

E-Z Valve



Thermostatic valves with radiator connection systems

For one- and two-pipe heating systems

E-Z Valve

E-Z Valve with immersion pipe is connected to radiators with a lower one-point connection, e.g. bathroom radiators, column radiators, etc.. Centre-to-centre distance of pipe connections 50 mm.

Key features

- > **Body made of nickel-plated corrosion-free gunmetal**
- > **Two-pipe design with presetting**
- > **Return shut-off**
- > **For all HEIMEIER thermostatic heads and actuators**



Technical description

Applications area:

Two- and one-pipe heating systems

Function:

Control
Presetting
Shut-off

Dimensions:

DN 15

Pressure class:

PN 10

Temperature:

Max. working temperature: 120°C, with protection cap or actuator 100°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
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.
Immersion pipe: Brass

Other:

See "Accessories".

Surface treatment:

Valve body and fittings are nickel-plated.

Marking:

Two-pipe:
THE, flow direction arrow.
Black protection cap.
One-pipe:
THE, flow direction arrow, 35/65.
Blue protection cap.

Pipe connection:

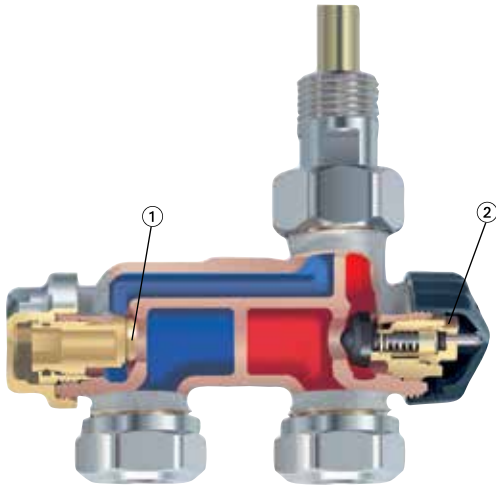
G3/4 male thread for compression fittings for plastic, copper, precision steel or multi-layer pipe.

Connection to thermostatic head and actuator:

HEIMEIER M30x1,5

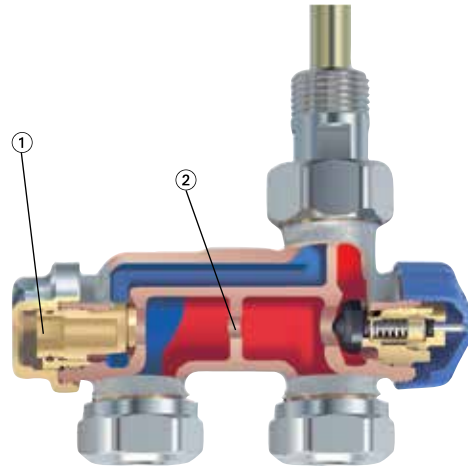
Construction

Two-pipe system
Black protection cap



1. Shut-off / regulator cone
2. Thermostatic head part

One-pipe system
Blue protection cap



1. Return shut-off
2. Bypass aperture

Application

E-Z Valve with immersion pipe is connected to radiators with a lower one-point connection, e.g. bathroom radiators, column radiators, etc. (Follow the directions of the radiator manufacturer).

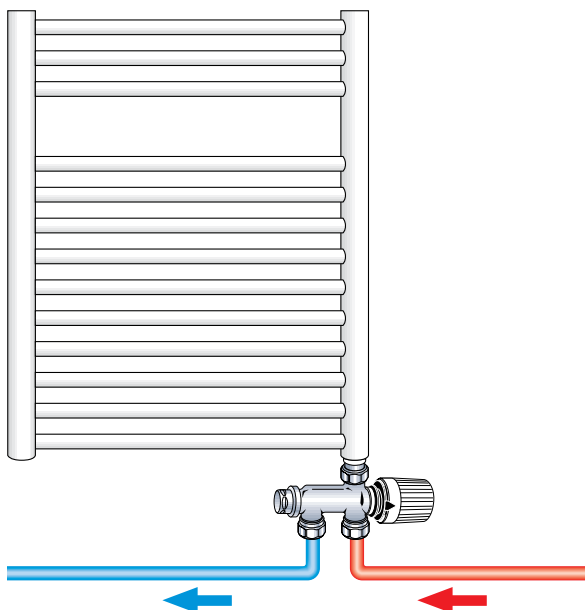
The two-pipe design is suited to pump heating installations with normal temperature spread. The shut-off regulating cone enables hydraulic balancing in order to provide all radiators with the required amount of hot water.

