

Product Description**MF200YZ Emergency Actuator**

With two-way/three-way valves of the RK/RB/RF/RWG.. series

MF200YZ Emergency Actuator

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Application

For AC 24 V with constant control DC 0(2)–10 V or 0(4)–20 mA
with two-way and three-way valves



Änderungen vorbehalten - Contents subject to change - Sous réserve de modifications - Reservado el derecho a modificación - Wijzigingen voorbehouden - Con riserva di modifichie - 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

MF200YZ Emergency Actuator**Product Description**

With two-way/three-way valves of the RK/RB/RF/RWG.. series

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Product Description**MF200YZ Emergency Actuator**
With two-way/three-way valves of the RK/RB/RF/RWG.. series**Important Information Regarding Product Safety****Safety Instructions**

This data sheet contains information on installing and commissioning the product "MF200YZ". 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.

MF200YZ Emergency Actuator

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Product Description**MF200YZ Emergency Actuator****Application**

Emergency actuator MF200YZ with automatic coupling, safety function and a thrust of 1000 N provides for fine stroke adjustment of the two-way valves RB15..50-BK, RF15..50-BF, RF65K-BF, RK15..50-BF and RK65K-BF and RGD15..40 as well as three-way valves RB15..50, RF15..50, RF65K, RK15..50, RK65K and RWG15..40.

The emergency actuator is constantly controlled using either DC 0(2)–10 V or 0(4)–20 mA.

The actuator includes an emergency function, which uses spring force to open or close valves (depending on the type of valve used) when the power supply is interrupted.

**Item**

MF200YZ AC 24 V emergency actuator with DC 0(2)–10 V or 0(4)–20 mA continuous control
Emergency function: **Emergency actuator retracts without power**

Technical Data

Nominal voltage	AC 24 V ± 15%, 50/60 Hz; 26 VA
Control	Constant, optionally adjustable - with voltage signal DC 0(2)–10 V; 0.5 mA; invertible - with current signal 0(4)–20 mA; invertible Compensation of external interferences on the control signal through dynamic hysteresis
Drive	Brushless DC motor
Actuating stroke	Max. 20 mm, automatic stroke adjustment through initialization
Positioning time	2 s/mm actuating stroke
Emergency actuating time	Approx 1 s/mm
Thrust	1000 N
Position indication	Stroke range scale
Position feedback	DC 0(2)–10 V, 5 mA for 0–100% stroke, invertible, or 0(4)–20 mA, Ri= 0.5 kΩ for 0–100% stroke, invertible
Valve monitoring	Automatic valve block monitoring with fault signal greater than approx. 12.5 V or 20 mA
Valve block protection	Optionally adjustable
Manual adjustment	Socket for hexagon socket key beneath the drive hood, key socket 4 mm, locking using knob.
Ambient temp.	0–50 °C
Degree of protection	IP54
Protection class	III in accordance with EN 60730 I in accordance with EN 60730 with switch module E/MF
Installation position	Anywhere from vertical above the valve to a horizontal position
Maintenance	Maintenance-free
Weight	2.80 kg

Product Description**MF200YZ Emergency Actuator**
With two-way/three-way valves of the RK/RB/RF/RWG.. series**Accessories**

You may chose from among the following accessories which are **not included in delivery**.

E/MF Upgradable switch module

with two electrically isolated switches (relay outputs), max. load AC 250 V, 3 A.

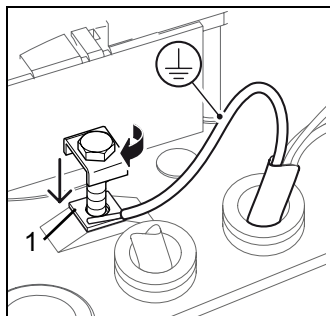
Application The E/MF switch module provides the actuator with
- feedback about both valve end positions (open/closed).

**WARNING**

If low voltage (AC 230 V is applied, the device must be installed to meet the requirements of protection class I.

The contacts on the end switches must only be used with voltages of the same installation category.

The wiring of the PE terminal must be connected between the terminal clip and the square washer (Cupal washer), with the copper-coated side of the washer facing the terminal clip.



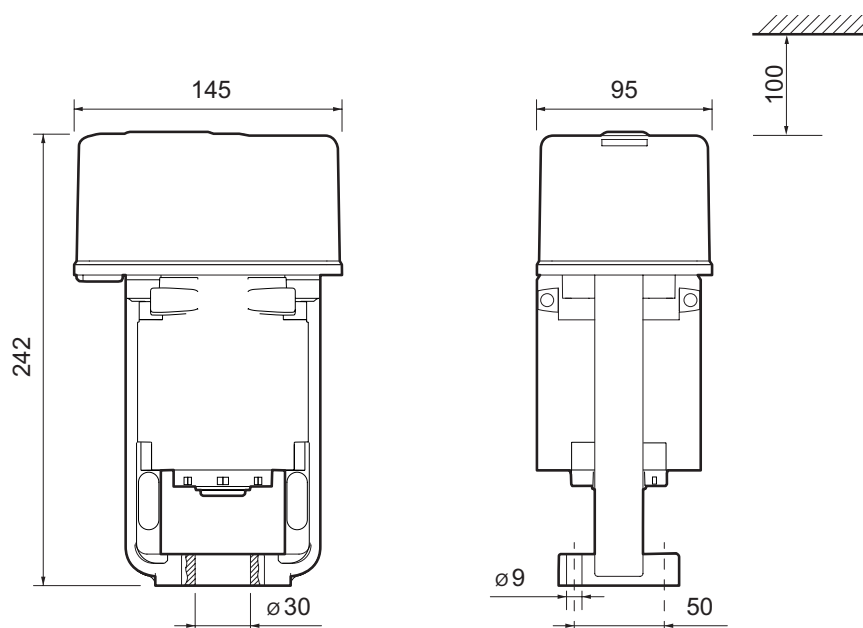
Copper-coated side (1) of the square washer (Cupal washer)

MF200YZ Emergency Actuator

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Product Description

H/V	Spindle heating, controlled, temperature-limited semi-conductor heating
for valve types	RB15..50(-BK), RK/RF15..50(-BF), To prevent icing of the valve spindle when the valve is used in medium temperatures $\leq 0\text{ }^{\circ}\text{C}$.
Medium	Water with glycol-based anti-freeze (max. 50% glycol).
Minimum medium temperature	-15 $^{\circ}\text{C}$ for RB15..50(BK) -10 $^{\circ}\text{C}$ for RK/RF15..50(-BF)
Nominal voltage	AC 24 V $\pm 10\%$, 50/60 Hz $\pm 5\%$ Switch-on power max. approx. 200 W at nominal voltage Constant power approx. 45 W at nominal voltage. Power consumption varies depending on the thermal output carried off.
	Degree of protection IP54
	Data sheet 3.10-70.900-01-en contains further information, including connection and mounting (included with accessory H/V65).
H/V65	Spindle heater, without closed loop control
for valve types	RK65(-BF), RF65K(-BF) To prevent icing of the valve spindle when the valve is used in medium temperatures between 0 $^{\circ}\text{C}$ and -10 $^{\circ}\text{C}$.
Medium	Water with glycol-based anti-freeze (max. 50% glycol).
Nominal voltage	AC 24 V $\pm 10\%$; 50/60 Hz $\pm 5\%$
Power consumption	Approx. 60 W at nominal voltage
	Degree of protection IP54
	Data sheet 3.10-70.900-01-en contains further information, including connection and mounting (included with accessory H/V65).

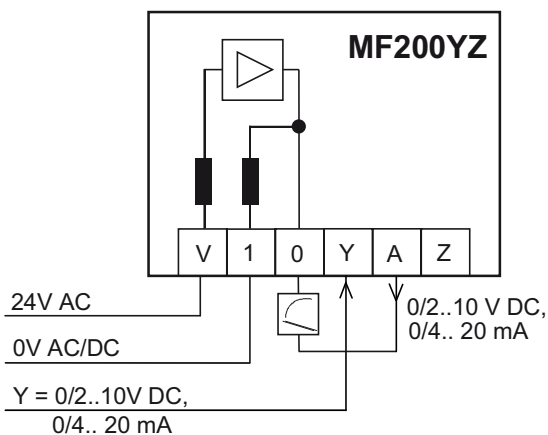
Dimensions

Product Description

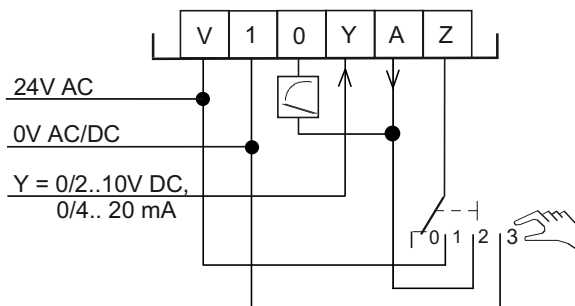
MF200YZ Emergency Actuator

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Connection



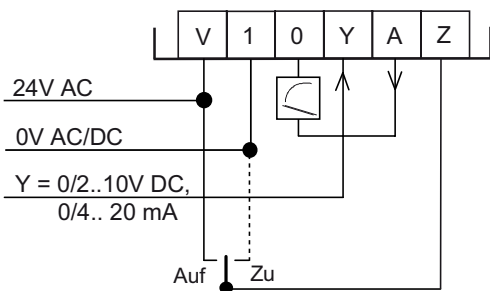
- Control with manual switch



Manual switch position
 0 = Auto
 1 = Open
 2 = Stop
 3 = Closed

- Priority switching

Priority switching for valve open or close on terminal V 1
 e.g. frost protection/limiting



NOTE

When accessories are installed, the device connection changes or is augmented. Follow the connection instructions in the datasheet of the accessory that is being used.

