

E-Z Valve

for single an two pipe heating systems



HEIMEIER >

Pressurisation & Water Quality > Balancing & Control > Thermostatic Control

ENGINEERING ADVANTAGE

E-Z System

Description

HEIMEIER E-Z Valve, nickel-plated with corrosion-resistant gunmetal, immersion pipe, for radiators with a lower singlepoint connection. Available in angle and straight versions for both single and two-pipe systems. The single-pipe design has been created with a radiator portion of 35%.

E-Z Valves work with all HEIMEIER thermostatic heads and actuators. The stainless spindle is equipped with a double O-ring seal. The outer O-ring and the complete thermostatic insert can be changed without draining-off the system.

The return shut-off is actuated with a hexagon key, size 8. With a two-pipe system, the return shut-off also assumes the presetting function. The spindle is sealed with an EPDM O-ring.

Pipe connector G 3/4, with compression fittings for plastic, copper, precision steel, or composite pipes.

For HEIMEIER valves, use only the HEIMEIER compression fittings which have been designed and indicated for the particular application (e.g. ID no. 15 THE).

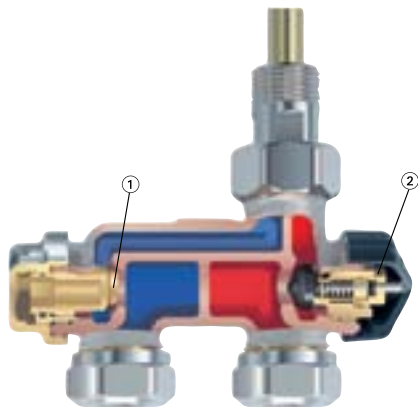
Permitted operating temperature 120°C, permitted operating pressure 10 bar.



Assembly

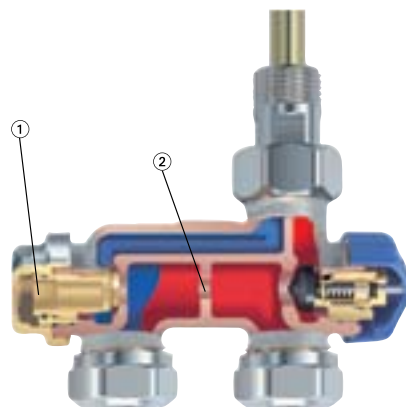
Two-pipe system

Protection cap, black



Single-pipe system

Protection cap, blue



1. Shut-off regulator pin
2. Thermostatic head part
3. Return shut-off
4. Bypass aperture

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

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).

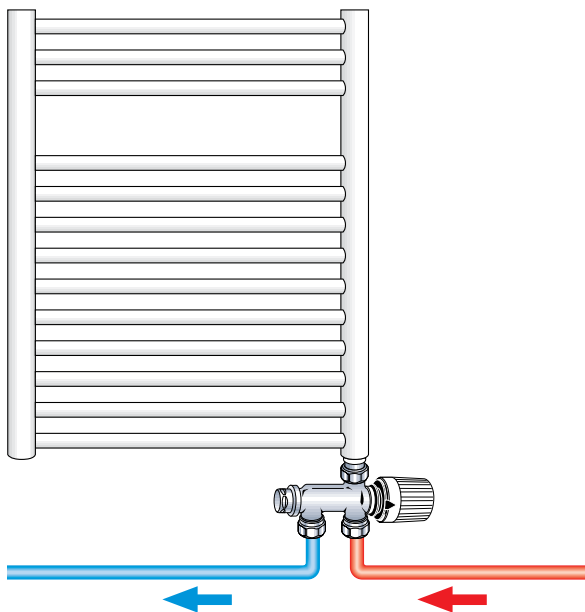
The two-pipe design is suited to pump heating installations with normal temperature spread. The shut-off regulating cone enables hydraulic balancing in order to provide all radiators with the required amount of hot water.

The single-pipe design is used for conventional single-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 on the source apparatus and usually lead to the disintegration of EPDM seals.

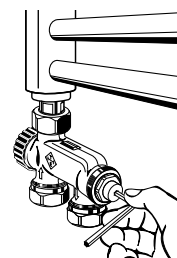
When using nitrite-free frost and corrosion resistance solutions with an ethylene glycol base, pay close attention to the details outlined in the manufacturers' documentation, particularly concerning concentration and specific additives.