The one-pipe design is used for conventional one-pipe heating systems in which all radiators are connected to a single heating circuit. The circuit flow rate is designed to distribute 35% to radiators and 65% to bypass.

When the valve is shut-off, the bypass maintains the circuit flow rate such that the circulation in the pipes is not interrupted. In this way it is possible, for example, to integrate towel radiators into a floor radiator circuit.

Both the flow and return on E-Z Valves can be shut-off. Painting and maintenance work can therefore be executed without interrupting the operation of other radiators.

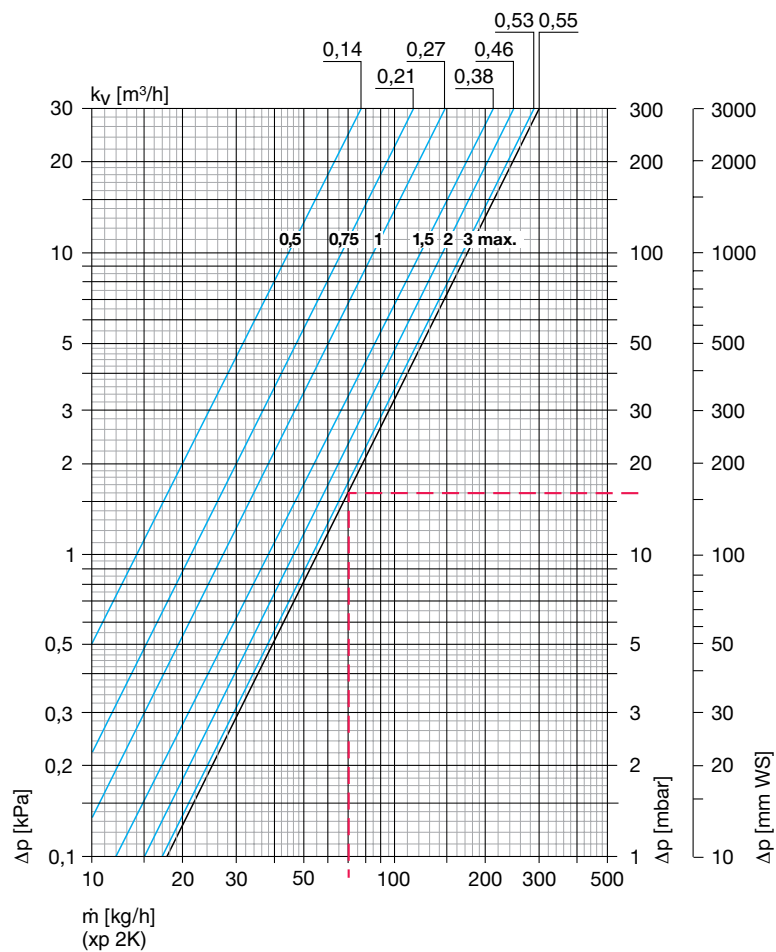
Sample application



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.

