

AA5004/80 Small Thermoactuator**Application**

For use with nickel-plated R10..20D/ E, R10..20DV/ EV and RW15L/ R gunmetal two-way and three-way valves in secondary control circuits.



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Änderungen vorbehalten - Contents subject to change - Sous réserve de modifications - Reservado el derecho a modificación - Wijzigingen voorbehouden - Con riserva di modifiche - Innehåll som skall ändras - Změny vyhrazeny - Zmiany zastrzeżone - Возможны изменения - A változtatások jogát fenntartjuk - 保留未经通知而改动的权力

Important Information Regarding Product Safety

Safety Instructions

This data sheet contains information on installing and commissioning the product "AA5004/80". Each person who carries out work on this product must have read and understood this data sheet. If you have any questions that are not resolved by this data sheet, you can obtain further information from the supplier or manufacturer.

If the product is not used in accordance with this data sheet, the protection provided will be impaired.

Applicable regulations must be observed when installing and using the device. Within the EU, these include regulations regarding occupational safety and accident prevention as well as those from the VDE (Association for Electrical, Electronic & Information Technologies). If the device is used in other countries, it is the responsibility of the system installer or operator to comply with local regulations.

Mounting, installation and commissioning work on the devices may only be carried out by qualified technicians. Qualified technicians are persons who are familiar with the described product and who can assess given tasks and recognize possible dangers due to technical training, knowledge and experience as well as knowledge of the appropriate regulations.

Legend



WARNING

Indicates a hazard of medium risk which can result in death or severe bodily injury if it is not avoided.



CAUTION

Indicates a hazard of low risk which can result in minor or medium bodily injury if it is not avoided.



NOTICE

Indicates a hazard of medium risk which can result in material damage or malfunctions if it is not avoided.



NOTE

Indicates additional information that can simplify the work with the product for you.

Notes on Disposal

For disposal, the product is considered waste from electrical and electronic equipment (electronic waste) and must not be disposed of as household waste. Special treatment for specific components may be legally binding or ecologically sensible. The local and currently applicable legislation must be observed.

Product Description**AA5004/80****Item**

AA5004/80 Small thermoactuator AC 24 V
Closed without power

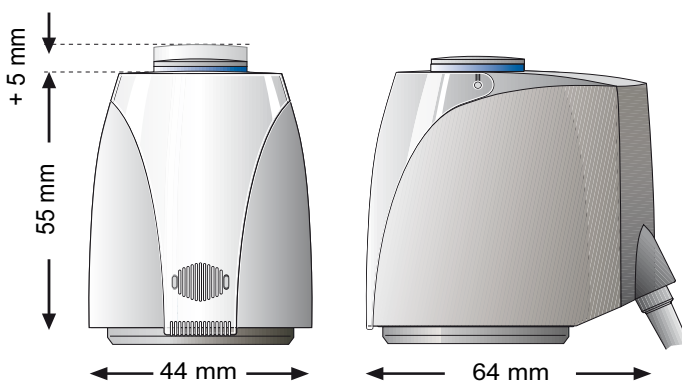
Technical Data

Nominal voltage	AC 24 V; -10% to +40%; 50/60 Hz
Max. switch-on current	<350 mA for max. 2 min
Operating voltage/power	Approx. 80 mA/2 W
Control	Continuous with control voltage Y = DC 0 V–10 V, R _i = 100 kΩ (Working range = DC 0.5 V–10 V)
Function	Closed without power
Positioning time	Approx. 30 s/mm actuating stroke
Actuating stroke	Up to 4 mm (incl. extended stroke)
Thrust	100 N ±5 %
Position indication	Indicator plunger on upper side of actuator
Valve adjustment	R10..20D/ E, R10..20DV/ EV and RW15L/ R two-way and three-way valves Further adjustments for other valve types available on request
Temperature of medium	0 C to 100 °C
Ambient temperature	0 C to 60 °C
Protection class	III
Degree of protection	IP54 (in all installation positions, with connection line attached)
Color of housing	White, RAL 9003
Connection	Connection line 3 x 0.22 mm ² ; PVC, white; length 1 m
Maintenance	Maintenance-free
Weight	100 g without adapter or connection line

