Electric Actuator

EB Series

Overview

The EB series actuator is powered by an electric motor driving a worm-type gearbox. The worm gearbox prevents reverse drive due to fluid forces. It is fitted with manual override as standard, enabling valve operation without power.

EB Actuator

Typical applications

- Quarter turn applications such as ball, butterfly, plug valves and dampers, especially in harsh operating environments
- Suitable for marine applications and processes where vibration is present

Key features and benefits

- Self-locking with minimum backlash in the transmission - prevents valve movement due to flow
- Field upgradeable to add electronic positioner
- Manual override fitted as standard - valve can be operated in event of power failure
- Two torque switches - provide protection in event of actuator overloading
- Robust design

Operation

Electric system

Temperature probe 8060

Temperature controller 8071/2D, IP67 enclosure

G valve

The AMOT electric valve system (Model G) incorporates the use of an electrically actuated three-way control valve with an electronic controller and actuator. The electric actuator is a rugged, compact and lightweight quarter turn actuator having enclosure protection to IP66.

Specification

Power	115V or 230V AC ± 10%	50/60Hz single phase
Limit switches	Two open/close SPDT	250V AC, 10A
Motor thermal protection	Open 150°C nominal	
Angular rotation	110° max	Quarter turn
High reliability contactless Hall effect sensor	Linear 0-5V output	
Duty cycle at 20°C	EB 100	65%
	EB 200	100%
Cable entry	2 x M25 x 1.5	IP68 glands provided
Mechanical stop	Two adjustable screws	
Manual override	Automated declutching mechanism	
Materials	Steel, aluminium alloy, aluminium bronze, polycarbonate	
External coating	Dry powder polyester	
Weatherproof enclosure	IP66, NEMA 4 and 6	
Ambient temperature	-20°C to +70°C	
Ambient humidity	90% RH max (non-condensing)	
Anti-condensation heater	7 - 10W	
Vibration resistance	5 - 100 Hz	4g for defined test time
	100 - 300 Hz	1g for defined test time
	5 - 300 Hz	1g
	Exceeds IACS marine class test specification	

Performance

Model	Max output torque	Stroke time (secs)		Max current	
		50 Hz	60 Hz	220V	110V
EB100	100 Nm	25	21	1.0A	2.0A
EB200	200 Nm	31	26	1.2A	2.2A

Mechanical

Model	Weight	Mounting		Drive interface ISO(5211) mm
		PCD (mm)	Thread	
EB100	16.6 kg	102	M10	17 mm square
EB200	22 kg	125	M12	22 mm square

Optional 4 - 20mA positioner

The AMOT actuator/valve positioner is set by an industry standard 4-20mA position demand input signal, which drives a solid state motor drive circuit. Microprocessor based, the unit uses the signal from the position feedback sensor to accurately position the actuator, taking into account motor response time, and actuator overshoot.

Software configuration allows:

- 4-20mA output to be set for demand, position or error transmit
- selection of reverse or direct mode for CW or ACW = 4mA
- action on demand signal failure to be set as stationary, or move to 4mA or 20mA ends
- deadband adjustment

All high voltage components are encapsulated to withstand vibration, and three LEDs are fitted to indicate status. Two alarm outputs are provided.

The 4 - 20mA input and output, and the alarm outputs are galvanically isolated.