Technical data – Two-pipe



Thermostatic head with E-Z Valve two-pipe

| | Kv value (presetting max.) *) P-band xp [K] | | | | | Kvs | Permitted differential pressure at which the valve still closes Δp [bar] | | |
|---------------------------------|---|------|------|------|------|------|--|--------------------------------|--|
| | 1,0 | 1,5 | 2,0 | 2,5 | 3,0 | | Th.-head | EMO T/NC EMOtec/NC EMO 3 | EMO T/NO EMOtec/NO TA-Slider 160 |
| DN 15 (1/2") angle, straight | 0,31 | 0,44 | 0,55 | 0,62 | 0,67 | 0,83 | 1,00 | 2,70 | 3,50 |

*) factory setting

Sample calculation

Goal:

Determine pressure loss for two-pipe E-Z Valve Preset max.

Given:

Heat flow $Q = 1225 \text{ W}$

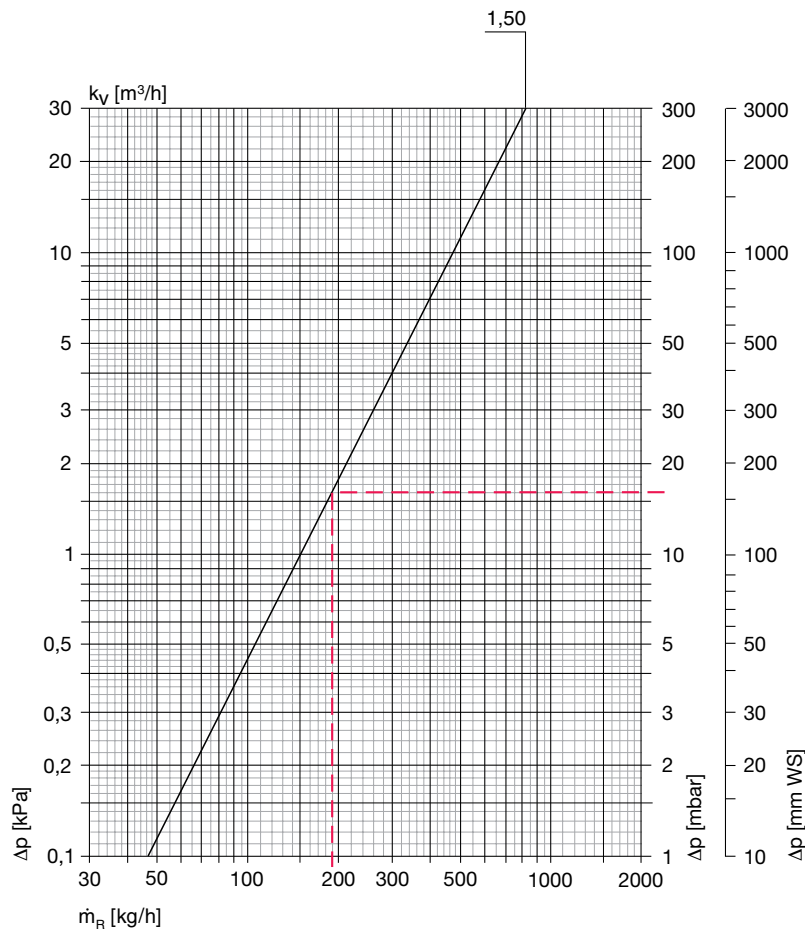
Temperature spread $\Delta t = 15 \text{ K (65/50}^\circ\text{C)}$

Solution:

Mass flow rate $m = Q / (c \cdot \Delta t) = 1225 / (1,163 \cdot 15) = 70 \text{ kg/h}$

Pressure loss from diagram $\Delta p_v = 16 \text{ mbar}$

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
 $t = 80\text{ °C}$ (176 °F)
 $v = 0,5\text{ m/s}$

Thermostatic head with E-Z Valve one-pipe

| | Radiator portion [%] | Kv value | Kv value (Thermostatic valve closed) |
|---------------------------------|----------------------|----------|--------------------------------------|
| DN 15 (1/2") angle, straight | 35 | 1,50 | 1,10 |

Sample calculation

Goal:

Determine pressure loss for E-Z Valve, one-pipe Radiator mass flow rate

Given:

