

E-Z Valve

for single and
two pipe heating systems



E-Z Valve

Description



HEIMEIER E-Z Valve, nickel-plated with corrosion-resistant gunmetal, immersion pipe, for radiators with a lower single-point 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.

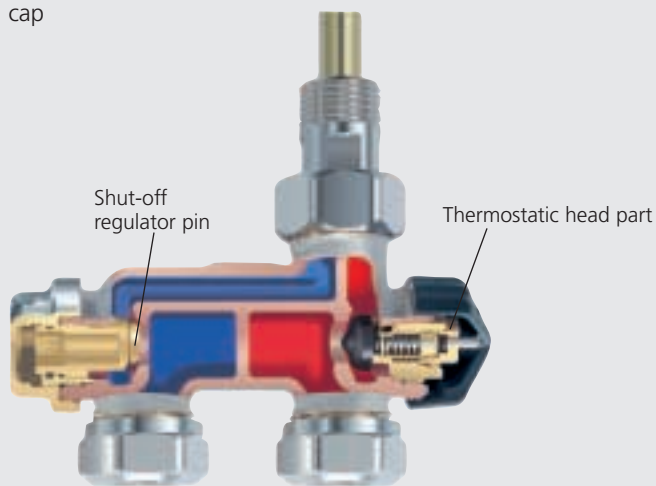
Pipe connector G $\frac{3}{4}$, with compression fittings for plastic, copper, precision steel, or composite pipes.

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).

Construction

Two-pipe system

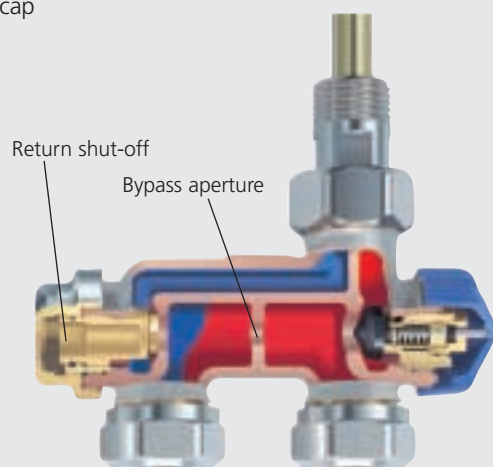
Black protection cap



- 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

Single-pipe system

Blue protection cap



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).

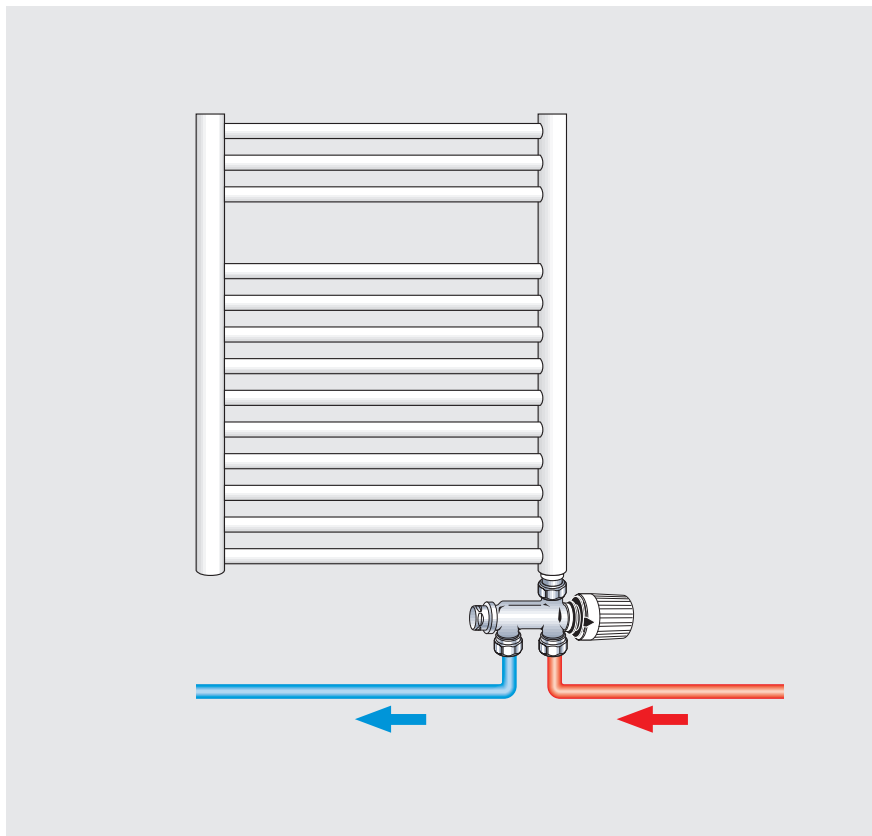
The two-pipe design is suited to pump heating installations with normal temperature spread. The shut-off regulating cone enables hydraulic balancing in order to provide all radiators with the required amount of hot water.

