Climate
Control

IMI Heimeier

Multilux 4 – Set with Halo

Design-Edition

with two-point connection, angle and straight type, for R 1/2 and G 3/4 radiator connection in 2-pipe or 1-pipe systems

Breakthrough
engineering for
a better world

Multilux 4 – Set with Halo

The Multilux 4 – Set is connected in 2-pipe or 1-pipe systems to radiators with a lower 2-point connection such as bathroom radiators, universal radiators etc.. Centre-to-centre distance of connections 50 mm. Multilux 4 – Set is suitable for installation as angle or straight form and the thermostatic head can be mounted on the left or right side. For mounting on the right side, the thermostatic insert only needs to be exchanged with the shut-off insert.

Key features

Changeable model for 2-pipe and 1-pipe systems
Only one model for different requirements

Suitable for installation as angle or straight form
For pipe connection to the wall or vertical to the floor

The thermostatic head can be mounted on the left or right
Thermostatic insert and shut-off insert are interchangeable

Supply and return connections can be arranged in any way
This makes it possible to avoid intersecting connection lines

Technical description

Applications area:
Two- and one-pipe heating systems

Function:
Control
Stepless presetting
Shut-off

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 gunmetal, fittings are nickel-plated.

Marking:
TAH and II+ Designation. White protection cap.
Two horizontal arrows next to the TAH marking on the articles 9690-42.000 and 9690-43.000.

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:
M30x1.5

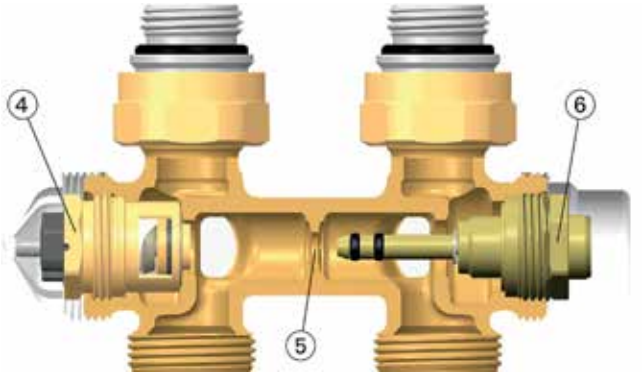
Thermostatic head:
Thermostatic head Halo with closed graduation cap and liquid filled thermostat. High actuating force, minimum hysteresis, optimum closing time. Stable control response even with minor calculated p-band variations (<1 K). Conforming to German EnEV and/or DIN V 4701-10. Setting numbers 8–28. Frost protection. Temperature range 6 °C to 28 °C.

Construction

Multilux 4
Installation as angle type / Installation as straight type

1. R1/2 Radiator connection
2. G3/4 Radiator connection
3. G3/4 end caps
4. Thermostatic insert with stepless V-exact II presetting
5. Bypass hole
6. Return shut-off

