

AA2004/80 Small Thermoactuator

For use with R10–20D/ DV, R15E/ EV, RW15L/ R nickel-plated gunmetal two-way and three-way valves in secondary control circuits.



Subject to change

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AA2004/80 Small Thermoactuator

with R15E/EV, R10..20D/DV and RW15L/LR Two-way and Three-way

Device Description**Information about the device description**

The description contains information for using and mounting the AA2004/80 small thermoactuator with R10–20D/DV, R15E/ EV and RW15L/ R two-way and three-way valves.

If you have any questions that are not covered by the device description, contact the supplier or manufacturer for further information.

The specified regulations/guidelines for installation and mounting are applicable for the Federal Republic of Germany.

If the device is used in other countries, it is the responsibility of the plant installer or operator to comply with local regulations.

Operating personnel are to be instructed according to the description of the technical data sheet.

Safety instructions

Adhere to applicable regulations regarding occupational safety and accident prevention as well as those from the VDE (Association for Electrical, Electronic & Information Technologies) when mounting and using the devices. Mounting, installation and commissioning work on the devices may only be carried out by qualified technicians. See the section "Qualified Technicians".

Each person who uses the devices must have read and understood the descriptions on the technical data sheet. If the device is not used according to the device description, the protection provided could be impaired.

Meanings of symbols on the technical data sheet:



Danger

Warning of dangerous electric voltage



Danger

General hazard warning



Caution

General warning: information in note must be observed



Note

Additional note to be observed

Danger Means that non-observance could lead to mortal danger, serious bodily injury or major material damage.

Caution Means that non-observance could lead to injury or material damage.

Note Means that the information requires special attention.

Qualified technicians

Qualified technicians in the context of the technical data sheet are persons who are familiar with the described devices and have the necessary qualifications for their job.

This includes, for example:

- Authorization to connect the devices in accordance with VDE guidelines and the local power company's regulations, as well as authorization to switch on, off and enable devices according to in-house regulations.
- Knowledge of accident prevention regulations.
- Knowledge of the use of devices within the plant's system.
- Et cetera.

Application

AA2004/80 small thermoactuator for use with R10–20D/ DV, R15E/ EV, and RW15L/ R nickel-plated gunmetal two-way and three-way valves in secondary control circuits.

Type

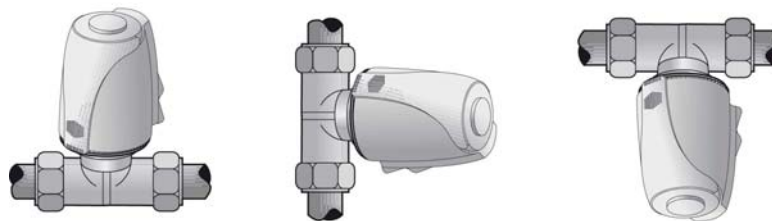
AA2004/80 Small thermoactuator AC 230 V control with 2-point signal normally closed

Technical data

Nominal voltage	AC 230 V; +10% to -10%; 50/60 Hz
Switch-on current max.	Approx. 300 mA for max. 200 ms
Operating voltage/power	Approx. 8 mA/1.8 W
Control signal	2-point
Function	Normally closed
Travel time	Open: approx. 3 min.
Nominal stroke	Up to 4 mm (incl. extended stroke)
Positioning force	100 N ±5%
Position indication	Indicator plunger on upper side of actuator
Valve adjustment	R10–20D/ DV, R15E/ EV, RW15L/ R two-way and three-way valves Further adjustments for other valve types available on request
Medium temperature	0–100 °C
Ambient temperature	0–60 °C
Installation position	All installation positions are allowed, for example, vertically above the valve, horizontally and upside down