MF200YZ Emergency Actuator


With two-way/three-way valves of the RK/RB/RF/RWG.. series

Product Description**Actuator Functions****Automatic mode/testing the emergency function**


(1) Switch
(2) Indicator slide

Automatic mode or testing the emergency function can be selected directly on the actuator using the switch on the drive hood.

Automatic mode:

Slide the switch to position .

Testing the emergency function:

Slide the switch to position .

When the “emergency function test” feature is activated, the extended indicator slide allows this status to be recognized even in poorly lit areas.

After the “emergency function test” has been switched off, the emergency actuator automatically returns to automatic mode.

Position indicator on the actuator

The current stroke position of the valve is indicated by the position of the stroke range scale (3).

**Automatic malfunction message**

If the pipeline becomes blocked by foreign objects during a valve stroke, the drive reports this malfunction with a feedback signal, approx. > DC 12.5 V (connection terminal A). The LED below the drive hood also flashes (short flashes).

The actuator then automatically tries to correct the valve block using a remedy algorithm, which repeatedly lifts the valve ball for a short time.

A manual activation of the emergency function or manual adjustment is also signaled by a feedback signal of approx. > DC 12.5 V.

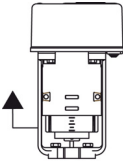
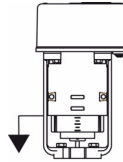
Zero crossing

The economical three-wire connection combines the zero potentials of control line Y (direct current) and of the power line (alternating current) into one wire. The Y control signal is processed by software to reduce errors in the Y control signal caused by voltage drops arising from very long cable lengths.

Run time lag after mains power recovery

After power has been lost for a longer time, the emergency actuator moves out of the safety position to the current nominal position with reduced positioning speed. When the current control position is reached, it is switched over to the positioning speed that is set. This prevents oscillations in steam systems and monitoring from being triggered when power is recovered. The run time lag is also in effect where there is direct control or priority control (also see Connection).

Actuating directions

Actuator retracting Emergency actuator function retracts without power		Two-way valves RK..-BF, RB..-BK, RF..-BF.....close Three-way valves RK, RB, RF, RWG.. Gate A:.....closes Gate B:.....opens
Actuator extending		Two-way valves RK..-BF, RB..-BK, RF..-BF.....open Three-way valves RK, RB, RF, RWG.. Gate A:.....opens Gate B:.....closed

MF200YZ Emergency Actuator

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Product Description**Installation****CAUTION**

Electrical installation and unit connection may only be carried out by qualified technicians.

The mains supply may only be connected after commissioning.

Be sure to comply with VDE guidelines and local wiring regulations.

The device is connected according to the obligatory wiring diagram.

**CAUTION**

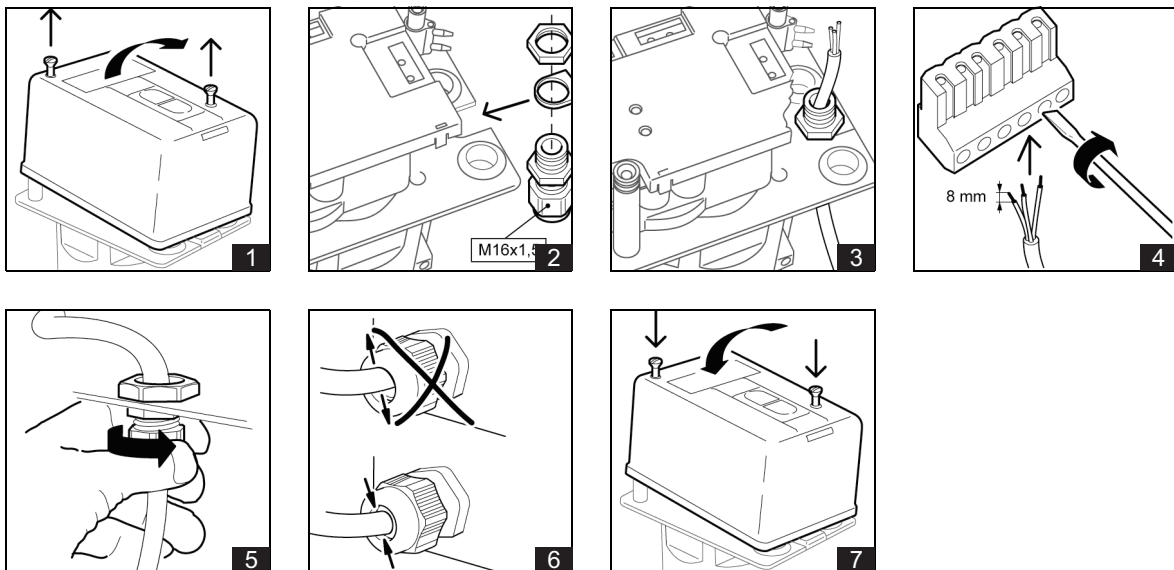
The electrical connection of the actuator must be carried out as a fixed installation.

An M16x1.5 screw fitting is enclosed in the scope of delivery of the actuator to be used as a strain relief device. The electrical connection is to be made using plug-in screw terminals (connection diameter 0.3–2.3 mm).

**CAUTION**

There is a risk of getting crushed between the cross member and the spring pan.

The emergency function of the actuator automatically moves the valve into the upper end position using high spring force when the power supply is interrupted.



Product Description**MF200YZ Emergency Actuator**

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Three-Way Valve RK15..50/RK65KMF200YZ and Two-Way Valve RK15..50/RK65K-BFMF200YZ**Application**

The gray cast iron three-way valves and two-way valves with emergency actuator MF200YZ are used for the precise mixing and flow rate control of liquids.

The valves are used as two-way valves with the BF blank flange on gate B.

The emergency actuator is controlled using a constant signal of DC 0(2)–10 V/0(4)–20 mA.

Emergency actuator MF200YZ includes an emergency function that automatically opens valve gate B when the power supply is interrupted = straight throughput

A → AB closed without power.

**Types**

Grey cast iron three-way valve RK15..50/RK65K with emergency actuator MF200YZ for water up to 120 °C, 6 bar

	DN	PN	Kvs	Δp (bar)	Positioning time (s)	Weight (kg)	Emergency function
RK15/0,63MF200YZ	15	6	0.63	6	28	5.1	Gate A: Closed
RK15/1,0MF200YZ	15	6	1.0	6	28	5.1	Gate A: Closed
RK15/1,6MF200YZ	15	6	1.6	6	28	5.1	Gate A: Closed
RK15/2,5MF200YZ	15	6	2.5	6	28	5.1	Gate A: Closed
RK15MF200YZ	15	6	4.0	6	28	5.1	Gate A: Closed
RK20MF200YZ	20	6	6.3	6	28	5.8	Gate A: Closed
RK25MF200YZ	25	6	10	6	28	6.5	Gate A: Closed
RK32MF200YZ	32	6	16	6	28	8.8	Gate A: Closed
RK40MF200YZ	40	6	25	6	28	9.5	Gate A: Closed
RK50MF200YZ	50	6	40	3.5	28	10.8	Gate A: Closed
RK65KMF200YZ	65	6	63	2	40	17.7	Gate A: Closed

Grey cast iron two-way valve RK15..50-BF/RK65K-BF with emergency actuator MF200YZ for water up to 120 °C, 6 bar

	DN	PN	Kvs	Δp (bar)	Positioning time (s)	Weight (kg)	Emergency function
RK15/0,6-BFMF200YZ	15	6	0.63	6	28	5.7	Valve: Closed
RK15/1,0-BFMF200YZ	15	6	1.0	6	28	5.7	Valve: Closed
RK15/1,6-BFMF200YZ	15	6	1.6	6	28	5.7	Valve: Closed
RK15/2,5-BFMF200YZ	15	6	2.5	6	28	5.7	Valve: Closed
RK15-BFMF200YZ	15	6	4.0	6	28	5.7	Valve: Closed
RK20-BFMF200YZ	20	6	6.3	6	28	6.7	Valve: Closed
RK25-BFMF200YZ	25	6	10	6	28	7.4	Valve: Closed
RK32-BFMF200YZ	32	6	16	6	28	9,6	Valve: Closed
RK40-BFMF200YZ	40	6	25	6	28	11.4	Valve: Closed
RK50-BFMF200YZ	50	6	40	3.5	28	12.8	Valve: Closed
RK65K-BFMF200YZ	65	6	63	2	40	19.9	Valve: Closed