– 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

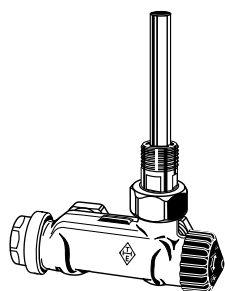
The E-Z Valve return shut-off is actuated using a hexagon key, size 8. Turn it clockwise to close. If the E-Z Valve is set for a hydraulic balancing, the corresponding number of rotations for shut-off must be determined specifically. This helps to guarantee that, after connecting a radiator, the original 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 G 3/4.



Regulation (two-pipe system)

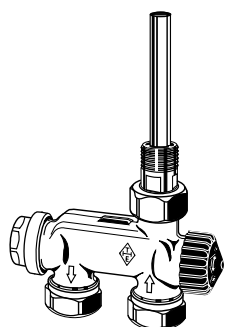
The E-Z Valve is infinitely variable using a hexagon key, size 8. The valve is first closed and then set using the required number of rotations. The specific number of rotations for the presetting can be taken from the diagram under Technical data. The lock shield is set completely open at the factory.

Article numbers



Angle

DN	kv value [m ³ /h] (max. presetting)* P-band xp [K]			k _{vs} -value [m ³ /h]	k _v -Wert value Radiator portion 35% [m ³ /h]	Article No
	1	2	3			
Two-pipe system 15 (1/2")	0,31	0,55	0,67	0,83		3879-02.000
Single-pipe system (Housing ID no. 35/65) 15 (1/2")					1,50	3877-02.000

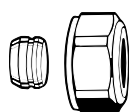


Straight

DN	kv value [m ³ /h] (max. presetting)* P-band xp [K]			k _{vs} -value [m ³ /h]	k _v -Wert value Radiator portion 35% [m ³ /h]	Article No
	1	2	3			
Two-pipe system 15 (1/2")	0,31	0,55	0,67	0,83		3878-02.000
Single-pipe system (Housing ID no. 35/65) 15 (1/2")					1,50	3876-02.000

*) factory setting

Accessories



Compression fitting

for copper or precision steel pipe.
Nickel plated brass. Connection male thread G3/4. For pipe wall thickness of 0,8 - 1 mm supporting sleeves must be used. Pay attention to pipe manufacturer's details.

Ø Pipe	Article No
12	3831-12.351
15	3831-15.351
16	3831-16.351
18	3831-18.351



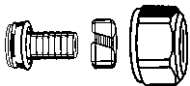
Supporting sleeves
for copper or precision steel pipe with a wall thickness of 1 mm. Supporting sleeves for 0.8 mm wall thickness on request.

L	Ø Pipe	Article 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	Article No
15	1313-15.351
18	1313-18.351



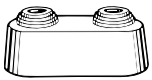
Compression fitting
for plastic pipes. Nickel-plated brass. Connection male thread G3/4.

Ø Pipe	Article No
14x2	1311-14.351
16x2	1311-16.351
17x2	1311-17.351
18x2	1311-18.351
20x2	1311-20.351



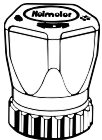
Compression fitting
for multi-layer pipes. Nickel-plated brass.

Ø Pipe	Article No
16x2	1331-16.351



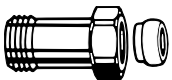
Double rosette
Dividable in the middle, made of plastic, white, for various pipe diameters. Centre distance 50 mm. Overall height max. 31 mm.

Article No
0520-00.093



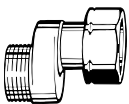
Hand regulating cap
for all HEIMEIER thermostatic valve bodies

Article No
2001-00.325



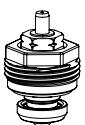
Length adjustment fitting
For clamping plastic, copper, precision steel or multi-layer pipes. For valves with male thread connection G 3/4. Brass nickel-plated.