Fig. R20D with AA2004/80



Note

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

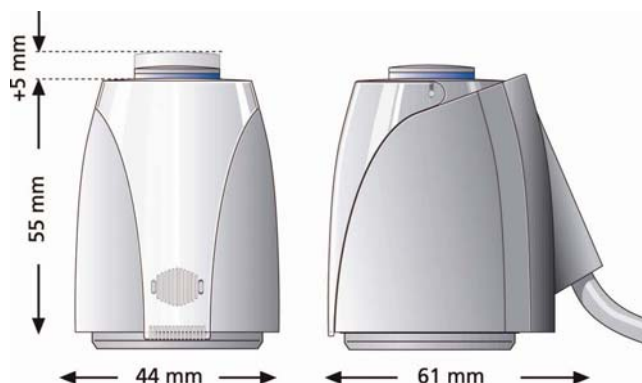
Protection class	II
Degree of protection	IP54 (in all installation positions, with connection line attached)
Color of housing	White, RAL 9003
Connection	Connection line 2 x 0.75 mm ² ; PVC, gray; length 1 m
Maintenance	Maintenance-free
Weight	73 g without adapter or connection line

Accessories (not included in delivery)

SK/AA/04	Protective cap
Z29	Socket key

Dimensions

(without valve adapter)



AA2004/80 Small Thermoactuator

with R15E/EV, R10..20D/DV and RW15L/LR Two-way and Three-way

Device Description

Mounting



Installation may only be carried out by qualified technicians.

The valve and the small thermoactuator are supplied separately.

Caution

Valve installation

In addition to the general mounting guidelines, the following points 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.

Mounting the actuator

The small thermoactuator is mounted without tools.

Also observe the installation instructions in the actuator packaging.

- Only screw the valve adapter onto the valve by hand.
- Push the small thermoactuator onto 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 the dismantling protector.
- To dismantle the actuator, refit the dismantling protector, press it 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 flushed and tested under pressure while the actuator is mounted (before being connected to the mains power supply).



Caution

The small thermoactuator is only operational after the nominal voltage of AC 230 V has been applied for more than 6 minutes. The "first-open" function is then automatically unlocked.

Installation



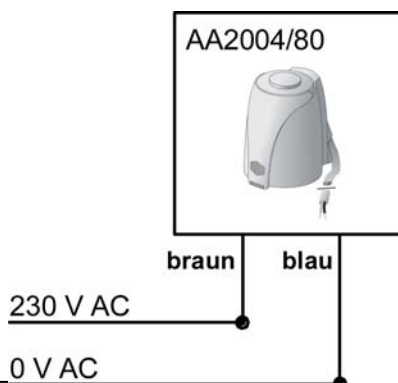
Danger

Electrical installation for connecting the device may only be carried out by qualified technicians.

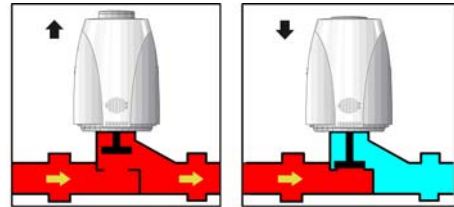
Comply with VDE guidelines and local wiring regulations when mounting/removing.

The AC 230 V mains connection is made according to the plant's legally binding circuit diagram.

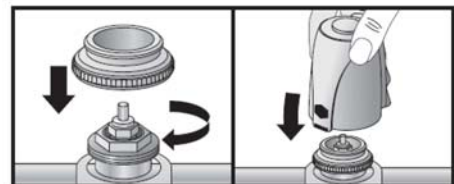
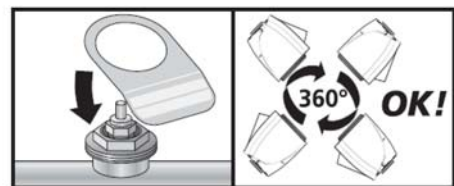
Connection