Heat flow in closed circuit $Q = 4420\text{ W}$

Temp. flux in circuit $\Delta t = 20\text{ K}$ (70/50°C)

Radiator portion $m_{HK} = 35\%$

Solution:

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

E-Z Valve pressure loss $\Delta p_v = 16\text{ mbar}$

Radiator mass flow $m_{HK} = m_R \cdot 0,35 = 190 \cdot 0,35 = 66,5\text{ kg/h}$

Operation

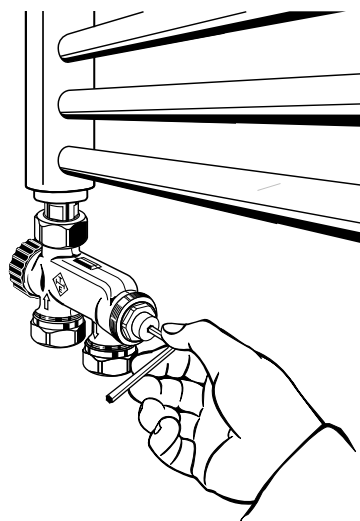
Shut-off

The E-Z Valve return shut-off is actuated using a hexagon key, size 8. Turn it clockwise to close. If the E-Z Valve is set for a hydraulic balancing, the corresponding number of rotations for shut-off must be determined specifically. This helps to guarantee that, after connecting a radiator, the original setting can be reestablished.

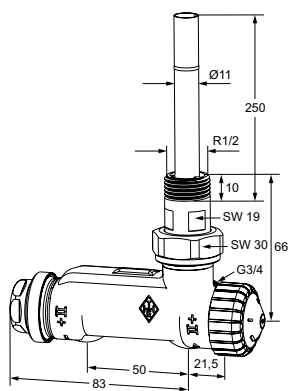
Flow is blocked by turning the protection cap on the thermostatic valve insert clockwise. If the radiator is dismantled, it is necessary for reasons of safety to shut off the E-Z Valve with an additional plug cap G3/4.

Presetting (two-pipe system)

The E-Z Valve is infinitely variable using a hexagon key, size 8. The valve is first closed and then set using the required number of rotations. The specific number of rotations for the presetting can be taken from the diagram under Technical data. The lock shield is set completely open at the factory.



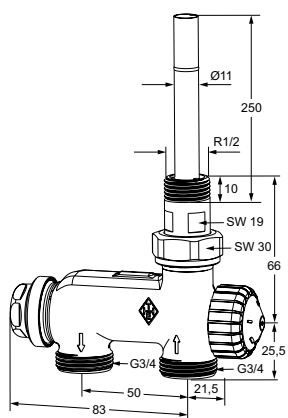
Articles



Angle

Nickel plated gunmetal

| DN | kv value (max. presetting) ^{*)} P-band xp [K] | | | Kvs | kv value Radiator portion 35% | EAN | Article No |
|---|---|------|------|------|-------------------------------------|---------------|-------------|
| | 1 | 2 | 3 | | | | |
| Two-pipe system | | | | | | | |
| 15 (1/2") | 0,31 | 0,55 | 0,67 | 0,83 | | 4024052375301 | 3879-02.000 |
| One-pipe system (Housing ID no. 35/65) | | | | | | | |
| 15 (1/2") | | | | | 1,50 | 4024052375103 | 3877-02.000 |



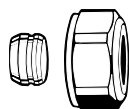
Straight

Nickel plated gunmetal

| DN | kv value (max. presetting) ^{*)} P-band xp [K] | | | Kvs | kv value Radiator portion 35% | EAN | Article No |
|---|---|------|------|------|-------------------------------------|---------------|-------------|
| | 1 | 2 | 3 | | | | |
| Two-pipe system | | | | | | | |
| 15 (1/2") | 0,31 | 0,55 | 0,67 | 0,83 | | 4024052375202 | 3878-02.000 |
| One-pipe system (Housing ID no. 35/65) | | | | | | | |
| 15 (1/2") | | | | | 1,50 | 4024052375004 | 3876-02.000 |

*) factory setting

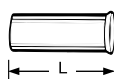
Accessories



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. Brass nickel-plated. With a pipe wall thickness of 0.8-1 mm insert supporting sleeves. Heed pipe manufacturer's technical advice.