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

– The composition of the heat transfer medium should be one which avoids damage or the accumulation of stones in hot water heating systems, in accordance with VDI guide line 2035. For industrial and long-distance energy systems, see applicable codes VdTÜV and 1466/AGFW 5/15. Heat transfer media containing mineral oils or lubricants containing mineral oil can have seriously negative effects on the source apparatus and usually lead to the disintegration of EPDM seals.

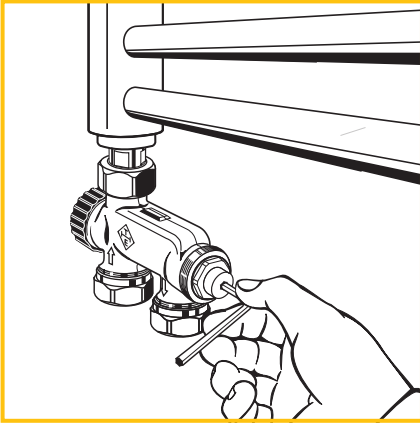
When using nitrite-free frost and corrosion resistance solutions with an ethylene glycol base, pay close attention to the details outlined in the manufacturers' documentation, particularly details concerning concentration and specific additives.

– E-Z Valves work with all HEIMEIER thermostatic heads and thermal as well as motorized actuators. Tune components appropriately to guarantee maximum safety.

When using actuators from other manufacturers, make sure that the pressure power is appropriate for thermostatic valve bodies with soft-seal valve heads.

E-Z Valve

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 on page 6. The lock shield is set completely open at the factory.

Article numbers

Design	DN*	Two-pipe system					Single-pipe system <small>(Housing ID no. 35/65)</small>	
		k _v value [m ³ /h] (max. presetting)*)			k _{vs} - value [m ³ /h]	Gunmetal nickel-plated Art. no.	k _v value [m ³ /h]	Gunmetal nickel-plated Art. no.
		P-band [K]						
		1	2	3				
Angle 	15 (1/2")	0.31	0.55	0.67	0.83	3879-02.000	1.50	3877-02.000
Straight 	15 (1/2")	0.31	0.55	0.67	0.83	3878-02.000	1.50	3876-02.000

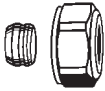



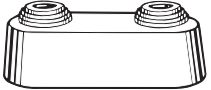
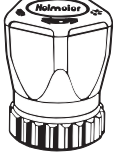

