

# "E" Series

High Performance Electric Actuator



NEXTEK "E" Series Actuators are geared motors that provide rotary output (torque) to power all types of rotary valves (ball, plug and butterfly valves as well as dampers and diverters). Output is achieved through the application of a supply voltage (AC or DC). Rotary action is controlled through two limit switches (one for "OPEN" and one for "CLOSED") located in the unit and in conjunction with two cams. Precise setting of either position is achieved by adjusting the cam to activate the switch at exactly the desired point in the rotary cycle. The power wiring procedure is indicated on the wiring diagram supplied with each unit.



## "E" SERIES DESIGN FEATURES

"E" Series electric, rotary actuators are designed to provide the operating torque required to automate our full line of process-quality ball valves. All "E" Series electric actuators are available with the following features:

- ▼ Heavy-duty, fully enclosed, high performance motor is rated for both On/Off and modulating service.
- ▼ NEMA 4 or NEMA 7 enclosures
- ▼ Corrosion protection with thermally bonded polyester coating.
- ▼ Operating speeds and output torque generated through a permanently lubricated gear train.
- ▼ All motors feature integral thermal overload protection.
- ▼ Designed for operation in temperatures from -40°F to 150 °F.
- ▼ All models feature a manual override, ISO mounting pad and are wired for light indication.
- ▼ Standard travel-stop limit switches can simultaneously be used for light indication.

## REVERSING MOTORS

Reversible motors open the valve in one direction and close the valve in the reverse direction. Reversible motors are ideal for precise flow control, since the actuator does not have to travel through the full stroke to start the reverse stroke. For example, one coil in the motor controls the counter-clockwise rotation or "open cycle" while the other coil controls the clockwise or "closing cycle".

## "E" SERIES APPLICATIONS

- ▼ Excellent for use in systems where compressed air for actuation is either unavailable or impractical.
- ▼ Electric control circuits may be designed for virtually any control scheme.
- ▼ Readily interfaces with all electric control schemes.
- ▼ Ideal for multi-ported valves. Provides three or four distinct stop positions.
- ▼ May be used in manual jogging systems.
- ▼ When fitted with a heater, electric actuators are well suited for use in sub-freezing environment.

*What do you need today?*™



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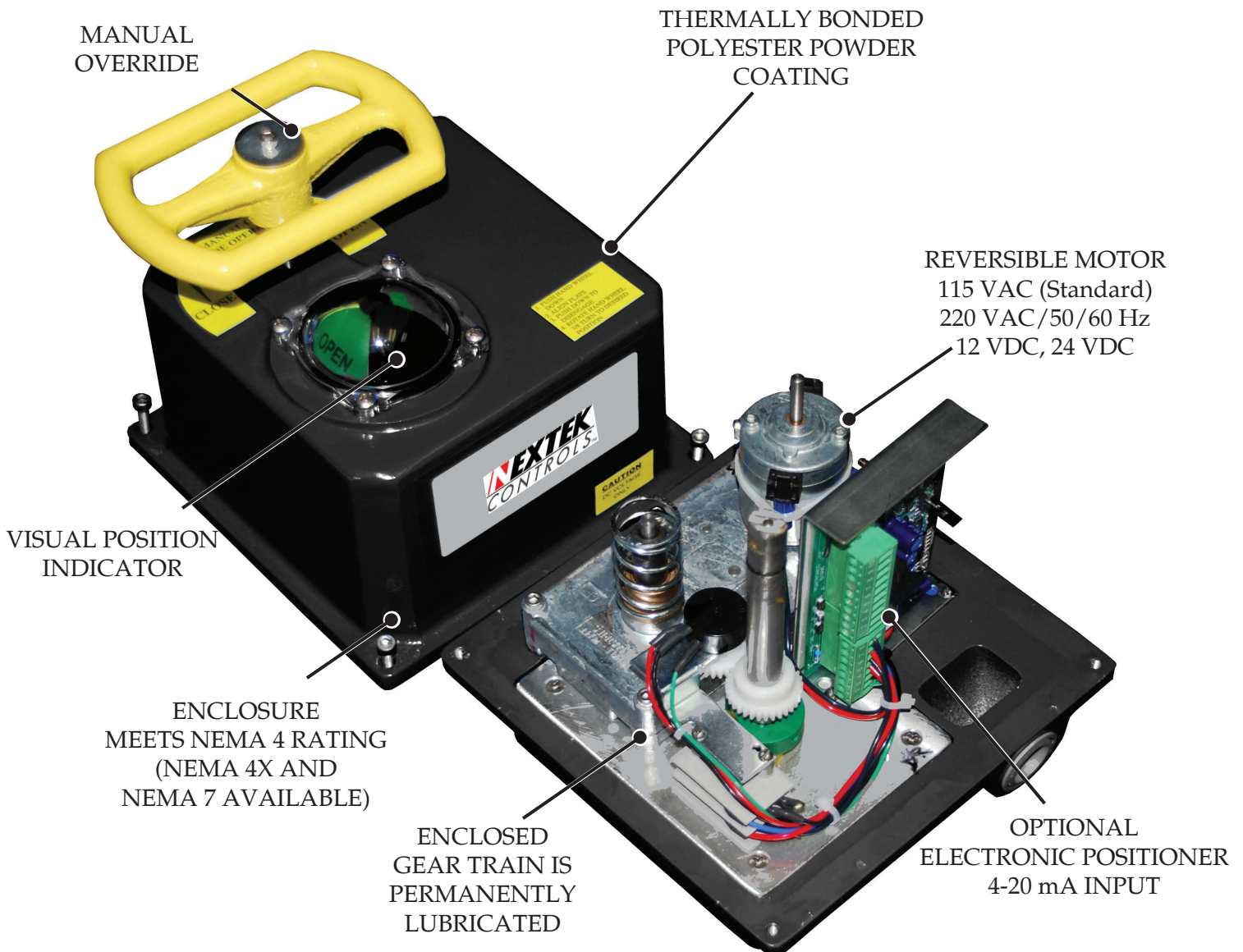
High Performance Electric Actuator



## "E" SERIES SPECIFICATIONS

All "E" Series Electric Actuators shall be reversible type, capacitor run motor design, thermally protected and with a permanently lubricated hardened steel gear train.

