Series W-A12

Electric Control Ball Valve Actuator

♦ Application

Series W-A12 ball valve actuator adopts bilateral control. Along with Series W-ECBV electric control ball valve, the actuator can regulate the flow rate of cold or hot water. It is widely used in air conditioning, heating, water treatment and industrial processing systems to control the fluids.

♦ Feature

- AC two-way synchronous motor
- Built-in switch has power-off function when in place, achieving longer service life
- Built-in switch allows limited adjustment
- Manual lever provides flexible switch operation
- The control signals of proportional, floating-point and on/off are optional
- Proportional control actuator can provide DC0-10V feedback signal

♦ Operating Principles

Used along with Series W-ECBV electric control ball valve, the actuator can rotate the ball in the valve body to the designated opening position after receiving a standard regulation signal (0-10V or 4-20mA) or a floating point signal. Because the flow area between the valve ball and the valve seat is increased / decreased by this rotation, the flow through the valve is regulated correspondingly.

♦ Technical Specification

Proportional Control Actuator:

Type	W-A12A1X	W-A12B1X	W-A12C1X	W-A12D1X
Voltage	24VAC	24VAC	24VAC	24VAC
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Power	4VA	4VA	5.5VA	11VA
Torque (Nm)	≥4	≥5	≥25	≥65
Operating Time (0~90°)	45s	50s	121s	121s
IP Grade	IP54	IP54	IP54	IP54
Control Signal	0(2)-10VDC, 0(4)-20mA	0(2)-10VDC, 0(4)-20mA	0(2)-10VDC, 0(4)-20mA	0(2)-10VDC, 0(4)-20mA
Feedback Signal	0-10VDC	0-10VDC	0-10VDC	0-10VDC
Upper Shell	Flame-retardant ABS Plastic	Flame-retardant ABS Plastic	Flame-retardant ABS Plastic	Flame-retardant ABS Plastic
Lower Shell	Flame-retardant Reinforced Nylon PA6-110	Flame-retardant Reinforced Nylon PA6-110	Die-casting Aluminum Alloy	Die-casting Aluminum Alloy

Floating Point Control Actuator:

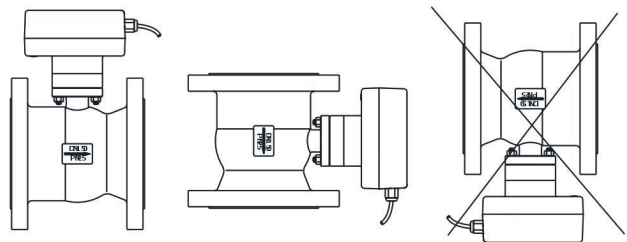| Type	W-A12A*F	W-A12B*F	W-A12C*F	W-A12D*F
Voltage	*=1:24VAC *=2:220VAC	*=1:24VAC *=2:220VAC	*=1:24VAC *=2:220VAC	*=1:24VAC *=2:220VAC
Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Power	3VA	5VA	10VA	10VA
Torque (Nm)	≥4	≥5	≥25	≥65
Operating Time (0~90°)	45s	50s	121s	121s
IP Grade	IP54	IP54	IP54	IP54
Control Signal	Floating-point or On/off Control			
Upper Shell	Flame-retardant ABS Plastic	Flame-retardant ABS Plastic	Flame-retardant ABS Plastic	Flame-retardant ABS Plastic
Lower Shell	Flame-retardant Reinforced Nylon PA6-110	Flame-retardant Reinforced Nylon PA6-110	Die-casting Aluminum Alloy	Die-casting Aluminum Alloy

♦ Technical Parameters

Product Type:

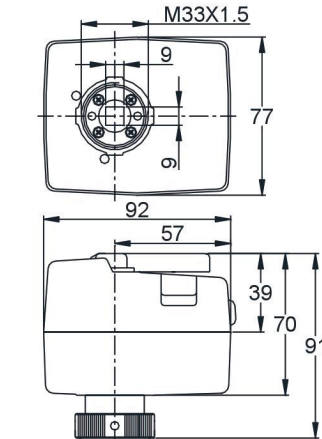| Type	Torque	Working Voltage	Control Signal
W-A12A1F	4Nm	24VAC	Floating-point or On/off Control
W-A12A2F	4Nm	220VAC	Floating-point or On/off Control
W-A12A1X	4Nm	24VAC	Proportional Control
W-A12B1F	5Nm	24VAC	Floating-point or On/off Control
W-A12B2F	5Nm	220VAC	Floating-point or On/off Control
W-A12B1X	5Nm	24VAC	Proportional Control
W-A12C1F	25Nm	24VAC	Floating-point or On/off Control
W-A12C2F	25Nm	220VAC	Floating-point or On/off Control
W-A12C1X	25Nm	24VAC	Proportional Control
W-A12D1F	65Nm	24VAC	Floating-point or On/off Control
W-A12D2F	65Nm	220VAC	Floating-point or On/off Control
W-A12D1X	65Nm	24VAC	Proportional Control