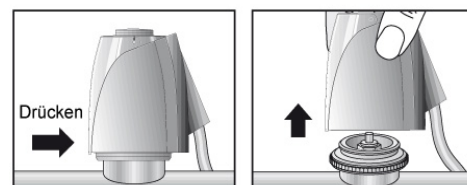
Position indication



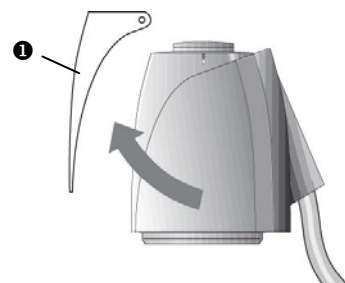
Mounting the actuator onto the valve



Dismounting the actuator



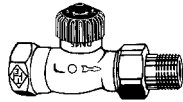
Dismounting protection feature



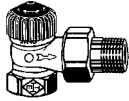
If you remove the transparent visor, the actuator can be secured against unauthorized dismantling

Please retain the transparent visor

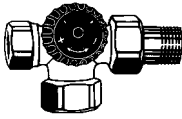
Two-way and three-way valves



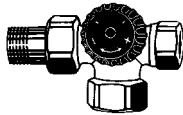
R10-20D, R10-20DV



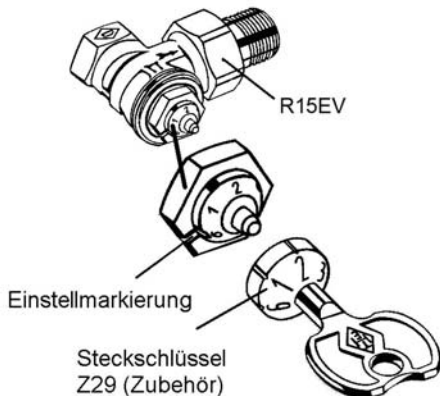
R15E, R15EV



RW15L



RW15R



Types

Nickel-plated gunmetal two-way/three-way valves for water up to 100 °C; 10 bar suitable for AA2004/80 small thermoactuators.

	Type	DN	R	cvs	Δp (bar)		
<ul style="list-style-type: none"> Two-way valves 	Straight flow	R10D	10	3/8"	1,25	1,0	
		R15D	15	1/2"	1,35	1,0	
		R20D	20	3/4"	2,5	0,7	
	Right-angle flow	R15E	15	1/2"	1,35	1,0	
		Straight flow with cvs setting	R10DV	10	3/8"	0,73	1,0
			R15DV	15	1/2"	0,73	1,0
Right-angle flow with cvs setting	R20DV	20	3/4"	0,73	0,7		
	R15EV	15	1/2"	0,73	1,0		
<ul style="list-style-type: none"> Three-way valves 	Connection left	RW15L	15	1/2"	1,45	1,0	
	Connection right	RW15R	15	1/2"	1,45	1,0	

Technical data

Nominal diameter DN10 to 20, R3/8" to 3/4"
Pressure rating PN10
Connection Pipe screw connections in accordance with DIN

EN 2115

Stroke 2 mm
Housing Gunmetal, nickel-plated
Cone EPDM
Valve spindle Stainless steel
Spindle seal EPDM
Medium Water up to 100°C
Maintenance Maintenance-free

cvs setting for R10-20DV/R15EV valves

To adapt to the heat requirement, the R1-20DV/ R15EV valves have 6 flow settings for adjusting the radiator mass flow rate.

The maximum flow rate, cvs value (m³/h), can be selected by using the settings "1, 2, 3, 4, 5 or 6" (delivery setting = 6, corresponds to a cvs value = 0.73).

The setting can be made using a Z29 socket key (accessory).