	L	Article No
G 3/4 x G 3/4	25	9713-02.354
G 3/4 x G 3/4	50	9714-02.354



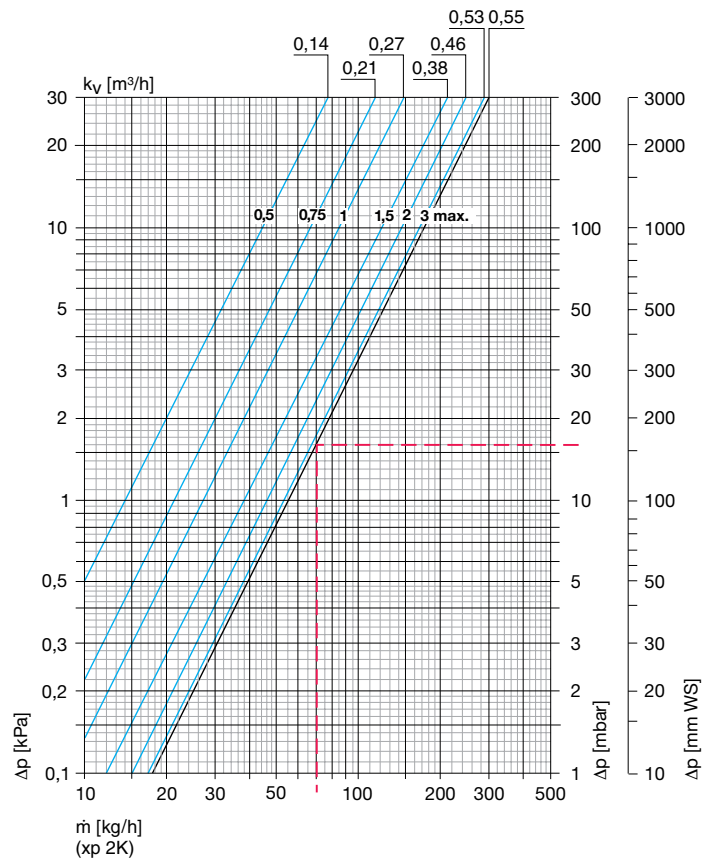
S-connection
For compensating different pipe distances, e. g. when replacing old single pipe valves. Note flow direction! Brass, nickel-plated.

	Axial distance	Total length	Article No
G 3/4 x G 3/4	11,5 mm	43 mm	1351-02.362



Thermostatic insert
Replacement part.

Article No
1302-02.300



Thermostatic head with E-Z Valve two-pipe	kv value [m³/h] (presetting max.)** P-band xp [K]					kvs-value [m³/h]	Permitted operating temperature TB [°C]	Permitted operating pressure PB [bar]	Th.-head	Permitted differential pressure at which the valve still closes Δp [bar]	
	1,0	1,5	2,0	2,5	3,0					EMO T/NC EMOtec/NC EMO 1/3 EMO EIB/LON	EMO T/NO EMOtec/NO
DN 15 (1/2") angle, straight	0,31	0,44	0,55	0,62	0,67	0,83	120 ¹⁾	10	1,00	2,70	3,50

