /h] (with presetting 4) ¹⁾		kvs-value [m ³ /h]	kv-value [m ³ /h]	Art. no.
	1	P-band [K] 2			
Two-pipe system					
Rp 1/2	0,32	0,59	0,90		3851-02.000
Single-pipe system²⁾					
Rp 1/2				1,50	3855-02.000



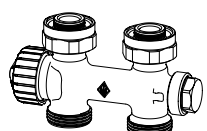
Angle Male thread, Nickel plated gunmetal

Connection radiator	kv-value [m ³ /h] (with presetting 4) ¹⁾		kvs-value [m ³ /h]	kv-value [m ³ /h]	Art. no.
	1	P-band [K] 2			
Two-pipe system					
G 3/4	0,32	0,59	0,90		3853-02.000
Single-pipe system²⁾					
G 3/4				1,50	3857-02.000



Straight Female thread, Nickel plated gunmetal

Connection radiator	kv-value [m ³ /h] (with presetting 4) ¹⁾		kvs-value [m ³ /h]	kv-value [m ³ /h]	Art. no.
	1	P-band [K] 2			
Two-pipe system					
Rp 1/2	0,32	0,59	0,90		3850-02.000
Single-pipe system²⁾					
Rp 1/2				1,50	3854-02.000



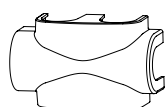
Straight Male thread, Nickel plated gunmetal

Connection radiator	kv-value [m ³ /h] (with presetting 4) ¹⁾		kvs-value [m ³ /h]	kv-value [m ³ /h]	Art. no.
	1	P-band [K] 2			
Two-pipe system					
G 3/4	0,32	0,59	0,90		3852-02.000
Single-pipe system²⁾					
G 3/4				1,50	3856-02.000

Radiator share 35%, ¹⁾ Factory setting

²⁾ Body marked with two horizontal arrows next to the manufacturer's designation

Accessories



Cover

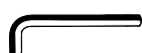
made of plastic.
For angle and straight forms.

Colour

white RAL 9016
chrome plated

Art. no.

3850-10.553
3850-12.553

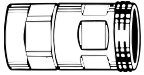


Allen key

for opening and closing the return pipe
shut-off size 5 AF DIN 911

Art. no.

0101-10.256



Draining off and filling device
for 1/2"-hose connection

Art. no.

0301-00.102



Compression fitting
for copper or precision steel pipe.
Nickel plated brass. Connection male
thread G 3/4. For pipe wall thickness
of 0,8 – 1 mm supporting sleeves
must be used. Pay attention to pipe
manufacturer's details.

Ø Pipe

Art. no.

12	3831-12.351
15	3831-15.351
16	3831-16.351
18	3831-18.351



Supporting sleeves
for copper or precision steel pipe with a
wall thickness of 1 mm.

L

Ø Pipe

Art. no.

25,0	12	1300-12.170
26,0	15	1300-15.170
26,3	16	1300-16.170
26,8	18	1300-18.170

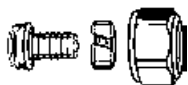


Compression fitting
for copper or precision steel pipe.
Nickel plated brass. Soft sealed.
Connection male thread G 3/4.

Ø Pipe

Art. no.

15	1313-15.351
18	1313-18.351



Klemmverschraubung
for plastic pipes. Nickel-plated brass.
Connection male thread G 3/4.

Ø pipe

Art. no.

14x2	1311-14.351
16x2	1311-16.351
17x2	1311-17.351
18x2	1311-18.351
20x2	1311-20.351

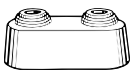


Compression fitting
for multi-layer pipes.
Nickel-plated brass.

Ø Pipe

Art. no.

16x2	1331-16.351
18x2	1331-18.351



Double rosette
Dividable in the middle, made of plas-
tic, white, for various pipe diameters.
Centre distance 50 mm.
Overall height max. 31 mm.

Art. no.

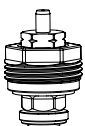
0520-00.093



Hand regulating cap
for all HEIMEIER thermostatic valve
bodies.

Art. no.

