

BEO-Series Electric Actuator

The quarter-turn BEO-series electric actuator is an alternative to the rack and pinion actuator when an air supply isn't available. This electric actuator is used with sanitary and industrial valves for quarter turn actuation in industrial, food/beverage, and pharmaceutical applications.

Certifications

- CSA (except BM-2), CE (except for BM-2), UKCA (except BM-2), RoHS, China RoHS, REACH

Features

- ISO 5211 mounting flange
- Self-locking gear system
- Mechanical position indication
- Mechanical stops (except OM-1 / A / BM-2)
- Built-in thermal protection
- 30% duty cycle
- Clutchless manual override (for safe operation, handwheel does not rotate during operation)
- Standard anti-condensation heater to prevent the freezing of lubricants and keep interior dry to prevent product damage from moisture (heater not recommended if ambient temperature is over **95°F** or **35°C**)
- Enclosure features
 - Aluminum alloy, polyester powder coated
 - Corrosion protection C3 according to ISO 12944-6
 - OM-1, OM-A, BM-2, and BM-T utilize a plastic clover
 - NEMA 4X, 5, and IP67 (waterproof and dustproof enclosure intended for outdoor use)
- Gear train features
 - High alloy steel gear trains with self locking to avoid backlash
 - Gear trains are factory lubricated for life
- Motor features
 - Insulation class F
 - Built in thermal protection prevents motor burnout
 - AC motor: **257±9°F (125±5°C)**
 - DC motor: **194±9°F (90±5°C)**

Specifications

- Standard connections: ISO 5211 mounting flange
- Working temperature range: **-22°F to 149°F (-30°C to 65°C)**
- Working relative humidity range: 30% to 90%
- Standard voltages: 12 VDC, 24 VDC/AC, 115VAC, 220VAC
- Options
 - **Heater thermostat:** can switch the anti-condensation heater off when the temperature inside the actuator is higher than **77±9°F (25±5°C)**
 - **Auxiliary limit switches:** actuators come standard with two limit switches (LS1 for fully open and LS2 for fully closed position). Two auxiliary limit switches are optional for fully open and fully closed position feedback.
 - **Modulating control:** a proportional control unit
 - Analog signal input: 4-20mA, 1-5V, and 2-10V
 - Analog signal output: 4-20mA and 2-10V
 - **Potentiometer unit:** recommended to use with a floating control actuator to output signal for position indicator. Two resistors, 1K ohm or 5K ohm are available for selection.
 - **Analog signal output:** recommended to use with a floating control actuator for position indication
 - Analog signal output: 0-20mA, 4-20mA, 0-5V, 0-10V, 1-5V, and 2-10V
 - **Extended duty cycle controller** (including motor, IEC standard): 75% duty cycle available for OM-A, OM-1 to OM-6
 - **Enclosure material:** IP68 316 stainless steel; available for OM-1 to OM-6
 - **Torque switch:** torque overload protection. Must be ordered with actuator, installed and set up at factory
 - **Local control unit:** contains LOCAL/REMOTE and CLOSE/OFF/OPEN rotary switches. In LOCAL mode, the valves are directly being controlled in the field and can be operated to close, stop, or open by using CLOSE/OFF/OPEN selector switch.
 - Standard: IP65
 - Optional: IP67, NEMA 4X
 - For OM-1 and OM-A: LCU is only available for floating control units
 - For OM-2 to OM-6: three phase power supply units with modulating control must be optioned with LCU



