



## Description

The actuator series AVF70 has been designed to control the flanged globe valves serie VF, size DN150 and DN200. The actuator is equipped by a double bidirectional synchronous motor at 7000 N and available in ON-OFF, floating and proportional version. Fast and easy assembly. The actuator is fitted with manual override for the drive in case of power failure.

## Technical specifications

<b>Power supply</b>	24 V AC $\pm 10\%$ , 50/60 Hz, 12 VA
<b>Electrical connection</b>	Screw terminal
<b>Torque</b>	7000 N
<b>Max. stroke</b>	38 mm
<b>Running time</b>	See schedule
<b>Materials</b>	ABS cover, self-extinguishing Aluminium bracket
<b>Protection degree</b>	IP54
<b>Protection class</b>	II
<b>Working range °C</b>	-10...+50°C
<b>Storage temperature and humidity</b>	-40...+50°C, 1...95% RH, non-condensing
<b>Fluid temperature</b>	< 150°C
<b>Maintenance</b>	Free



Models	Action	Stroke mm	Running time
AVF70	on-off, floating	38	240 sec. with 50 Hz 175 sec. with 60 Hz
AVF70M	proportional		

## Electrical wiring

### AVF70M (proportional)

Terminal J1:

- 02:** When short-circuiting with T2 (o -), then the stem goes completely up (direct way close). The position of W3 has no effect.
- 01:** When short-circuiting with T2 (o -), then the stem goes completely down (direct way open). The position of W3 has no effect.

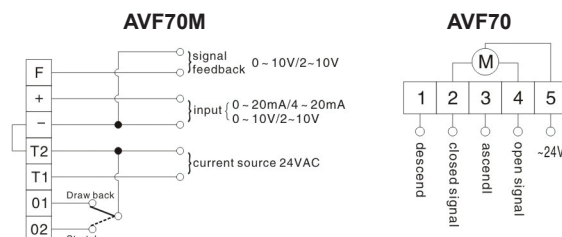
**T1 T2:** input terminal at 24 V AC. T2 is common terminal (T2 is connected with -).

**- +:** Input signal 4...20 mA (2...10 V DC) / 0...20 mA (0...10 V DC).

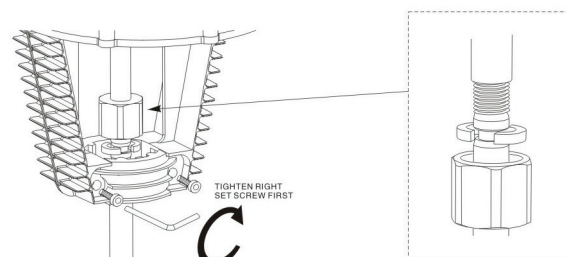
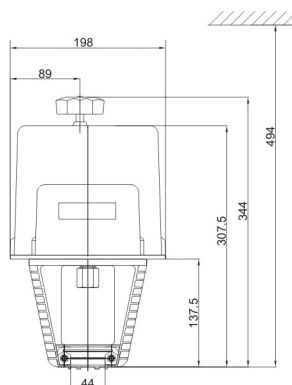
**F:** Feedback signal. There is a signal 0...10 V DC or 2...10 V DC

### AVF70 (on-off, floating)

- 1:** 24 V AC Stem down (direct way open)
- 4:** Feedback with stem down (24 V AC)
- 5:** 24 V AC (common)
- 6:** 24 V AC Stem up (direct way close)
- 7:** Feedback with stem up (24 V AC)



## Dimensions



## Installation

Set the actuator into neck of the body top.

Lock the two semi-rings into the groove above the stem top. Pull up the nut and connect it to the thread under the actuator.

Tighten the bolt up with 4 mm inside hexagonal wrench.

Note: tighten the right side bolt.

Ensure the stem is fastened and the connection is finished.

## Setting (AVF..M)

**W1:** 0%, 50%, 100%. Set the position of valve stroke in case of malfunction or failure of input signal. The factory default setting is 50%.

**0%** stem completely up      **50%** stem at halfway      **100%** stem completely down

Moving the jumper W3, the situation is reversed.

**0%** stem completely down      **50%** stem at halfway      **100%** stem completely up

**W2:** 4...20 mA (2...10 V DC) / 0...20 mA (0...10 V DC). This jumper must be set according to W4 to select the input signal to J1.

**W3:** Reverse operation. Moving the jumper inverts the logic of operation as compared to the input signal.

**W4:** mA / V DC. This jumper must be set according to W2 to select the input signal to J1.

**LED Status Indicator (work):** Normal operating status: flashing slowly (1 sec on, one sec off). During the self-adaptation of the actuator on the valve (after pressing S1 for at least 3 sec) flashes rapidly (0.25 sec on, 0.25 sec off).

**Self-adjustment in an error state:** blinks twice quickly and off for a long time (on 0.25 sec, off for 0.25 sec, twice, then off by 1.25 sec).

**LED indication of the rotation direction of the motor:**

When the LED **D60** lights up, the valve rod moves downward. When the valve rod reaches the bottom and hold the position for 25 seconds, the LED turns off.

When the LED **D50** lights up, the valve rod moves upward. When the valve rod reaches the top and hold the position for 25 seconds, the LED turns off.

**Self-adjustment** of the actuator to the valve. Each actuator must be adapted to the valve to which it is coupled.

Press and hold the "**S1**" key for 3 sec, the actuator automatically will enter the self-adjustment. The LED "work" is flashing rapidly (on 0.25 sec., off 0.25 sec.). The valve shaft moves down to the bottom, and then maintains the position for 25 sec and then move upward until the upper point. The self-adjustment does not end until the valve shaft does not hold the final position for 25 sec.

To self-adaptation occurred (the previous data is overwritten), the actuator returns to normal operation. Otherwise (the previous data is not overwritten), will be reported the failure of the state of self-adjustment (on 0.25 sec., off 0.25 sec., twice, then off by 1.25 sec.). You can hold down the "S1" key for 3 sec to retry the process of self-adjustment, or reboot (power cycle) of the actuator to return to normal working state.

Possible errors of self-adjustment:

1: It occurs in the case where the stroke is reached less than half the nominal stroke.

2: The connection of the potentiometer is wrong (terminal J2). Correct way: when the valve shaft is downward the potentiometer has the maximum value, when the valve shaft is upward the potentiometer has the minimum value.