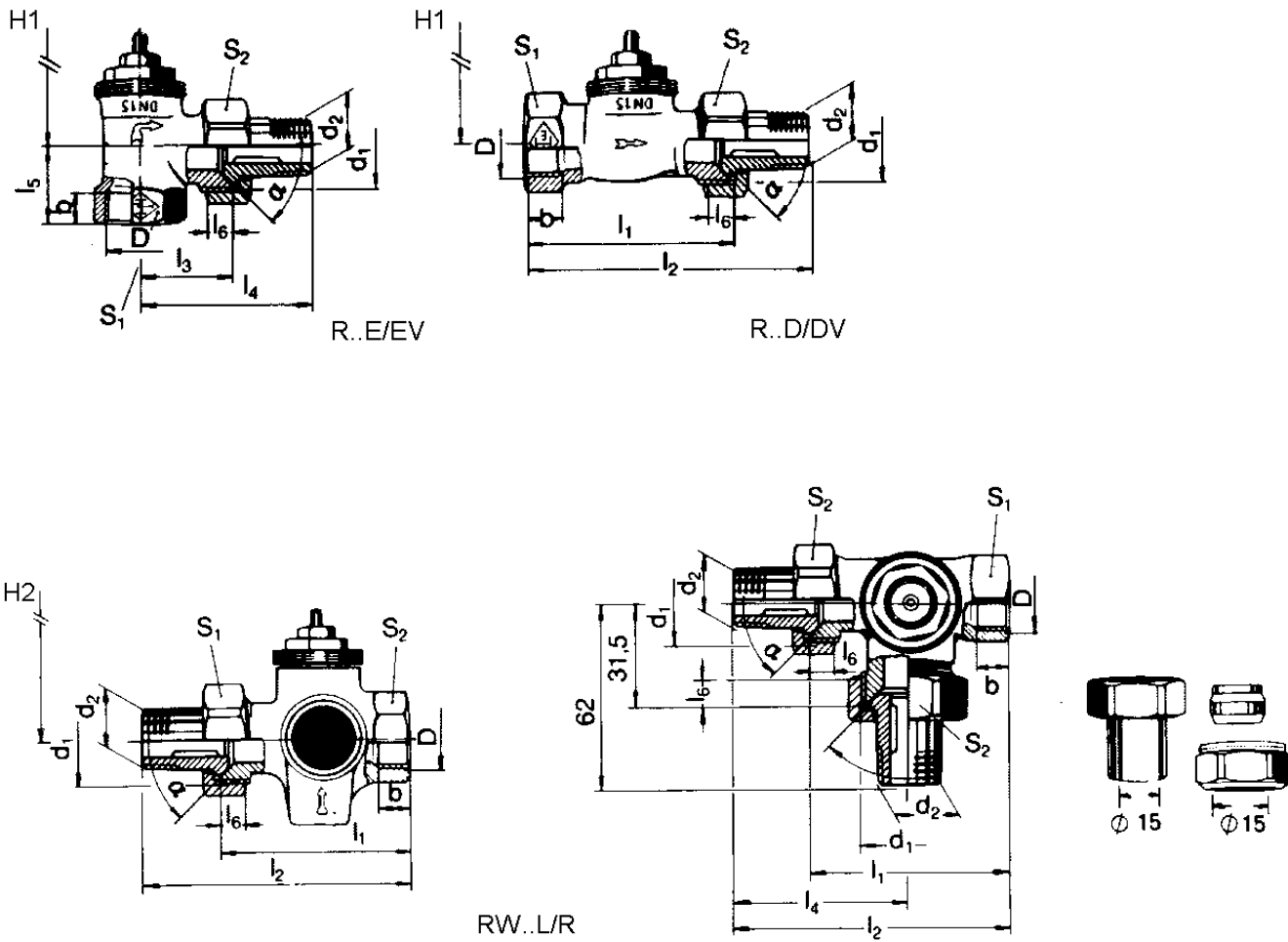
The setting "1" to "6" can be read on the valve, and is covered by the mounted small thermoactuator.

Setting =	1	2	3	4	5	6
cvs value =	0,054	0,104	0,174	0,247	0,459	0,73

AA2004/80 Small Thermoactuator
with R15E/EV, R10...20D/DV and RW15L/LR Two-way and Three-way

Device Description

Dimensions



DN	D	b min.	d ₁	d ₂	l ₁ ±2	l ₂ ±2	l ₃ ±1	l ₄ ±1,5	l ₅ ±1,5	l ₆ min	Schlüsselweite		H1 ±2	H2 ±2
											S ₁	S 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 3/4	R 1/2	66	95	29	58	26	7	27	30		
20	Rp 3/4	14,5	G 1	R 3/4	74	106	34	66	29	8	32	37		