

MF20 SR



Spring Return Butterfly Valve Actuators

Modulating and Two Position Control, 20 Nm

The MF20 SR is a robust, reliable rotary actuator for the control of the VF208W 25-100 butterfly valves. These actuators mount without linkage kits for a quick and simple installation.

The actuator is controlled with either an on/off (full open/ full close) or a 2-10 VDC proportional control signal, moving the butterfly valve to the desired position while tensioning the return spring. The butterfly valve is driven back to the rest position by spring force if the supply voltage is interrupted.

The factory default spring return rest position is normally closed. Adaptation to a normally open configuration can be done in the field by changing the mounting orientation of the main actuator within its mounting frame.

The actuator is overload-proof, requiring no limit switches and automatically stopping when the end point is reached.

Features

Simple direct mounting

Straightforward direct mounting for the VF208W butterfly valve with only one screw. The mounting position in relation to the butterfly valve can be selected in 90° steps.

Manual override

Manual operation of the valve with the hand crank, locking in any position with the interlocking switch. Unlocking is manual or automatic by applying the operating voltage.

Adjustable angle of rotation

Adjustable angle of rotation with mechanical end stop.

Flexible Auxiliary Switch

For the actuators with integrated auxiliary switches, one switch has a fixed setting at 10%, and the other switch can be adjusted between 11-100%.

Available Products

Part Number	Type Designation	Power Supply		Power Consumption			Control Signal	Cable Size
		VAC	VDC	Operation	Rest	Wire Sizing		
MF20SR-TS	MF20 SR-24/230TS 1M54 00	24-240	24-125	7 W	3 W	18 VA	2 position (open/ closed)	2+6 x 0.75 mm ²
MF20SR-24M	MF20 SR-24M 1M54 00	24	24	5.5 W	3 W	8.5 VA	2-10 V modulating	4 x 0.75 mm ²

Specifications

Motor torque

Min. 20 Nm @ nominal voltage

Spring return torque

Min. 20 Nm

Nominal Voltage

24V AC/DC units (MF20 SR-24M)

AC: 50/60 Hz; 19.2-28.8 V

DC: 21.6-28.8 V

Universal voltage units (MF20 SR-TS)

AC: 50/60 Hz; 19.2-264 V

DC: 21.6-137.5 V

Motor Running Time

Two position (open/close)

≤75 s/90°

Modulating

≤90 s/90°

Spring return

≤20 s@-20...50°C max. 60s@-30°C

Control Signal (MF20 SR-24M)

Range of operation (X)

2-10V DC

Input resistance

100 kΩ

Position feedback (Y)

2-10V DC, max 0.5mA

Positional accuracy

+/- 5%

Functional Data

Direction of motor rotation, MF20 SR-24M

Reversible with Switch X1=0

Direction of motor rotation, MF20 SR-TS

Via mounting orientation NC/NO

Spring return

Via mounting orientation NC/NO

Manual override

5mm hex key crank, supplied, plus interlocking switch

Angle of rotation

Max 90°, limited by an adjustable end stop

Position indication

Mechanical

Power consumption

See Available Products, page 1

Environment

Enclosure rating

IP54, NEMA 2, UL enclosure type 2

Operation temperature

-30°C to + 50°C

Storage (non operation)

-40°C to + 80°C

Ambient humidity

95% r.h. non condensing

Sound power level

Motor: ≤45 dB

Spring return: ≤62 dB

Weight

MF20 SR-24M: approx. 2.3 kg

MF20 SR-TS: approx. 2.5 kg

Safety

Protection Class, MF20 SR-24M

III Extra low voltage/UL Class 2

Protection Class, MF20 SR-TS

II Totally insulated

Service Life

Min. 60,000 emergency positions

Maintenance

Maintenance free

Pollution degree

3

Rated Impulse Voltage

MF20 SR-24M

0.8 kV

MF20 SR-TS

4 kV

Auxiliary switch (MF20 SR-TS)

