



Kieback&Peter

OPERATING INSTRUCTIONS

MF250 ACTUATOR

with emergency control function for valves from the series RK/RF/RD/RGD/RWG/RGDE/RBQ

This document replaces all versions with an older release date. This version is not updated automatically. Subject to change.

The figures in this document were created with the utmost care. Nevertheless, we cannot guarantee that the delivered product will not differ from these figures.

The original operating instructions were composed in German.

Documentation in other languages has been translated from German.

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IMPORTANT

READ CAREFULLY BEFORE USE

RETAIN FOR LATER REFERENCE

Table of Contents

Content	Page
1 Notes on these operating instructions	5
1.1 Validity of the operating instructions	5
1.2 Display elements	5
2 Safety	5
2.1 Explanation of safety instructions and warnings	5
2.2 Basic safety instructions	6
2.3 Responsibilities of the Operator	7
2.4 Qualification of personnel	7
2.5 Intended use	8
3 Description	8
3.1 Identification	9
3.2 Actuator	10
3.2.1 Structure	10
3.2.2 Dimensions	10
3.2.3 Technical data	11
3.2.4 Accessories	12
3.3 RK65..100(-BF) three-way/two-way valve with actuator	13
3.3.1 Types	13
3.3.2 Technical Data: RK..(-BF) Valves	13
3.4 RF65..100(-BF) three-way/two-way valve with actuator	15
3.3.1 Types	13
3.4.2 Technical Data: RF..(-BF) Valves	15
3.5 RD65..100 two-way valve with actuator	17
3.3.1 Types	13
3.5.2 Technical Data: RD.. Valves	17
3.6 RGD50..100 two-way valve with actuator	19
3.3.1 Types	13
3.6.2 Technical Data: RGD.. Valves	19
3.7 RWG50..100 three-way valves with actuator	21
3.3.1 Types	13
3.7.2 Technical Data for RWG Valves	21
3.8 RGDE25..100 two-way valve with actuator	23
3.8.1 Types	23

3.8.2	Technical Data for RGDE Valves	23
3.9	RBQ125..200 combo valves with actuator	25
3.9.1	Types	25
3.9.2	RBQ technical data.	26
3.10	Valve cross-sections with flow directions	27
4	Scope of delivery, transportation and storage	28
5	Valve Mounting	29
5.1	Mounting the actuator.	30
6	Connecting the actuator and putting it into operation	32
6.1	Connection diagrams	32
6.2	Electrical connection.	33
6.3	Commissioning	35
6.3.1	Commissioning steps	35
6.3.2	Status of the LED displays	38
6.4	Actuator functions.	39
6.5	Priorities of operating mode feedback	43
7	Maintenance	43
8	Faults and remedial measures	44
9	Repair	44
10	Decommissioning, Removal and Disposal	45
10.1	Shutdown and dismounting of the actuator	45
10.2	Remove the valve	46
10.3	Notes on disposal	47
11	Contact persons	47
12	Declaration of conformity	48
	Index	49

1 Notes on these operating instructions



NOTE

If you have any questions that cannot be clarified with these operating instructions, you can obtain further information from your Kieback&Peter contact person.

1.1 Validity of the operating instructions

This document is a part of the MF250 actuator for RXX valves and is valid only for these actuators and the described valves.

To make the document easier to read, the MF250 actuator is referred to in the text below as the “actuator.” The RXX valves are referred to in the text as the “valve.”

The scope of delivery is specific to each actuator and is in accordance with the customer requirements. The positions and figures of the components in the operating instructions may differ depending on the choice of the valve.

1.2 Display elements



NOTE

Notes provide you with important information.

You can find the following display elements in these instructions:

- List point
- ▶ Step or measure for avoiding danger

2 Safety

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2.1 Explanation of safety instructions and warnings

The basic safety information includes general instructions for the safe use of the actuator with valve or instructions to maintain its safe condition.

Action-related warnings of residual risks are indicated prior to performing dangerous actions.

Presentation and structure of warnings

The warnings are action-related and are structured as follows.



CAUTION

Type and source of danger!

Potential consequences when the danger occurs or the warning is not observed.

- ▶ Measures to avoid the danger.

Warnings are classified according to the severity of the hazard. The hazard levels and their corresponding signal words and warning symbols are described below:



WARNING

Indicates a hazard of medium risk which can result in **death or serious bodily injury** if not avoided.



CAUTION

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



CAUTION

Indicates a hazard which can result in **material damage or malfunctions** if not avoided.

2.2 Basic safety instructions

Safety in the workplace depends on the attention, care and rationality of all the persons involved. To prevent damage and injury, read and follow the safety instructions below, the safety instructions in the documentation on using the components and the applicable local regulations.

Sharp edges and corners

There is a risk of skin abrasions and cutting injuries due to sharp edges and corners, such as those on cast iron bodies and the outer threads of the valves and individual parts of the actuators.

- ▶ Proceed with care.
- ▶ Wear protective gloves.

Toppling, falling and ejected parts

Severe injury and substantial damage to property due to:

- Toppling or falling valve or actuator parts
- Ejected parts in the event of impermissible pressure increases (bursting components)
- Impermissible drop in pressure (e.g. when using tensioning devices)
- ▶ Secure the protected area against access by unauthorized persons.
- ▶ Secure parts to prevent toppling and falling.
- ▶ Do not exceed the maximum valve operating pressure.

Pressurized liquids

There is a risk of severe burns and injuries caused by liquid jets due to incorrect connections.

- ▶ Do not exceed the maximum valve operating pressure.
- ▶ Check all connections before filling the system.
- ▶ Secure the protected area against access by unauthorized persons.

Hot or cold surfaces

Severe burns or hypothermia are possible if contact is made with hot or cold surfaces at valves and pipelines.

- ▶ Before starting the work, wait until the temperature of the pipelines and valves corresponds to around 5 to 35°C.

Musculoskeletal disorders

There is a risk of severe musculoskeletal disorders (e.g. back injuries) due to incorrect posture or excessive exertion (e.g. due to weight loads).

- ▶ Proceed with care.

2.3 Responsibilities of the Operator

The actuator and valve must be operated only when in a technically sound and safe condition. The operator must observe the following points:

- Ensure that the operating instructions are available to all persons who perform work on the actuator and valve.
- Ensure that all persons have read and understood the operating instructions before working on the actuator and valve.
- Ensure the required ambient conditions and clearances at the mounting location.
- Ensure that mounting, installation and commissioning are carried out only by a fitter or specialist electrician, according to the tasks. NOT DEFINED
- Inform your Kieback&Peter contact person in the event of damage to the actuator and/or valve.
- Ensure that personnel receive the personal protective equipment (PPE) stipulated in the specific country and use this equipment at all times.

2.4 Qualification of personnel

Fitter

The fitter is familiar with heating, ventilation and air conditioning systems. Based on his or her technical training and appropriate knowledge and experience, he or she is familiar with the described actuator and valve. The fitter knows the applicable regulations, can assess his or her assigned tasks and identify potential dangers.

Electrical specialist

The electrical specialist is a person who is familiar with the described actuator. Based on his or her professional training, knowledge and experience, he or she has a very good understanding of the fields of cable, wire and laying systems and a good knowledge of the areas of electrical engineering and electrical machines and actuators. The electrical specialist knows the applicable regulations, can assess work assigned to him or her and identify possible dangers.

Who is permitted to perform which tasks?

Task	Fitter	Electrical specialist
Mounting		
Assembling the valve	x	
Assembling the actuator	x	
Commissioning		
Electrical connection		x
Adapting actuator functions		x
Faults and remedial measures		
Searching for and correcting faults	x	x
Decommissioning, disassembly and disposal		
Taking the actuator out of operation		x
Disassembling the actuator	x	
Disassembling the valve	x	
Disposal	x	

2.5 Intended use

- The actuator with valve is designed to control the flow or precise mixture of liquids for heating, ventilation and air conditioning systems.
- Operate the actuator only with one of the specified valves and the original valve accessories.
- The actuator with valve is intended only for industrial and commercial use; never operate the actuator with valve in the private sphere or in households.
- Only operate the actuator with valve indoors.
- Maintain the specified ambient conditions during operation, transport and storage.
- Use a suitable operating medium.
- Only operate the actuator with valve in its original condition. Modifications to the actuator and/or valve may result in unforeseeable dangers and are thus prohibited.

3 Description

The actuators MF250 with a positioning force of 2500 N are used for fine stroke adjustment of two-way and three-way valves of the types:

- RK65..100(-BF)
- RF65..100(-BF)
- RD65..100
- RGD50..100
- RWG50..100
- RGDE25..100
- RBQ125..200

This is controlled with one of the following signals:

- Constant signal 0(2)..10 V DC or 0(4)..20 mA
- 3-point signal open/stop/closed or
- 2-point signal open/closed

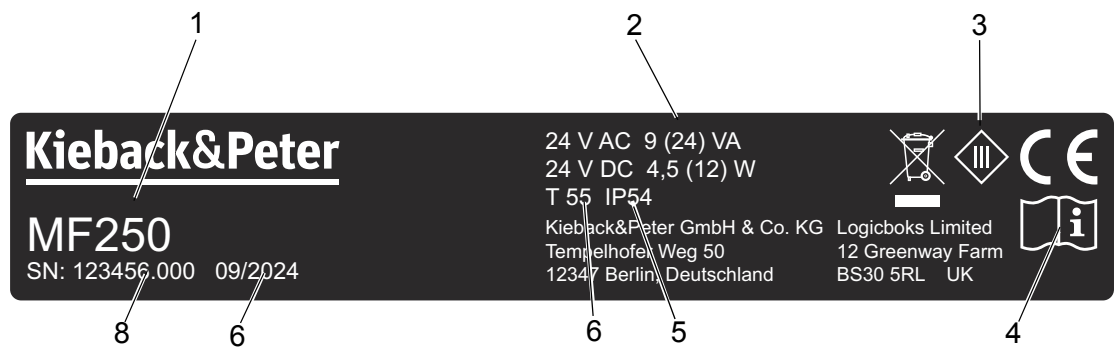
The actuator has an emergency control function that, depending on the type of valve used, automatically closes and/or opens valves in the event of a power failure.

The requisite energy is provided with an integrated energy storage unit (battery pack).

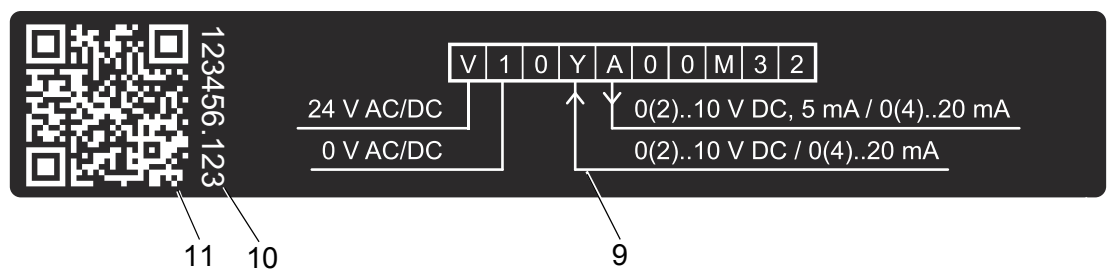
Emergency control function: The actuator can be selected to be extended or retracted without current,
Continuously-adjustable emergency control position

3.1 Identification

The actuator labelling is on the beam.



3-1: Type plate of the actuator (example presentation)



3-2: Terminal diagram (example presentation)

- 1 Actuator type
- 2 Key electrical data for the actuator
- 3 Labeling: Disposal, protection class, CE
- 4 Reference to the operating instructions regarding further information
- 5 Degree of protection of the actuator
- 6 Temperature range
- 7 Month/year of construction
- 8 Serial number
- 9 Wiring diagram
- 10 Production number
- 11 Production-related QR code with integrated URL link to the documents



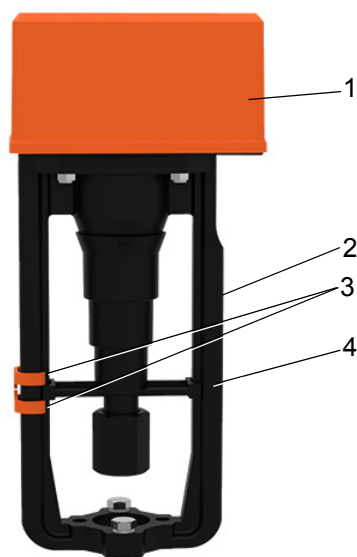
NOTE

The product number of the valve is only entered on the actuator's type plate if you have received a pre-mounted actuator-valve combination.