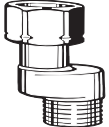

Permitted operating temperature 120°C, permitted operating pressure 10 bar

Radiator portion 35%

*) factory setting

DN* = Nom. diameter

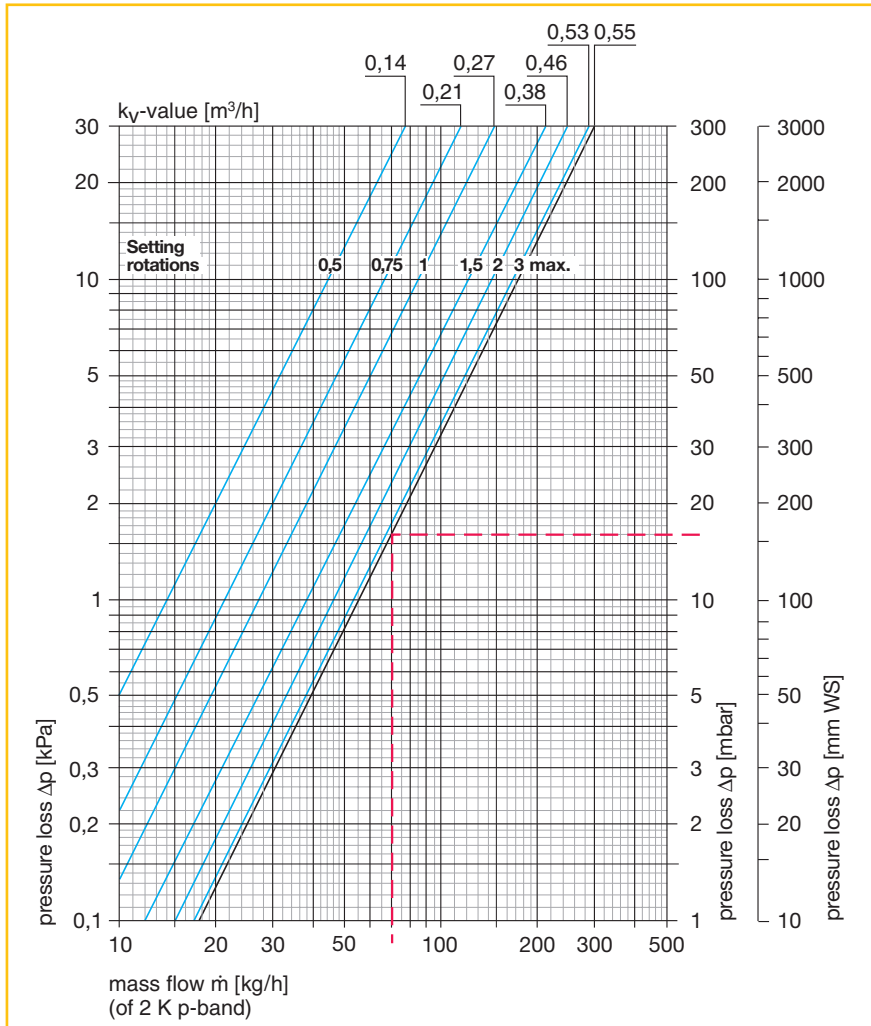
Accessories

Illustration	Description	L [mm]	Ø pipe	Art. no.
	Compression fitting for copper or precision steel pipes Nickel-plated brass For pipe wall thicknesses from 0.8–1 mm, support sleeves should be used.	10		3831-10.351
		12		3831-12.351
		14		3831-14.351
		15		3831-15.351
		16		3831-16.351
		18		3831-18.351
	Support sleeve for copper or precision steel with a wall thickness of 1 mm Support sleeves for 0.8 mm wall thickness upon request.	18.5	10	1300-10.170
		25.0	12	1300-12.170
		25.0	14	1300-14.170
		26.0	15	1300-15.170
		26.3	16	1300-16.170
		26.8	18	1300-18.170
	Compression fitting for plastic pipe nickel-plated brass		12 x 2	1311-12.351
			14 x 2	1311-14.351
			16 x 2	1311-16.351
			17 x 2	1311-17.351
			18 x 2	1311-18.351
			18 x 2.5	1312-18.351
			20 x 2	1311-20.351
	21 x 2.5	1311-21.351		
	Compression fitting for multi-layer pipe nickel-plated brass		14 x 2	1331-14.351
			16 x 2	1331-16.351
			18 x 2	1331-18.351
	Double rosette can be separated in half, made of white plastic for various pipe diameters distance from centre to centre: 50 mm total height max. 31 mm			0520-00.093
	Handwheel for all HEIMEIER thermostatic valve bodies			2001-00.325
	Length compensator G 3/4 x G 3/4 for joining plastic, copper, precision steel, or multi-layer pipe		25.0	Brass 9703-02.354
			50.0	9704-02.354
			25.0	Nickel-plated brass 9713-02.354
			50.0	9714-02.354
	S-union G 3/4 x G 3/4 for the compensation of varied pipe spacing, e. g. replacement of old single-pipe fittings (Note the direction of flow!) axis spacing 11.5 mm; total length 43 mm nickel-plated brass			1351-02.362
	Thermostatic insert replacement part			1302-02.300