2.5 kV

Standards of Conformity

EMC

CE according to 2004/108/EC

LVD

CE according to 2006/95/EC

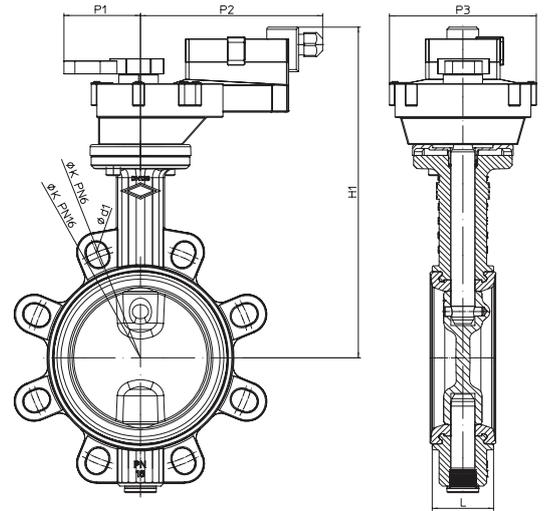
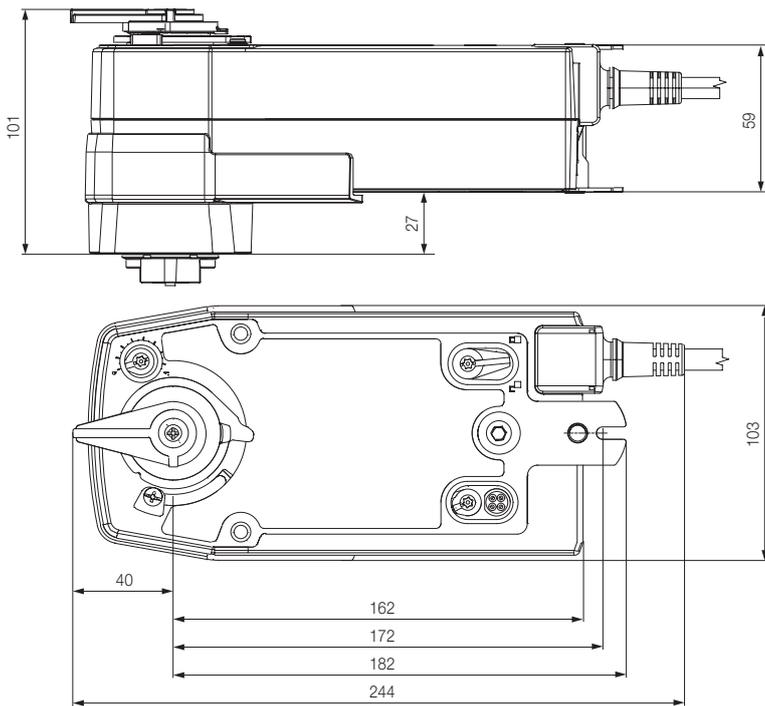
Certification

cULus to UL60730-1A and UL60730-2-14 and

CAN/CSA E60730-1:02

IEC/EN 60730-1 and IEC/EN 60730-2-14

Dimensions (mm)

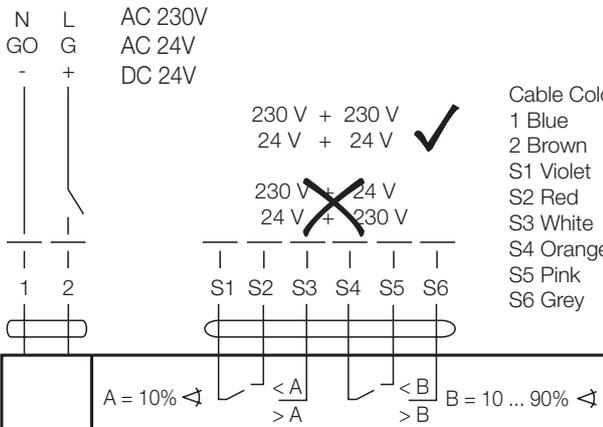


DN	25	32	40	50	65	80	100
H1	212	212	218	224	234	242	263
P1	70						
P2	142						
P3	95						

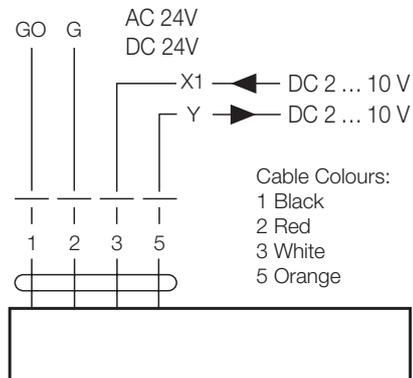
Dimensions in mm.

Wiring

MF20 SR-TS



MF20 SR-24M



Safety Notes



- The actuator must not be used outside the specified field of application.
- It may only be installed by suitably trained or supervised personnel. Any legal regulations or other regulation issued by authorities must be observed during installation.
- The switch for changing the direction of rotation must only be operated by authorised personnel. In particular, the direction of rotation must not be reversed in a frost protection circuit.
- The actuator may only be opened at the manufacturer's site. It does not contain any serviceable or replaceable parts by the user.
- The cable and connector must not be removed from the device.
- The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.