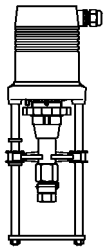
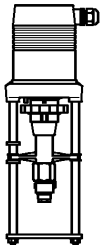
Electric actuators

1.6 kN **7.1.5**

with microcontroller
for two-way and three-way valves
BR216RA • BR316RA
BR216RA-TW • BR316RA-TW
BR206GF • BR306GF
BR216GF • BR316GF



MC161



MC160

Features

- Microprocessor controlled with automatic self-calibration on start up
- LED indication of actuator status
- Wear-free distance measuring system - no potentiometer
- Permanent storage of stroke in EPROM memory, values can not be lost
- Wire break recognition in 2...10 VDC and 4...20 mA operation
- Bonnet detachable in four positions, 90° locking, no screws required
- Safety position for switching a binary signal (frost safety)
- Pull-out manual adjustment with message signal
- Fault recognition in continuous operation (in case of blockage by foreign bodies)
- Input and output signal independently reversible
- Input signal freely adjustable: 3-point or modulating
- Hysteresis freely adjustable
- Shockproof at 230 VAC, no protective conductor (PE) necessary

Technical data

Type		**MC160/24**	**MC161/24**	**MC160/230**	**MC161/230**
Actuating time [1]	s/mm	6 · 4*		6 · 4*	
Actuating thrust	kN	1.6		1.6	
Stroke	mm	max. 30	max. 20	max. 30	max. 20
Power supply	VAC	24 ±10%		230 +6% -10%	
Power supply [2]	VDC	24 ±10%		-	
Frequency	Hz	50/60 ±5%		50/60 ±5%	
Power consumption	VA	6		12	
Input signal [3]		3-point 0(2)...10 VDC 0(4)...20 mA	77 kOhm 0.51 kOhm	3-point 0(2)...10 VDC 0(4)...20 mA	77 kOhm 0.51 kOhm
Output signal [3]		0...10 VDC	max. 8 mA min. 1200 Ohm	0...10 VDC	max. 8 mA min. 1200 Ohm
Hysterisis [4]	V	0.05 · 0.15 · 0.3 · 0.5		0.05 · 0.15 · 0.3 · 0.5	

Enclosure protection:	IP 54	
Resolution:	electric mechanical	0.04 VDC 0.05 mm
Operating mode:	S3-50% ED c/h 1200	EN 60034-1
End position switch-off:	load-dependent	
Ambient temperature:	0...+60°C	
Weight:	3.2 kg	

[1] Actuating time freely adjustable, presetting is marked with *
[2] only retified alternating voltage
[3] Invertible input and output signal
[4] Freely adjustable

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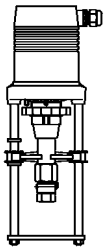
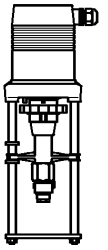