E-Z Valve

Two-pipe

Technical data



Thermostatic head with E-Z Valve two-pipe	k_V value [m ³ /h] (presetting max.**) P-band [K]					k_{VS} value [m ³ /h]	Permitted operating temperature TB [°C]	Permitted operating pressure PB [bar]	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 EMO 1/3 EMO EIB/LON	EMO T /NO
DN* 15 (1/2") angle, straight	0.31	0.44	0.55	0.62	0.67	0.83	120*)	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 $\dot{Q} = 1225$ W
Temperature spread $\Delta t = 15$ K (65/50°C)

Solution: Mass flow rate $\dot{m} = \frac{\dot{Q}}{c \cdot \Delta t} = \frac{1225}{1.163 \cdot 15} = 70$ kg/h

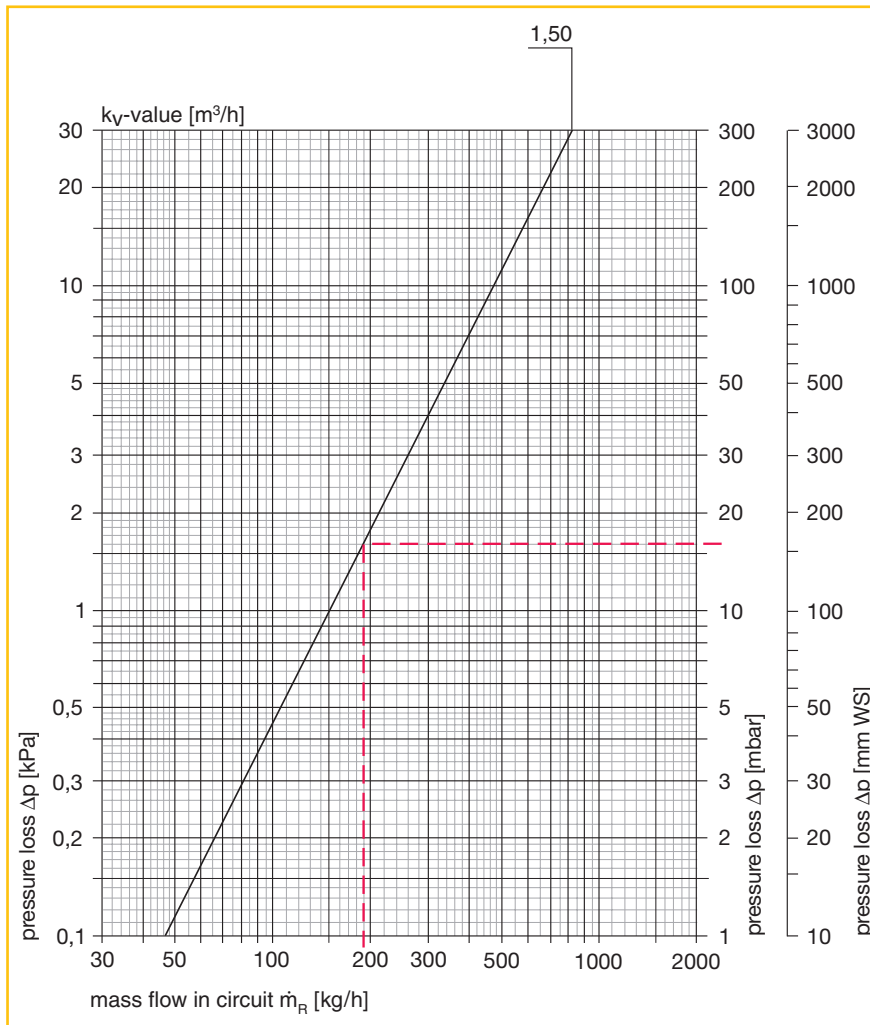
Pressure loss from diagram $\Delta p_V = 16$ mbar