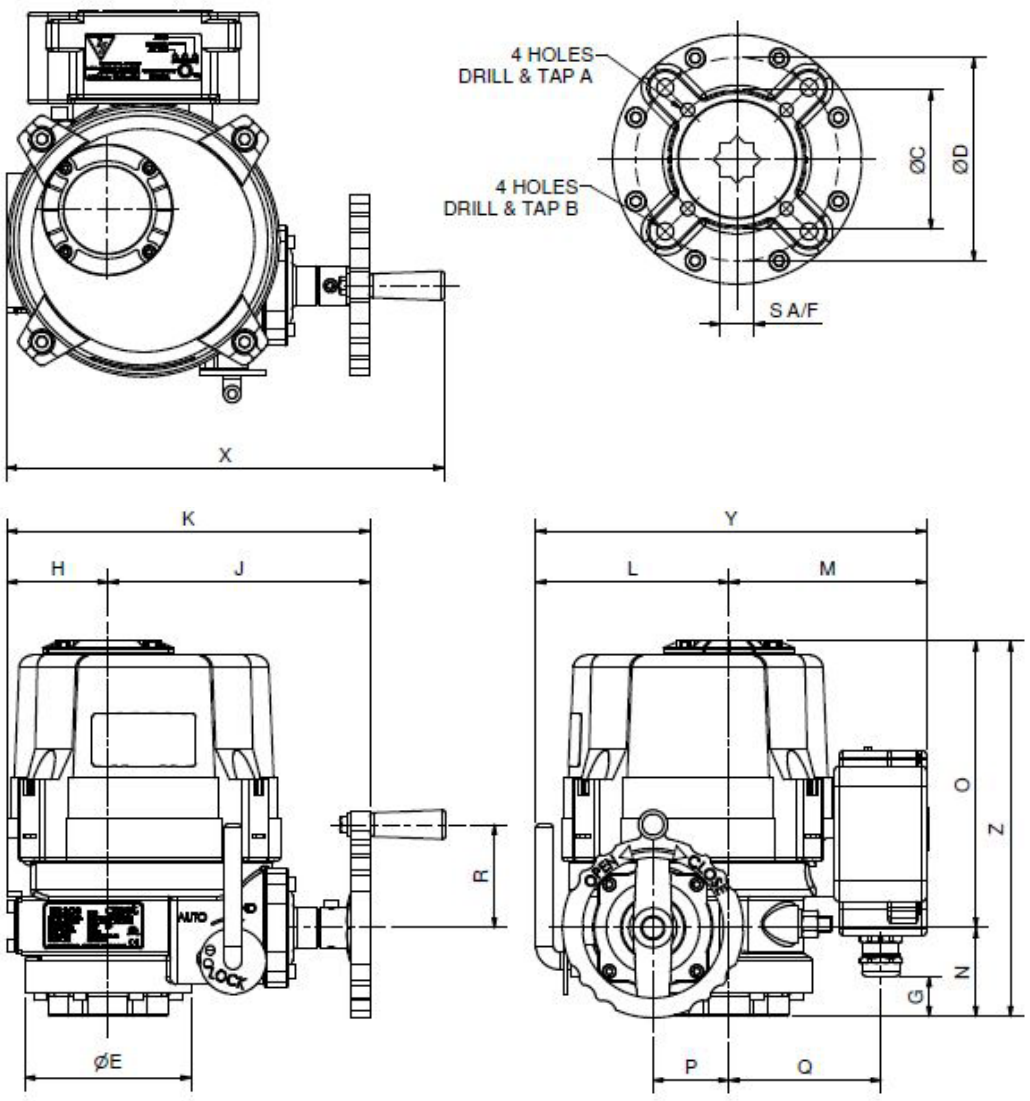
How to order

Use the tables below to select the unique specification of your EB series actuator.

Please select one characteristic from each section. Each characteristic is associated with a code that you will need to state when ordering.

Example code	EB	100	B	A	A	AA	-AA	**Code Description**
Actuator type								**Actuator type**
	EB							Electric
Size and torque								**Size and torque**
		100						100 Nm
		200						200 Nm
Supply voltage								**Supply voltage**
			A					115V AC
			B					230V AC
Hardware options								**Hardware options**
				A				Standard - no additional hardware
				B				Positioner fitted
Control signal								**Control signal**
					A			Switched live control
					B			4-20mA (cold to hot), Hardware option B only
					C			20-4mA (cold to hot), Hardware option B only
Feedback signal								**Feedback signal**
						AA		None (Hardware option A only) Control signal A only
						BA		Position retransmit 4-20mA control (Hardware option B only) Control signal B or C only
						CA		Position retransmit 4-20 mA (cold to hot) (Hardware option B only) Control signal A only
						DA		Position retransmit 20-4 mA (cold to hot) (Hardware option B only) Control signal A only
Special requirements								**Special requirements**
							-AA	Standard product

Dimensions



Dimensions in mm

Model	Base ISO 5011	A	B	C	D	E	G	H	J	K	L	M	N	O	P	Q	R	S	X	Y	Z
EB100	F07	M8	M10	70	N/A	125	30	76	197	273	145	149	67	217	57	115	78	17	330	294	284
	F10			N/A	102																
EB200	F10	M10	M12	102	N/A	148	35	78	213	291	156	149	70	220	57	115	78	22	348	305	290
	F12			N/A	125																

Dimensions in inches

Model	Base ISO 5011	A	B	C	D	E	G	H	J	K	L	M	N	O	P	Q	R	S	X	Y	Z
EB100	F07	M8	M10	2.8	N/A	4.9	1.2	3	7.8	10.7	5.7	5.9	2.6	8.5	2.2	4.5	3.1	0.7	13	11.6	11.2
	F10			N/A	4																
EB200	F10	M10	M12	4	N/A	5.8	1.4	3.1	8.4	11.5	6.1	5.9	2.8	8.7	2.2	4.5	3.1	0.9	13.7	12	11.4
	F12			N/A	4.9																

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