



## Mixing valves 3- and 4-way Series G

3 G and 4G, DN 20-50, cast iron, PN 6. Internal thread.

Valves designed for	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Heating	Comfort Cooling	Potable water	Zone	Ventilation	District Hotwater	District Heating	District Cooling

### Operation

The ESBE series G is a compact mixing valve made of cast iron for use in heating and cooling installations.

The mixing proportions are adjusted manually with a handle or, in automatically controlled plants, by means of an actuator. Suitable actuators are ESBE series 60 or series 90.

Valves series G is available in dimensions DN 20-50 with internal threaded connections (ISO 7/1 Rp).

The scale is graduated on both sides and can be turned, allowing a choice of mounting positions. Operation angle = 90°.

### Service and maintenance

All major parts are replaceable. The shaft seal consist of two o-rings, one of which can be replaced without the need for draining down the system or dismantling the valve. But before doing so, the pressure in the system must be de-pressurised.

### Required actuator torque

The figures below are only as a recommendation for ordinary installations. In some applications the valve may require even more actuator torque.

Valve size up to . . . . . DN 25 . . . actuator torque 3 Nm  
 . . . . . DN 50 . . . . . 5 Nm

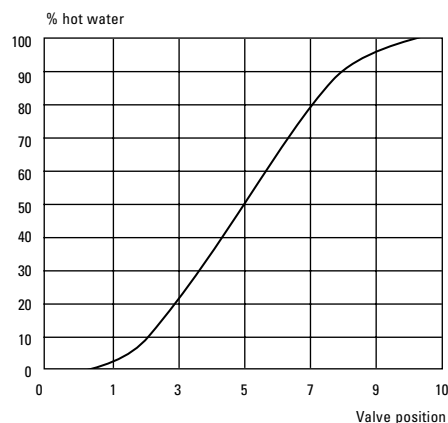
### Material

Valve body: . . . . . Cast iron EN-JL 1030  
 Slide: . . . . . DN 20-40, brass CW 614N  
 . . . . . DN 50, brass CW 614N and stainless steel  
 Bushing: . . . . . DN 20-40, plastic  
 . . . . . DN 50, brass CW 602N  
 Cover plate: . . . . . DN 20-40, zinc  
 . . . . . DN 50, cast iron  
 O-rings: . . . . . EPDM

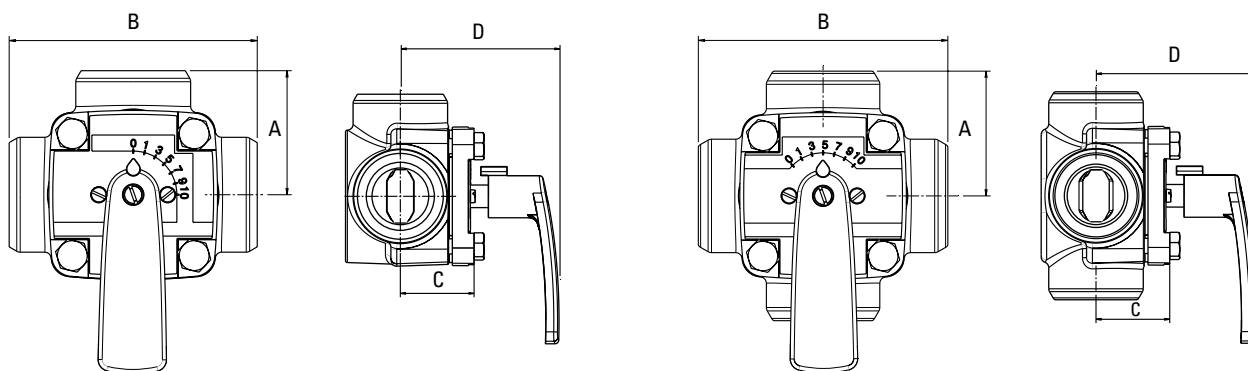
### Technical Data

Pressure class: . . . . . PN 6  
 Max. temperature: . . . . . 110°C  
 Min. temperature: . . . . . -10°C  
 Max. differential pressure drop . . . . . 50 kPa  
 Leakrate in % of flow: . . . . . Mixing max. 1.0%  
 . . . . . Diverting max. 0.5%  
 Rangeability Kv/Kv<sup>min</sup>: . . . . . 100  
 Connection: . . . . . Internal thread, ISO 7/1