Coding Rules:

			W-	A	1 2	A	1	F

W	WATTS
A	Actuator
12	Rotary Motion

Torque
A=4 Nm	C=25 Nm
B=5 Nm	D=65 Nm

Voltage
1:24 VAC	2:220 VAC

Control Signal
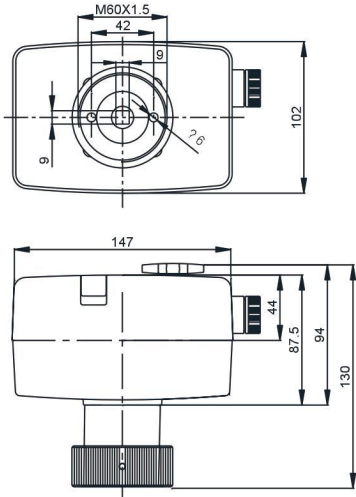X: Proportional Control F: Floating-point Control

♦ Installation

Please install the valve in the direction indicated by the arrow on the valve body. The valve can be installed horizontally and vertically, but it should not be installed downwards. The connection of the valve body and valve's actuator is clearly illustrated in the instruction manual of the valve's actuator.
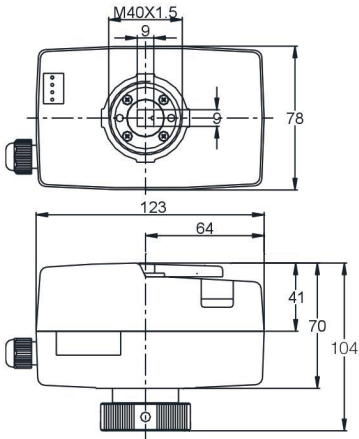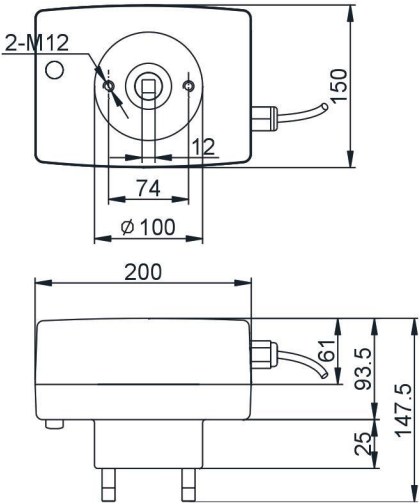
Installation Dimensions:(mm)

M33X1.5
9
77
9
92
57
39
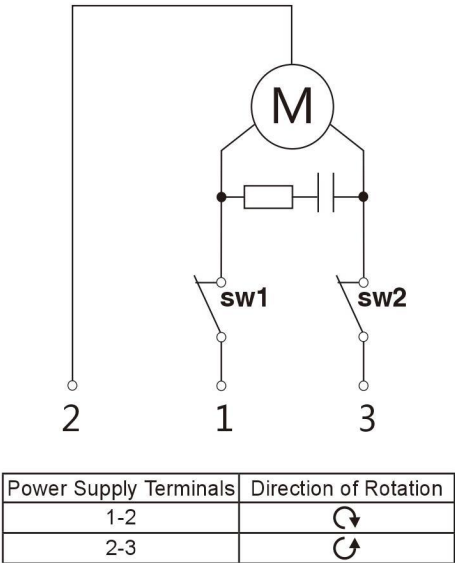70
91

Series W-A12A

M40X1.5
9
78
9
123
64
41
70
104

Series W-A12B

M60X1.5
42
9
102
ø6
9
147
44
87.5
94
130

Series W-A12C

2-M12
150
12
74
ø100
200
61
93.5
25
147.5

Series W-A12D

Wiring Diagrams:

M

sw1   sw2

2   1   3

Power Supply Terminals	Direction of Rotation
1-2	↻
2-3	↻

Floating-point Control

M

Electronic Card

1	2	3(+)	4(+)
Power Supply 24VAC	Power / Signal Common Terminal	Control Signal 0-10V DC 0-10V DC 0-20mA DC 4-20mA DC	Feedback Signal 0-10V DC

Input Control Signal		Direction of Rotation
DA	RA	
Increase	Decrease	↻
Decrease	Increase	↻

Proportional Control