DN* = nom. diameter

E-Z Valve

Single-pipe

Technical data



Equal pipe lengths [m]

k_V	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 $\vartheta = 80^\circ\text{C}$ $v = 0.5 \text{ m/s}$

Thermostatic head with E-Z Valve single-pipe	Radiator portion [%]	k_V value [m^3/h]	k_V 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

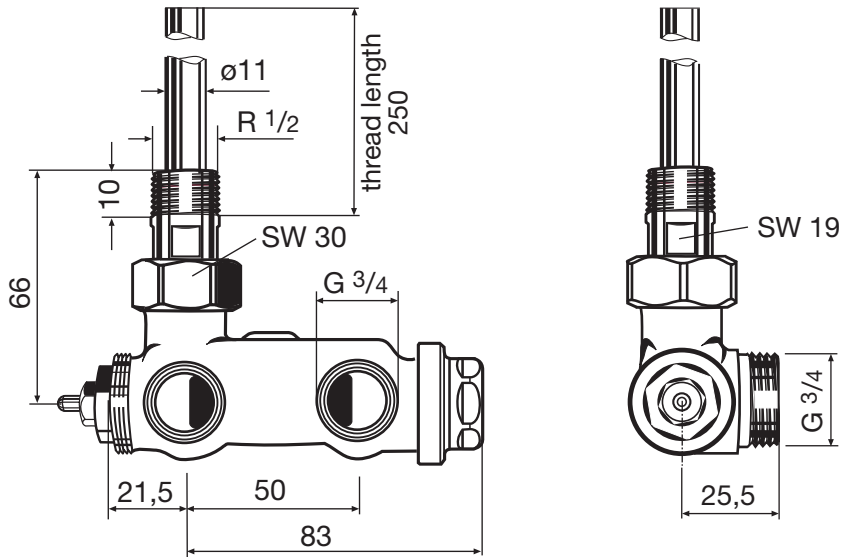
Goal:	Determine pressure loss for E-Z Valve, single-pipe Radiator mass flow rate
Given:	Heat flow in closed circuit $\dot{Q} = 4420 \text{ W}$ Temp. flux in circuit $\Delta t = 20 \text{ K (70/50}^\circ\text{C)}$ Radiator portion $\dot{m}_{\text{HK}} \text{ i } 35\%$
Solution:	Mass flow in circuit $\dot{m}_{\text{R}} = \frac{\dot{Q}}{c \cdot \Delta t} = \frac{4420}{1.163 \cdot 20} = 190 \text{ kg/h}$ E-Z Valve pressure loss $\Delta p_V = 16 \text{ mbar}$ Radiator mass flow $\dot{m}_{\text{HK}} = \dot{m}_{\text{R}} \cdot 0.35 = 190 \cdot 0.35 = 66.5 \text{ kg/h}$

E-Z Valve

Dimensions

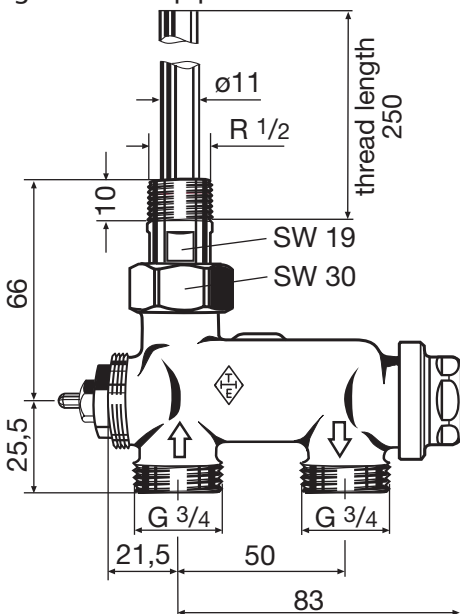
E-Z Valve angle

Single and two-pipe construction



E-Z Valve straight

Single and two-pipe construction



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