MF200YZ Emergency Actuator**Product Description**

With two-way/three-way valves of the RK/RB/RF/RWG.. series

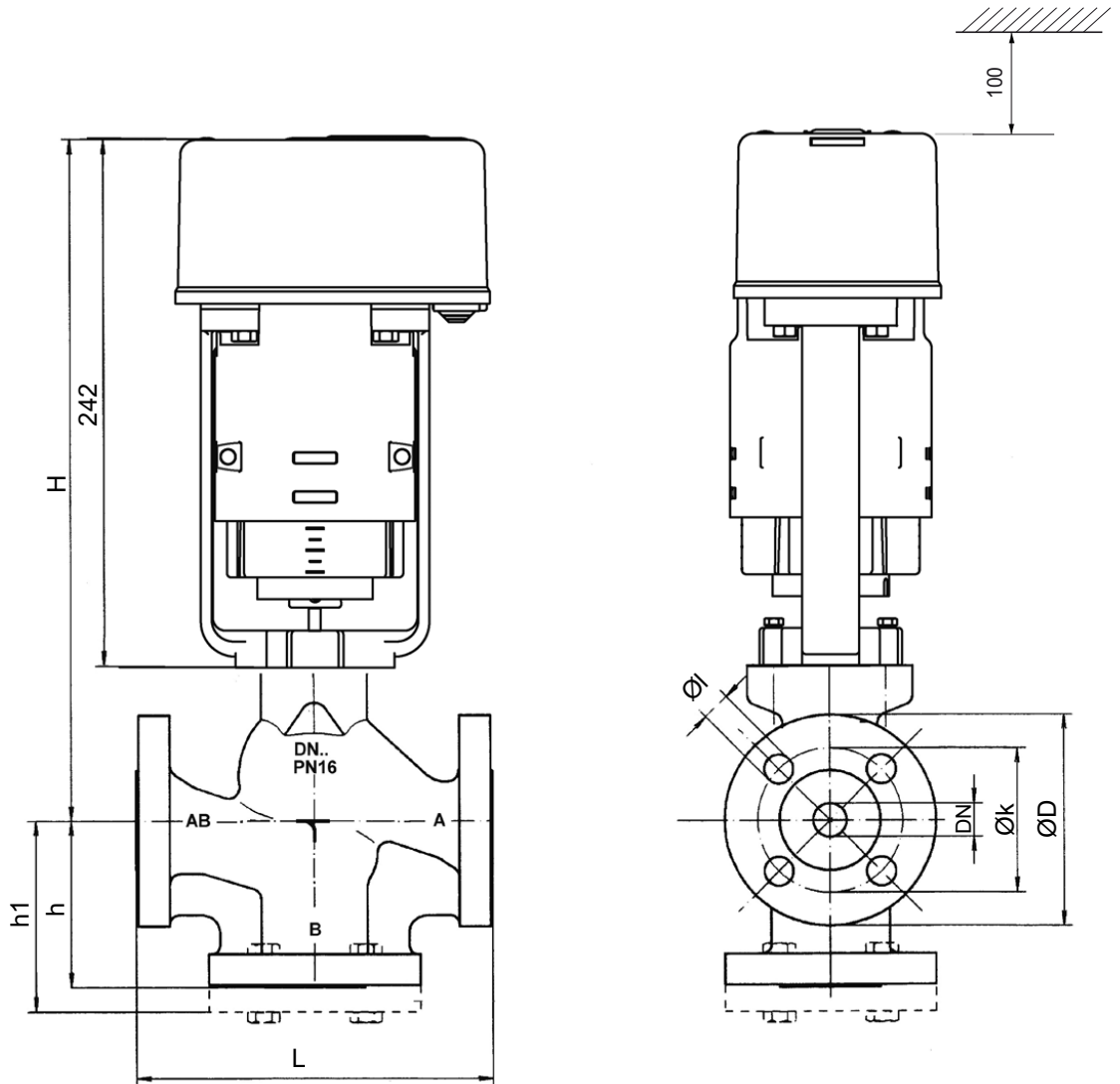
Technical Data: RK..(-BF) Valves

Nominal diameter	DN15 to DN65
Pressure rating	PN 6
Connection	Flange in accordance with EN 1092-2 Type 21
Characteristic curve	RK.. Gates A → AB = same percentage Gates B → AB = linear RK..-BF Gates A → AB = same percentage
Nominal stroke	RK15..50(-BF): 14 mm RK65K(-BF): 20 mm
Leak rate	In accordance with EN 1349, leakage class VI
Medium temperature	0 °C to 130 °C (max. 120 °C at 6 bar)
Housing	Gray cast-iron EN-JL1040
Seat ring	CrNi steel 1.4021
Cone	Brass CW614N
Valve spindle	CrMo steel 1.4122
Spindle seal	O-rings with EPDM/PTFE guide sleeves, maintenance-free

Product Description

MF200YZ Emergency Actuator
 With two-way/three-way valves of the RK/RB/RF/RWG.. series

Dimensions



DN	L	Ø D	Ø k	Ø l	H	h	h1 (RK...BF)
15	130	80	55	4x Ø 18	284	65	79
20	150	90	65	4x Ø 18	289	70	84
25	160	100	75	4x Ø 18	294	75	91
32	180	120	90	4x Ø 18	297	95	111
40	200	130	100	4x Ø 18	300	100	116
50	230	140	110	4x Ø 18	300	100	118
65	290	160	160	4x Ø 18	349	120	144
Dimensions L to b in mm							

MF200YZ Emergency Actuator**Product Description**

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Three-way valve RB15..50MF200YZ and two-way valve RB15..50-BKMF200YZ**Application**

The gunmetal three-way valves and two-way valves with emergency actuator MF200YZ are used for mixing liquids precisely.

The valves are used as two-way valves with the BK blank cover on gate B.

The emergency actuator is controlled using a constant signal of DC 0(2)–10 V/ 0(4)–20 mA.

Emergency actuator MF200YZ includes an emergency function that automatically opens valve gate B when the power supply is interrupted = straight throughput A → AB closed without power.

**Types**

Gunmetal three-way valve RB15..50 with emergency actuator MF200YZ for water up to 120 °C, 16 bar

	DN	PN	Kvs	Δp (bar)	Position- ing time (s)	Weight (kg)	Emergency function
RB15/ 0,63MF200YZ	15	16	0.63	16	24	3.6	Gate A: Closed
RB15/1,0MF200YZ	15	16	1.0	16	24	3.6	Gate A: Closed
RB15/1,6MF200YZ	15	16	1.6	16	24	3.6	Gate A: Closed
RB15/2,5MF200YZ	15	16	2.5	16	24	3.6	Gate A: Closed
RB15MF200YZ	15	16	4.0	16	24	4.1	Gate A: Closed
RB20MF200YZ	20	16	6.3	16	24	4.3	Gate A: Closed
RB25MF200YZ	25	16	10	15	24	5.2	Gate A: Closed
RB32MF200YZ	32	16	16	9.5	28	6.00	Gate A: Closed
RB40MF200YZ	40	16	25	6	28	6.7	Gate A: Closed
RB50MF200YZ	50	16	40	3.5	28	8.2	Gate A: Close

Gunmetal two-way valve RB15..50-BK with emergency actuator MF200YZ for water up to 120 °C, 16 bar

	DN	PN	Kvs	Δp (bar)	Position- ing time (s)	Weight (kg)	Emergency function
RB15/ 0,63-BKMF200YZ	15	16	0.63	16	24	3.5	Valve: Closed
RB15/1,0-BKMF200YZ	15	16	1.0	16	24	3.5	Valve: Closed
RB15/1,6-BKMF200YZ	15	16	1.6	16	24	3.5	Valve: Closed
RB15/2,5-BKMF200YZ	15	16	2.5	16	24	3.5	Valve: Closed
RB15-BKMF200YZ	15	16	4.0	16	24	3.5	Valve: Closed
RB20-BKMF200YZ	20	16	6.3	16	24	4.1	Valve: Closed
RB25-BKMF200YZ	25	16	10	15	24	4.2	Valve: Closed
RB32-BKMF200YZ	32	16	16	9.5	28	5.9	Valve: Closed
RB40-BKMF200YZ	40	16	25	6	28	6.5	Valve: Closed
RB50-BKMF200YZ	50	16	40	3.5	28	7.9	Valve: Closed