MC161

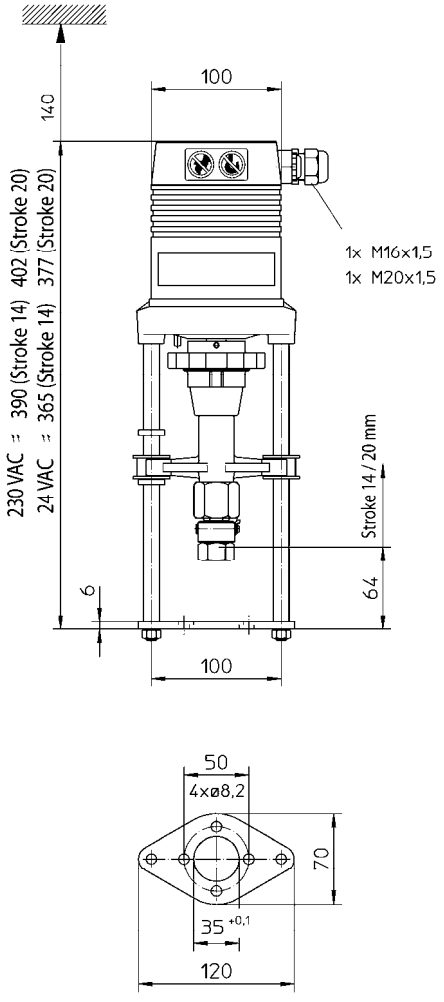


MC160

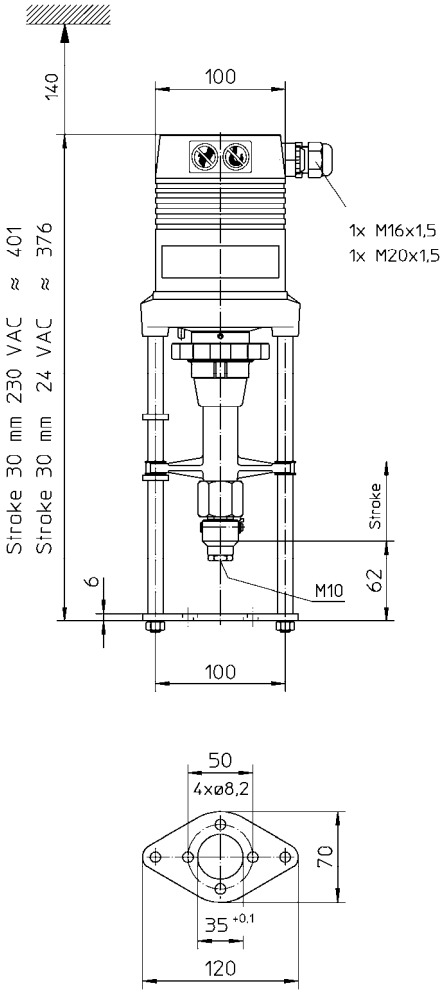
Actuator variant and accessories

- Voltage: 115 VAC
- Position switch unit [1]: 2 switches (WE1/WE2), potential free, infinitely adjustable
  Rated load: 8 A / 250 VAC
  8 A / 30 VDC
  Turn-on voltage: max. 400 VAC
  max. 125 VDC
- Enclosure protection: IP 65
- Board for output signal X=0(4)...20 mA [1]
- Adapter with coupling for external products

Drawing



MC161
DN 32 – DN 50



MC160
DN 65 – DN 100

[1] Position switch unit and output signal not in combination

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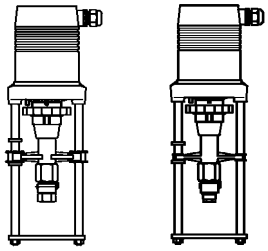
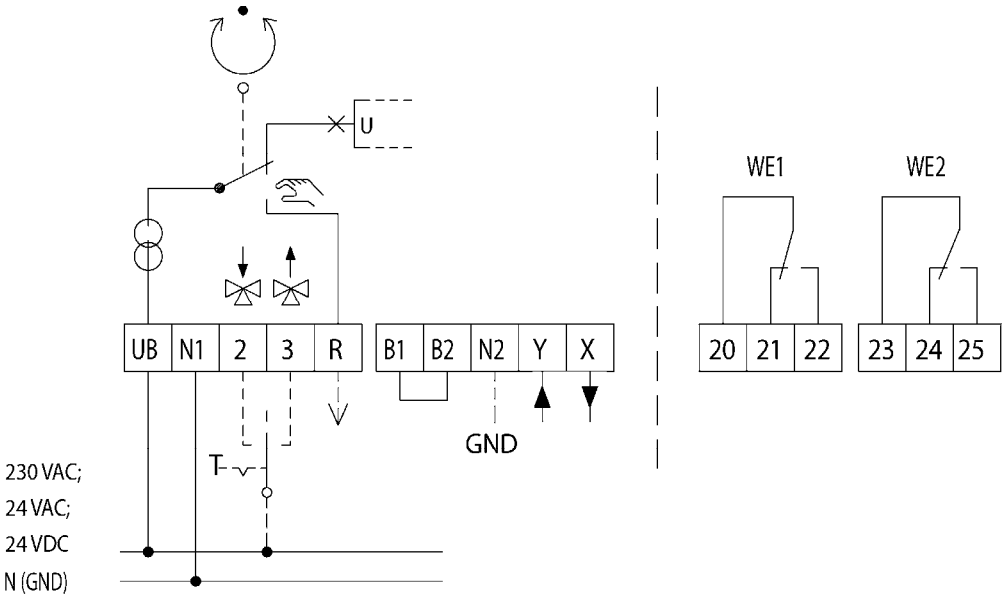


MC161 **MC160**

Circuit diagram



R Feedback signal in „Manual“ mode of operation
R=24 VAC max.100 mA for actuators in 24 VAC design
R=24 VDC max.100 mA for actuators in 24 VDC design
R=24 VDC max. 100 mA for actuators in 230 VAC design

N2 Zero potential of the „X“, „Y“ and „R“ signals.
If the actuators in 230 VAC design are to be triggered on the „continuous“ mode of operation, i.e. by analogue signal „Y“, the connection of N2 (zero potential of the controller) is absolutely necessary. For actuators in 230 VAC design the connection N2 in the „3-position“ mode of operation is only necessary if „X“ and/or „R“ are to be use by the actuator. If the zero potentials of the signals X, Y and R are identical with the zero potential of the supply voltage, a bridge can be laid between N1 and N2 in order to save an additional lead to N2.

B1/B2 Connection of a binary signal (e.g. frost safety)

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