IMI HEIMEIER

Multilux

Thermostatic valves with radiator connection systems

With two point connection for one- and two-pipe systems, connection R1/2 and G3/4

IMI Hydronic Engineering

Breakthrough Engineering

Multilux

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.. Centre-to-centre distance of connections 50 mm.

Key features

- **Cover for angle and straight forms, white or chrome**
- **Supply and return are reversible**
- **Two-pipe design with V-exact II presetting**
- **Easy draining off and filling**
- **All versions suitable for R1/2 and G3/4 connection**

Technical description

Applications area:
Two- and one-pipe heating systems

Function:
Control
Stepless presetting (two-pipe system)
Shut-off
Drain-off
Filling

Dimensions:
DN 15

Pressure class:
PN 10

Temperature:
Max. working temperature: 120 °C, with cover 90 °C.
Min. working temperature: –10 °C

Materials:
Valve body: Corrosion resistant Gunmetal.
O-rings: EPDM rubber
Valve disc: EPDM rubber
Return spring: Stainless steel
Valve insert: Brass, PPS (polyphenylsulphide) and SPS (syndiotactic polystyrene)
The complete thermostatic insert can be replaced using the fitting tool without draining the system.
Spindle: Niro-steel spindle with double O-ring sealing. The outer O-ring can be replaced under pressure.
Cover: ABS

Surface treatment:
Valve body and fittings are nickel-plated.

Marking:
THE and II+ Designation.
Two-pipe system: white protection cap.
One-pipe system: blue protection cap and two horizontal arrows on the valve body.

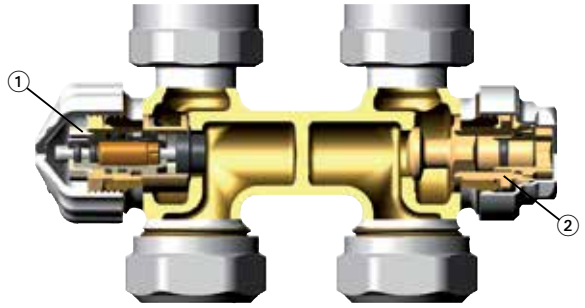
Radiator connection:
Adapters for R1/2 and G3/4, for radiator connections.
Tolerance compensation ±1,0 mm with special union nuts and flexible flat seal system for installation free of tension.

Pipe connection:
G3/4 male thread for compression fittings for plastic, copper, precision steel or multi-layer pipe.

Connection to thermostatic head and actuator:
HEIMEIER M30x1,5

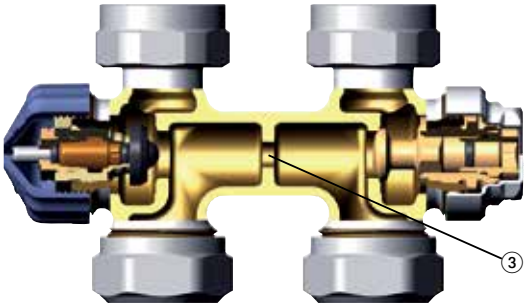
Construction

Two-pipe system
White protection cap



1. Thermostatic insert with V-exact II presetting
2. Shut-off cone and drain-off

One-pipe system
Blue protection cap



3. Bypass hole

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.

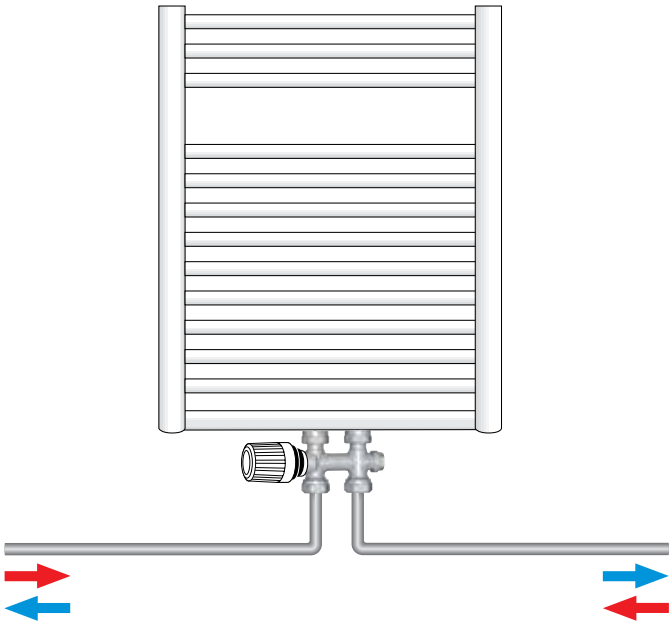
The two-pipe version is suitable for pump heating systems with normal spread of temperature. The valve makes exact hydraulic balancing possible with the aim of providing hot water to all heat consumers corresponding to their heating needs.
The one-pipe version is used in conventional one-pipe heating 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 shut-off, drain-off and filling. Decorating or service work can therefore be carried out without interruption.