Product Description**MF200YZ Emergency Actuator**

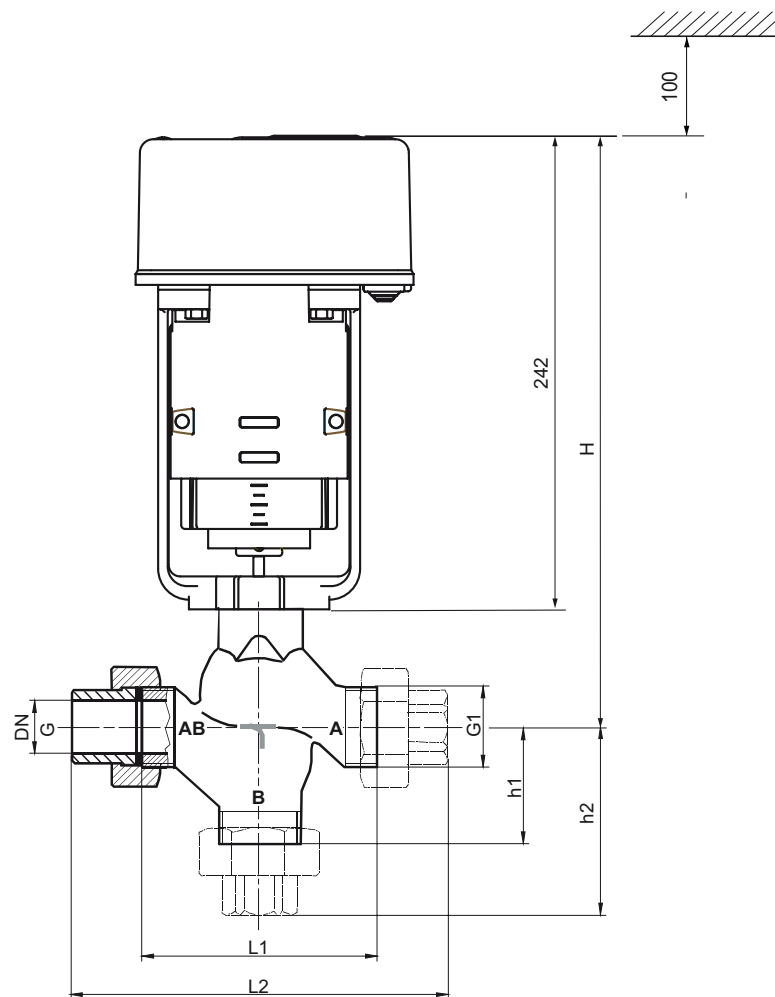
With two-way/three-way valves of the RK/RB/RF/RWG.. series

Technical Data: RB..(-BK) Valves

Nominal diameter	DN15 to DN50 (G1/2 to G2)
Pressure rating	PN 16
Connection	Male thread in accordance with ISO 228/1, with female thread fittings in accordance with ISO 7/1
Characteristic curve	RB.. Gates A → AB = same percentage Gates B → AB = linear RB..-BF Gates A → AB = same percentage
Nominal stroke	RB15..20(-BK): 12 mm RB25..50(-BK): 14 mm
Leak rate	In accordance with EN 1349, leakage class VI
Medium temperature	0 °C to 150 °C (max. 120 °C at 16 bar)
Housing	Gunmetal, CC491K
Cone	Brass CW614N
Valve spindle	CrMo steel 1.4122
Spindle seal	EPDM O-rings, maintenance-free
Pipe connections	Female thread fittings and GTW union nuts (malleable iron, yellow chromated)
Blank cover	GTW union nut (malleable iron, yellow chromated) Gasket stainless steel, CrNi 1.4305

MF200YZ Emergency Actuator

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Product Description**Dimensions**

Version RB .. -BK (two-way valve) with blank cover on gate B

DN	L1	L2	h1	h2	H	G	G1
15	62	114	40	66	282	1/2	1
20	75	127	41	67	285	3/4	1 1/4
25	80	138	45	74	288	1	1 1/2
32	120	184	55	89	297	1 1/4	2
40	130	198	60	94	300	1 1/2	2 1/4
50	150	222	65	101	300	2	2 3/4
Dimensions L1 to H in mm, connection threads G and G1 in inches							

Product Description**MF200YZ Emergency Actuator**

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Three-way valve RB15..50TMF200YZ and two-way valve RB15..50T-BKMF200YZ**Application**

The gunmetal three-way valves and two-way valves with emergency actuator MF200YZ are used for precise mixing in drinking and service water systems. The valves are certified by the DVGW construction type (reg. no. DW-6341BP0198).

The valves are used as two-way valves with the BK blank cover on gate B. The emergency actuator is controlled using a constant signal of DC 0(2)–10 V / 0(4)–20 mA.

Emergency actuator MF200YZ includes an emergency function that automatically opens valve gate B when the power supply is interrupted = straight throughput A → AB closed without power.

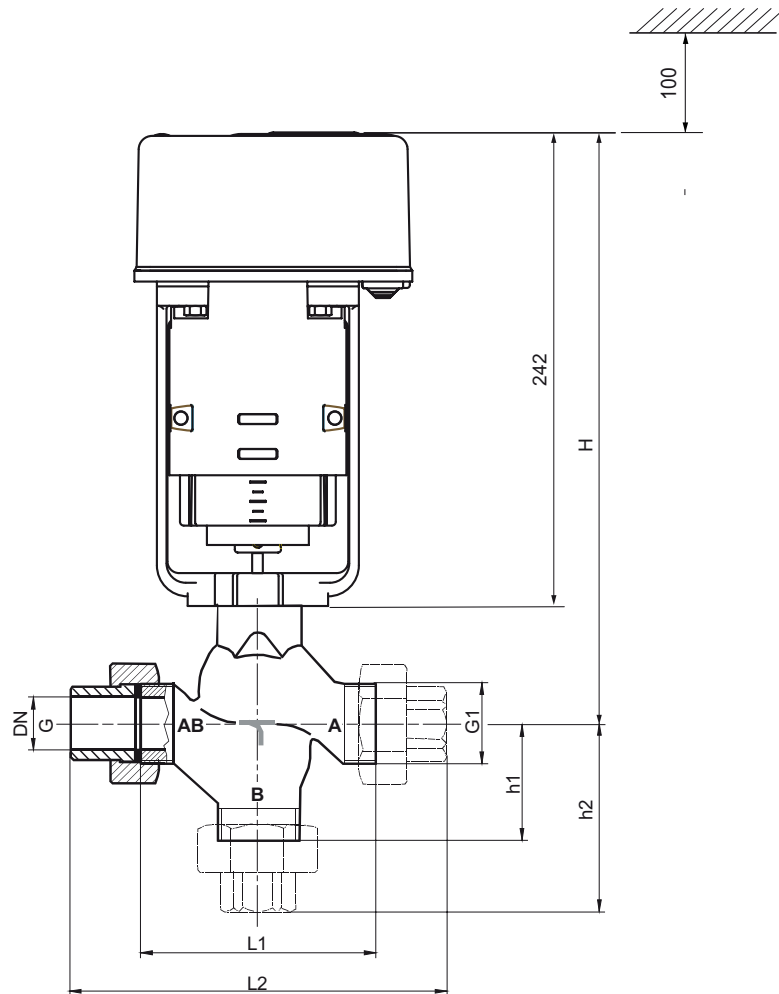
**Types**

Gunmetal three-way valve RB15..50T, DVGW certified with emergency actuator MF200YZ for drinking and service water up to 90 °C, 16 bar

	DN	PN	Kvs	Δp (bar)	Positioning time (s)	Weight (kg)	Emergency function
RB15/0,63TMF200YZ	15	16	0.63	16	24	3.6	Gate A: Closed
RB15/1,0TMF200YZ	15	16	1.0	16	24	3.6	Gate A: Closed
RB15/1,6TMF200YZ	15	16	1.6	16	24	3.6	Gate A: Closed
RB15/2,5TMF200YZ	15	16	2.5	16	24	3.6	Gate A: Closed
RB15TMF200YZ	15	16	4.0	16	24	4.1	Gate A: Closed
RB20TMF200YZ	20	16	6.3	16	24	4.3	Gate A: Closed
RB25TMF200YZ	25	16	10	15	24	5.2	Gate A: Closed
RB32TMF200YZ	32	16	16	9.5	28	6.0	Gate A: Closed
RB40TMF200YZ	40	16	25	6	28	6.7	Gate A: Closed
RB50TMF200YZ	50	16	40	3.5	28	8.2	Gate A: Closed

Gunmetal two-way valve RB15..50T-BK, DVGW certified with emergency actuator MF200YZ for drinking and service water up to 90 °C, 16 bar

	DN	PN	Kvs	Δp (bar)	Positioning time (s)	Weight (kg)	Emergency function
RB15/0,63T-BKMF200YZ	15	16	0.63	16	24	3.5	Valve: Closed
RB15/1,0T-BKMF200YZ	15	16	1.0	16	24	3.5	Valve: Closed
RB15/1,6T-BKMF200YZ	15	16	1.6	16	24	3.5	Valve: Closed
RB15/2,5T-BKMF200YZ	15	16	2.5	16	24	3.5	Valve: Closed
RB15T-BKMF200YZ	15	16	4.0	16	248	3.5	Valve: Closed
RB20T-BKMF200YZ	20	16	6.3	16	24	4.1	Valve: Closed
RB25T-BKMF200YZ	25	16	10	15	24	4.2	Valve: Closed
RB32T-BKMF200YZ	32	16	16	9.5	28	5.9	Valve: Closed
RB40T-BKMF200YZ	40	16	25	6	28	6.5	Valve: Closed
RB50T-BKMF200YZ	50	16	40	3.5	28	7.9	Valve: Closed

Product Description**MF200YZ Emergency Actuator**
With two-way/three-way valves of the RK/RB/RF/RWG.. series**Dimensions**

Version RB .. T-BK (two-way valve) with blank cover on gate B

DN	L1	L2	h1	h2	H	G	G1
15	62	114	40	66	282	1/2	1
20	75	127	41	67	285	3/4	1 1/4
25	80	138	45	74	288	1	1 1/2
32	120	184	55	89	397	1 1/4	2
40	130	198	60	94	300	1 1/2	2 1/4
50	150	222	65	101	300	2	2 3/4
Dimensions L1 to H in mm, connection threads G and G1 in inches							

MF200YZ Emergency Actuator

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Product Description**Three-Way Valve RF15..50/RF65KMF200YZ and Two-Way Valve RF15..50/RF65-BKMF200YZ****Application**

The gray cast iron three-way valves and two-way valves with emergency actuator MF200YZ are used for mixing liquids precisely.