BEO-Series Electric Actuator - Part Number Key

BEO-Series Electric Actuator Part Number Key Example: BEOM-TB-11		Series	Model	Voltage		Option 1	Option 2
		BE	BM-T	B	-	1	1
Series	Code						
BE	BE						
Model	Code						
BM-T ¹	BM-T						
OM-1	OM-1						
OM-A	OM-A						
OM-M	OM-M						
OM-2	OM-2						
BM-2 ²	BM-2						
OM-3	OM-3						
OM-4	OM-4						
OM-5	OM-5						
OM-6	OM-6						
Voltage	Code						
115 VAC	B						
12 VDC	C						
24 VDC/AC	E						
220 VAC	F						
Option 1	Code						
None	1						
Torque switches	2						
4-20mA input/output modulating controller	3						
Current position transmitter	4						
Potentiometer	5						
Local control unit	6						
Two extra travel cams and switches	7						
Three position cam set	8						
Local control unit with lock	9						
1-5V input/2-10V output modulating controller	A						
2-10V input/output modulating controller	B						
75% duty cycle ³	C						
Four position cam set	D						
Heater thermostat	E						
No heater	F						
Option 2 ⁴	Code						
None	1						
Torque switches	2						
4-20mA input/output modulating controller	3						
Current position transmitter	4						
Potentiometer	5						
Local control unit	6						
Two extra travel cams and switches	7						
Three position cam set	8						
Local control unit with lock	9						
1-5V input/2-10V output modulating controller	A						
2-10V input/output modulating controller	B						
75% duty cycle ³	C						
Four position cam set	D						
Heater thermostat	E						
No heater	F						

¹ No options available

² Options 1, 7, & E available

³ Not available in 220 VAC

⁴ If 2 options selected, list lower code first

NOTE: Do not duplicate options selected from Option 1 to Option 2.
Some options are not available to combine.

BEO-Series Electric Actuator - Supply Voltages

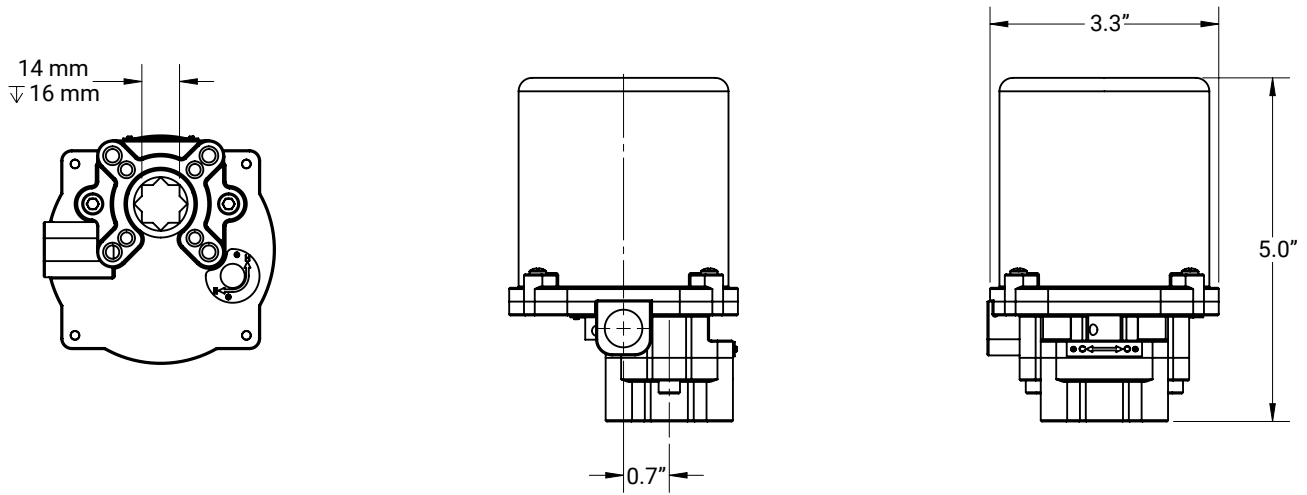
Model	Voltages								
	12 V		24 V		1-Phase		3-Phase		
	DC	AC	DC	AC	110-120 V	220-240 V	220-240 V	380-415 V	440-480 V
BM-T	✓		✓	✓	✓	✓			
OM-1	✓	✓	✓	✓	✓	✓			
OM-A	✓		✓	✓	✓	✓			
BM-2					✓	✓	✓	✓	✓
OM-2 to OM-6	✓		✓	✓	✓	✓	✓	✓	✓