### Valve Characteristic



## Mixing valves

 3- and 4-way Series G


### Dimensions, 3-way

Art. No.	Reference	DN	Kvs*	Connection	A	B	C	D	Weight [kg]
1105 01 00	3 G 20	20	8	Rp 3/4	52.5	105	39	81	1.6
1105 02 00	3 G 25	25	12	Rp 1	54	108	39	81	1.8
1105 03 00	3 G 32	32	18	Rp 1 1/4	57.5	115	39	81	2.2
1105 04 00	3 G 40	40	28	Rp 1 1/2	60	120	39	81	2.5
1105 06 00	3 G 50	50	44	Rp 2	78	156	46	89	4.4

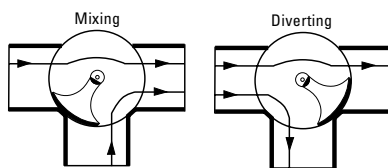
### Dimensions, 4-way

Art. No.	Reference	DN	Kvs*	Connection	A	B	C	D	Weight [kg]
1105 08 00	4 G 20	20	8	Rp 3/4	52.5	105	39	81	1.7
1105 10 00	4 G 25	25	12	Rp 1	54	108	39	81	2.0
1105 13 00	4 G 32	32	18	Rp 1 1/4	57.5	115	39	81	2.4
1105 14 00	4 G 40	40	28	Rp 1 1/2	60	120	39	81	3.0
1105 16 00	4 G 50	50	44	Rp 2	78	156	46	89	5.0

\* Kvs-value in m<sup>3</sup>/h at a pressure drop of 1 bar. See flow chart on page 10.

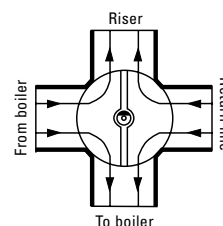
#### 3-way:

The flatsided spindle top (as same as the indicator of the knob) points towards the center of the spindle.



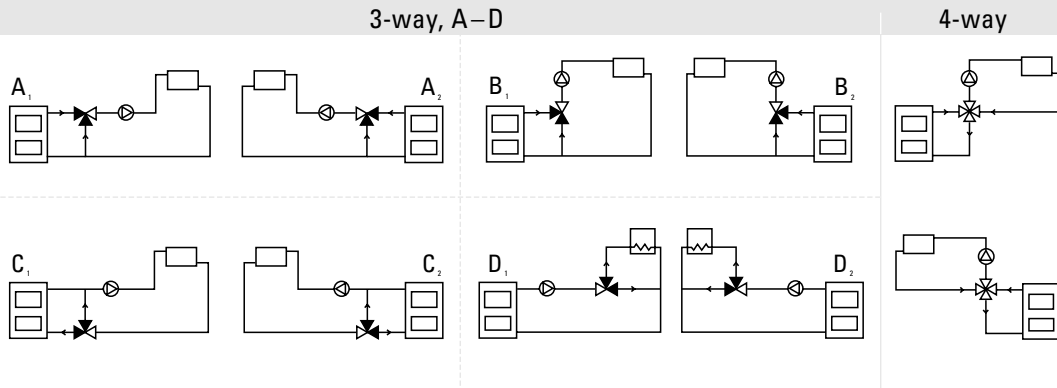
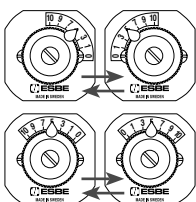
#### 4-way:

The flatsided spindle top (as same as the indicator of the knob) is in line with the partition of spindle.



### Example of installations

All the examples of installations can be reversed. The valve position plate is graduated on both sides and shall at the installation be fitted in the correct position as shown in the instruction for installation.