2001-00.325

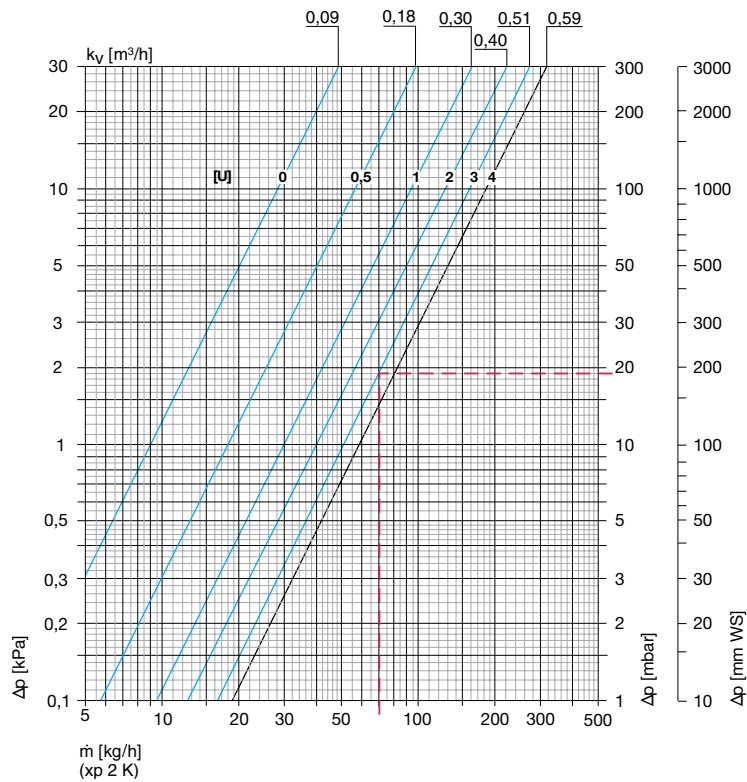


Thermostat insert
Replacement insert.

Art. no.

3850-02.300

Technical data – Two-pipe



Thermostatic head with Multilux two-pipe

P-band [K]	kv-Wert [m³/h] with presetting rotations [U]						Kvs [m³/h]	Permissible operating temperature TB* [°C]	Permissible operating overpressure PB [bar]	Permissible differential pressure while the valve is still closed Δp [bar]			
	0	0,5	1	2	3	4				Th.-head	EMO T/NC EMOtec/NC EMO 1/3 EMO EIB/LON	EMO T/NO EMOtec/NO	
DN 15 (1/2")	1	0,09	0,17	0,22	0,25	0,28	0,32	0,90	120	10	1,0	2,7	3,5
DN 15 (1/2")	2	0,09	0,18	0,30	0,40	0,51	0,59	0,90	120	10	1,0	2,7	3,5

*) with protection cap or actuator 100 °C (212 °F).

Calculation example

Required: Presetting value Multilux two-pipe

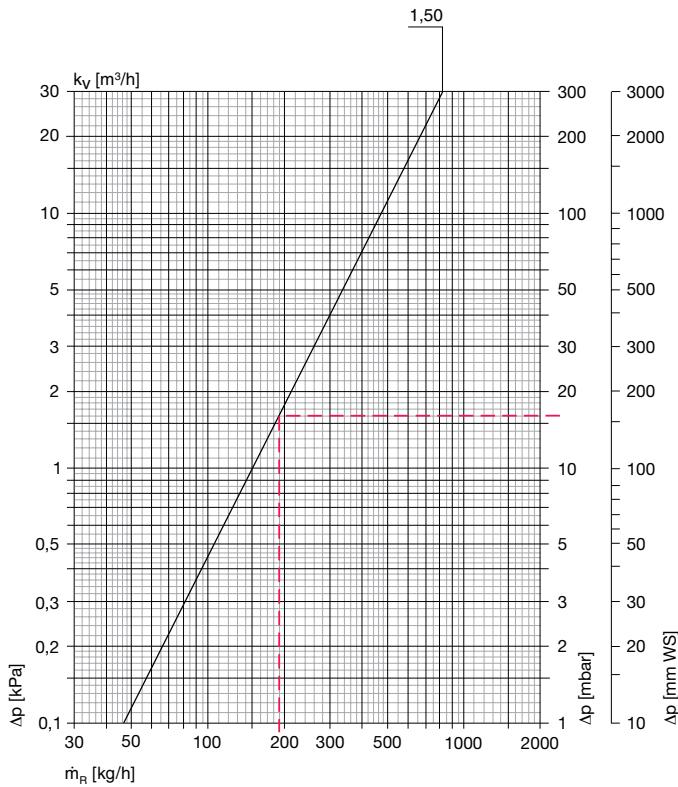
Given: Heat flow $\dot{Q} = 1225 \text{ W}$
 Temperature spread $\Delta t = 15 \text{ K (65/50°C)}$
 Pressure loss Multilux $\Delta p_v = 19 \text{ mbar}$