Standard Mounting Specs

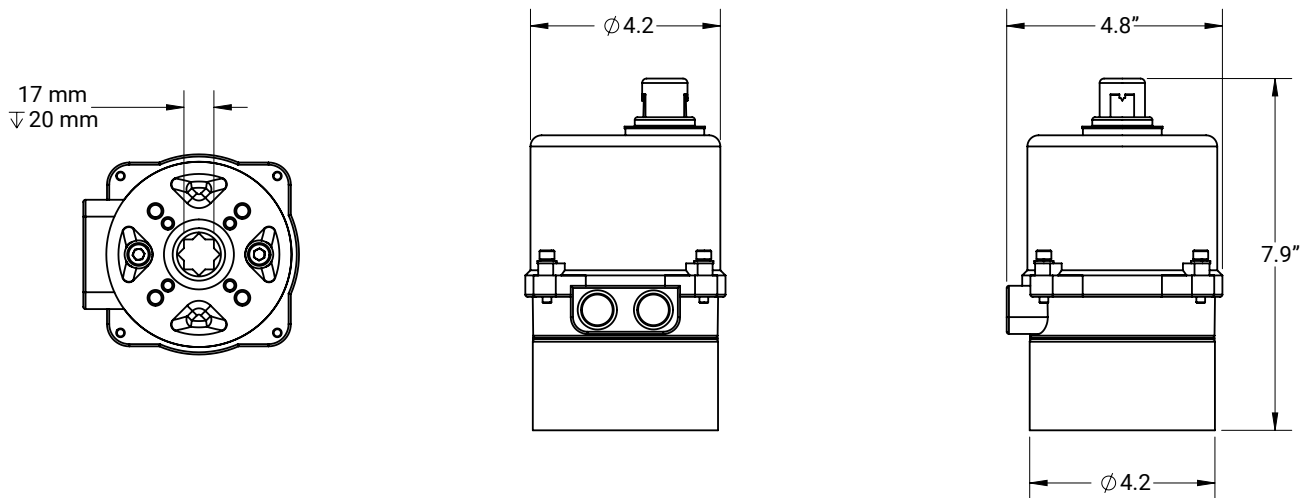
Model	Mounting Flange ISO 5211
BM-2	F07
BM-T	F03 / F05
OM-A	F05 / F07
OM-1	F03 / F05
OM-2 & OM-3	F07
OM-4, OM-5, & OM-6	F10