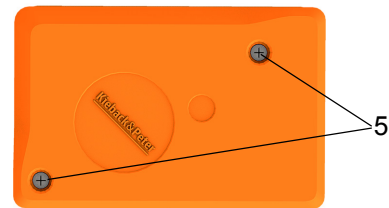
You can find important valve-specific information on the type plate of the valve. Depending on the valve type, the type plate is affixed to different positions on the valve body or flange.

3.2 Actuator

3.2.1 Structure



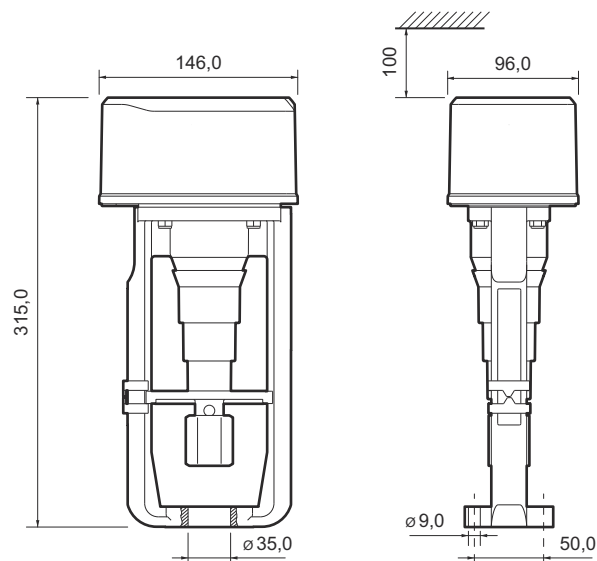
3-3: Actuator layout – view A



3-4: Actuator layout – view B

- | | | |
|---|--------------------------------------|---|
| 1 | Cover | Actuator cover |
| 2 | Beam | |
| 3 | Position marks for the valve setting | Labelling of the maximum and minimum valve stroke |
| 4 | Position indicator | Display of the current valve stroke |
| 5 | Cover screws (2x) | Cover fastening |

3.2.2 Dimensions



3.2.3 Technical data

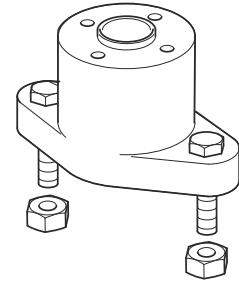
Nominal voltage	AC 24 V $\pm 10\%$; 50/60 Hz; DC 24 V $\pm 10\%$
Dimensioning	24 VA (AC); 12 W (DC)
Switch-on current	max. 7 A, < 1 ms, < 0.049 A ² s
Power consumption	Sleep mode: 1.6 VA (AC); 0.6 W (DC)
	3.8 s/mm: nominal: 9 VA (AC); 4.5 W (DC)
	11 s/mm: nominal: 3 VA (AC); 1.5 W (DC)
Cable cross section	min. 0.75 mm ²
Regulation	3-point signal (open/stop/closed); minimum switch-on and off time 0.6 s
	2-point signal (open/closed)
	Continuous control; adjustable via DIP switch (see page 35) - Voltage signal 0(2)..10 V DC; Re=100 k Ω ; invertible - Power signal 0(4)..20 mA; invertible
Position feedback	Adjustable via DIP switch (see 35)
	- voltage signal 0(2)..10 V DC; 5 mA; invertible; approx. 12.5 V signal during fault
	- current signal 0(4)..20 mA; Ri= 0.5 k Ω ; invertible; approx. 0 mA signal during fault
Stroke	max. 50 mm, automatic stroke adaptation
Actuating speed	Adjustable via DIP switch (see page 35)
	3.8 s/mm (factory setting)
	11 s/mm
Emergency stop speed	3.8 s/mm
Emergency control function	integrated energy storage unit
	Emergency control position selectable (see page 36)
Positioning force	Nominal 2500 N
Sound power	Approx. 38 dB(A) at 11 s/mm
Maintenance	Maintenance-free
Ambient temperature	0..55 °C
Ambient humidity	0..95 % r.F., non-condensing
Degree of protection (see page 33)	IP54 (upper semi-sphere), IP40 (lower semi-sphere)
Protection class	III in accordance with EN 60730
Installation position	360°
Weight	2.32 kg

3.2.4 Accessories

Z193 Mounting kit for RGDE DN25 to DN100

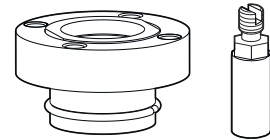
With factory-delivered valve/drive combinations, the Z193 mounting kit is pre-fitted.

Mounting instructions 3.10-09.250-99 (included with the Z193 accessories) contains further information about the mounting process.



Z226 Adapter for RBQ125..200 (QFC DN125..200) with actuator MD250(-E), MD250/230(-E), MF250, MD250-BUS-xx and MF250-BUS-xx

Further information can be found in the mounting instructions for Z226 and in the product descriptions of the actuators.



3.3 RK65..100(-BF) three-way/two-way valve with actuator

Application

The gray cast iron three-way valves and two-way valves with an actuator are used for mixing liquids precisely.

The valves can be used as two-way valves using the BF blank flange on gate B.



3.3.1 Types

RK65..100 gray cast iron three-way valve usable for MF250 actuator, for water up to 120 °C, 6 bar

Typ	DN	PN	kvs	Δp (bar)	Weight (kg)
RK65/50	65	6	50	6.0	14,7
RK65	65	6	63	6.0	14,7
RK80/80	80	6	80	4.0	22
RK80	80	6	100	4.0	22
RK100/125	100	6	125	2.4	31
RK100	100	6	160	2.4	31

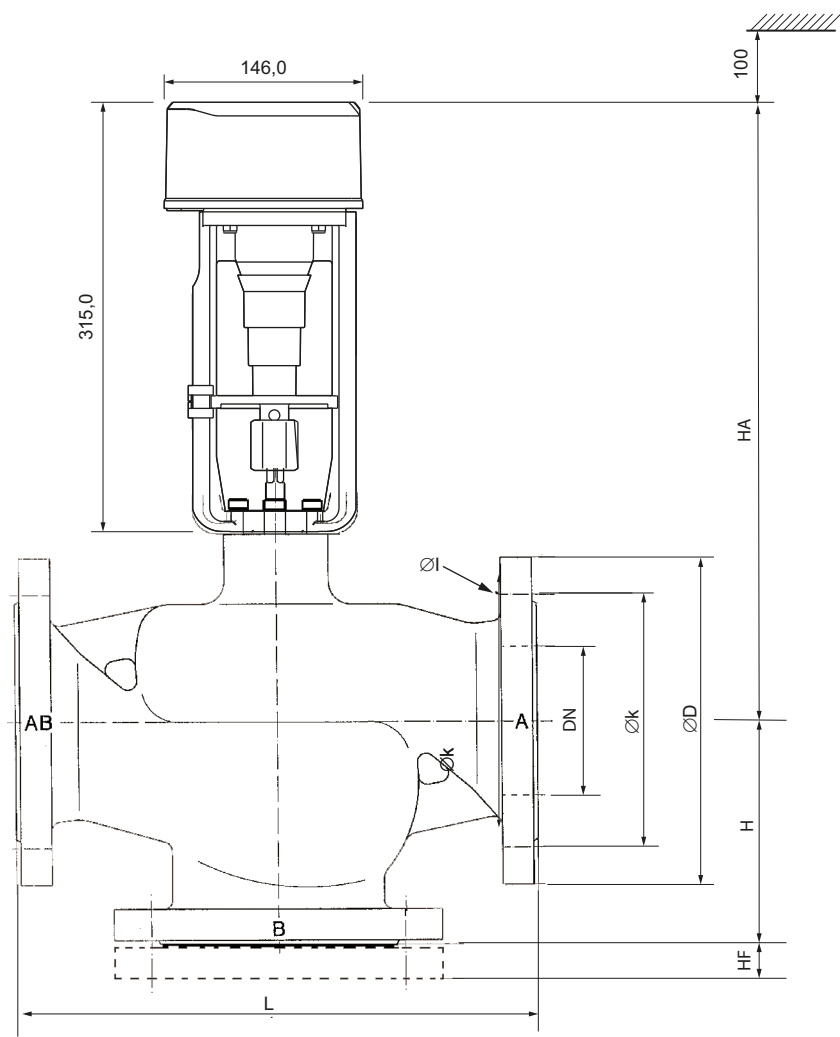
RK65..100-BF gray cast iron two-way valve usable for MF250 actuator, for water up to 120 °C, 6 bar

Typ	DN	PN	kvs	Δp (bar)	Weight (kg)
RK65/50-BF	65	6	50	6.0	17,9
RK65-BF	65	6	63	6.0	17,9
RK80/80-BF	80	6	80	4.0	26,3
RK80-BF	80	6	100	4.0	26,3
RK100/125-BF	100	6	125	2.4	37,1
RK100-BF	100	6	160	2.4	37,1

3.3.2 Technical Data: RK..(-BF) Valves

Nominal width	DN65..100	
Pressure rating	PN 6	
Connection	Flanges to EN 1092-2 type 21	
Characteristic curve	RK..	Ports A → AB = equal percentage
		Gates B → AB = linear
	RK..-BF	Ports A → AB = equal percentage
Positioning stroke	RK65..100(-BF): 30 mm	
Leak rate	In accordance with EN 1349, leakage class VI	
Medium	Water or max. 50% glycol-water mixtures (pH 6.5..10)	
Medium temperature	0..130 °C (max. 120 °C at 6 bar)	
	As low as -10 °C only with spindle heating	
Housing	Gray cast iron EN-JL1040	
Cone	Brass CW614N	
Valve spindle	CrMo steel 1.4122	
Stem seal	O-rings EPDM, maintenance-free	

Dimensions



DN	L	H	HA	HF (RK..-BF)	Ø D	Ø k	Ø I
65	290	120	422	approx. 16	160	130	4x Ø 14
80	310	130	434	approx. 18	190	150	8x Ø 18
100	350	150	441	approx. 18	210	170	8x Ø 18
Dimensions L to I in mm							

3.4 RF65..100(-BF) three-way/two-way valve with actuator

Application

The gray cast iron three-way valves and two-way valves with an actuator are used for mixing liquids precisely.

The valves can be used as two-way valves using the BF blank flange on gate B.

3.4.1 Types

RF65..100 gray cast iron three-way valve usable for MF250 actuator, for water up to 120 °C, 16 bar

Type	DN	PN	Kvs	Δp (bar)	Weight (kg)
RF65/50	65	16	50	6.2	18.8
RF65	65	16	63	6.2	18.8
RF80/80	80	16	80	4.0	24
RF80	80	16	100	4.0	24
RF100/125	100	16	125	2.4	36
RF100	100	16	160	2.4	36

RF65..100-BF gray cast iron two-way valve usable for MF250 actuator, for water up to 120 °C, 16 bar