The valves are used as two-way valves with the BF blank cover on gate B.

The emergency actuator is controlled using a constant signal of DC 0(2)–10 V / 0(4)–20 mA.

Emergency actuator MF200YZ includes an emergency function that automatically opens valve gate B when the power supply is interrupted = straight throughput A → AB closed without power.

**Types**

Grey cast iron three-way valve RF15..50/RF65K with emergency actuator MF200YZ for water up to 120 °C, 16 bar

	DN	PN	Kvs	Δp (bar)	Position- ing time (s)	Weight (kg)	Emergency function
RF15/0,63MF200YZ	15	16	0.63	16	28	5.9	Gate A: Closed
RF15/1,0MF200YZ	15	16	1,0	16	28	5,9	Gate A: Closed
RF15/1,6MF200YZ	15	16	1.6	16	28	5.9	Gate A: Closed
RF15/2,5MF200YZ	15	16	2.5	16	28	5.9	Gate A: Closed
RF15MF200YZ	15	16	4.0	16	28	5.9	Gate A: Closed
RF20MF200YZ	20	16	6.3	16	28	6.8	Gate A: Closed
RF25MF200YZ	25	16	10	15	28	7.8	Gate A: Closed
RF32MF200YZ	32	16	16	9.5	28	10.3	Gate A: Closed
RF40MF200YZ	40	16	25	6	28	11.9	Gate A: Closed
RF50MF200YZ	50	16	40	3.5	28	14.8	Gate A: Closed
RF65KMF200YZ	65	16	63	2	40	25,9	Gate A: Closed

Grey cast iron two-way valve RF15..50-BF/RF65K-BF with emergency actuator MF200YZ for water up to 120 °C, 16 bar

	DN	PN	Kvs	Δp (bar)	Position- ing time (s)	Weight (kg)	Emergency function
RF15/0,63-BFMF200YZ	15	16	0.63	16	28	6.9	Valve: Closed
RF15/1,0-BFMF200YZ	15	16	1.0	16	28	6.9	Valve: Closed
RF15/1,6-BFMF200YZ	15	16	1.6	16	28	6.9	Valve: Closed
RF15/2,5-BFMF200YZ	15	16	2.5	16	28	6.9	Valve: Closed
RF15-BFMF200YZ	15	16	4.0	16	28	6.9	Valve: Closed
RF20-BFMF200YZ	20	16	6.3	16	28	9.3	Valve: Closed
RF25-BFMF200YZ	25	16	10	15	28	9.4	Valve: Closed
RF32-BFMF200YZ	32	16	16	9.5	28	12.8	Valve: Closed
RF40-BFMF200YZ	40	16	25	6	28	14.6	Valve: Closed
RF50-BFMF200YZ	50	16	40	3,5	28	18.2	Valve: Closed
RF65K-BFMF200YZ	65	16	63	2	40	21.8	Valve: Closed

Product Description**MF200YZ Emergency Actuator**

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Technical Data: RF..(-BK) Valves

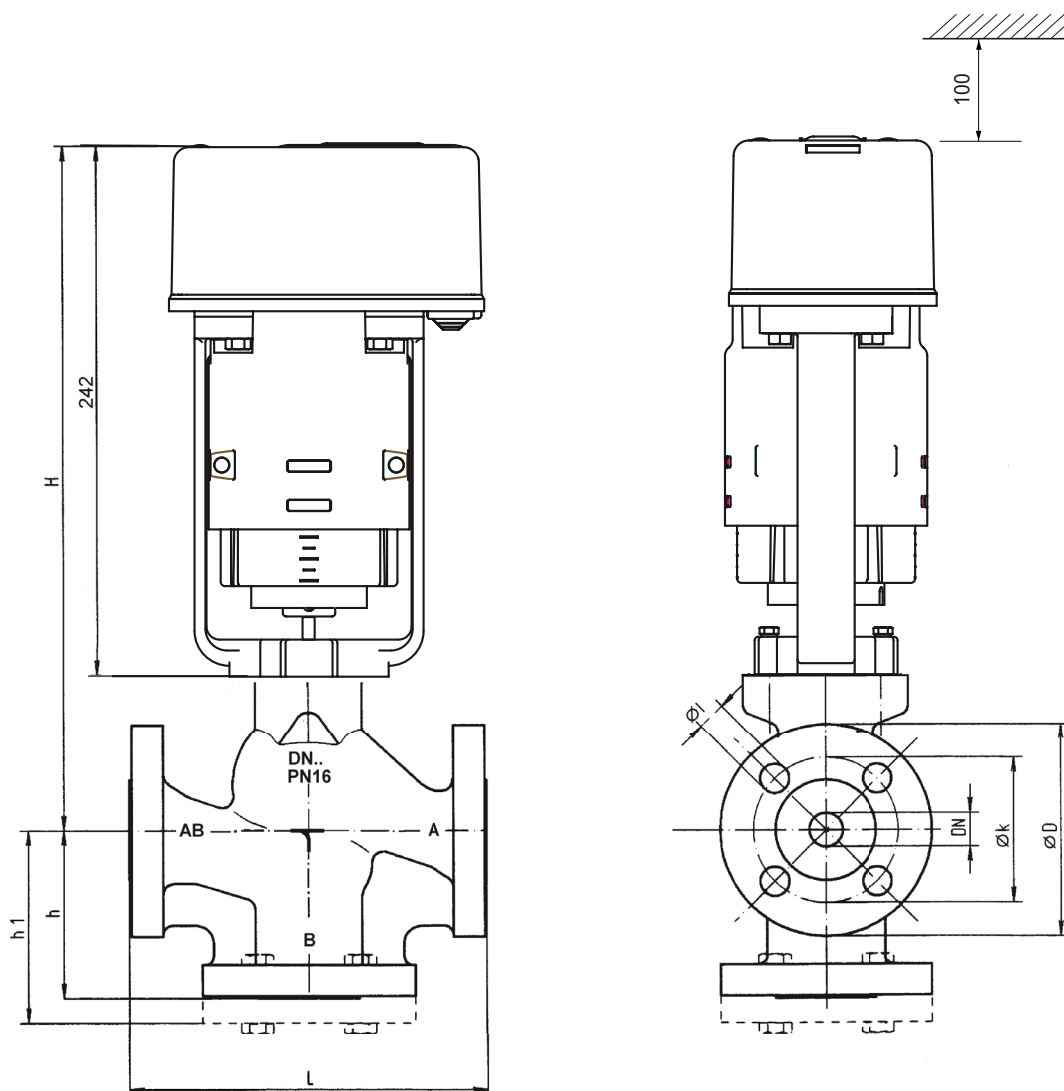
Nominal diameter	DN15 to DN65
Pressure rating	PN 16
CE marking	CE marking for RF65K
Connection	Flange in accordance with EN 1092-2, Type 21
Characteristic curve	RF.. Gates A → AB = same percentage Gates B → AB = linear RF..-BF Gates A → AB = same percentage
Nominal stroke	RF15..50(-BF): 14 mm RF65K(-BF): 20 mm
Leak rate	In accordance with EN 1349, leakage class VI
Medium temperature	0 °C to 130 °C (max. 120 °C at 16 bar)
Housing	Gray cast-iron EN-JL1040
Cone	Brass CW614N
Valve spindle	CrMo steel 1.4122
Spindle seal	EPDM O-rings, maintenance-free

MF200YZ Emergency Actuator

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Product Description

Dimensions



DN	L	Ø D	Ø k	Ø l	H	h	h1 (RF..-BF)
15	130	95	65	4x Ø 14	284	65	79
20	150	105	75	4x Ø 14	289	70	84
25	160	115	85	4x Ø 14	294	75	91
32	180	140	100	4x Ø 14	297	95	111
40	200	150	110	4x Ø 14	300	100	116
50	230	165	125	4x Ø 14	300	100	118
65	290	185	145	4x Ø 14	349	120	150
Dimensions L to h1 in mm, flange according to DIN, PN16							

Product Description**MF200YZ Emergency Actuator**

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Three-Way Valve RWG15..40MF200YZ**Application**

The nodular iron three-way valves with emergency actuator MF200YZ are used for fine quantity control of liquid and vapor.