Rotary actuator in connection with a mounting kit for the motorisation of the most common mixing valves in HVAC systems

- Torque 10 Nm
- Nominal voltage AC 230 V
- Control: Open/close or 3-point



Technical data

<b>Electrical data</b>	Nominal voltage	AC 230 V, 50/60 Hz
	Power supply range	AC 198 ... 264 V
	Power consumption	In operation 3.5 W at nominal torque
		For wire sizing 3.5 VA
	Connection	Terminals 4 mm <sup>2</sup> (cable Ø 6 ... 8 mm, three-core)
	Parallel connection	No
<b>Functional data</b>	Torque (nominal torque)	Min. 10 Nm at nominal voltage
	Position accuracy	±5%
	Manual override	Temporary and permanent disengagement of the gearing latch by means of the rotary knob on the housing
	Running time	140 s / 90°↔
	Sound power level	Max. 35 dB (A)
	Position indication	Reversible scale plate 0 ... 1
<b>Safety</b>	Protection class	II Totally insulated <input type="checkbox"/>
	Degree of protection	IP40
	EMC	CE according to 89/336/EEC
	Low voltage direction	CE according to 73/23/EEC
	Mode of operation	Type 1.B (to EN 60730-1)
	Rated impulse voltage	4 kV (to EN 60730-1)
	Control pollution degree	3 (to EN 60730-1)
	Ambient temperature range	0 ... +50 °C (Duty cycle 140/35 s)
	Media temperature	+5 ... +120 °C (in mixing body)
	Non-operating temperature	-30 ... +80 °C
	Ambient humidity range	95% r.H., non-condensating (to EN 60730-1)
Maintenance	Maintenance-free	
<b>Dimensions / Weight</b>	Dimensions	See «Dimensions» on page 2
	Weight	Approx. 500 g

Safety notes



- The actuator has been designed for use in stationary heating, ventilation and air conditioning systems and is not allowed to be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- Caution: Power supply voltage!
- It may only be installed by suitably trained personnel. All applicable legal or institutional installation regulations must be complied with.
- The actuator must be protected against moistness. It is not suitable for use in outdoor applications.
- Check that the strain relief of the cable in the actuator housing functions correctly.
- The installer has to check the right functioning after mounting.
- The device does not contain any parts that can be replaced or repaired by the user.
- To calculate the torque required, the specifications supplied by the mixing valve manufacturer must be observed.
- The device contains electrical and electronic components and is not allowed to be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Product features

- Simple direct mounting** Straightforward direct mounting with only one screw. The mounting position in relation to the mixing valve can be selected in 90° ↺ steps.
- Manual operation** Manual operation possible by lever (temporary disengagement of the gearing latch by pressing, permanent disengagement by means of the rotary knob on the housing).
- Functional reliability** The actuator switches off automatically when the end stops are reached.

Accessories

Description

**Mechanical accessories** Mounting kits for ESBE, Termomix, Pommerening, Dumserwerk, Lovato, Landis & Staefa, Lazzari, Oventrop, Meibes, Wita, Holter, Satchwell and Centra mixing valves.

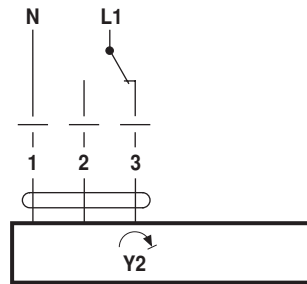
Electrical installation

Wiring diagrams

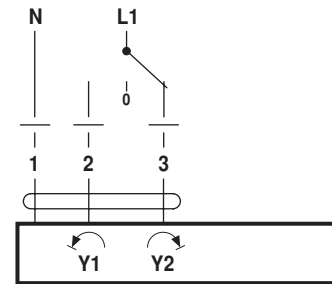
**Note**  
Caution: Power supply voltage!