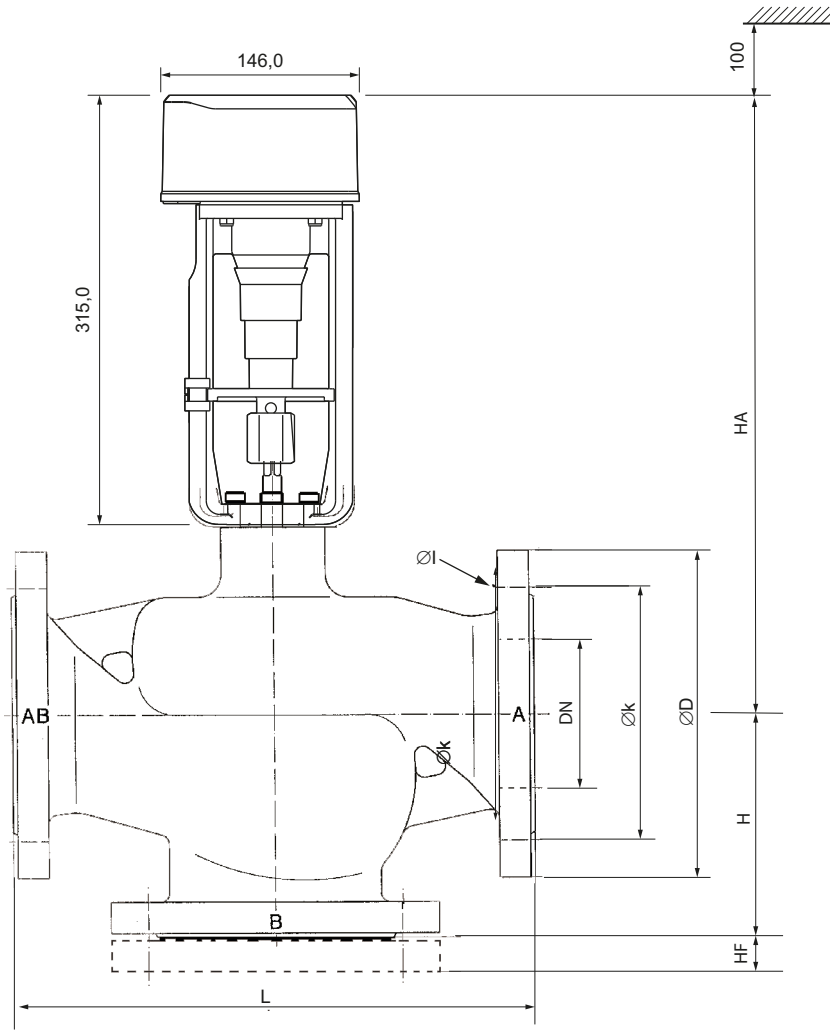
Type	DN	PN	Kvs	Δp (bar)	Weight (kg)
RF65/50-BF	65	16	50	6.2	24.8
RF65-BF	65	16	63	6.2	24.8
RF80/80-BF	80	16	80	4.0	29.8
RF80-BF	80	16	100	4.0	29.8
RF100/125-BF	100	16	125	2.4	42.9
RF100-BF	100	16	160	2.4	42.9



3.4.2 Technical Data: RF..(-BF) Valves

Nominal width	DN65..100
Pressure rating	PN 16
CE marking	CE marking, notified body: 0045
Connection	Flanges to EN 1092-2 type 21
Characteristic curve	RF.. Ports A → AB = equal percentage Gates B → AB = linearl
	RF..-BF Ports A → AB = equal percentage
Positioning stroke	RF65..100(-BF): 30 mm
Leak rate	In accordance with EN 1349, leakage class VI G1 (tight-sealing)
Medium	Water or max. 50% glycol-water mixtures (pH 6.5..10)
Medium temperature	0..130 °C (max. 120 °C at 16 bar) As low as -10 °C only with spindle heating
Housing	Gray cast GG25/ EN-JL1040
Cone	Brass CW614N
Valve spindle	CrMo steel 1.4122
Stem seal	O-rings EPDM, maintenance-free

Dimensions

[illegible]

3.5 RD65..100 two-way valve with actuator

Application

The nodular iron two-way valves with an actuator are used for precisely regulating liquid and vapor flow rates.

3.5.1 Types

RD65..100 spheroidal cast iron two-way valve for MF250 actuator, for water up to 120 °C, 16 bar as well as for hot water and steam up to 200 °C, 13 bar.

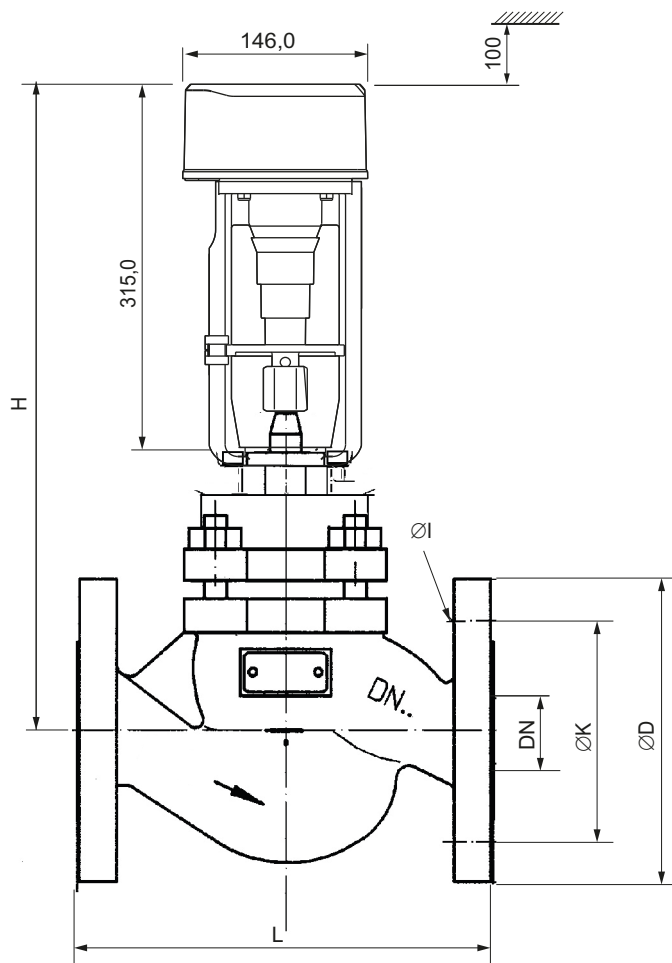
Type	DN	PN	Kvs	Δp (bar)	Weight (kg)
RD65	65	16	63	7.0	16.5
RD100	100	16	160	2.9	32.6



3.5.2 Technical Data: RD.. Valves

Nominal width	DN65..100
Pressure rating	PN16
CE marking	CE marking, notified body: 0045
Connection	Flange in accordance with DIN, PN16
Characteristic curve	Equal percentage
Positioning stroke	30 mm
Leak rate	In accordance with EN 1349, leakage class IV
Medium	Water up to 120 °C; 16 bar max. 50% glycol/water mixtures (pH 6.5..10) up to 120 °C; 16 bar Hot water and steam up to 200 °C; 13 bar
Medium temperature	0..200 °C As low as -10 °C only with spindle heating
Housing	Spheroidal cast iron GGG-40.3
Valve seat	Stainless steel 1.4021
Cone	Stainless steel 1.4021
Valve spindle	Stainless steel 1.4021
Stem seal	Chevron seals, Univerdit with PTFE bushing

Dimensions



DN	L	H	Ø D	Ø K	Ø I
65	290	437,5	185	145	4x Ø 18
100	350	472	220	180	8x Ø 18
Dimensions L to I in mm					

3.6 RGD50..100 two-way valve with actuator

Application

The nodular iron two-way valves with an actuator are used for precisely regulating liquid and vapor flow rates.

3.6.1 Types

RGD50..100 spheroidal cast iron two-way valve for MF250 actuator, for water up to 120 °C, 25 bar as well as for hot water and steam up to 200 °C, 20 bar.

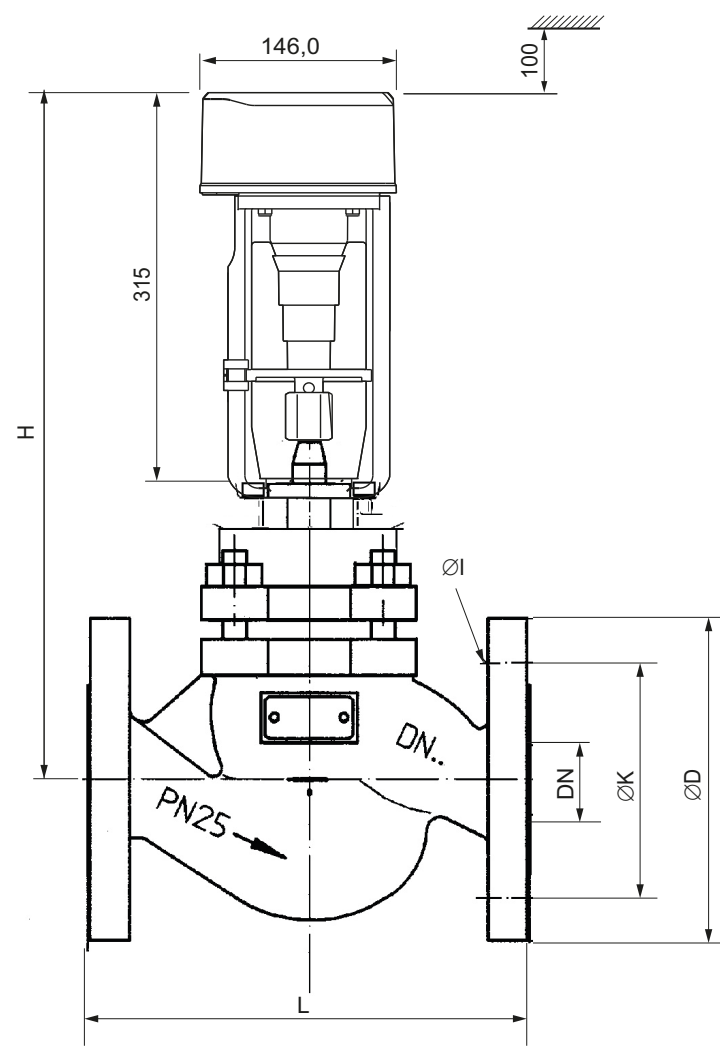
Type	DN	PN	Kvs	Δp (bar)	Weight (kg)
RGD50	50	25	40	11.7	11.2
RGD65	65	25	63	6.9	15.5
RGD80	80	25	100	4.5	21.5
RGD100	100	25	160	2.9	35



3.6.2 Technical Data: RGD.. Valves

Nominal width	DN65..100
Pressure rating	PN 25
CE designation	CE marking from DN32, notified body: 0525
Connection	Flange in accordance with DIN, PN25
Characteristic curve	Equal percentage
Positioning stroke	30 mm
Leak rate	In accordance with EN 1349, leakage class VI
Medium	Water up to 120 °C; 25 bar max. 50% glycol/water mixtures (pH 6.5..10) up to 120 °C; 25 bar Hot water and steam up to 200 °C; 20 bar
Medium temperature	0..200 °C As low as -10 °C only with spindle heating
Housing	Spheroidal cast iron GGG-40.3
Valve seat	Stainless steel 1.4021
Cone	Stainless steel 1.4571
Valve spindle	Stainless steel 1.4571
Stem seal	Chevron seals, Univerdit with PTFE bushing

Dimensions



DN	L	H	Ø D	Ø K	Ø I
50	230	422	165	125	4xØ18
65	290	437,5	185	145	8xØ18
80	310	453,5	200	160	8xØ18
100	350	472	235	190	8xØ22
Masse L bis I in mm					

3.7 RWG50..100 three-way valves with actuator

Application

The nodular iron three-way valves with actuator are used for precisely regulating liquid and vapor flow rates.

3.7.1 Types

RWG50..100 spheroidal cast iron three-way valve for MF250 actuator, for water up to 120° C, 25 bar, as well as for hot water up to 200° C, 20 bar

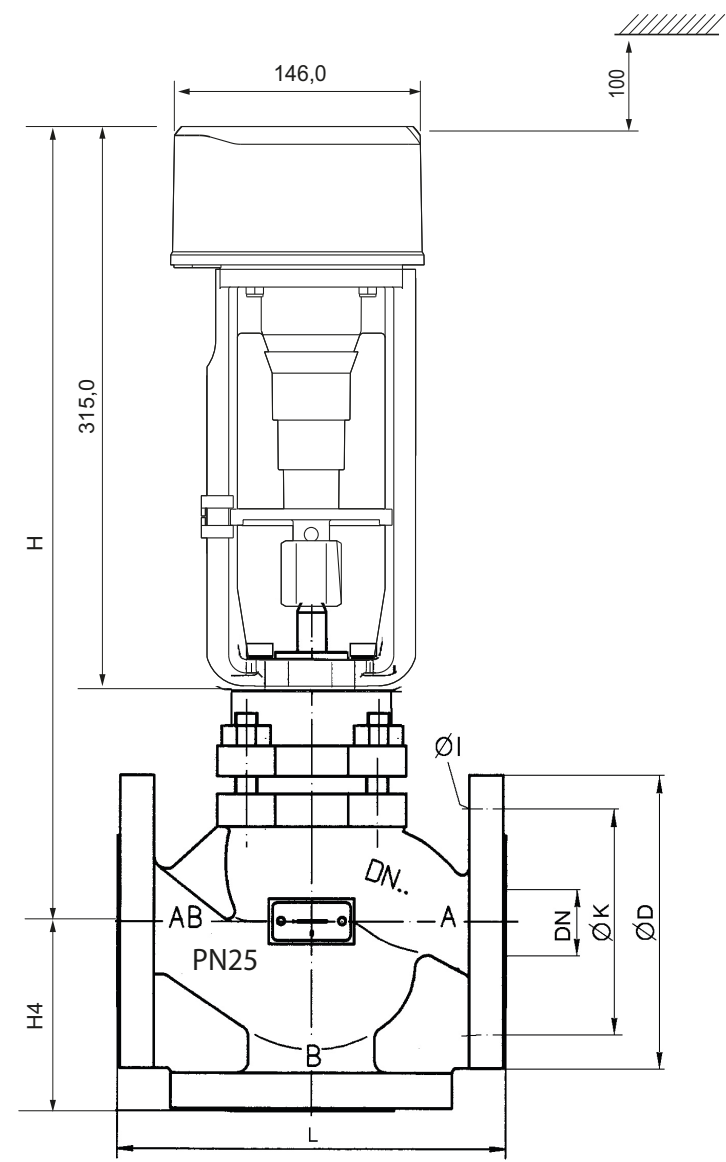
Type	DN	PN	Kvs	Δp (bar)	Weight (kg)
RWG50	50	25	40	11.7	16.8
RWG65	65	25	63	6.9	23.5
RWG80	80	25	100	4.5	30.6
RWG100	100	25	160	2.9	47