The emergency actuator is controlled using a constant signal of DC 0(2)–10 V/ 0(4)–20 mA.

Emergency actuator MF200YZ includes an emergency function that automatically opens valve gate B when the power supply is interrupted = straight throughput A → AB closed without power.

Types

Nodular iron three-way valve RWG15..40 with actuator MF200YZ for water up to 120 °C, 25 bar, as well as for hot water and steam up to 200 °C, 20 bar

	DN	PN	Kvs	Δp (bar)	Position- ing time (s)	Weight (kg)	Emergency function
RWG15/1,0MF200YZ	15	25	1	20	30	7.6	Gate A: Closed
RWG15/1,6MF200YZ	15	25	1.6	20	30	7.6	Gate A: Closed
RWG15/2,5MF200YZ	15	25	2.5	20	30	7.6	Gate A: Closed
RWG15MF200YZ	15	25	4	20	30	7.6	Gate A: Closed
RWG25/6,3MF200YZ	25	25	6.3	11	30	9.5	Gate A: Closed
RWG25MF200YZ	25	25	10	11	30	9.5	Gate A: Closed
RWG32MF200YZ	32	25	16	7	30	12.1	Gate A: Closed
RWG40MF200YZ	40	25	25	4.5	30	15.5	Gate A: Closed

**Technical Data: RWG.. Valves**

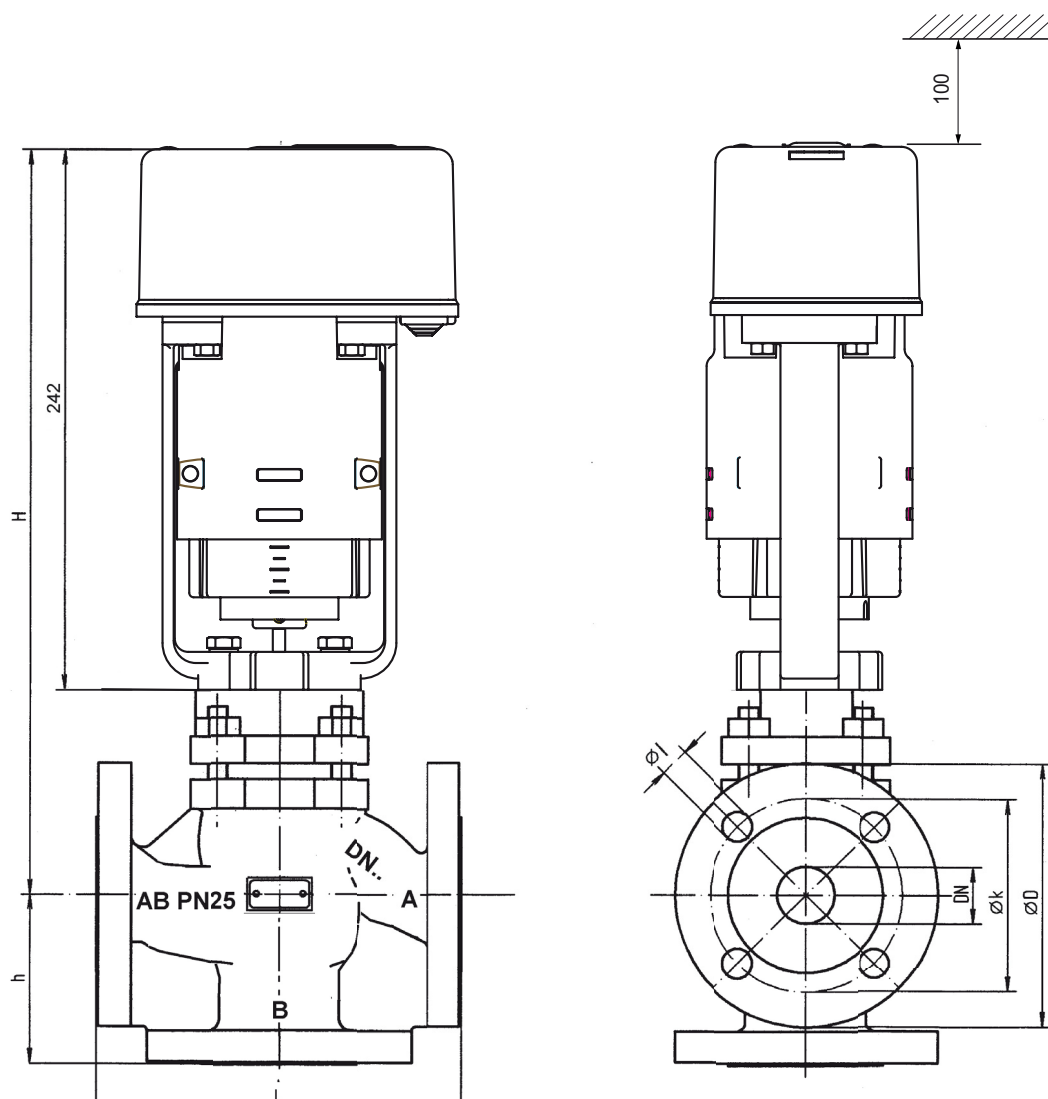
Nominal diameter	DN15 to DN40	
Pressure rating	PN 25	
CE marking	CE marking from DN32, notified body: 0525	
Connection	Flange according to DIN, PN25	
Characteristic curve	RWG..	Gates A → AB = same percentage Gates B → AB = linear
Nominal stroke	15 mm	
Leak rate	In accordance with EN 1349, leakage class VI	
Medium temperature	0 °C to 200 °C	
Housing	Graphite cast-iron GGG-40.3	
Seat ring	Stainless steel 1.4021	
Cone	DN15 to DN32	CrNi steel 1.4571
	DN40	CrNi steel 1.4021
Valve spindle	Stainless steel 1.4571	
Spindle seal	Univerdit gaskets with PTFE sleeve (maintenance-free)	

MF200YZ Emergency Actuator

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Product Description

Dimensions



DN	L	Ø D	Ø k	Ø I	h	H
15	130	95	65	4 x Ø14	65	335
25	160	115	85	4 x Ø14	75	339
32	180	140	100	4 x Ø18	80	365
40	200	150	110	4 x Ø18	90	374,5
Dimensions L to H in mm, flange according to DIN, PN25						

Mounting of Valve**NOTICE**

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 ports come with protective caps to protect against contamination. They are to be removed before installing the valves.
- The pipeline system and the interior of the fitting must be free of foreign objects. In the event of contaminated media, dirt collectors are to be inserted upstream of the valves.
- There must be no tension between the valve and the pipeline connection.
- Use only perfectly fitting flange seals, inserted centrally in the valve flanges.
- To avoid eddy formations in the valve body, the valve should be installed in a straight section of the pipe. A distance of 10 times the nominal diameter is recommended between the valve flange and manifold or other similar parts.
- The installation location is to be selected so that the ambient temperature at the actuator is kept between 0 °C and 50 °C.
- When mounting, the permissible max. pressure difference Δp and the specified direction of flow must be taken into account (see table in “Types” section, as well as the “Valve Principle”).
- The three-way valves are to be used as mixing valves. Pay attention to the direction of flow (see fig. “Valve Principle”).
- The actuator can be installed vertically above the fixture, or in any position as far as a horizontal position. When installed horizontally, the drive pillars must be one upon the other. Where applicable, turn the cross member after loosening the retaining nut.
- To remove the actuator hood, approx. 100 mm of free space is required above the drive.
- The actuator is delivered with a protective box. Up until commissioning, this cover protects the drive during the installation phase and pipeline work.
- Observe the direction of flow arrow on the valve body. Inverting the direction of flow impairs control behavior.