BEO-Series Electric Actuator - Dimensions

BM-T

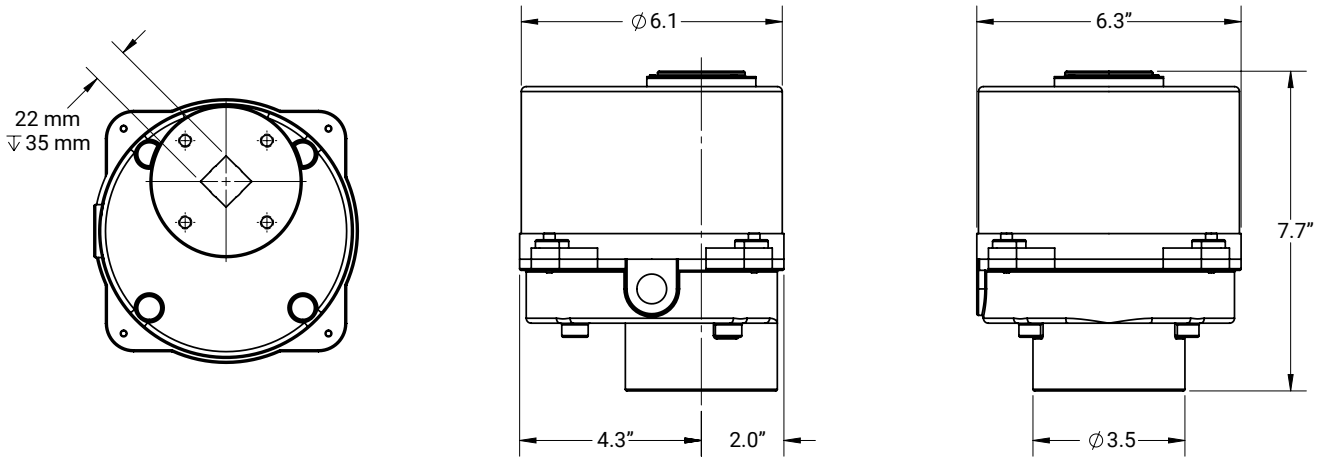


OM-A

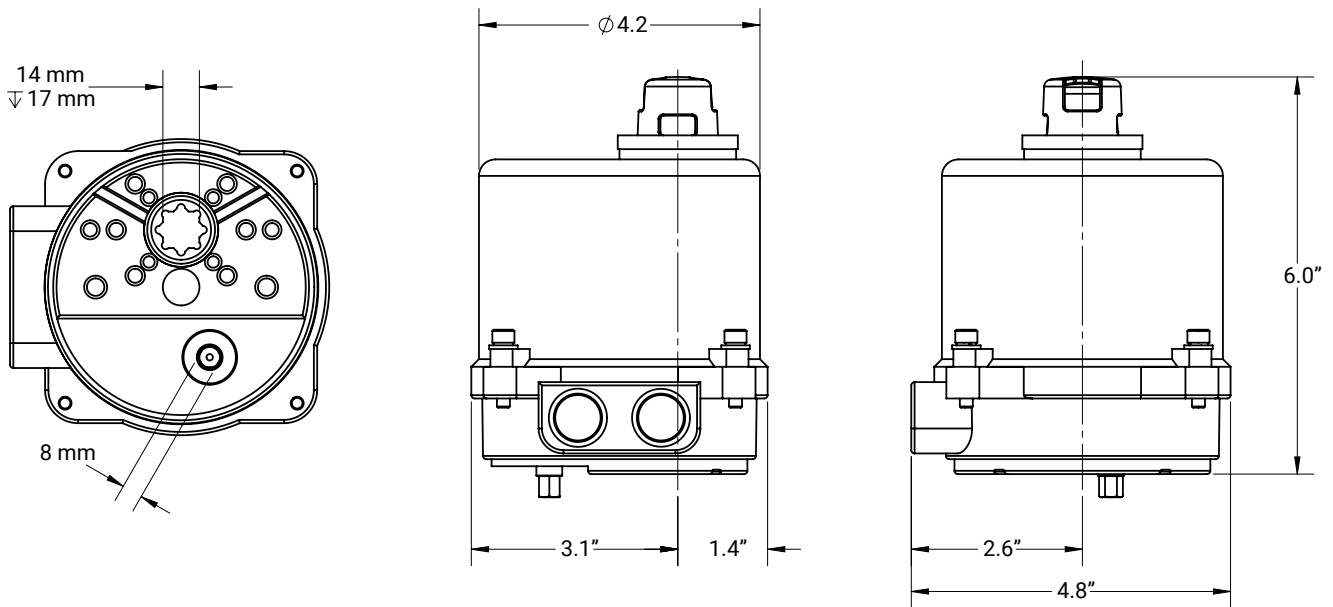


BEO-Series Electric Actuator - Dimensions

BM-2

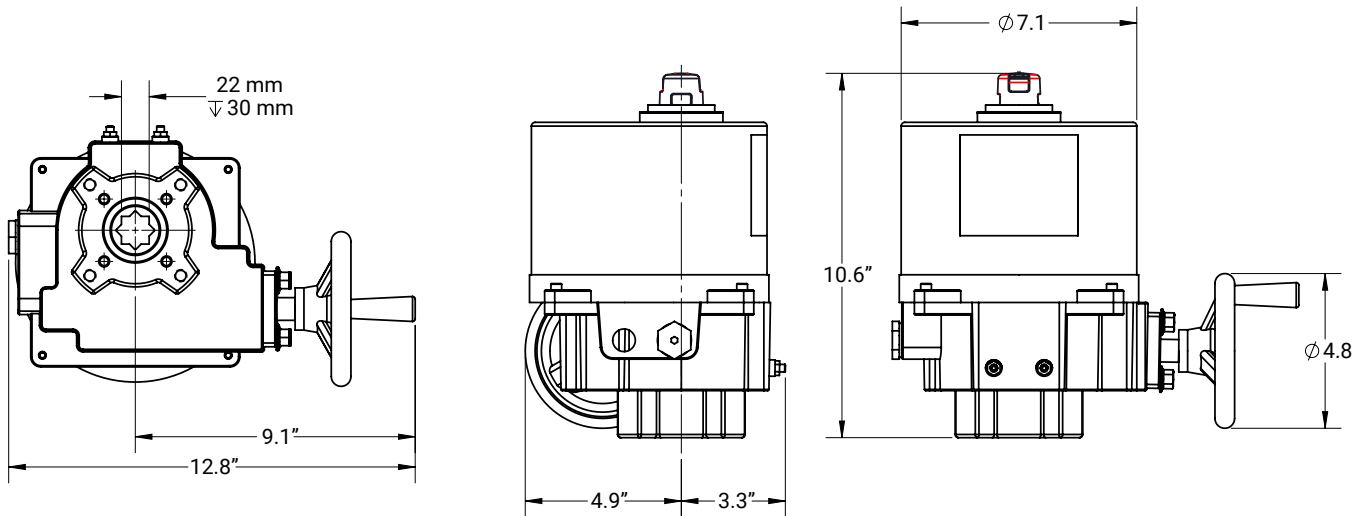


OM-1

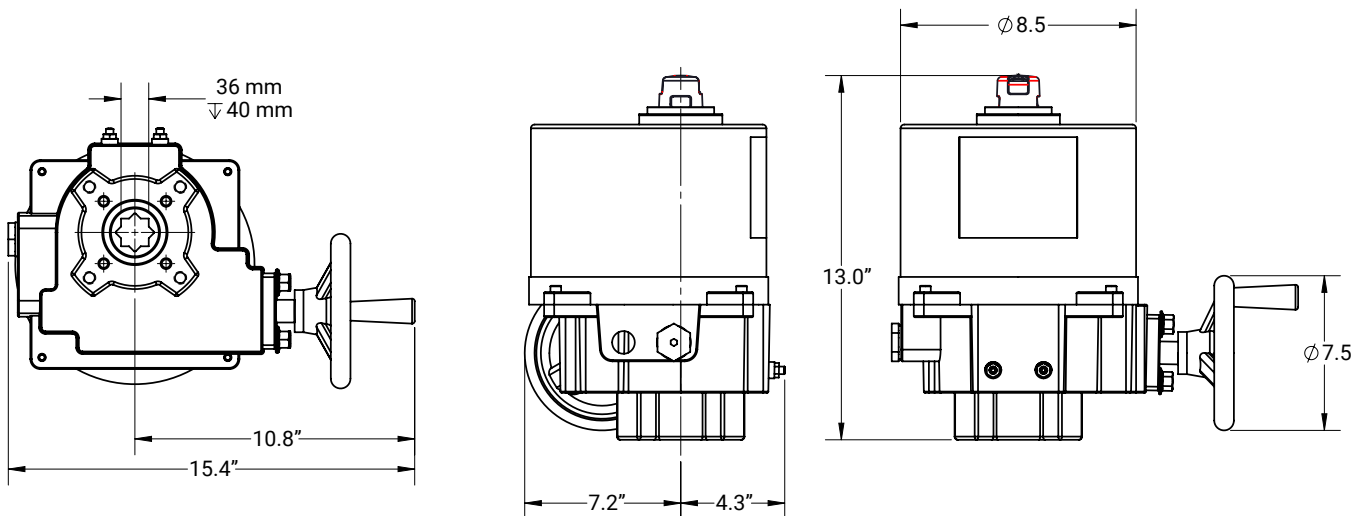


BEO-Series Electric Actuator - Dimensions

OM-2 & OM-3



OM-4, OM-5, & OM-6



BEO-Series Electric Actuator - Torque, Weight, and Override Specifications

Model	Output Torque		Weight		Manual Override
	N-m	in-lbs	kg	lbs	
BM-T	15	132	1.5	3.3	lever
OM-A	50	443	3	6.61	-
OM-1	35	310	2	4.41	lever
BM-2	120	1063	5.5	12.13	hand wheel
OM-2	90	797	11	24.25	
OM-3	150	1328	11	24.25	
OM-4	400	3542	20	44.09	
OM-5	500	4427	20	44.09	
OM-6	650	5756	20	44.09	