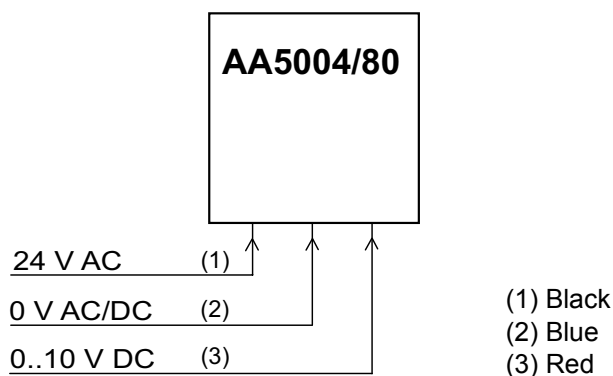
Accessories

Not included in delivery.
SK/AA/04 Protective cap
Z29 Socket key

Dimensions



Connection



Mounting



CAUTION

Mounting/demounting may only be carried out by qualified technicians when the power is switched off.

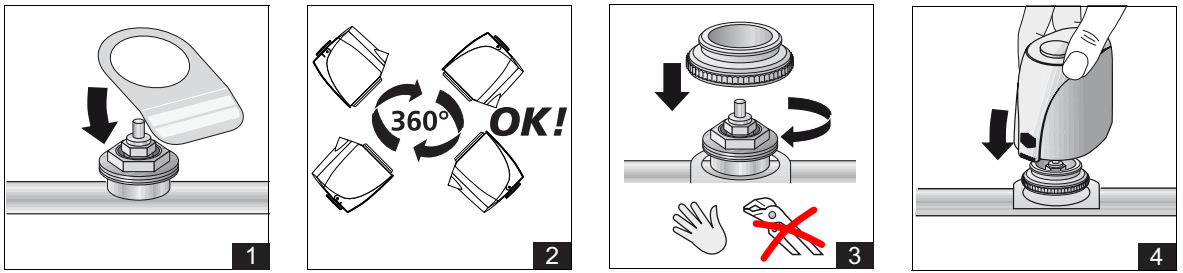
Valve installation

In addition to the general mounting guidelines, the following items are to be observed:

- The pipeline system and the valve interior must be free of foreign objects.
- There must be no tension between the valve and pipeline connection.
- It is preferable to mount the valve so the small thermoactuator can be mounted above the fixture facing upwards or facing the side. Include free space for mounting the actuator, approx. 70 mm above the screwed on valve adapter.
- Max. pressure difference Δp and flow direction must be observed.

Product Description

AA5004/80



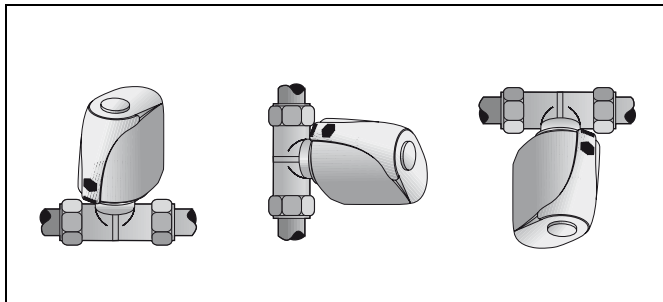
Mounting the actuator

The small thermoactuator is mounted without tools. Please also see the installation instructions in the actuator packaging.

- Only screw the valve adapter onto the valve by hand
- Fit the small thermoactuator into the valve adapter until it locks into position.
- If you remove the dismantling protector (transparent visor), the actuator can be secured against unauthorized dismantling. Please retain dismantling protector for possible dismantling.
- To dismantle the actuator, refit the dismantling protector, press in and remove the actuator.
- The small thermoactuator is locked in a half-open position when delivered ("first-open" function). This makes mounting easier and the pipeline system can be rinsed and tested under pressure while the actuator is mounted (before being connected to the mains power supply).

Installation position

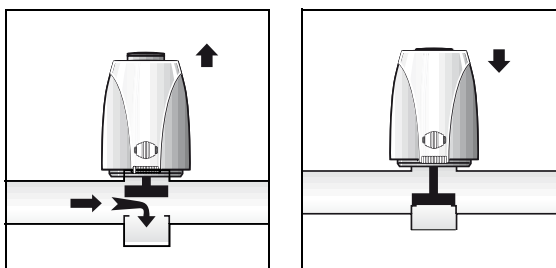
All installation positions are allowed, for example, vertically above the valve, horizontally and upside down.