Open-close control

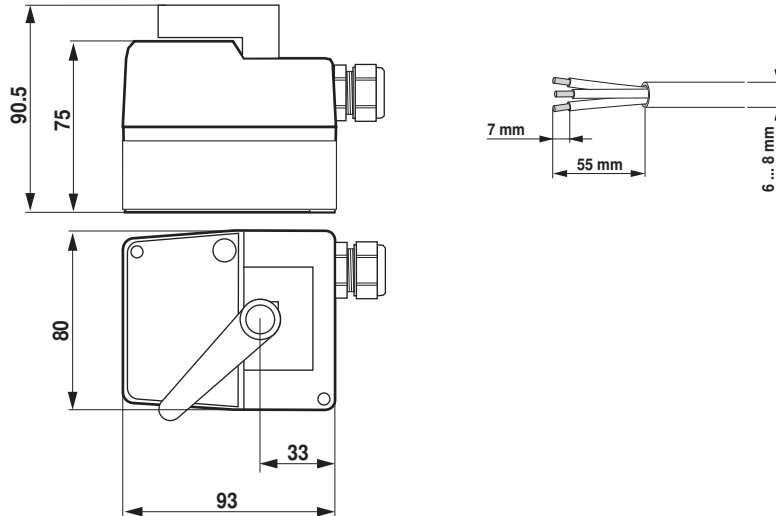


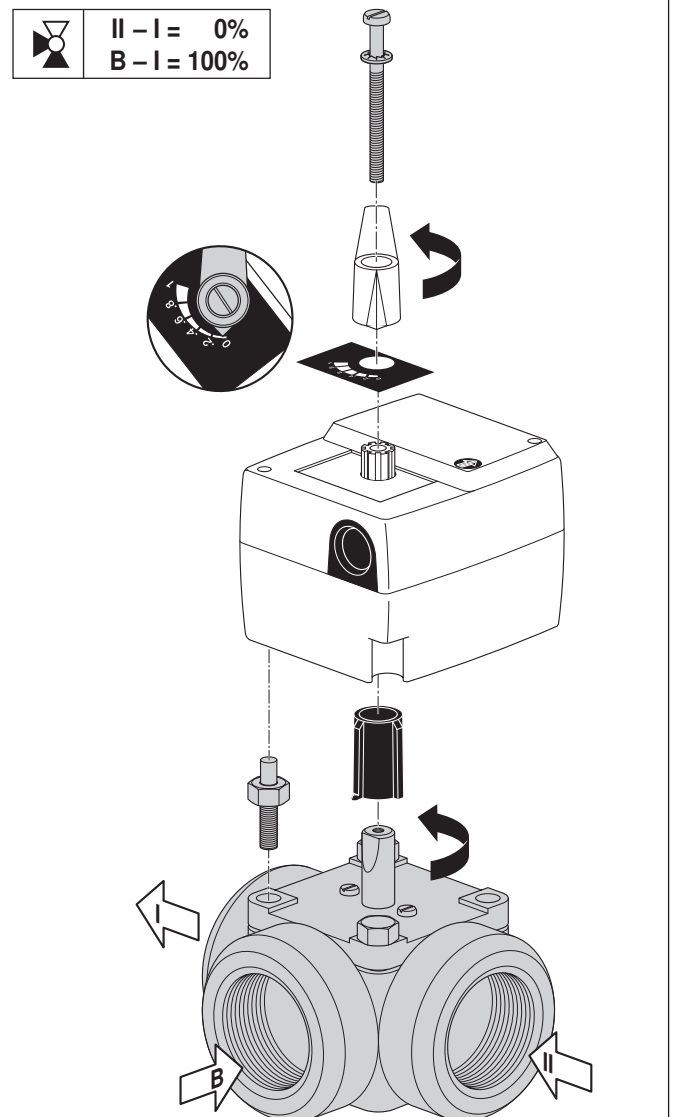