Solution: Mass flow $\dot{m} = \dot{Q} / (c \cdot \Delta t) = 1225 / (1,163 \cdot 15) = 70 \text{ kg/h}$
 Presetting value from graph: 3

$$c_v = \frac{k_v}{0,86}$$

$$k_v = c_v \cdot 0,86$$

Technical data – Single-pipe



Equivalent pipe lengths [m]

Kv	12 x 1	14 x 1	15 x 1	16 x 1	18 x 1
1,50	2,2	6,1	9,1	13,7	26,8

Copper pipe
 $\varnothing = 80 \text{ }^\circ\text{C}$
 $v = 0,5 \text{ m/s}$

Thermostatic head with Multilux single-pipe

	Radiator share [%]	k_v -value [m^3/h]	k_v -value (thermostatic valve closed) [m^3/h]	Permissible operating temperature TB [$^\circ\text{C}$]	Permissible operating overpressure PB [bar]
DN 15 (1/2")	35	1,50	1,10	120 ^{*)}	10

*) with protection cap or actuator $100 \text{ }^\circ\text{C}$ ($212 \text{ }^\circ\text{F}$).

Calculation example

Required: Pressure loss Multilux single-pipe radiator mass flow

Given: Heat flow ring pipe $\dot{Q} = 4420 \text{ W}$
 Temperature spread $\Delta t = 20 \text{ K (70/50}^\circ\text{C)}$
 Radiator share $m_{\text{HK}} \cong 35\%$

Solution: Mass flow $\dot{m}_R = \dot{Q}/(c \cdot \Delta t) = 4420/(1,163 \cdot 20) = 190 \text{ kg/h}$
 Pressure loss Multilux $\Delta p_v = 16 \text{ mbar}$
 Radiator mass flow $\dot{m}_{\text{HK}} = \dot{m}_R \cdot 0,35 = 190 \cdot 0,35 = 66,5 \text{ kg/h}$

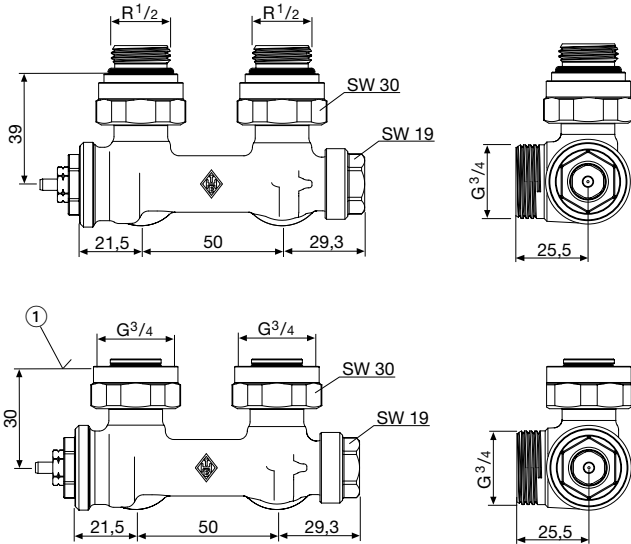
$$c_v = \frac{k_v}{0,86}$$

$$k_v = c_v \cdot 0,86$$

Dimensions

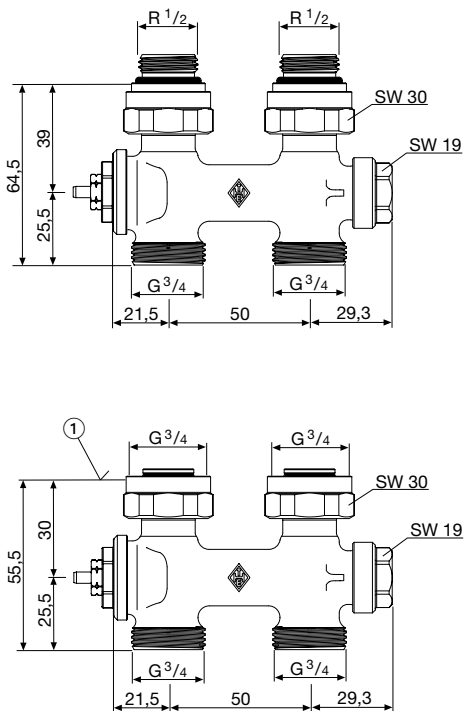
Multilux angle

Single and two-pipe design



Multilux straight

Single and two-pipe design



1. Bearing surface seal top edge

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