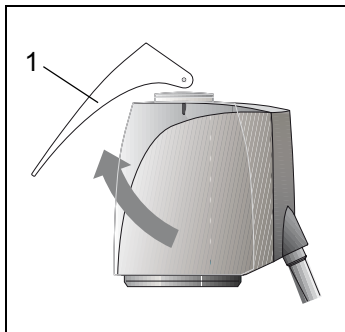
NOTE

When installed upside down, dirt residue (e.g. from wastewater) may mechanically jam the actuator.

Position indicator

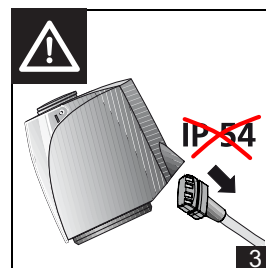
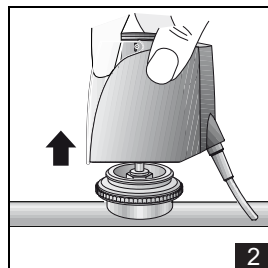
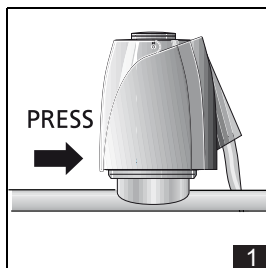


Removal protection



Remove the transparent visor (1) to secure the small actuator against unauthorized removal. Please retain transparent visor (1) for removal.

Removal



Commissioning

- The “first-open” function of the small thermoactuator is activated when the operating voltage of AC 24 V is connected for the first time for longer than approx. 6 minutes. The small thermoactuator opens far enough to unlock the unit from the delivery position.
- After the unit is unlocked, the small thermoactuator calibrates itself to determine the closing point. It can take about 3 minutes to reach the closing point.
- If the small thermoactuator is idle/stopped for approx. 10 minutes at the closing point, it will respond to a control signal of DC 0.5 V to DC 10 V.
- The small thermoactuator is now ready for operation.



NOTE

After a longer power failure, small thermoactuators that have already been initialized may experience a delay of up to approx. 6 minutes before responding to a control signal.



NOTICE

Avoid sources of magnetic interference.

Magnetic interference, such as from speakers or cordless telephones, can cause the small thermoactuator to function incorrectly.

If this occurs, increase the distance.

R15/x and RW15/x Two-Way/Three-Way Valves for the AA5004/80 Small Actuator

Types

PN10 gunmetal two-way valve for water up to 120 °C

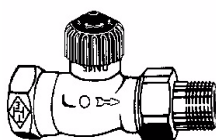
	Type	DN	PN	Kvs	R
Straight-through flow	R10D	10	10	1.25	3/8"
	R15D	15	10	1.35	1/2"
	R20D	20	10	2.5	3/4"
Flow through 90°	R10E	10	10	1.25	3/8"
	R15E	15	10	1.35	1/2"
	R20E	20	10	2.5	3/4"
Straight-through flow with Kvs setting	R10DV	10	10	0.86	3/8"
	R15DV	15	10	0.86	1/2"
	R20DV	20	10	0.86	3/4"
Flow through 90° with Kvs setting	R10EV	10	10	0.86	3/8"
	R15EV	15	10	0.86	1/2"
	R20EV	20	10	0.86	3/4"

PN10 gunmetal three-way valve for water up to 120 °C

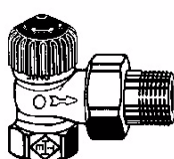
	Type	DN	PN	Kvs	R
Connection left	RW15L	10	10	1.45	1/2"
Connection right	RW15R	15	10	1.45	1/2"

Technical Data: Rxx and RWxx Valves

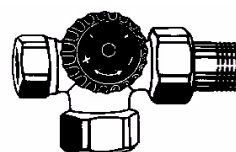
Nominal diameter	DN10 - 20
Pressure rating	PN10
Connection	Pipe screw connections in accordance with DIN EN 2115
Actuating stroke	2 mm
Temperature of medium	Water up to 120 °C
Housing	Gunmetal
Cone	EPDM
Valve spindle	Stainless steel
Spindle seal	EPDM
Maintenance	Maintenance-free