Multilux 4 changeable from 2-pipe to 1-pipe operation

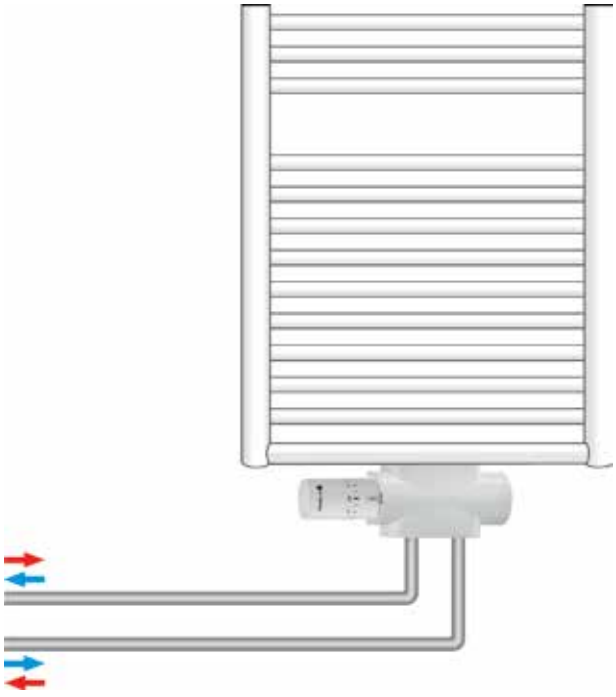


Multilux 4 2-pipe

Application

The Multilux 4 – Set is connected in 2-pipe or 1-pipe systems to radiators with a lower 2-point connection such as bathroom radiators, universal radiators etc..
The 2-pipe version is suitable for two-pipe pump heating systems with normal temperature spread.
The valve makes exact hydraulic balancing possible with the aim of providing hot water to all heat consumers corresponding to their heating needs.
The changable version from 2-pipe to 1-pipe systems 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 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 4 enables individual shut-off. This means painting or maintenance work can be carried out without interrupting operation of other radiators.
Supply and return connections can be arranged in any way. This makes it possible to avoid intersecting connection lines. **Max. permissible differential pressure 200 mbar**.
The Multilux 4 – Set is suitable for universal applications thanks to its connection options for Rp1/2 and G3/4 radiator connections.
The thermostatic head can be mounted on the left or right. For mounting on the right, the thermostatic insert only needs to be exchanged with the shut-off/control insert.r

Application example
Bathroom radiato



Multilux 4 – Set, white RAL 9016

Multilux 4 – Set, chrome

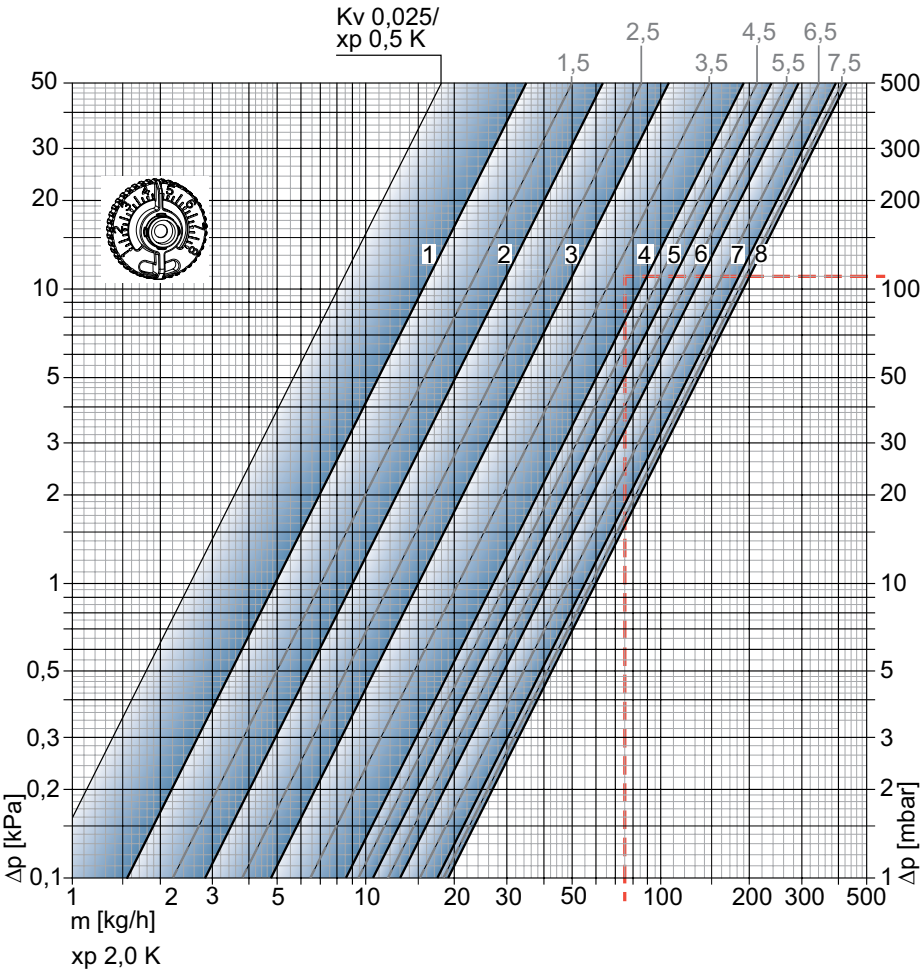
Notes

– 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 IMI Heimeier thermostatic heads and IMI Heimeier or IMI 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.