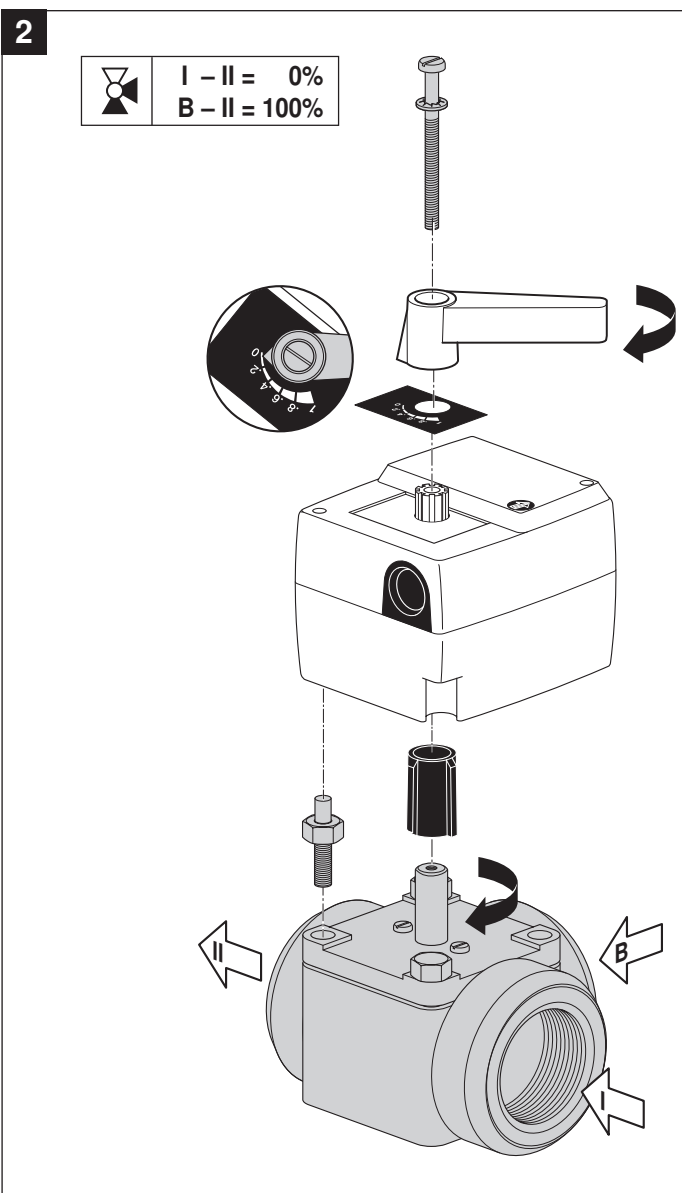
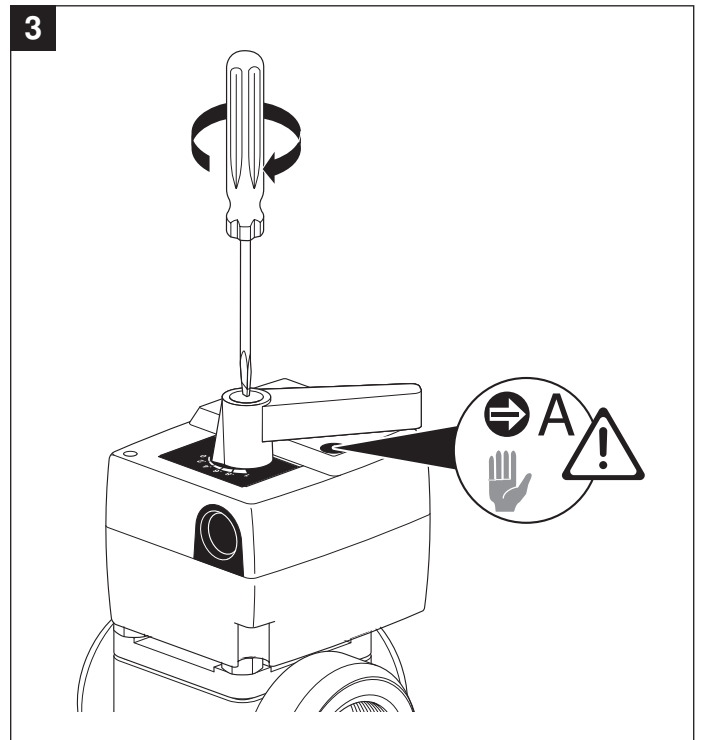
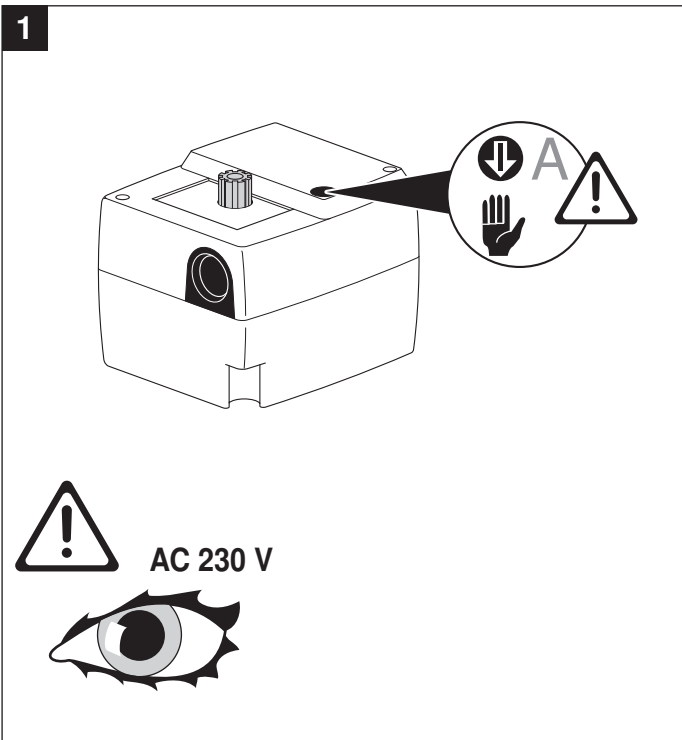
3-point control