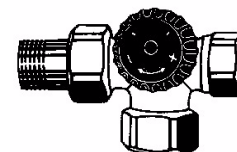
R10..20D, R10..20DV



R10..20E, R10..20EV

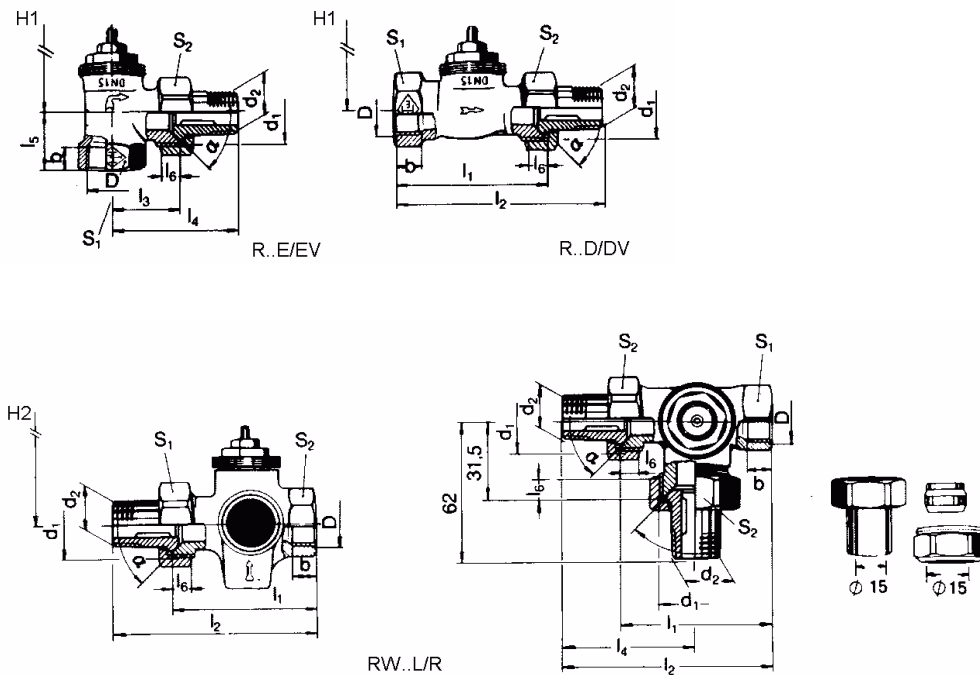


RW15L



RW15R

Dimensions



DN	D	b	d1	d2	I1	I2	I3	I4	I5	I6	S1	S2	H1	H2
		min			±1	±2	±1	±1,5	±1,5	min			±2	±2
10	Rp 3/8	10,1	G 5/8	R 3/8	59	85	26	52	22	6	22	27	69	74
15	Rp 1/2	13,2	G 1/2	R 1/2	66	95	29	58	26	7	27	30	69	74
19	Rp 3/4	14,5	G 1	R 3/4	74	106	34	66	29	8	32	39	69	74

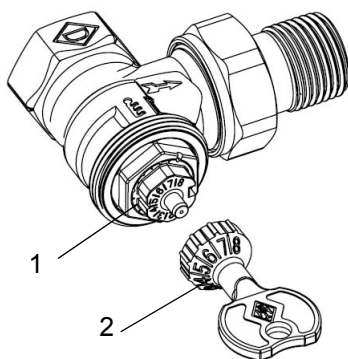
Kvs default setting for R10 - 20DV/EV valves

To adjust to the heat requirement, the R10 - 20DV/EV valves have 8 flow settings for the radiator mass flow rate.

The maximum flow rate, Kvs value (m³/h) can be selected by using the settings 1, 2, 3, 4, 5, 6, 7 or 8 (delivery setting = 8, corresponds to a Kvs value = 0.86).

The setting can be made using a Z29 socket key (accessory). The setting between 1 and 8 can be read from the valve, and will be implemented by the installed small actuator.

Position	1	2	3	4	5	6	7	8
Kvs value	0,049	0,102	0,185	0,313	0,420	0,565	0,740	0,860



- (1) Setting marks
- (2) Z29 socket key (accessory)