Supply and return are reversible to avoid crossing of pipework.

Application example
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 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.

– Flush the system before changing thermostatic valves in heavy polluted existing systems.

– The thermostatic valve bodies can be used with all HEIMEIER thermostatic heads and HEIMEIER or TA thermal actuators or motorized. 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.

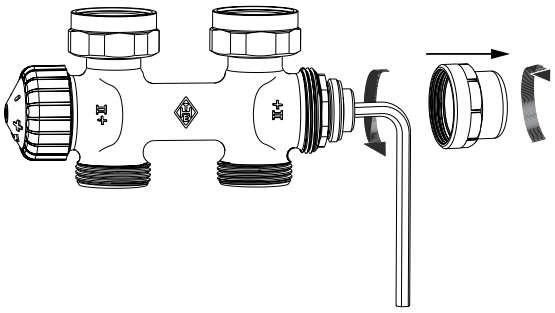
Operation

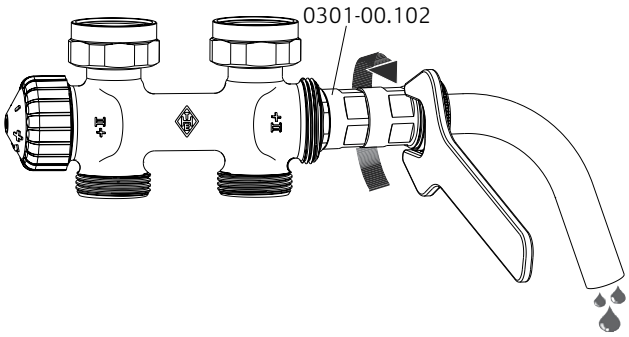
Shut-off

The Multilux return pipe shut-off is operated with an allan 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.

Draining off

Close return pipe shut-off and thermostatic valve insert (see shut-off). Slightly loosen the pressure piece by turning anticlockwise with an allan 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.).