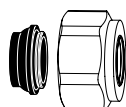
| Ø Pipe | EAN | Article No |
|--------|---------------|-------------|
| 12 | 4024052214211 | 3831-12.351 |
| 14 | 4024052214310 | 3831-14.351 |
| 15 | 4024052214617 | 3831-15.351 |
| 16 | 4024052214914 | 3831-16.351 |
| 18 | 4024052215218 | 3831-18.351 |



Supporting sleeves

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

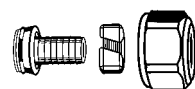
| Ø Pipe | L | EAN | Article No |
|--------|------|---------------|-------------|
| 12 | 25,0 | 4024052127016 | 1300-12.170 |
| 15 | 26,0 | 4024052127917 | 1300-15.170 |
| 16 | 26,3 | 4024052128419 | 1300-16.170 |
| 18 | 26,8 | 4024052128815 | 1300-18.170 |



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.

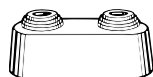
| Ø Pipe | EAN | Article No |
|--------|---------------|-------------|
| 12x1,1 | 4024052136018 | 1315-12.351 |
| 14x2 | 4024052134618 | 1311-14.351 |
| 16x1,5 | 4024052136117 | 1315-16.351 |
| 16x2 | 4024052134816 | 1311-16.351 |
| 17x2 | 4024052134915 | 1311-17.351 |
| 18x2 | 4024052135110 | 1311-18.351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

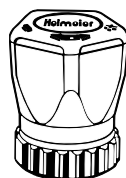
| Ø Pipe | EAN | Article No |
|--------|---------------|-------------|
| 16x2 | 4024052137312 | 1331-16.351 |
| 18x2 | 4024052137411 | 1331-18.351 |



Double rosette

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

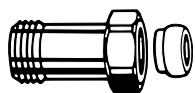
| EAN | Article No |
|---------------|-------------|
| 4024052120710 | 0520-00.093 |



Hand regulating cap

for all HEIMEIER thermostatic valve bodies.

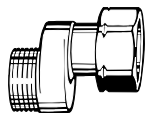
| EAN | Article No |
|----------------|---------------|
| white RAL 9016 | 4024052156610 |
| | 2001-00.325 |


Length adjustment fitting

For connecting to plastic, copper, precision steel or multi-layer pipes. For valves with male thread connection G3/4.

Brass nickel-plated.

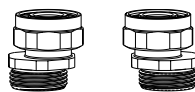
| | L | EAN | Article No |
|-------------|----------|---------------|-------------------|
| G3/4 x G3/4 | 25 | 4024052298310 | 9713-02.354 |
| G3/4 x G3/4 | 50 | 4024052298419 | 9714-02.354 |


S-connection

For compensating different pipe distances, e. g. when replacing old one-pipe valves.

Note flow direction!
Brass, nickel-plated.

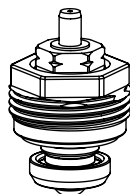
| | Axial distance [mm] | Total length [mm] | EAN | Article No |
|-------------|----------------------------|--------------------------|---------------|-------------------|
| G3/4 x G3/4 | 11,5 | 43 | 4024052139217 | 1351-02.362 |


S-connection set

consisting of 2 adapter pieces G3/4 x G3/4.

Brass nickel-plated.

| | 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 |


Thermostatic insert

Replacement part.

| | EAN | Article No |
|--|---------------|-------------------|
| | 4024052132614 | 1302-02.300 |