3.7.2 Technical Data for RWG Valves

Nominal width	DN50..100
Pressure rating	PN 25
CE marking	CE marking, notified body: 0045
Connection	Flange in accordance with DIN, PN25
Characteristic curve	Ports A → AB = equal percentage Gates B → AB = linear
Positioning stroke	30 mm
Leak rate	In accordance with EN 1349, leakage class VI
Medium	Water up to 120 °C; 25 bar max. 50% glycol/water mixtures (pH 6.5..10) up to 120 °C; 25 bar Hot water and steam up to 200 °C; 20 bar
Medium temperature	0..200 °C As low as -10 °C only with spindle heating
Housing	Spheroidal cast iron GGG-40.3
Valve seat	Stainless steel 1.4021
Cone	CrNi steel 1.4021
Valve spindle	Stainless steel 1.4571
Stem seal	Chevron sleeves Univerdit with PTFE bushing (maintenance-free)

Dimensions



DN	L	H	H4	Ø D	Ø K	Ø I
50	230	442,5	100	165	125	4 x Ø18
65	290	481	120	185	145	8 x Ø18
80	310	497	130	200	160	8 x Ø18
100	350	515,5	150	235	190	8 x Ø22
Dimensions L to I in mm						

3.8 RGDE25..100 two-way valve with actuator

Application

The nodular iron two-way valves with pressure-relief cone and with actuator are used for precisely regulating liquid, gas and vapor flow rates.

3.8.1 Types

RGDE25..100 spheroidal cast iron two-way valve for MF250 actuator, for water up to 120 °C, 25 bar as well as for hot water and steam up to 200 °C, 20 bar

Type	DN	PN	Kvs	Δp (bar)	Weight (kg)
RGDE25	25	25	10	20.0	7
RGDE32	32	25	16	20.0	9
RGDE40	40	25	25	20.0	12
RGDE50	50	25	40	17.5	15
RGDE65	65	25	63	17.5	25
RGDE80	80	25	100	16.5	34.5
RGDE100	100	25	160	12.3	48



NOTE

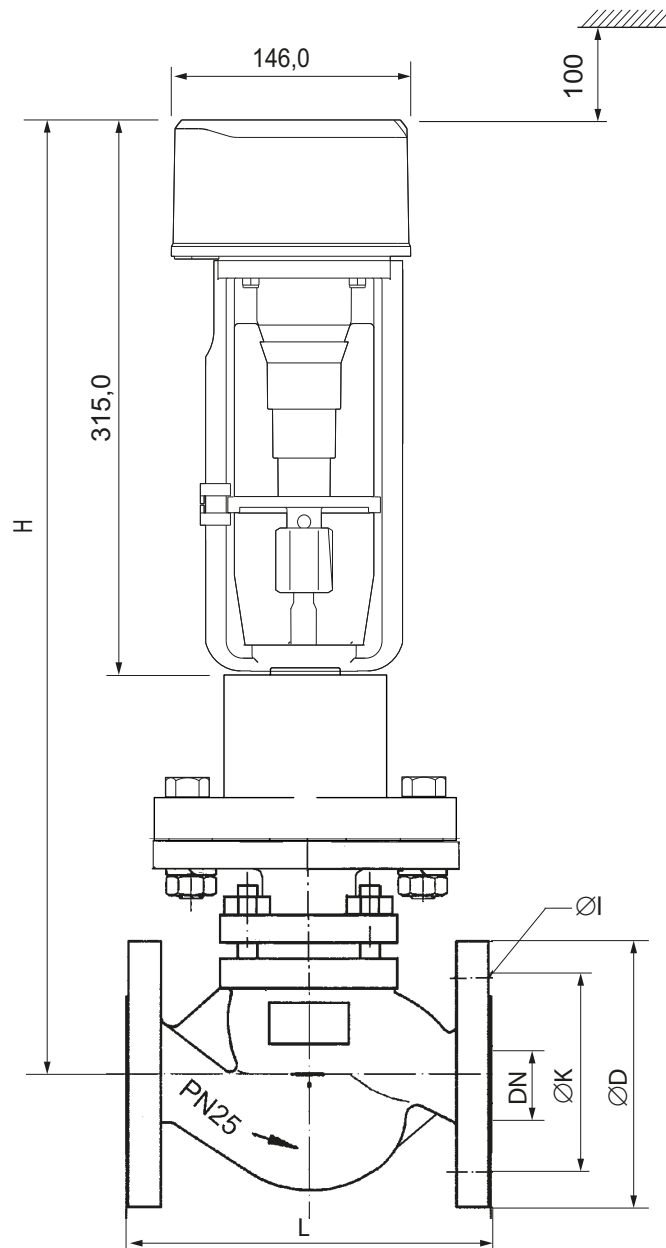
Z193 mounting kit required (see accessories page 12).

When valve/actuator combinations are delivered from the factory, the Z193 mounting kit is preassembled.

3.8.2 Technical Data for RGDE Valves

Nominal width	DN50..100
Pressure rating	PN 25
CE marking	CE marking, notified body: 0045
Connection	Flange in accordance with DIN, PN25
Characteristic curve	equal percentage
Positioning stroke	30 mm
Leak rate	In accordance with EN 1349, leakage class VI
Medium	Water up to 120 °C; 25 bar max. 50% glycol/water mixtures (pH 6.5..10) up to 120 °C; 25 bar Hot water and steam up to 200 °C; 20 bar
Medium temperature	0..200 °C As low as -10 °C only with spindle heating
Housing	Spheroidal cast iron GGG-40.3
Valve seat	Stainless steel 1.4021
Cone	CrNi steel 1.4021
Valve spindle	Stainless steel 1.4571
Stem seal	Chevron sleeves Univerdit with PTFE bushing (maintenance-free)

Dimensions



DN	L	H	Ø K	Ø D	Ø I
25	160	500.5	85	115	4 x Ø14
32	180	500.5	100	140	4 x Ø18
40	200	507.5	110	150	4 x Ø18
50	230	513.5	125	165	4 x Ø18
65	290	526.5	145	185	8 x Ø18
80	310	542.0	160	200	8 x Ø18
100	350	561.6	190	235	8 x Ø22
Measurements L to I in mm					

3.9 RBQ125..200 combo valves with actuator

Application

The two-way combo valves with actuator are used to set the volume flow rate and for automatic flow control independent of the differential pressure (hydraulic balancing).

The combo valve is used in air conditioning, cooling, and heating systems, e.g. central heating systems, floor heating systems, fan coil systems, cooling ceilings and fan convectors.



3.9.1 Types

RBQ125..200 gray cast iron combo valve usable for actuator MF250, for water up to 120 °C, 16 bar

Type	DN	PN	Volume flow rate range [l/h] min*..max	kvs	Control range [kPa]	Connection	Weight [kg]
RBQ125 (QFC DN125 1146154)	125	16	27000..108000	150.0	20..400	DN125 flange	72.0
RBQ150 (QFC DN150 1146155)	150	16	36000..150000	220.0	20..400	DN150 flange	85.0
RBQ200 (QFC DN200 1146156)	200	16	55000..190000	270.0	20..400	DN200 flange	150.0

* Recommended minimum setting value; using the actuator, the flow rate can be reduced from the setting value all the way down to full shut-off.



NOTE

Z226 mounting kit required (see accessories on page 12).



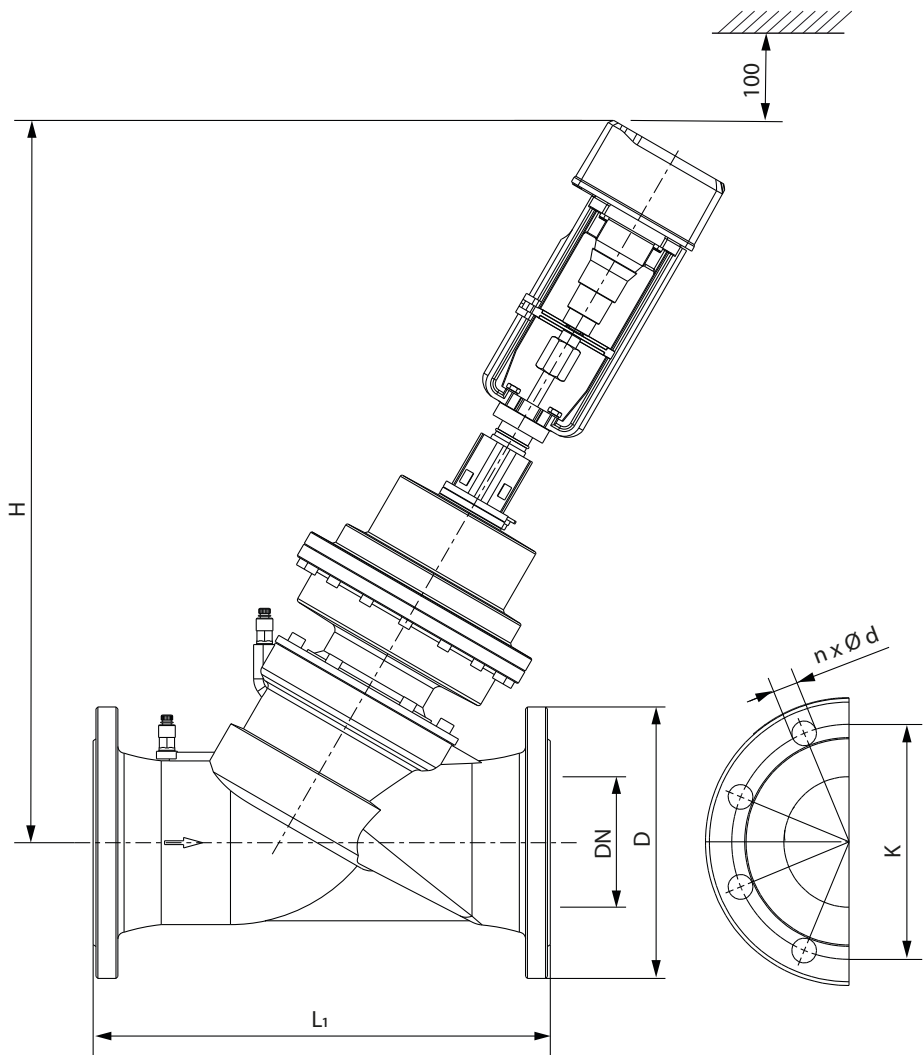
NOTE

Detailed descriptions regarding technical data, function, volume flow rate adjustment and dimensions for the RBQ combo valves can be found in the RBQ15..200 product description, document no. 3.10-20.000-01.