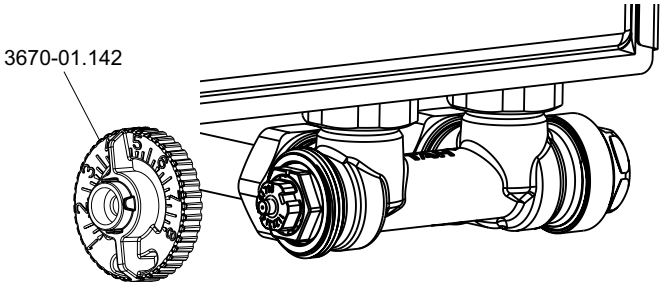




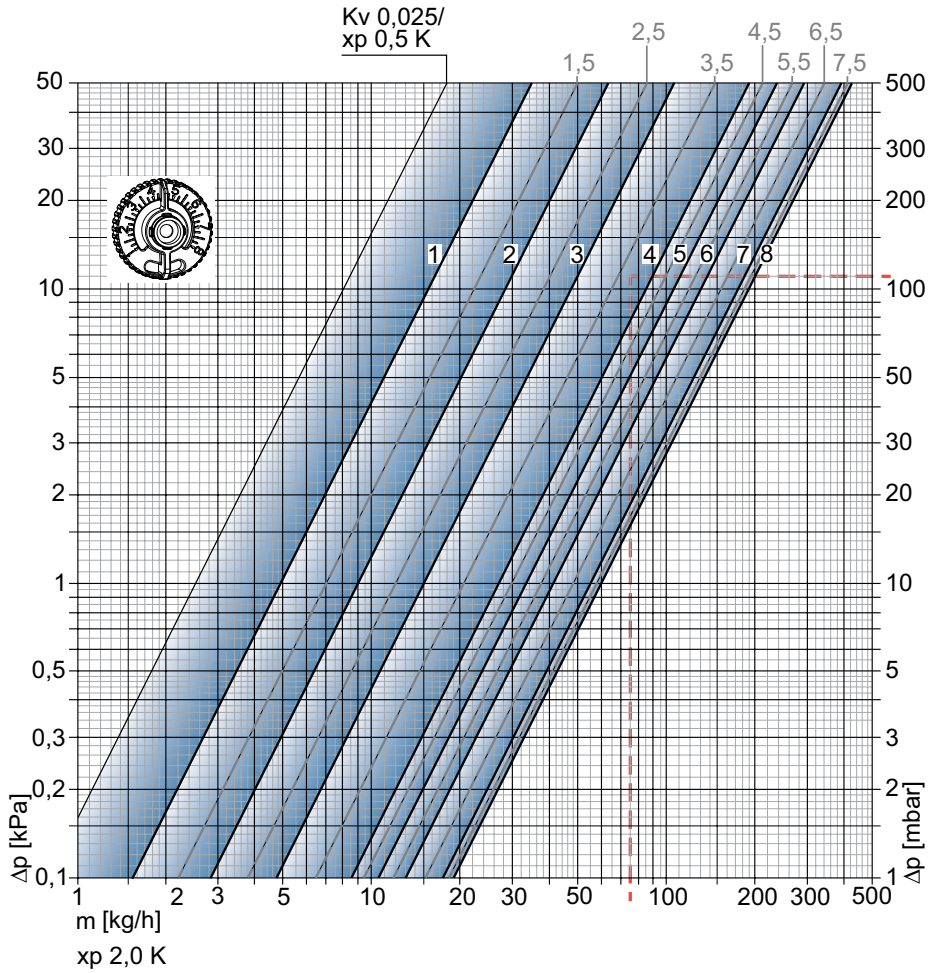
Presetting (two-pipe system)

The presetting can be selected steplessly between 1 and 8. There are 7 additional marks between the preset values, thus enabling exact setting. Setting 8 corresponds to the standard setting (factory setting). The technician can undertake or change the setting with the setting key or spanner (13 mm). This ensures unauthorised persons cannot tamper with the setting.

- Plug the setting key or universal key into the valve insert and turn until it engages in position.
- Turn the index of the desired setting value to the index figure of the valve insert.
- Withdraw the key. The setting on the valve insert is visible from the actuating direction (see fig.).



Technical data – Two-pipe



Valve body with thermostatic head

		Presetting								Permitted differential pressure, during which the valve is kept closed Δp [bar]	
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	Th.- head	EMO T-TM EMOtec EMO 3 TA-Slider 160
P-band [xp] **1.0K**	Kv-value	0,049	0,082	0,130	0,215	0,246	0,303	0,335	0,343	1,0	3,5
P-band [xp] **2.0K**	Kv-value	0,049	0,090	0,150	0,265	0,330	0,409	0,560	0,600		
	Kvs	0,049	0,102	0,185	0,313	0,332	0,518	0,619	0,670		

Kv/Kvs = m^3/h at a pressure drop of 1 bar.

Sample calculation
Target:
Setting range

Given:
Heat flow Q = 1308 W
Temperature spread Δt = 15 K (65/50 °C)
Pressure loss, thermostatic valve ΔpV = 110 mbar