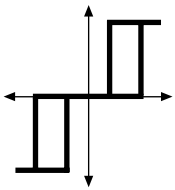
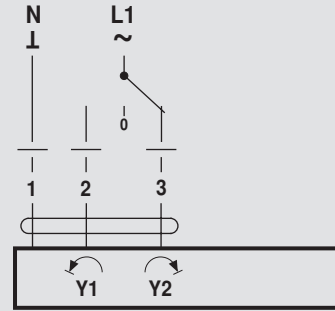
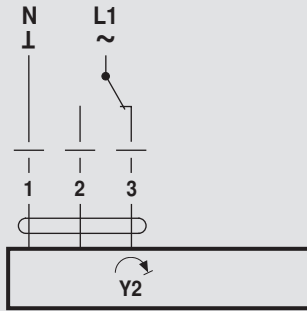


Dimensions [mm]

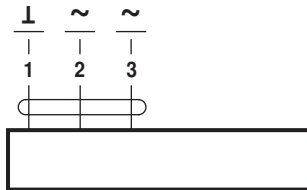
Dimensional diagrams



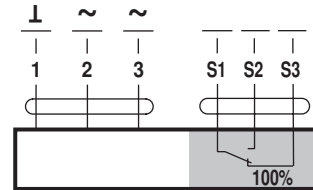




AC 24 V

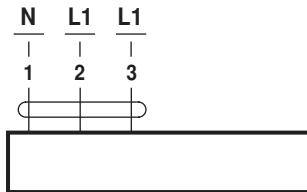


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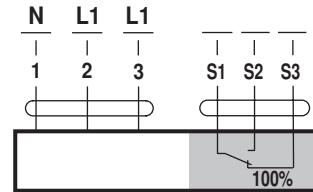


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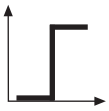
AC 230 V



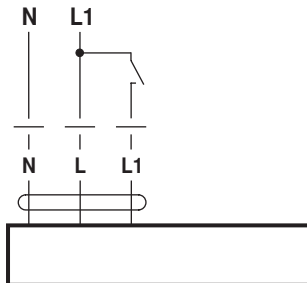
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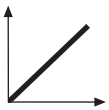
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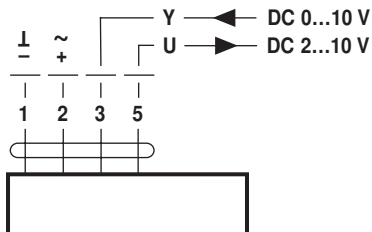
AC 230 V



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AC 24 V / DC 24 V



HT..24-SR-T



AC 230 V