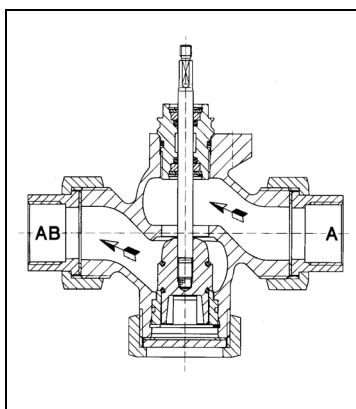
MF200YZ Emergency Actuator

With two-way/three-way valves of the RK/RB/RF/RWG.. series

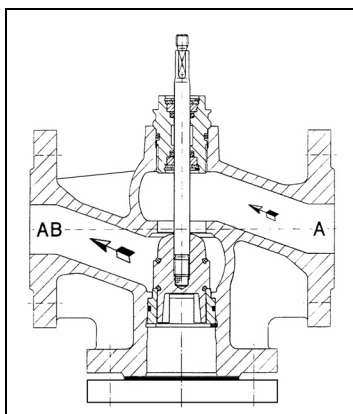
Product Description

Valve Cross-Sections with Flow Directions

Two-way valves

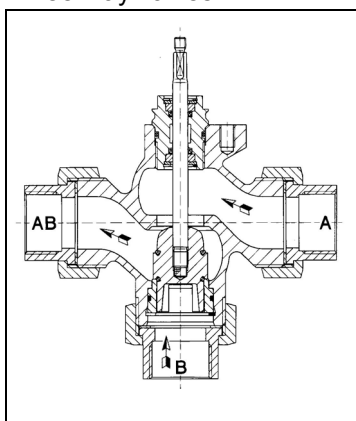


RB..-BK

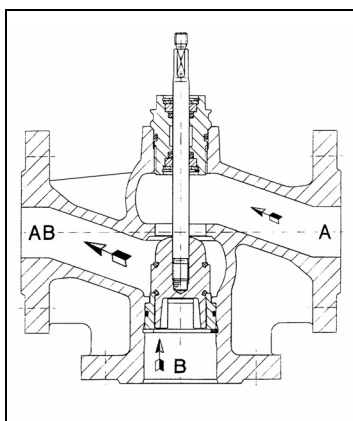


RK/RF..-BF

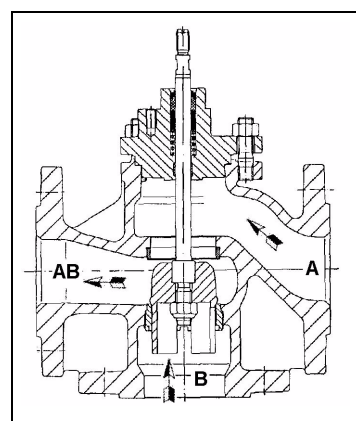
Three-way valves



RB..



RK/RF..



RWG..

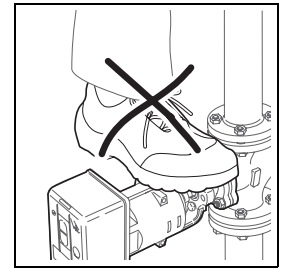
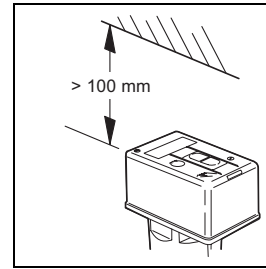
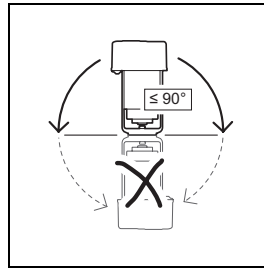
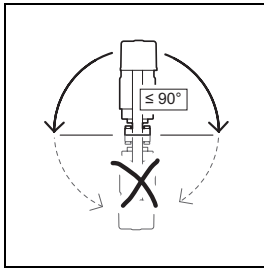
Product Description

MF200YZ Emergency Actuator

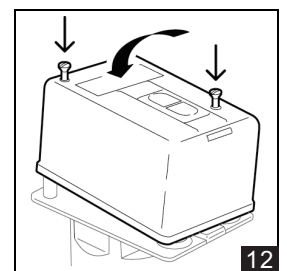
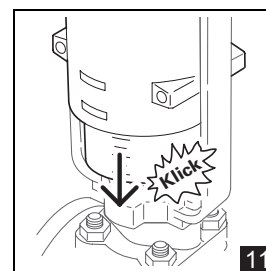
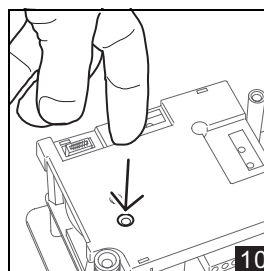
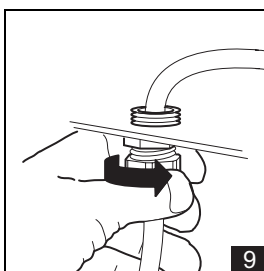
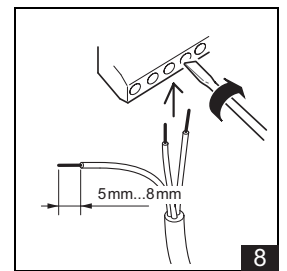
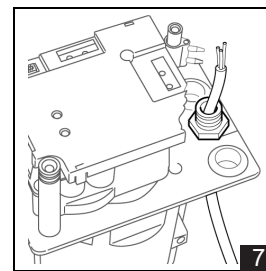
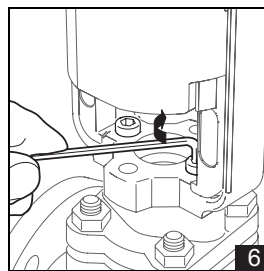
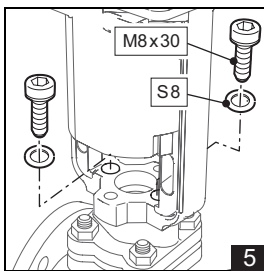
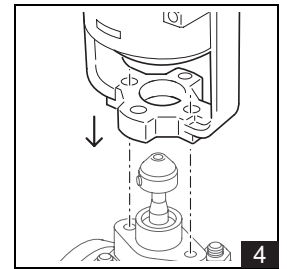
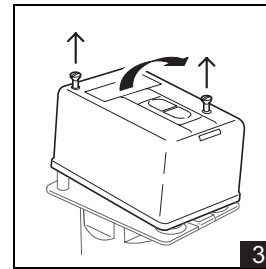
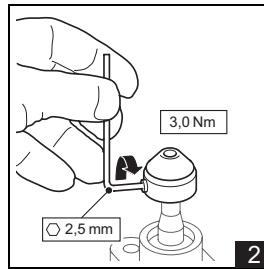
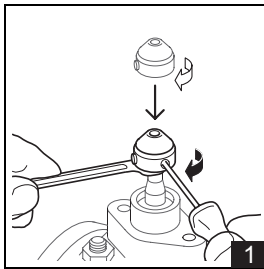
With two-way/three-way valves of the RK/RB/RF/RWG.. series

Mounting of Emergency Actuator MF200YZ

Installation instructions



Mounting and Installation



- If the valve is mounted in the plant, 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 removal of the emergency actuator.
- Once the emergency actuator has been mounted and installed, you must trigger an automatic initialization run, see "Commissioning Steps".

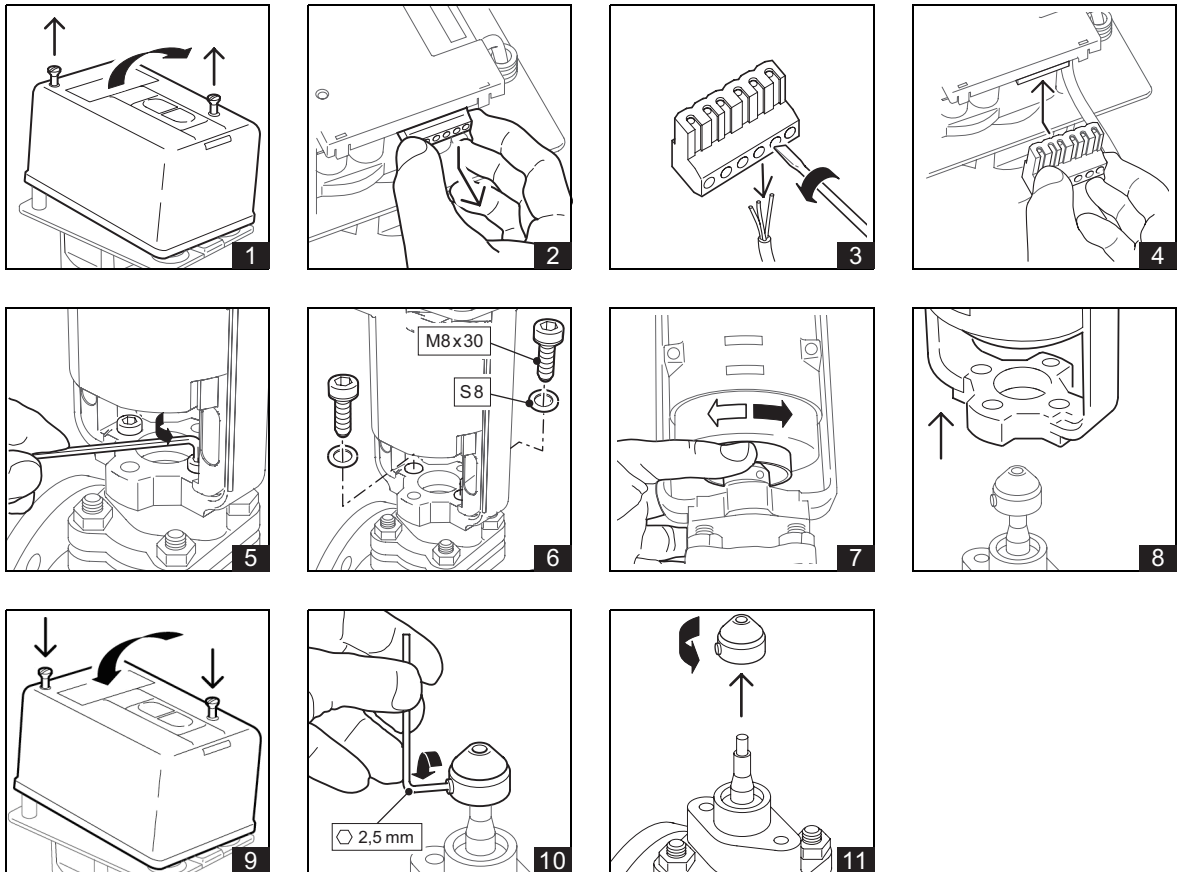
The initialization run automatically adapts the valve using an automatic coupling (see fig. 11)

**NOTICE**

Both hexagon socket screws must be tightened equally with the hexagon socket key.