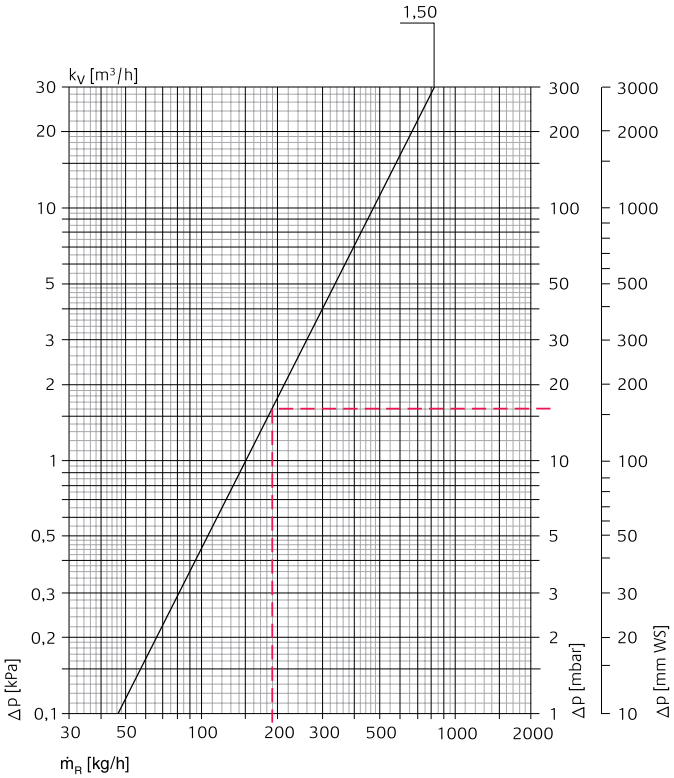
Solution:
Mass flow m = Q / (c · Δt) = 1308 / (1,163 · 15) = 75 kg/h

Setting range from Diagram:
With P-band **max. 2,0 K**: 4

$$Cv = \frac{Kv}{0{,}86}$$

$$Kv = Cv \cdot 0{,}86$$

Technical data – One-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
t = 80 °C (176 °F)
v = 0,5 m/s

Thermostatic head with Multilux one-pipe

	Radiator share [%]	Kv-value	Kv-value (thermostatic valve closed)
DN 15 (1/2")	35	1,50	1,10

Calculation example
Required:
Pressure loss Mulltilux one-pipe radiator mass flow

Given:
Heat flow ring pipe Q = 4420 W
Temperature spread Δt = 20 K (70/50 °C)
Radiator share m_{HK} = 35%

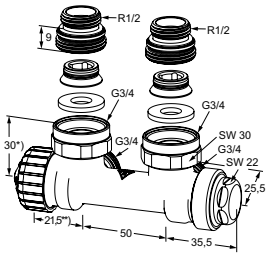
Solution:
Mass flow m_R= Q / (c · Δt) = 4420 / (1,163 · 20) = 190 kg/h

Pressure loss Multilux Δp_V = 16 mbar
Radiator mass flow $m_{HK} = m_R \cdot 0.35 = 190 \cdot 0.35 = 66.5$ kg/h

$$Cv = \frac{Kv}{0,86}$$

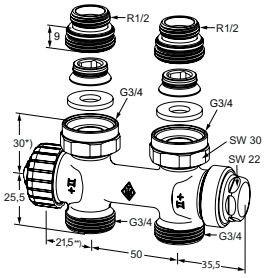
$$Kv = Cv \cdot 0,86$$

Articles – Two-pipe system



Angle
Female thread
Nickel plated gunmetal

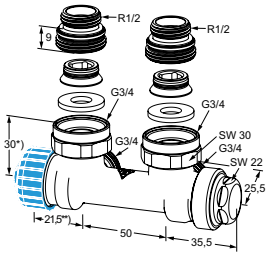
Connection radiator	Kv p-band max. 2 K	Kvs	EAN	Article No
Rp1/2 / G3/4	0,025 – 0,600	0,67	4024052456659	3851-02.000



Straight
Female thread
Nickel plated gunmetal

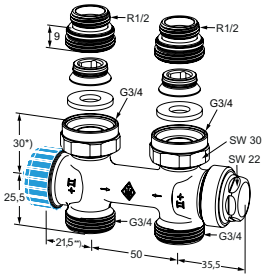
Connection radiator	Kv p-band max. 2 K	Kvs	EAN	Article No
Rp1/2 / G3/4	0,025 – 0,600	0,67	4024052456550	3850-02.000

Articles – One-pipe system



Angle
Female thread
Nickel plated gunmetal

Connection radiator	Kv-value	EAN	Article No
Rp1/2 / G3/4	1,50	4024052457052	3855-02.000



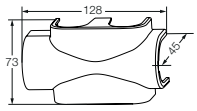
Straight
Female thread
Nickel plated gunmetal

Connection radiator	Kv-value	EAN	Article No
Rp1/2 / G3/4	1,50	4024052456956	3854-02.000

*) Bearing surface seal top edge.
**) Value at the bearing surface thermostatic head or actuator.