3.9.2 RBQ technical data

Operating temperature	RBQ125..200 (QFC125..200): -10..+120 °C
Max. operating pressure	16 bar (1600 kPa)
Max. differential pressure	4 bar (400 kPa)
Leak rate	0.01% of kvs
Positioning stroke	DN125: 36 m DN150, DN200: 40 mm
Medium	Water or water-propylene glycol mixtures and water-ethylene glycol mixtures (max. 50%, pH value 6.5 to 10)
Housing	Gray cast iron
Seals	Made of EPDM or PTFE

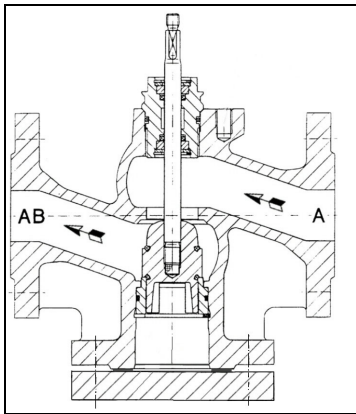
Dimensions



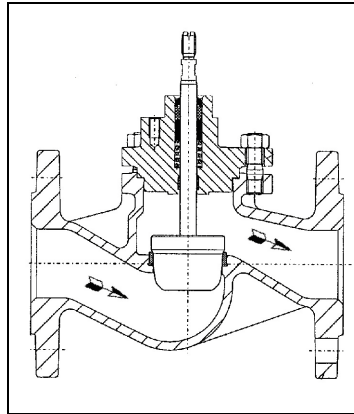
DN	L1 [mm]	H [mm]	D [mm]	K [mm]	n x Ød
125	400	758	250	210	8 x 19
150	480	758	285	240	8 x 23
200	600	803	340	295	12 x 23

3.10 Valve cross-sections with flow directions

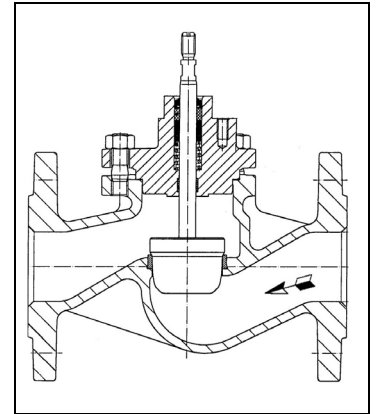
Two-way valves



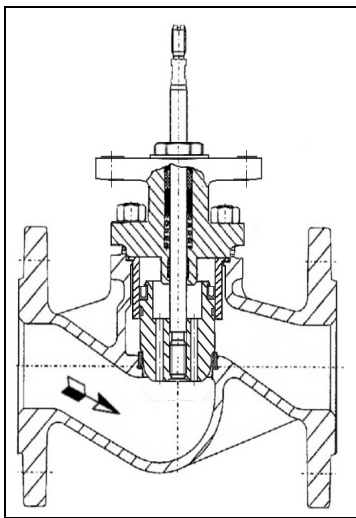
RK/RF..BF



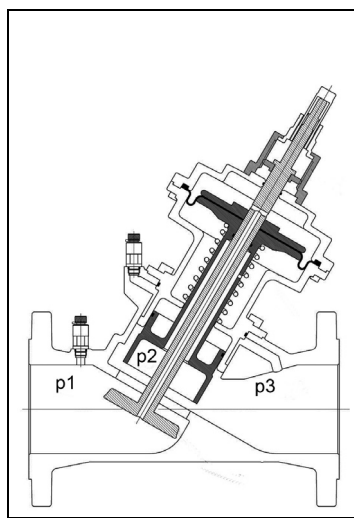
RD..



RGD..

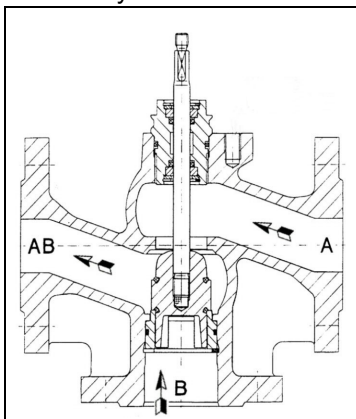


RGDE..

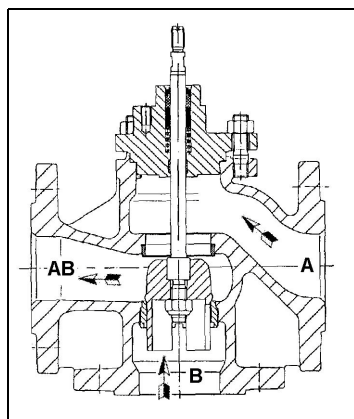


RBQ..

Three-way valves



RK/RF..



RWG..

4 Scope of delivery, transportation and storage



WARNING

Risk of injury due to weight load!

Persons who carry or hold a valve or an actuator/valve combination may be injured due to the heavy weight of the load. There is a risk of accidents with severe injuries and damage to property.

- ▶ Use suitable aids to lift and carry the valve or the actuator/valve combination.

Scope of delivery

The actuator can be supplied in different combinations with the valve or as a standalone product. The actuator and valve can also be ordered as a pre-assembled combination.

The maximum scope of delivery includes:

- MF250 actuator including:
 - Two hexagon screws ISO4017-M8x30-8.8
 - Two washers S8
 - One M16x1.5 screw connection
 - One union nut with washer, drive ring and cylindrical pin
- A two-way or three-way valve from the RK/RF/RD/RGD/RWG/RGDE/RBQ series
- MF250 operating instructions for actuators for valves from the RK/RF/RD/RGD/RWG/RGDE/RBQ series
- Mounting instructions for MF250

Unpacking

- ▶ Do not use damaged deliveries and get in touch with your contact at Kieback&Peter.
- ▶ Dispose of packaging material according to local regulations.

Repackaging

- ▶ Use suitable packaging material to facilitate the transportation and to protect the product from damage.

Transportation

- ▶ Maintain the specified ambient temperature of -20..+60 °C and ambient humidity of 0..85% r. F., non-condensing.
- ▶ Avoid slipping.

Storage

- ▶ Maintain the specified ambient temperature of -20..+50 °C and ambient humidity of 0..85% r. F., non-condensing.

5 Valve Mounting



CAUTION

The valve may only be installed by qualified technicians. In addition to the generally valid installation guidelines, the following points are to be observed:

- The valve gates come with protective caps to protect against contamination. They are to be removed before the valve is mounted.
- The pipeline system and the interior of the fitting must be free of foreign objects. In the case of contaminated media, dirt traps are to be inserted before the valves.
- There must be no tensions between the fitting and the pipeline connection.
- Only use flange seals which fit precisely and insert the valve flanges centrally.
- To prevent vortex formation in the valve bodies, these should be inserted in a straight length of pipe. The guideline value 10 x the nominal width is used as the measurement between the valve flange and the manifold.
- The installation location is to be selected so that the ambient temperature at the actuator is kept between 0°C and +55°C.
- When carrying out mounting, the permissible max. pressure difference Δp and the specified flow direction must be taken into account (see table in “Types” section as well as “Valve Principle”).
- The three-way valves are to be used as mixing valves. Please observe the flow direction (see fig. “Valve Principle”).
- The actuator can be fitted vertically above and below the fitting up to the horizontal position. If installed horizontally, the actuator columns must be positioned one on top of the other vertically. If necessary, turn the beam after loosening the fastening nut.
- To remove the actuator cover, you need 100 mm of free space above the actuator.
- The delivery includes a protective box for the actuator. Before commissioning, this cover serves as actuator protection during the construction phase and piping work.
- Observe the direction of flow arrow on the valve body. A reverse flow direction will impair the control performance!

5.1 Mounting the actuator



CAUTION

Risk of injury caused by unexpected movements of the actuator!

The actuator may only be mounted in the de-energized state!



NOTE

The actuator is delivered in a protective box.

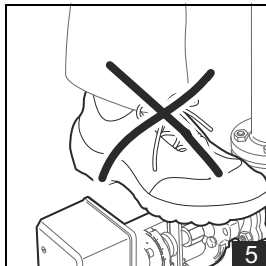
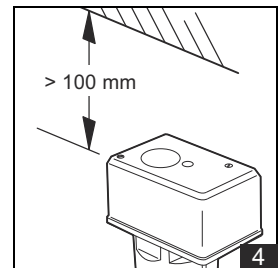
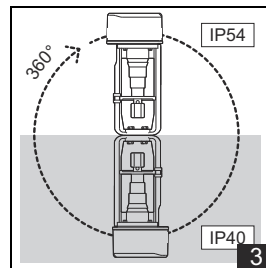
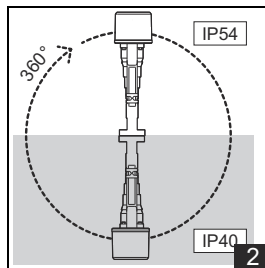
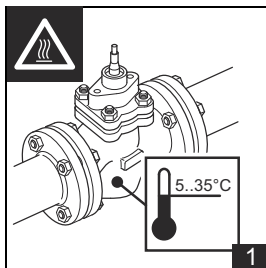
Use this box to protect the actuator until commissioning.

Preparatory tasks

Perform the following preparatory tasks to mount the actuator on a valve in a plant that is in operation:

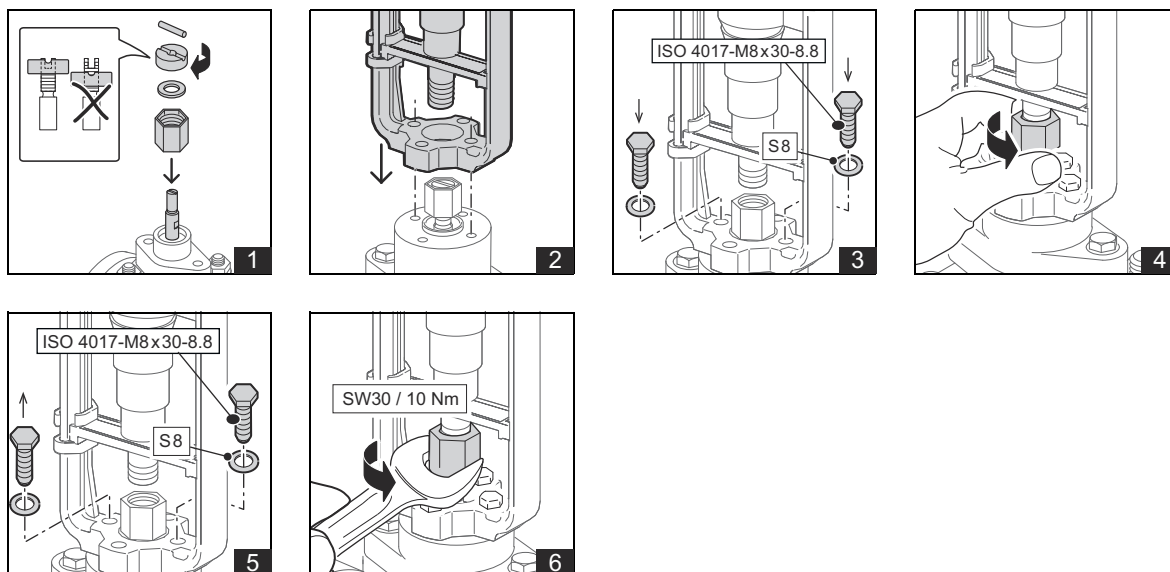
- ▶ Before starting the tasks, ensure that there is no buildup of differential pressure in the valve body.
 - ▶ Close the gate valve and turn off pumps.
- ▶ Allow the valve and pipelines to cool down.

Installation instructions



- ▶ **1** After the pipeline has cooled off, the actuator can be mounted.
- ▶ **2** to **3** These installation positions are permitted.
- ▶ **4** Mount the device so that there is a clearance of at least 100 mm above it.
- ▶ **5** Do not use the actuator as a step or shelf.

Mounting



- ▶ **1** Position the union nut above the valve spindle. Insert the circlip into the union nut. Position the drive ring on the valve spindle. Position the locking pin.
- ▶ **2** Position the actuator on the valve. Ensure that the actuator beam is resting on the valve beam without any tension.
- ▶ **3** Install washers S8 and screws ISO4017-M8x30-8.8 and tighten them by hand.
- ▶ **4** Tighten the union nut by hand.
- ▶ **5** Tighten the ISO4017-M8x30-8.8 screws to a tightening torque of 14.0 Nm using an open-ended wrench.
- ▶ **6** Tighten the union nut using a size 30 open-end wrench and a tightening torque of 10.0 Nm.



NOTE

For RBQ125..200 valves, the Z226 adapter must be installed first. For further information, see the Z226 mounting instructions, document no. 3.10-20.030-99.