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 TA-TRI, 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

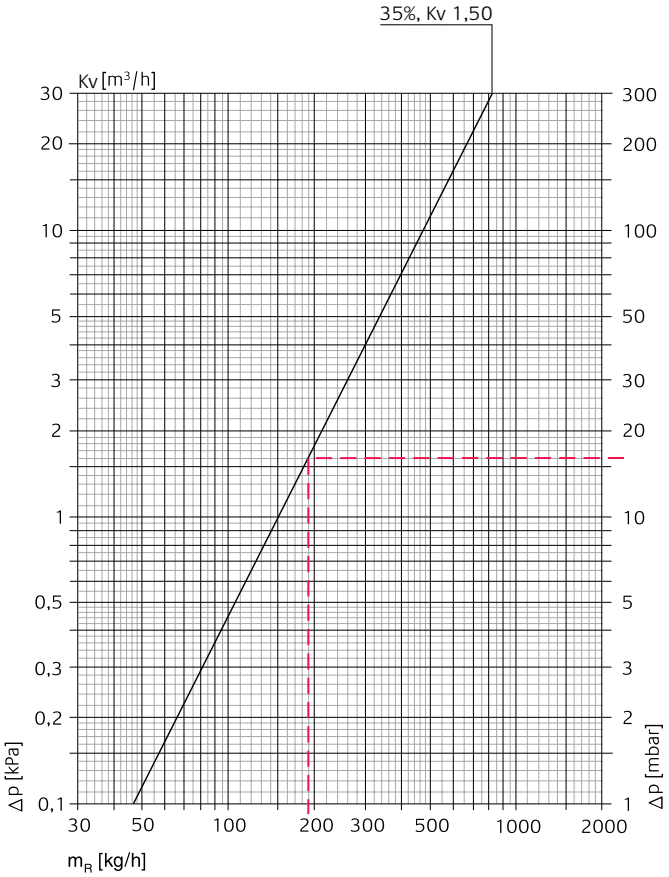
Solution:
Mass flow m = Q / (c · Δt) = 1308 / (1,163 · 15) = 75 kg/h

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

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

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

Technical data – 1-pipe



Thermostatic head with Multilux 4 single-pipe

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

*) Thermostatic insert with factory setting (Presetting value 8).

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

Calculation example
Required:
Pressure loss Mulltilux 4 single-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%

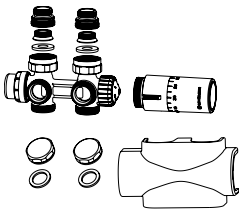
Solution:
Mass flow $m_R = Q / (c \cdot \Delta t) = 4420 / (1{,}163 \cdot 20) = 190$ kg/h

Pressure loss Multilux 4 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



Multilux 4 – Set
The Multilux 4 – Set consists of:
– Multilux 4 thermostatic valve body
– R 1/2 radiator connections
– G 3/4 radiator connections
– End caps for G 3/4 pipe connection
– Cover
– Thermostatic head Halo

Changeable from 2-pipe to 1-pipe operation

	EAN	Article No
White RAL 9016	4024052993918	9690-42.800
Chrome-plated	4024052994014	9690-43.800

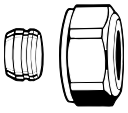
2-pipe

	EAN	Article No
White RAL 9016	4024052994113	9690-27.800
Chrome-plated	4024052994212	9690-28.800

Accessories

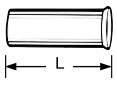
Setting key
for Multilux 4 and V-exact II.