*) with protection cap or actuator 100°C

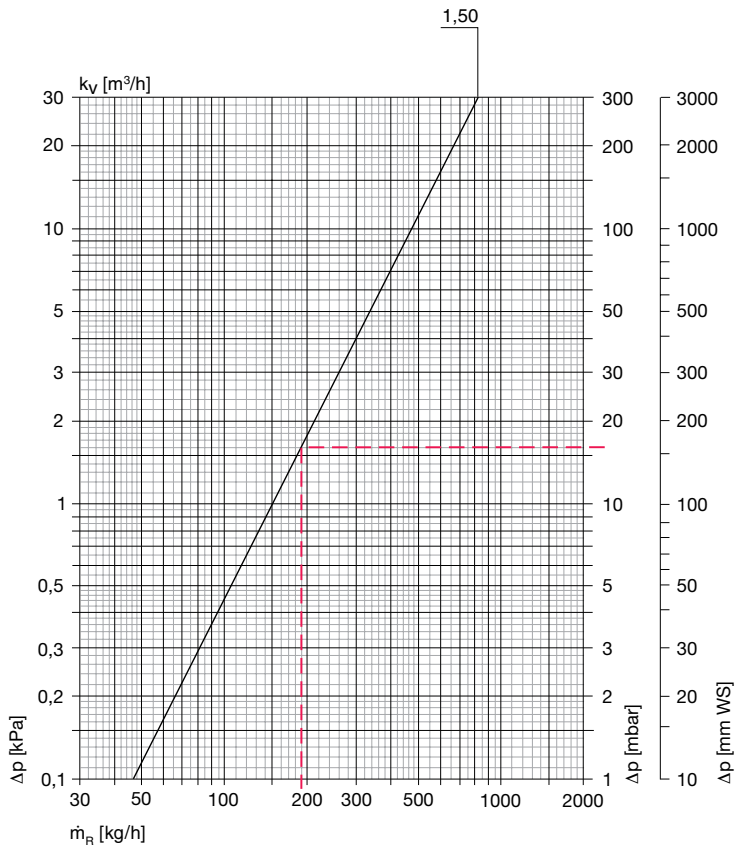
**) factory setting

Sample calculation

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

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

Solution: Mass flow rate $\dot{m} = \dot{Q} / (c \cdot \Delta t) = 1225 / (1,163 \cdot 15) = 70 \text{ kg/h}$
Pressure loss from diagram $\Delta p_v = 16 \text{ mbar}$



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 $\vartheta = 80\text{ °C}$ $v = 0,5\text{ m/s}$

Thermostatic head with E-Z Valve single-pipe	Radiator portion [%]	kv value [m^3/h]	kv value (Thermostatic valve closed) [m^3/h]	Permitted operating temperature TB [$^{\circ}\text{C}$]	Permitted operating pressure PB [bar]
DN 15 (1/2") angle, straight	35	1,50	1,10	120 ^{*)}	10

*) with protection cap or actuator 100 °C

Sample calculation

Goal: Determine pressure loss for E-Z Valve, single-pipe
Radiator mass flow rate

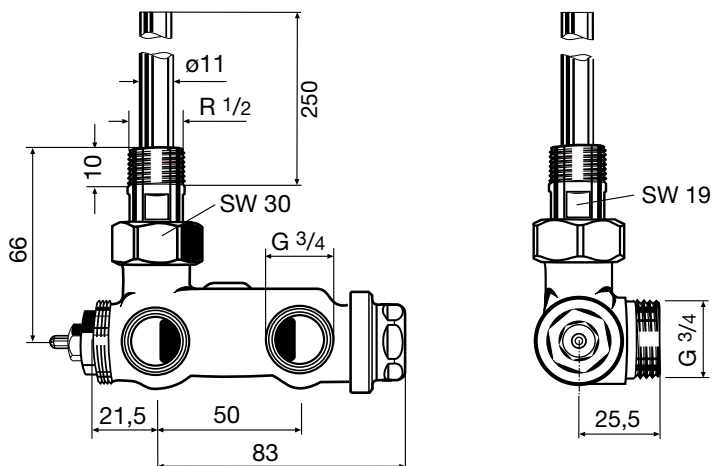
Given: Heat flow in closed circuit $\dot{Q} = 4420\text{ W}$
Temp. flux in circuit $\Delta t = 20\text{ K (70/50}^{\circ}\text{C)}$
Radiator portion $\dot{m}_{\text{HK}} \cong 35\%$

Solution: Mass flow in circuit $\dot{m}_{\text{R}} = \dot{Q} / (c \cdot \Delta t) = 4420 / (1,163 \cdot 20) = 190\text{ kg/h}$
E-Z Valve pressure loss $\Delta p_{\text{v}} = 16\text{ mbar}$
Radiator mass flow $\dot{m}_{\text{HK}} = \dot{m}_{\text{R}} \cdot 0,35 = 190 \cdot 0,35 = 66,5\text{ kg/h}$

Dimensions

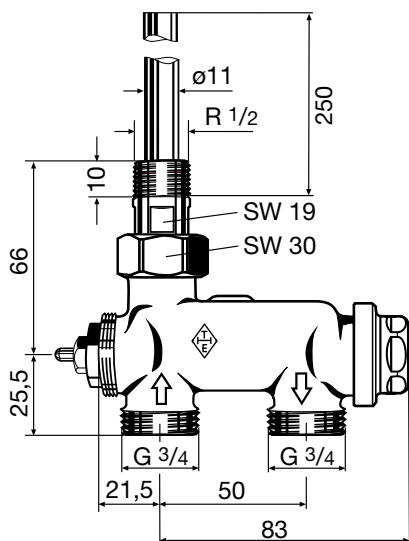
E-Z Valve angle

Single and two-pipe construction



E-Z Valve straight

Single and two-pipe construction



The products, texts, photographs, graphics and diagrams in this document may be subject to alteration by TA Hydronics without prior notice or reasons being given.

For the most up to date information about our products and specifications, please visit www.tahydronics.com.

1410-18.483 03.2011