Radiator share 35%

Accessories

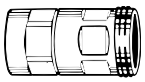


Cover
made of plastic.
For angle and straight forms.

Colour	EAN	Article No
white RAL 9016	4024052553518	3850-10.553
chrome plated	4024052553617	3850-12.553

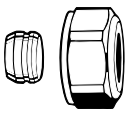
Setting key
for Multilux and V-exact II.

	EAN	Article No
	4024052035823	3670-01.142



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

	EAN	Article No
	4024052114511	0301-00.102

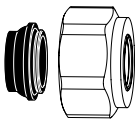


Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2.
Connection male thread G3/4 according to DIN EN 16313 (Eurocone).
Metal-to-metal joint.
Nickel-plated brass.
With a pipe wall thickness of 0.8-1 mm insert supporting sleeves. Heed pipe manufacturer’s technical advice.

Ø Pipe	EAN	Article No
12	4024052214211	3831-12.351
14	4024052214310	3831-14.351
15	4024052214617	3831-15.351
16	4024052214914	3831-16.351
18	4024052215218	3831-18.351

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

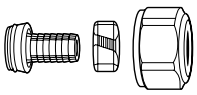
Ø Pipe	L	EAN	Article No
12	25,0	4024052127016	1300-12.170
15	26,0	4024052127917	1300-15.170
16	26,3	4024052128419	1300-16.170
18	26,8	4024052128815	1300-18.170



Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2 and stainless steel pipe.
Connection male thread G3/4 according to DIN EN 16313 (Eurocone).
Soft sealed, max. 95°C.

Nickel-plated brass.

Ø Pipe	EAN	Article No
15	4024052515851	1313-15.351
18	4024052516056	1313-18.351

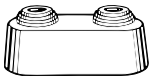


Compression fitting
for plastic pipe according to DIN 4726, ISO 10508. *PE-X*: DIN 16892/16893, EN ISO 15875; *PB*: DIN 16968/16969.
Connection male thread G3/4 according to DIN EN 16313 (Eurocone).
Nickel-plated brass.

Ø Pipe	EAN	Article No
12x1,1	4024052136018	1315-12.351
14x2	4024052134618	1311-14.351
16x1,5	4024052136117	1315-16.351
16x2	4024052134816	1311-16.351
17x2	4024052134915	1311-17.351
18x2	4024052135110	1311-18.351
20x2	4024052135318	1311-20.351

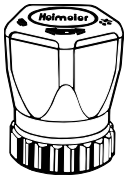
Compression fitting
for Alu/PEX multi-layer pipe according to DIN 16836.
Connection male thread G3/4 according to DIN EN 16313 (Eurocone).
Nickel-plated brass.

Ø Pipe	EAN	Article No
16x2	4024052137312	1331-16.351
18x2	4024052137411	1331-18.351



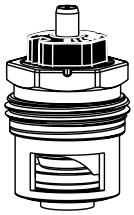
Double rosette
Dividable in the middle, made of plastic, white, for various pipe diameters.
Centre distance 50 mm.
Overall height max. 31 mm.

	EAN	Article No
	4024052120710	0520-00.093



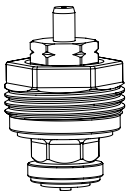
Hand regulating cap
for all HEIMEIER thermostatic valve bodies.

	EAN	Article No
white RAL 9016	4024052156610	2001-00.325



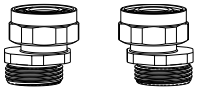
Thermostatic insert
V-exact II with precision presetting.
For thermostatic valve bodies with II+-designation.

	EAN	Article No
	4024052951611	3700-24.300



Thermostat insert
Replacement insert.

	EAN	Article No
	4024052459414	3850-02.300



S-connection set
consisting of 2 adapter pieces G3/4 x G3/4.
Nickel-plated brass.

	Model	EAN	Article No
Set 1	Axial distance min. 40/50 to max. 60/50	4024052840816	1354-02.362
Set 2	Axial distance min. 35/50 to max. 65/50	4024052840915	1354-22.362

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