EAN	Article No
4024052035823	3670-01.142



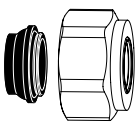
Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2.
Connection external thread G3/4 according to DIN EN 16313 (Eurocone).
Metal-to-metal joint.
Nickel-plated brass.
With a pipe wall thickness of 0.8-1 mm insert supporting sleeves. Heed pipe manufacturer's technical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

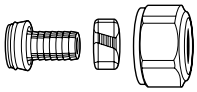


Compression fitting
for copper or precision steel pipe according to DIN EN 1057/10305-1/2 and stainless steel pipe.
Connection external thread G3/4 according to DIN EN 16313 (Eurocone).
Soft sealed, max. 95°C.
Nickel-plated brass.

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

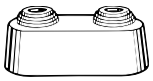
Compression fitting
for Alu/PEX multi-layer pipe according to DIN 16836.
Connection external thread G3/4 according to DIN EN 16313 (Eurocone).
Nickel-plated brass.

Ø Pipe	EAN	Article No
16x2	4024052137312	1331-16.351



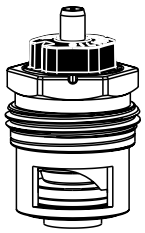
Compression fitting
for plastic pipe according to DIN 4726, ISO 10508.
PE-X: DIN 16892/16893, EN ISO 15875; PB: DIN 16968/16969.
Connection external thread G3/4 according to DIN EN 16313 (Eurocone).
Nickel-plated brass.

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



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

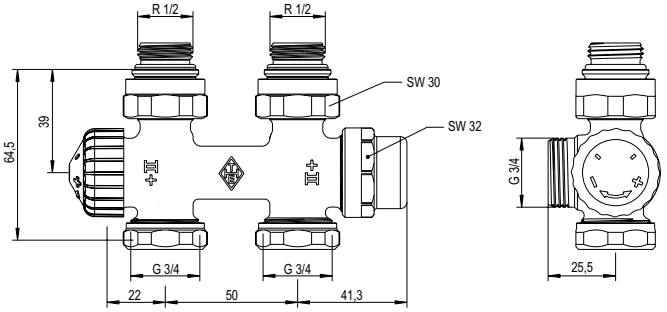


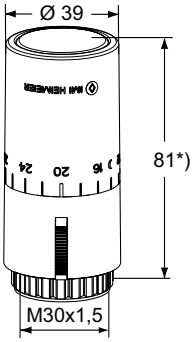
Thermostatic insert
V-exact II with precision presetting.
For thermostatic valve bodies with II+-designation.

EAN	Article No
4024052951611	3700-24.300

Dimensions

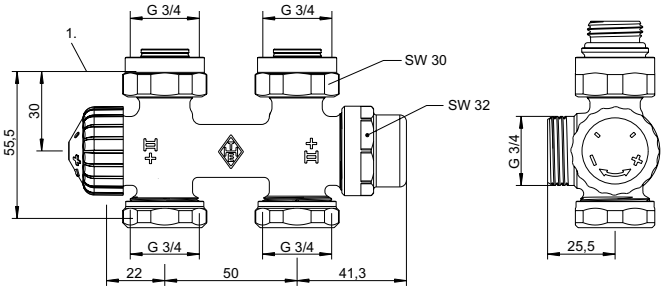
R1/2 radiator connection

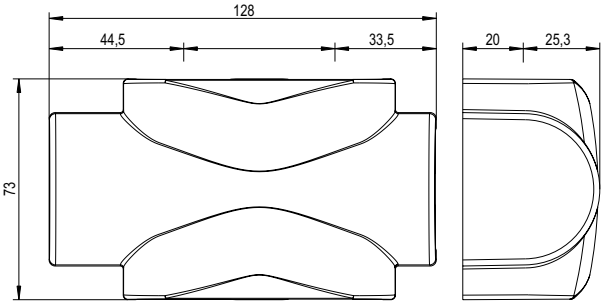




*) setting at 20

G3/4 radiator connection





1. Contact surface, upper edge seal

1 mm = 0,0394 inch