MF200YZ Emergency Actuator

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Product Description**Removal of Emergency Actuator MF200YZ**

- Before beginning to remove 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 removal of the emergency actuator.
- Disconnect the emergency actuator from the mains power supply. Then disconnect all electrical connections.

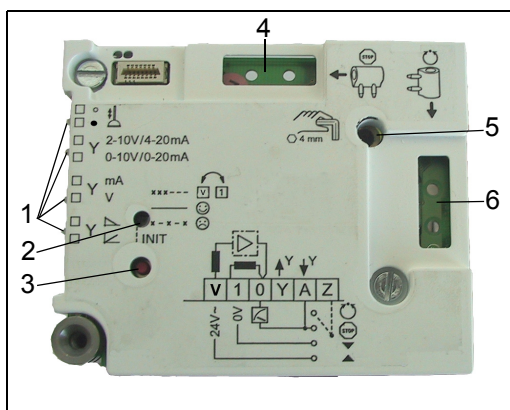
Product Description

MF200YZ Emergency Actuator

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Commissioning

Operating and functional components beneath the emergency actuator cover



- (1) Switch for setting the valve function
- (2) Status LED display
- (3) INIT key
- (4) Receptacle for the knob during manual adjustment
- (5) Socket for hexagon socket key
- (6) Receptacle for the knob during automatic mode
Without the cover during commissioning

General Information

The commissioning process may change if accessories are installed. In such cases, commissioning is described in the data sheet of the accessory that is being used.



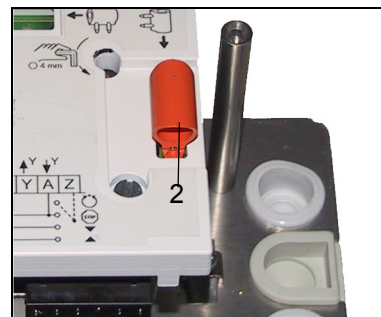
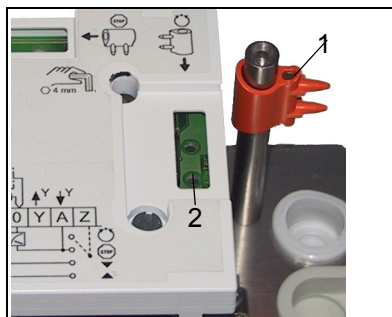
WARNING

A mains voltage of AC 230 may be present at the connection terminals of the switch module when the E/MF switch module is used.



NOTICE

Automatic mode without the cover may only be used by the technician during commissioning.



Knob not inserted = emergency function triggered

Knob inserted = automatic mode

When the hood is removed, the emergency actuator automatically tests the emergency function and moves into its safety position for safety reasons. To allow the commissioning technician to test functionality, the emergency actuator can be switched to automatic mode by inserting the knob (1). Remove the drive hood and then insert the knob (1) into the circuit board (2).

MF200YZ Emergency Actuator

With two-way/three-way valves of the RK/RB/RF/RWG.. series

Product Description**NOTICE****Observe after installing the emergency actuator**

If the emergency actuator was installed on-site, the actuating stroke must be adjusted to the valve stroke using initialization (INIT).

Status of the LED displays

LED beneath the emergency actuator cover	Meaning
Constantly lit	Normal operation
Short flashes	Disabled state / voltage polarity incorrect
Long flashes	Installation run

Commissioning Steps**1. Testing for proper actuating device installation and testing the electrical connection****2. Adjusting the valve functions**

The valve function is adjusted using the 4 switches beneath the emergency actuator hood.

(1) **Switch:** Switch on/switch off valve block protection

Factory setting: O (off)

(2) **Switch:** Setting of the control range of the actuating signal

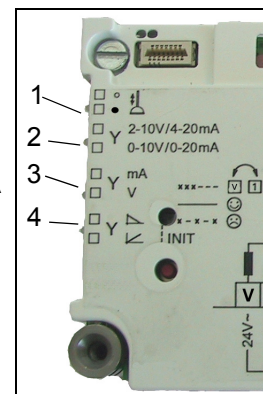
Factory setting: 0–10 V/0–20 mA

(3) **Switch:** Setting of the actuating signal Y and position feedback live or energized

Factory setting: V

(4) **Switch:** Sequence setting for controlling the actuating direction “valve open” or “valve closed” (e.g. DC 0–10 V or DC 10–0V)

Factory setting: ↙







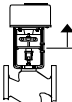

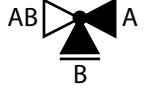

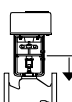

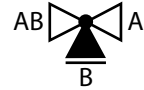



Position feedback



NOTE

Inverting the control signal (/) also adjusts the sequence of the position feedback. The control signal and the actuating feedback are coupled to each other in their sequence.

(2) Switch	(3) Switch	Operating mode	Yin Terminal "Y"	Yout Terminal "A"	Notes
0-10V/0-20mA	V	Init/ manual mode/ valve blocking	DC 0-10 V	> approx. DC 12.5 V	
		Automatic	DC 0-10 V	DC 0-10 V	
2-10V/4-20mA	V	Init/ manual mode/ valve blocking	DC 2-10 V	> approx. DC 12.5 V	
		Automatic	DC 2-10 V	DC 2-10 V	
			less than DC 2 V	> approx. DC 12.5 V	"Line break"
0-10V/0-20mA	mA	Init/ manual mode/ valve blocking	0-20mA	20mA	
		Automatic	0-20mA	0-20mA	
0-10V/4-20mA	mA	Init/ manual mode/ valve blocking	4-20mA	20mA	
		Automatic	4-20mA	4-20mA	
			less than 4 mA	0 mA	"Line break"

Actuating direction	Two-way valve	Three-way valve
	 RFH/RGD..	 RK-BF/RB-BK/RF-BF..
	 RK/RB/RF/RWG..	
Switch position   Y = DC 10 V		
Switch position   Y = DC 10 V		
 = open  = closed  = flanged off		

MF200YZ Emergency Actuator**Product Description**

With two-way/three-way valves of the RK/RB/RF/RWG.. series

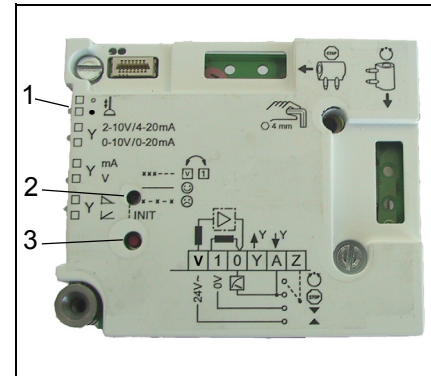
3. Switch on mains supply

LED (2) flashes.

4. Initialization, adjustment to valve stroke

The initialization run is switched on by pressing the INIT key (3). The valve is completely opened and closed once during initialization. LED (2) flashes during initialization. The emergency actuator always moves first to the upper end position and then to the lower end position.

The LED remains constantly lit to signal that initialization is completed. The INIT key and the LED are located beneath the drive hood (see illustration).

**5. Valve block protection**

Block protection prevents the ball from jamming when the valve is not moved for a longer period of inactivity, e.g. for heating systems, during the summer. When block protection is activated, the valve ball is lifted for several seconds if there is no stroke movement for 24 hours. Block protection is not activated when the unit is delivered. If plant specifications permit, the valve block protection feature may be activated. Valve block protection can be switched on during the initialization phase.

Valve block protection is switched on and off using switch (1), which is located beneath the drive hood.

6. Manual adjustment

Remove the emergency actuator cover for manual operation. Using the hexagon socket key (key socket 4 mm), the valve can be moved into any position. The knob is then used to lock the emergency actuator.

7. Accessories

If additional components are installed on the emergency actuator (see accessories), their functionality must be tested and adjusted as necessary.

You must follow the accessories' descriptions with connection instructions when doing so.

8. Function test

Replace and tighten the screws of the emergency actuator cover after the drive settings have been made with any accessories. Test the complete functionality of the actuator, including the emergency function, in the plant control circuit.