Electrical Data

BM-T and OM-1 to 6, 1 PH, 30% and 75% duty cycle

BM-T, 1 PH, 30% duty cycle

Voltage	Motor Power	Running Current			Running Time			Start Current		
		DC	60 Hz	50 Hz	DC	60 Hz	50 Hz	DC	60 Hz	50 Hz
	Watt	Amp	Amp	Amp	Sec/90°	Sec/90°	Sec/90°	Amp	Amp	Amp
12	5	0.6	-	-	18	-	-	4	-	-
24		0.4	0.6	0.7	16	19	23	4	2	2
110-120		-	0.3	0.3	-	19	23	-	1	1
220-240		-	0.2	0.2	-	19	23	-	1	1

12VAC/DC, Floating Control, 75% duty cycle

Model	Motor Power	Running Current			Running Time			Start Current		
		DC	60 Hz	50 Hz	DC	60 Hz	50 Hz	DC	60 Hz	50 Hz
	Watt	Amp	Amp	Amp	Sec/90°	Sec/90°	Sec/90°	Amp	Amp	Amp
OM-1	10	2.1	2.4	2.3	22	22	21	3	4	4
OM-A	10	2.5	-	-	34	-	-	3	-	-
OM-2	40	4.5	-	-	15	-	-	12	-	-
OM-3	40	4.6	-	-	24	-	-	8	-	-
OM-4	80	14.0	-	-	21	-	-	22	-	-
OM-5	80	14.9	-	-	29	-	-	27	-	-
OM-6	80	12.3	-	-	35	-	-	18	-	-

BEO-Series Electric Actuator - Electrical Data

24VAC/DC, Floating Control, 75% duty cycle

Model	Motor Power	Running Current			Running Time			Start Current		
		DC	60 Hz	50 Hz	DC	60 Hz	50 Hz	DC	60 Hz	50 Hz
	Watt	Amp	Amp	Amp	Sec/90°	Sec/90°	Sec/90°	Amp	Amp	Amp
OM-1	10	1.4	1.6	1.6	18	18	18	2.0	8.0	8.0
OM-A	10	1.4	1.6	1.6	36	37	37	2.0	8.0	8.0
OM-2	40	2.8	3.4	3.4	18	18	17	10.0	11.0	12.0
OM-3	40	2.6	3.1	3.1	27	26	26	10.0	11.0	12.0
OM-4	80	7.7	9.4	9.4	21	20	20	20.0	30.0	30.0
OM-5	80	7.4	8.9	9	28	26	26	20.0	30.0	30.0
OM-6	80	9.0	11.1	11.6	37	37	39	20.0	30.0	30.0

24VAC/DC, Modulating Control, 75% duty cycle

Model	Motor Power	Running Current			Running Time			Start Current		
		DC	60 Hz	50 Hz	DC	60 Hz	50 Hz	DC	60 Hz	50 Hz
	Watt	Amp	Amp	Amp	Sec/90°	Sec/90°	Sec/90°	Amp	Amp	Amp
OM-1	10	1.3	2.8	2.8	18	18	18	2.0	8.0	8.0
OM-A	10	1.3	2.8	2.8	36	37	37	2.0	8.0	8.0
OM-2	40	2.8	3.40	3.40	18	18	17	10.0	11.0	12.0
OM-3	40	2.6	3.1	3.1	27	26	26	10.0	11.0	12.0
OM-4	80	7.7	9.4	9.4	21	20	20	20.0	30.0	30.0
OM-5	80	7.4	8.9	9.0	28	26	26	20.0	30.0	30.0
OM-6	80	9.0	11.1	11.6	37	37	39	20.0	30.0	30.0

110-120 VAC, Floating Control, 75% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.6	0.6	15	15	3.0	3.0
OM-A	10	0.6	0.6	28	28	3.0	3.0
OM-2	40	0.8	0.8	19	19	9.0	9.0
OM-3	40	0.7	0.7	29	28	9.0	9.0
OM-4	80	2.1	2.2	24	23	17.0	17.0
OM-5	80	1.9	1.9	28	28	17.0	17.0
OM-6	80	2.0	2.1	38	38	17.0	17.0