6 Connecting the actuator and putting it into operation

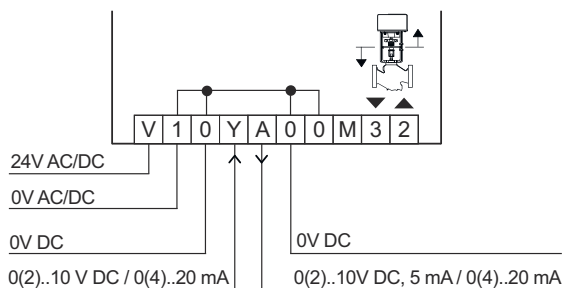
6.1 Connection diagrams



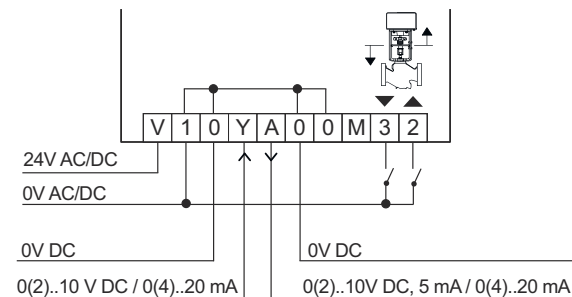
NOTE

Y = DC 10 V or connection terminal 2 occupied = valve spindle pulled (factory setting B3 = OFF)
Y = DC 0 V or connection terminal 3 occupied = valve spindle pushed (factory setting B3 = OFF)

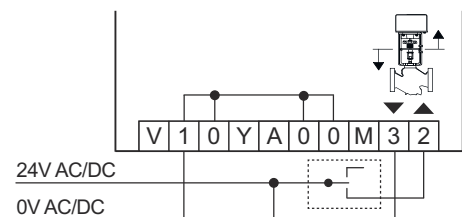
Constant operation mA/V (0..100 %)



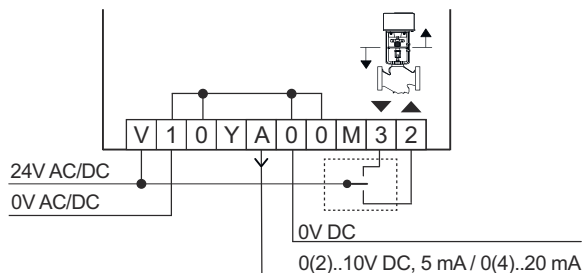
Priority switching (open/closed)



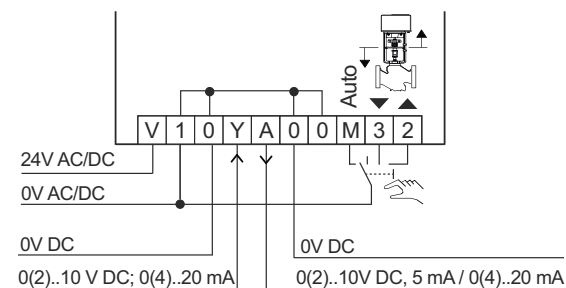
2-point operation (open/closed)



3-point operation (open/stop/closed)



Manual operation with operating mode switch (auto/stop/closed/open)



NOTE

The display of the "pull" and "push" adjustment directions for the connection diagrams on terminals 2 and 3 refers to the factory setting B3 = OFF. At B3=ON, the actuating direction is inverted.



CAUTION

A reinitialization must be triggered in the event of rewiring.



NOTE

When using the measurement of the 0(4)..20 mA current as position feedback, the load resistance of the measuring input must be between 0.5 k Ω and 1 k Ω to avoid false measurements.

6.2 Electrical connection



CAUTION

Electrical installation and device connection may only be carried out by qualified technicians, e.g. an electrician. Ensure that this process complies with guidelines from the VDE (Association for Electrical, Electronic & Information Technologies) and local wiring regulations.



NOTE

The cable cross-section has to be at least 0.75 mm². You may need to consider adjusting the cable cross-section, depending on the length of the cables. Please observe the applicable installation specifications outlined in the applicable VDE guidelines for each respective use case.



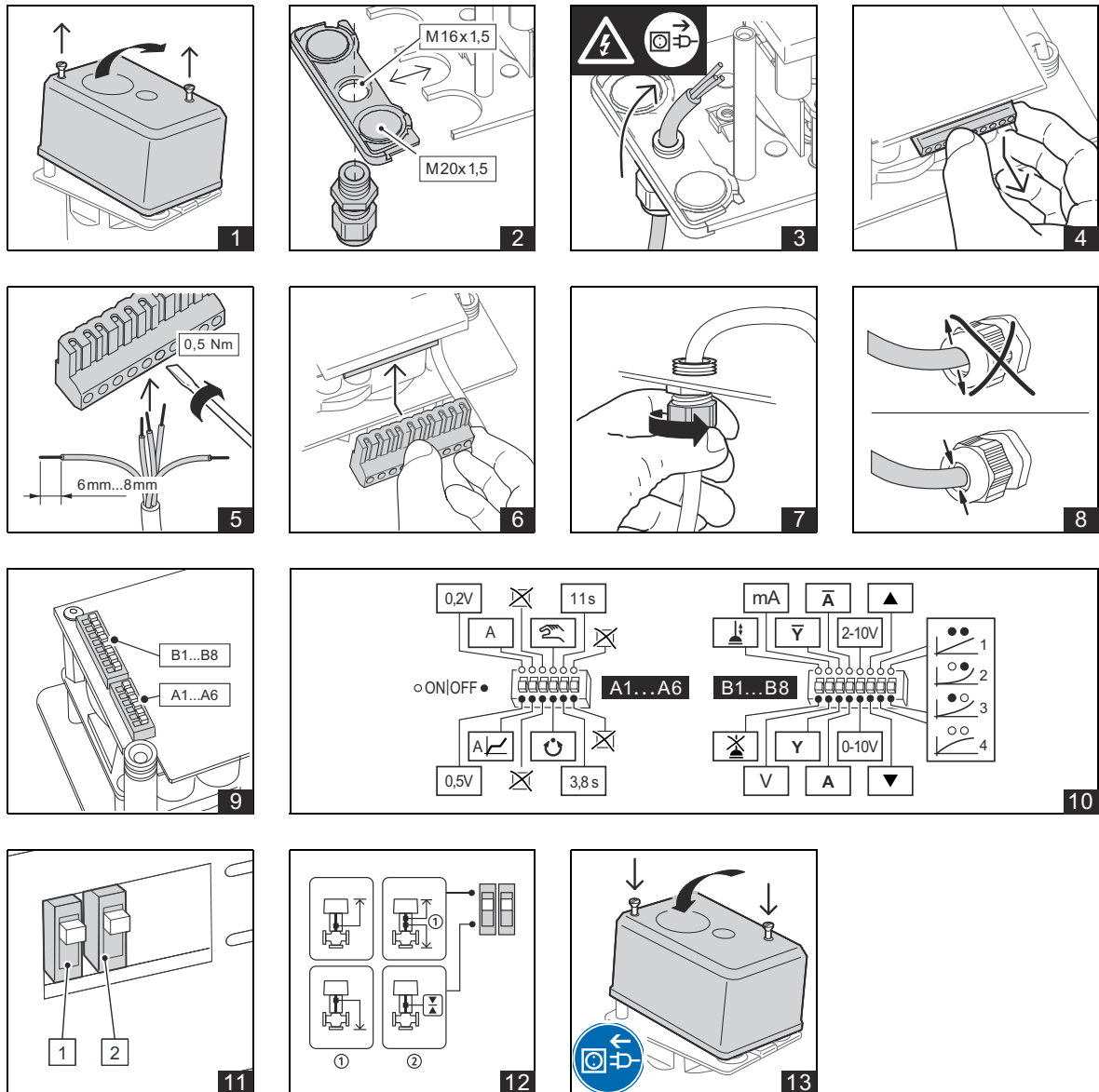
CAUTION

The electrical connection for the actuator must be a fixed installation and connected to a valve.

An M16x1.5 screw fitting is included with the delivery of the actuator as a strain relief device.

The electrical connection is established using screw terminals (connection diameter 0.3..2.3 mm).

■ Electrical connection MF250



- ▶ **1** Loosen both screws and remove the actuator cover.
- ▶ **2** Install the cable gland.
- ▶ **3** Insert the connection line through the cable gland.
- ▶ **4** Remove the connector from the actuator.
- ▶ **5** Carry out the electrical connection of the actuator as a fixed installation.
- ▶ **6** Insert the pre-assembled connection plug.
- ▶ **7 8** Tighten the cable gland by hand until it tightly closes the cable.
- ▶ **9 10** Adjust the actuator functions using the DIP switches (see page 35).
- ▶ **11 12** Adjust the emergency control function using the DIP switches (see page 36).
- ▶ **13** Return the actuator cover to its original position and fasten with two screws. Switch on the power supply.

6.3 Commissioning

6.3.1 Commissioning steps

Adjustment of the actuator functions

The preset actuator functions can be adapted with DIP switches A and B.

The switches are located under the actuator cover on the side of the circuit board.



CAUTION

Risk of short circuit! The tool used to actuate the DIP switches must not contact any conductive areas of the printed circuit board.

Function switch position ON	Switch (A)	Function switch position OFF (factory setting)
No function		No function
11 s/mm (triggers init.)		3.8 s/mm (triggers init.)
Manual adjustment		Automatic mode
No function		No function
Feedback: absolute position *1)		Feedback: relative position *2)
Hysteresis: 0.2 V (0.4 mA)		Hysteresis: 0.5 V (1 mA)

*1) Absolute position:

Regardless of the set valve characteristic curve, Y_{out} may deviate from Y_{in} when the setting position is reached. Example: equal percentage characteristic curve:

$Y_{in}=4\text{ V} \rightarrow Y_{out}=3.5\text{ V}$

*2) Relative position:

Regardless of the set valve characteristic curve $Y_{in} = Y_{out}$ when the setting position is reached.

Function switch position ON	Switch (B)	Function switch position OFF (factory setting)
Characteristic curve *3)		Characteristic curve *3
Characteristic curve *3)		Characteristic curve *3)
Safety end position: pull		Safety end position: push
Setting range ($Y_{in} + Y_{out}$): 2..10 V (4..20 mA) $\rightarrow$ 0..100 % *4)		Setting range ($Y_{in} + Y_{out}$): 0..10 V (0..20 mA) $\rightarrow$ 0..100 %
Inversion (Y_{out}): 0 100% $\rightarrow$ 10..0 V (0..20 mA)		Inversion (Y_{out}): 0..100 % $\rightarrow$ 0..10 V (0..20 mA)
Inversion (Y_{in} and terminal 2, 3): *5) 0..10 V (0..20 mA) $\rightarrow$ 100..0 %		Inversion (Y_{in} and terminal 2, 3): 0..10 V (0..20 mA) $\rightarrow$ 0..100 %
Signal ($Y_{in} + Y_{out}$): mA		Signal ($Y_{in} + Y_{out}$): V
VBS: On		VBS: Off

*3) Adjusting the characteristic curve

DIP switch B7	DIP switch B8	Characteristic curve
OFF	OFF	Characteristic curve 1
ON	OFF	Characteristic curve 2
OFF	ON	Characteristic curve 3
ON	ON	Characteristic curve 4



NOTE

The characteristic curve to be set always depends on the system hydraulics and must be adapted individually. In most use cases, the characteristic curve 1 (factory setting) is recommended, not inverted (DIP switch B3 = OFF).

*4) Setting range (Yin + Yout):

If the setting range of 2..10 V (4..20 mA) is switched on, the wire breakage detection is active. In this case, if the controller outputs 0 V (mA) instead of 2 V (4 mA) for 0%, the actuator does not move to the 0 position, but to the set safety limit position (see page 40).

*5) Inversion of the Yin actuating signal and at terminals 2 and 3.



NOTE

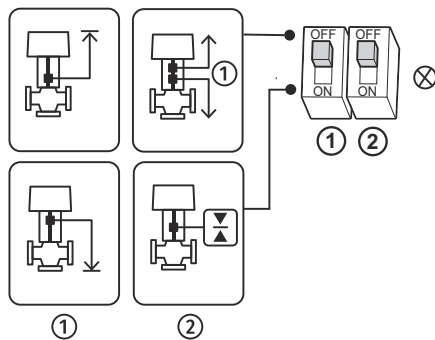
Y = DC 10 V or connection terminal 2 occupied = valve spindle pulled (factory setting B3 = OFF)

Y = DC 0 V or connection terminal 3 occupied = valve spindle pushed (factory setting B3 = OFF)

Adjustment of the emergency control position

The emergency control position can be adjusted with DIP switches 1 and 2.

The DIP switches are located laterally under the actuator cover.



DIP switch	Position	Description
1	OFF	Actuator retracts without current (pull), upper emergency control position
1	ON	Actuator extends without current (push), lower emergency control position
2	OFF	DIP switch position 1 effective
2	ON	Move the actuator to the required position using the control signal. After that, dip switch 2 has to be set from OFF to ON. The present position is then stored as the new emergency control position.