BEO-Series Electric Actuator - Electrical Data

110-120 VAC, Modulating Control, 75% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.6	0.6	18	17	3.0	2.0
OM-A	10	0.6	0.6	33	33	3.0	2.0
OM-2	40	0.8	0.8	19	19	9.0	9.0
OM-3	40	0.7	0.7	29	28	9.0	9.0
OM-4	80	2.1	2.2	24	23	17.0	17.0
OM-5	80	1.9	1.9	28	28	17.0	17.0
OM-6	80	2.0	2.1	38	38	17.0	17.0

110-120 VAC, Floating Control, 30% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.7	0.8	12	17	2.0	2.0
OM-A	10	0.7	0.8	27	37	2.0	2.0
OM-2	40	1.2	1.7	17	20	3.0	4.0
BM-2	40	1.3	1.6	9	11	4.0	4.0
OM-3	40	1.2	1.7	26	31	3.0	4.0
OM-4	80	2.1	2.4	19	23	7.0	7.0
OM-5	80	2.0	2.4	26	31	7.0	7.0
OM-6	80	2.4	2.5	34	41	7.0	7.0

110-120 VAC, Modulating Control, 30% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-2	40	1.2	1.7	17	20	3.0	4.0
OM-3	40	1.2	1.7	26	31	3.0	4.0
OM-4	80	2.1	2.4	19	23	7.0	7.0
OM-5	80	2.0	2.4	26	31	7.0	7.0
OM-6	80	2.4	2.5	34	41	7.0	7.0

BEO-Series Electric Actuator - Electrical Data

220-240 VAC, Floating Control, 75% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.4	0.4	15	15	2.0	2.0
OM-A	10	0.4	0.4	28	28	2.0	2.0
OM-2	40	0.4	0.4	16	16	6.0	7.0
OM-3	40	0.4	0.4	26	25	6.0	7.0
OM-4	80	1.1	1.1	22	22	15.0	14.0
OM-5	80	1.0	1.1	28	28	15.0	14.0
OM-6	80	1.0	1.1	35	35	15.0	14.0

220-240 VAC, Modulating Control, 75% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.4	0.4	18	18	2.0	2.0
OM-A	10	0.4	0.4	30	30	2.0	2.0
OM-2	40	0.4	0.4	16	16	6.0	7.0
OM-3	40	0.4	0.4	26	25	6.0	7.0
OM-4	80	1.1	1.1	22	22	15.0	14.0
OM-5	80	1.0	1.1	28	28	15.0	14.0
OM-6	80	1.0	1.1	35	35	15.0	14.0

220-240 VAC, Floating Control, 30% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-1	10	0.4	0.4	15	17	3.0	2.0
OM-A	10	0.4	0.4	25	33	3.0	2.0
OM-2	40	0.6	0.8	17	21	2.0	2.0
BM-2	40	0.6	0.8	9	11	2.0	2.0
OM-3	40	0.6	0.8	26	31	2.0	2.0
OM-4	80	1.1	1.3	20	23	4.0	4.0
OM-5	80	1.0	1.3	26	31	4.0	4.0
OM-6	80	1.1	1.3	34	40	4.0	4.0

BEO-Series Electric Actuator - Electrical Data

220-240 VAC, Modulating Control, 30% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-2	40	0.6	0.8	17	21	2.0	2.0
OM-3	40	0.6	0.8	26	31	2.0	2.0
OM-4	80	1.1	1.3	20	23	4.0	4.0
OM-5	80	1.0	1.3	26	31	4.0	4.0
OM-6	80	1.1	1.3	34	40	4.0	4.0

OM-2 to OM-6, 3 PH, 30% duty cycle

220-240 VAC, Floating Control, 30% duty cycle

Model	Motor Power	Running Current		Running Time		Start Current	
		60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
	Watt	Amp	Amp	Sec/90°	Sec/90°	Amp	Amp
OM-2	40	0.5	0.6	16	19	1.3	1.4
BM-2	40	0.5	0.6	9	10	1.6	1.6
OM-3	40	0.5	0.6	26	31	1.3	1.4
OM-4	80	0.9	1.0	21	24	2.9	3.1
OM-5	80	0.9	1.0	27	31	2.9	3.1
OM-6	80	0.9	1.0	34	40	2.9	3.1

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Safety



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