Factory setting: all DIP switches in the OFF position

Switching on the power supply

The LED (1) flashes green.

Initialization, adjustment to the valve stroke

The one-off initialization run for adjusting to the valve stroke starts automatically during initial commissioning.

Initialization only occurs if the actuator is in automatic mode (see manual adjustment / automatic mode page 35).

During the initialization the valve is opened once fully and closed. The stroke is learned.

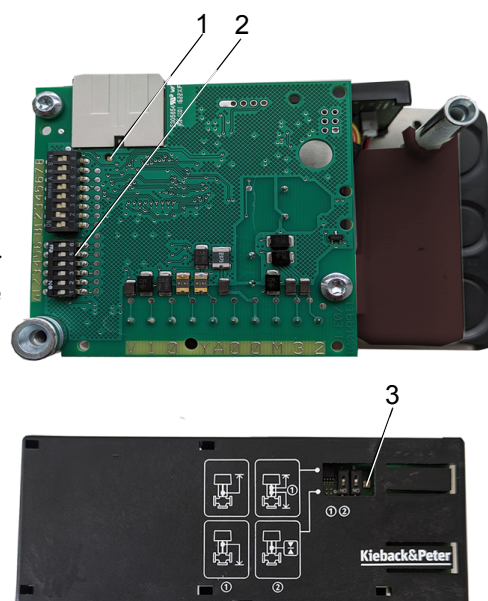
The LED (1) flashes green during the initialization run.

If the battery does not have sufficient energy, the actuator remains in the preset emergency control position after the initialization.

In this case, the feedback is passed via Yout with a signal of approx. 12.5 V or 0 mA. LED (1) alternately lights up red and green and LED (3) flashes red.

After 0.5 h at the latest, the actuator follows the control signal to a limited extent insofar as the charge of the energy storage unit allows this.

The feedback via Yout corresponds to the control position. After 6 h at the latest, the energy storage unit is fully charged and LED (1) lights up green and LED (3) is off.



- (1) LED base card
- (2) DIP switch A5
- (3) LED energy memory card



NOTE

When the unit is remounted (or after any settings for the maximum flow value on the valve have been changed), you must adapt the valves again by performing a reinitialization.

- ▶ To do this, switch DIP switch A5 (2) back and forth (change the switch position).



CAUTION

During the automatic initialization run and the charging of the energy storage unit, the power supply must not be interrupted or clocked when the unit is put into operation for the first time or after a manual triggering of an initialization.

Due to voltage interruption or clocking during initialization, the initialization run will be interrupted and the valve adaptation will not be carried out completely.

6.3.2 Status of the LED displays

LED on the base card under the actuator cover, see page 37 (1)	LED on energy storage card under the hood on the side of the actuator, see page 37(3)	Meaning
Normal operation		
LED constant green	not relevant	Actuator is in trouble-free regular mode (automatic mode)
LED constant green	LED constant green	During trouble-free regular mode, the actuator is situated at the exact stroke position which corresponds to the emergency control position set on the module (visualization or control of the set emergency current end position)
Status notifications		
LED flashing green (1 s interval)	not relevant	Actuator is in initialization (valve adaptation), VBS (valve blocking protection) or safety end position
LED flashing green rapidly	LED off	Actuator moves into emergency control position after the failure of the operating voltage
LED flashing green rapidly	LED constant green	Actuator in the emergency control position during the failure of the operating voltage (if the operating voltage continues to fail, the LEDs and position feedback deactivate after 1 h)
LED constant red	not relevant	Insoluble blockage
LED flashing red (1 s interval)	not relevant	Initialization failed
LED flashing red rapidly	not relevant	Operating voltage is too low
LED constant green + LED flashing red (1 s interval) = LED flashing green / orange	not relevant	Actuator in manual adjustment or manual operation (stop)
LED constant green + LED flashing red rapidly = LED flashing green / orange rapidly	not relevant	Wire break detection when DIP switch is set to B5 = ON and $I_{in} < 1\text{ V}$ and/or 2 mA
LED constant red + LED flashing green rapidly = LED flashing red / orange rapidly	LED constant red	Energy storage unit faulty; replacement of actuator necessary
LED alternately flashing red and green.	LED flashing red	too little energy for a complete emergency control sequence, energy storage unit is charged; in this state, the actuator only follows the applied control signal again when there is sufficient charge

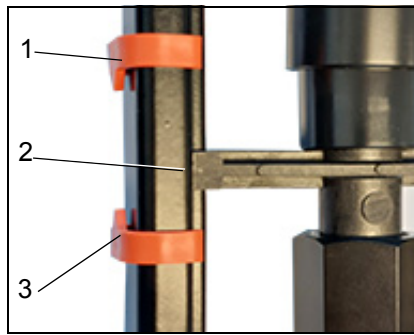


CAUTION

If the energy storage unit is faulty or requires replacement, an authorized service technician must repair the fault. Contact your supplier.

6.4 Actuator functions

Position display at the actuator



- (1) Position mark for upper valve position
- (2) Current stroke position
- (3) Position mark for lower valve position

Automatic removal algorithm for blocking with malfunction message

If a blocking by foreign bodies in the pipeline occurs within the valve lift, the actuator signals this fault at the connection terminal A by the following feedback signals:

- approx. 12.5 V DC, if the signal is set to V (B2=OFF)
- 0 mA if the signal is set to mA (B2=ON)

Using an automatic rectification algorithm, the actuator then attempts to remove the valve blockage itself several times by raising the poppet for a brief period of time.

Switchable limit position hysteresis

The limit position hysteresis is the point at which the actuator travels to the limit position.

For the hysteresis, the values 0.5 V (1 mA) or 0.2 V (0.4 mA) are set via DIP switch A1.

Example: At hysteresis 0.5 V, the limit position is approached at $Y_{in} < 0.5 \text{ V}$ and $> 9.5 \text{ V}$.

Feedback

The feedback is inverted separately from Y_{in} via DIP switch B4.

The feedback output can be switched between absolute and relative position via DIP switch A2. The signal is output in 2..10 V or 4..20 mA when DIP switch B5 is in the ON switch position.

Emergency control mode

In the event of a power failure, the actuator moves to the predetermined emergency control position.

After reaching the emergency control position, the status of the LED indicators deactivate after approx. 1 h.

The emergency control position is set with the DIP switches on the energy storage card, see page 36.

If the emergency control function has been triggered and the rated current returns, a partial initialization to the nearest end position takes place and the energy storage unit is charged. If the energy storage unit does not have sufficient energy to drive to the emergency control position again, the actuator remains in the preset emergency control position after the partial initialization.

After 0.5 h at the latest, the actuator follows the control signal to a limited extent insofar as the charge of the energy storage unit allows this. After 6 h at the latest, the energy storage unit is fully charged.

The operating states are indicated by the status LED, see page 38.

Manual mode

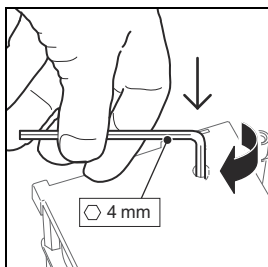
You can switch from automatic operation to manual operation using an external operating mode switch (see page 32). The actuator is then activated or set to stop via the electrical connections on terminal 2 or 3. The continuous Y input signal is overlaid. In manual mode, there are the states **auto-matic mode / stop / shut / open**.



NOTE

The limit position will resynchronize by moving to the safety limit position when changing from stop to automatic operation.

Manual adjustment



To adjust manually, remove the actuator cover and set DIP switch A4 to the ON position (manual adjustment). You can move the actuator to any position using an Allen key (4 mm socket).

Priority switching

Priority switching at terminals 2 or 3 (page 32) is a direct control and overlays the constant Y input signal for a valve position Open or Closed (e.g. frost protection or limitation).

VBS (valve blocking protection)

If plant specifications permit, the valve blocking protection feature may be activated during commissioning.

Valve blocking protection prevents the poppet from jamming when the valve is not moved for a long period of inactivity, e.g. for heating systems during the summer.

If the valve blocking protection is activated, the valve poppet is raised one half stroke and back if no stroke movement has been performed within 21 days.

This functionality can be switched on via DIP switch B1.

Safety limit position / resynchronizing the limit position

Operating mode	Behavior
Continuous control / Automatic operation	After a voltage reset, after ending manual operation (stop) or after ending manual adjustment using the DIP switch, the limit position is resynchronized by way of movement to the safety limit position.
2- or 3-point control / automatic operation	After using the DIP switch to end manual adjustment, the limit position is resynchronized by way of movement to the current limit position.
Manual operation (open/closed) or priority switching (open/closed)	After ending manual adjustment via the DIP switch or after a voltage reset, the limit position is resynchronized by way of movement to the current limit position.

The direction of the safety limit position can be set via DIP switch B6.

In addition, the safety limit position is approached if a wire breakage is detected (see wire breakage detection).

In this case, the feedback is passed via Yout with a signal of approx. 12.5 V or 0 mA, depending on the position of DIP switch B2.

Dynamic Yin damping / compensation for external interferences

To prevent the actuator from linking external interferences on control line Y, the input hysteresis band is automatically enlarged.

If the fault no longer occurs, the hysteresis is reset to minimal values again.

This function largely prevents external interferences, and unnecessary temperature fluctuations and actuator and valve wear are avoided.

Wire breakage detection

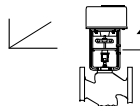
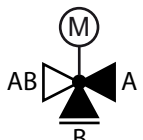
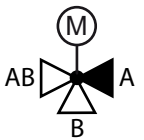
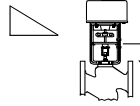
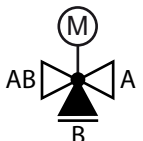
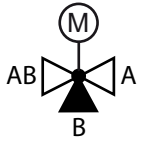
This function is active by setting the setting range to 2..10 V or 4..20 mA (DIP switch B5).

If no input signal is detected in continuous operation, the actuator moves into the safety limit position. This limit position can be selected with the switches B6 (factory settin: pull).

In this case, the feedback is passed via Yout with a signal of approx. 12.5 V or 0 mA.

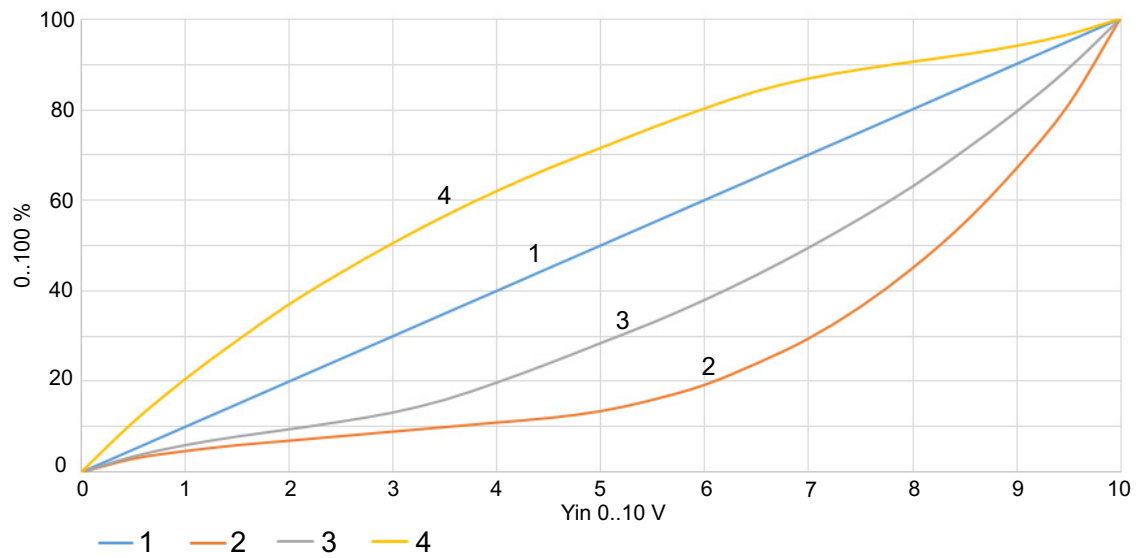
Inversion (OFF or ON) of the actuating direction

The following flow directions can be achieved by inverting the control signal Yin = 0..10 V (0..20 mA) or terminals 2 and 3 using DIP switch B3:

Actuating direction	Two-way valve			Three-way valve
	RD/RGD/ RGD..	RBQ..	RK-BF/RF-BF..	RK/RF..
DIP switch B3 = OFF  Y = 10 V DC (20 mA), voltage at terminal 2				
DIP switch B3 = ON  Y = 10 V DC (20 mA), voltage at terminal 2				
 = open  = closed  = sealed at the flange				

Characteristic curves 1 to 4

- DIP switch B3 = OFF

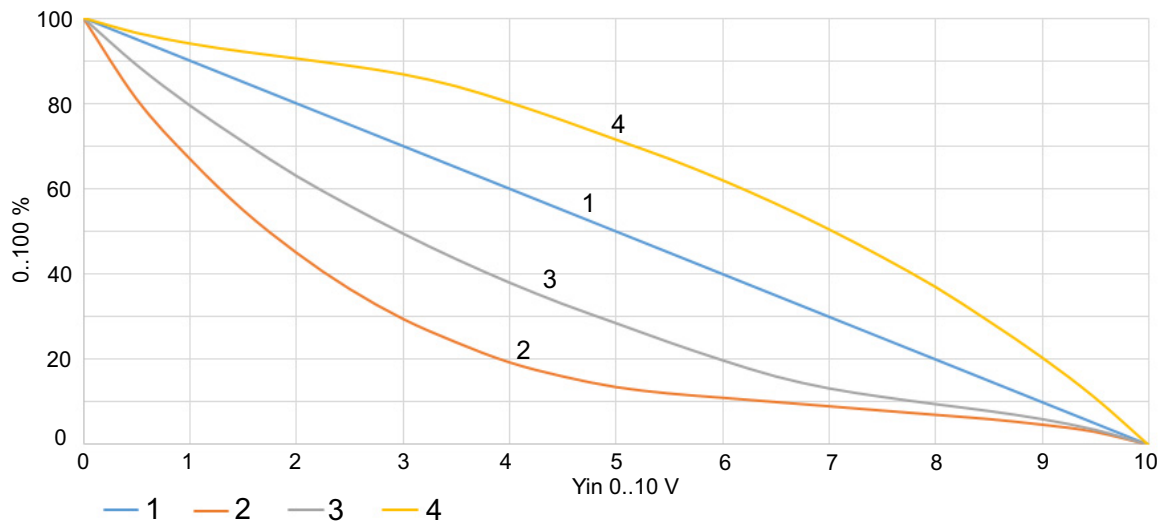


NOTE

Characteristic curves can be inverted at any time using DIP switch B3

Characteristic curves 1 to 4 inverted

- DIP switch B3 = ON



6.5 Priorities of operating mode feedback

Priority	Operating mode	Feedback signal
1	Manual adjustment	Malfunction message 12.5 V or 0 mA
2	Emergency control mode	Position 0..100 %
3	Init. (Automatic or via DIP switch)	Malfunction message 12.5 V or 0 mA
4	Priority switching 2 = 0 V (pull valve spindle)	Position 0..100 %
5	Priority switching 3 = 0 V (press valve spindle)	Position 0..100 %
6	Manual operation (stop) M = open (only after M was 0 V (wire breakages))	Malfunction message 12.5 V or 0 mA
7	VBS	Position 0..100 %
8	2P/3P operation 2 = 24 V (pull valve spindle)	Position 0..100 %
9	2P/3P operation 3 = 24 V (press valve spindle)	Position 0..100 %
10	Constant control (Yin)	Position 0..100 %

7 Maintenance

Maintenance

The actuator does not require maintenance.

Cleaning

The actuator does not require cleaning.



NOTE

Regular inspection of the plant, including functional testing of the actuator, is recommended.

8 Faults and remedial measures



WARNING

Hot and cold surfaces!

If a hardware or software error occurs, there may be unexpected movements and the valve may open. There is a risk of severe burns or hypothermia from contact with hot or cold surfaces on the valves and pipelines.

- ▶ Wear protective gloves

Error	Cause	Rectification
Actuator not moving, LED off	Power outage	▶ Determine the cause and rectify it.
	Actuator is connected incorrectly	▶ Check the connection and correct.
	Main circuit board defective	▶ Contact your Kieback&Peter contact person.
Actuator not moving, LED alternately flashing green/orange	Due to the later removal of the wire jumper, the actuator is in manual mode (stop)	▶ Trigger initialization or set the bridge between 0 and M
Actuator not moving, LED alternately flashing green/orange	Actuator is not in automatic mode	▶ Set DIP switch position A4 to OFF
Actuator instable when running	Voltage drop due to the connection line being too long and/or the cross section being too small	▶ Measure the operating voltage. Recalculate the electrical connection lines and replace.
	Power supply fluctuations greater than the permitted tolerance	▶ Improve the electrical system conditions.
Actuator stops every so often	Supply line has a loose connection	▶ Check and tighten the connections to the terminal strip.
Actuator not moving or not moving correctly to the valve position dictated by the input signal, valve not closing or opening	Valve is jammed	▶ Ensure the valve can travel freely or replace the valve.
	Pressure difference too high	▶ Set the pressure difference correctly.
	Main circuit board defective	▶ Contact your Kieback&Peter contact person.



NOTE

The LED described here refers to LED (1) of the base card under the actuator cover, see page 37.

9 Repair

At the installation location, the valve/actuator combination can only be repaired by replacing the valve or actuator. Get in touch with your contact at Kieback&Peter.

10 Decommissioning, Removal and Disposal

10.1 Shutdown and dismantling of the actuator



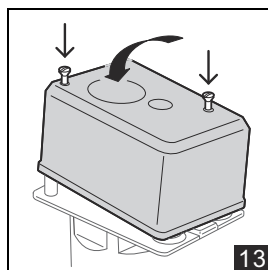
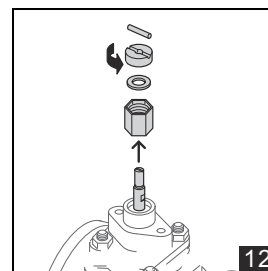
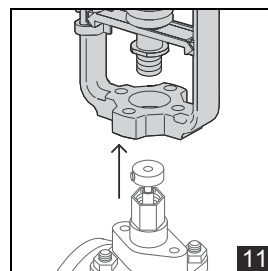
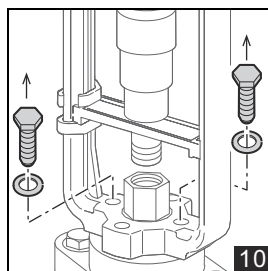
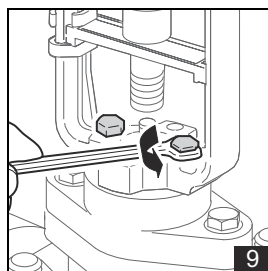
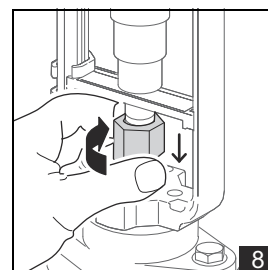
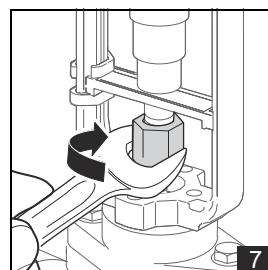
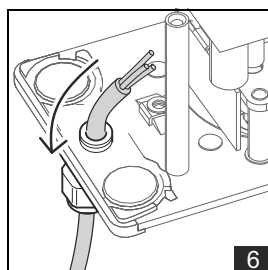
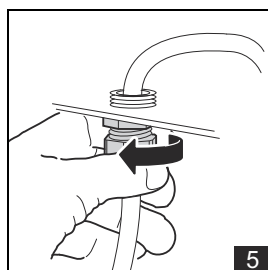
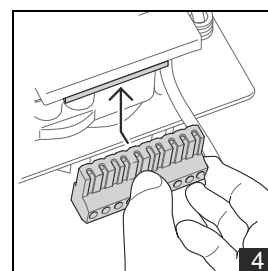
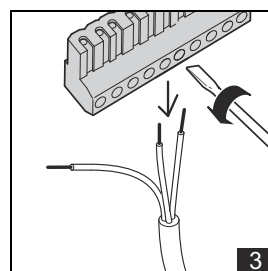
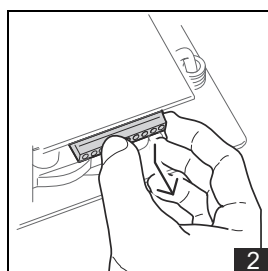
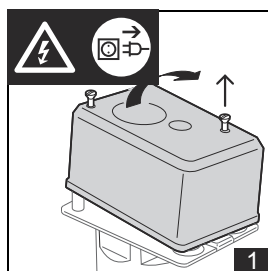
WARNING

Hot and cold surfaces!

If a hardware or software error occurs, there may be unexpected movements and the valve may open. There is a risk of severe burns or hypothermia from contact with hot or cold surfaces on the valves and pipelines.

- ▶ Wear protective gloves

- Before beginning to dismantle the unit, make sure that no differential pressure builds up in the valve body before beginning work. If necessary, close the gate valve and turn off pumps. After the pipeline has cooled off, you can begin to dismantle the actuator.



- ▶ **1** Disconnect the actuator from power.

The actuator moves to the predetermined emergency control position.

Once the emergency control sequence is over, loosen both screws and remove the actuator cover.



NOTE

If the actuator is in a valve end position, use the Allen wrench to move the actuator into a central position (see page 40).

- ▶ **2** Remove the connector from the actuator.
- ▶ **3** Loosen the electrical connections from the connector.
- ▶ **4** Re-insert the connector.
- ▶ **5** **6** Remove the cable gland and disconnect the connection cable from the actuator.
- ▶ **7** **8** Loosen the union nut.
- ▶ **9** Loosen the console screws.
- ▶ **10** Remove both console screws together with the washers
- ▶ **11** Remove the actuator from the valve.
- ▶ **12** Remove the drive ring, circlip and the union nut from the valve spindle.
- ▶ **13** Return the actuator cover to its original position and fasten with two screws.



NOTE

For RBQ125..200 valves, the Z226 adapter also has to be removed.

10.2 Remove the valve

- ▶ No differential pressure must occur on the valve body. Close the gate valve and turn off pumps.
- ▶ Loosen the screw fittings between the pipeline and the valve connections.
- ▶ Remove the valve from the pipeline.

10.3 Notes on disposal

In accordance with the applicable laws and directives of the European Union countries, the product should not be disposed of with household waste. This ensures environmental protection and sustainable recycling of raw materials. Commercial users should contact their supplier and observe the conditions of the purchase agreement. This device may not be disposed of together with other commercial waste.

11 Contact persons

Orders and questions

If you want to submit an order, have questions or require technical information, please contact your Kieback&Peter contact person.

Repair service

If your device has a defect, contact your Kieback&Peter contact person to clarify how to proceed.

12 Declaration of conformity



EN

Kieback&Peter



EU-DECLARATION OF CONFORMITY

Kieback&Peter GmbH & Co. KG
Tempelhofer Weg 50
12347 Berlin / Germany

Authorized Representative for Documentation:
Lydia Bruchno / Eva Franke

declares in sole responsibility that the designated product

Actuator

MF250

in combination with the valves of the series

RK/ RF/ RD/ RGD/ RWG/ RGDE/ RBQ

to which this declaration refers, corresponds to the requirements which are stipulated in the following European directives:

- 2006/42/EG Directive Machinery
- 2014/35/EU Low Voltage Directive
- 2014/30/EU electromagnetic compatibility
- 2011/65/EU Restriction of certain Hazardous Substances

Harmonised standards applied:

DIN EN 60730-2-14: 2023-03
DIN EN ISO 12100: 2011-03

Signed for and on behalf of:

Berlin,
16/02/26

(ppa. Philipp Menzel)
Managing Director
Product & Solutionmanagement

(ppa. Rainer Mahling)
Managing Director
Solution & Support Center

Index

A

Actuator	
Mounting	30

C

Connection diagrams	32
Contact persons	47

D

Declaration of conformity	48
Dismounting	45

E

Electrical connection	32
Emergency control mode	39

F

Faults and remedial measures	44
--	----

I

Intended use	8
------------------------	---

M

Maintenance	43
Mounting	29

P

Personnel qualifications	
Fitter	7

Q

Qualification of personnel	7
Qualifications of personnel	
Electrical specialist	7

R

Repair service	47
--------------------------	----

S

Shutdown	45
Storage	28

T

Technical data	12
Transport	28
Type plate	9