Each actuator shall be available with a manual override, visual position indication and ISO standard mounting arrangement as offered by NEXTEK Controls, Automation & Controls Product Group of SVF Flow Controls, Inc.



Sample Specification based on "E" Series Model E675W4EC (shown above), and Models E1000W4EC and E1500W4EC.

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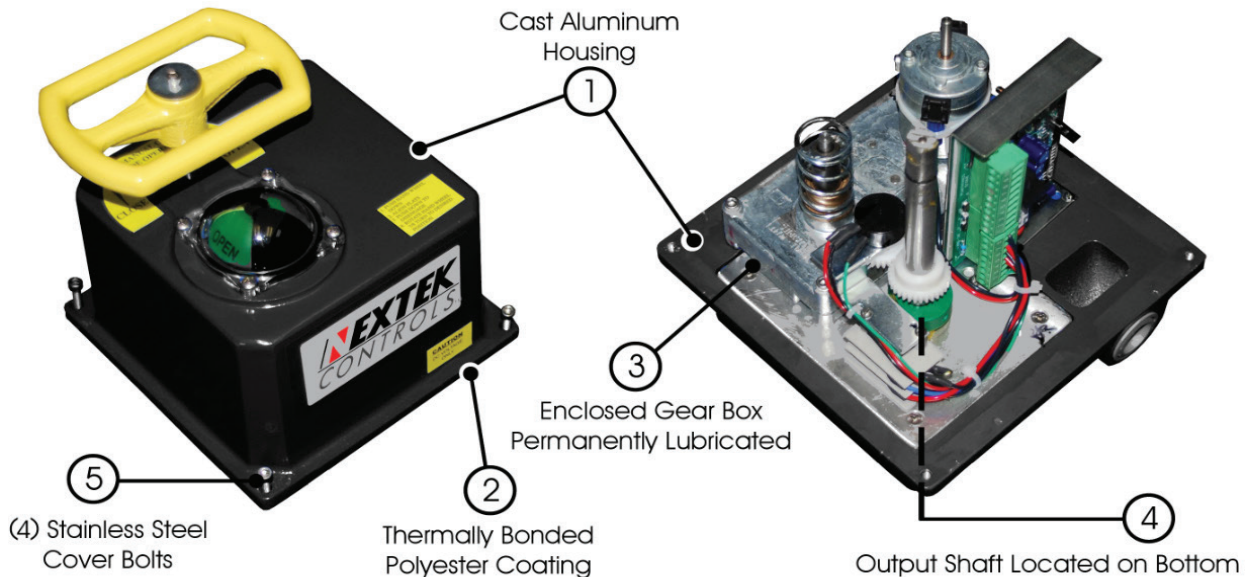
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## OPTIONAL EQUIPMENT FOR "E" SERIES ACTUATORS

- ▼ Electromechanical Brake  
Eliminates oscillation when seating butterfly valves.
- ▼ Voltages 115 VAC Standard  
Optional 220 VAC/50/60 Hz, 12VDC, 24 VDC.
- ▼ Auxiliary Switches  
Two additional limit switches may be added for interlocking other equipment such as pumps, compressors, mixers or other valves.
- ▼ Heater & Thermostat  
For operation at low temperature (to -40 °F). Also used to combat condensation in high humidity areas. The combination heater/thermostat will maintain the temperature of the enclosure at 40 °F.
- ▼ Analog Positioner  
Accepts 4-20 mA input signal or optional 1-5 and 10-50 mA, 0-10 VDC are available.
- ▼ Speed Control Circuit  
Pulsing circuit to adjust (slow) the overall cycle time.
- ▼ Timer Control  
Operates the actuator at specified intervals.
- ▼ Three-Position Control  
For use with multi-ported valves.
- ▼ Local Control Station  
Externally mounted pushbutton station.
- ▼ Two-Wire Control  
To meet some digital interface control systems.
- ▼ Torque Sensor Control  
Protects the actuator in the event of unforeseen torque increases often associated with valve wear or pipeline obstructions.
- ▼ Reversing Contactor  
For three-phase motor operation. (Only available on some models - consult SVF).

## "E" SERIES MATERIALS OF CONSTRUCTION



ITEM #	DESCRIPTION	MATERIALS
1	Housing	Cast Aluminum
2	Coating	Thermally Bonded Polyester Coating
3	Gearing	Hardened Steel (Permanently Lubricated)
4	Output Shaft	Carbon Steel
5	Cover Bolts	Stainless Steel

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## HAZARDOUS AREA RATINGS FOR NEMA 7 ENCLOSURES

NEMA-7 enclosures are designed to meet or exceed specifications for use in:

- ▼ Class I, Groups C and D
- ▼ Class II, Groups E, F and G
- ▼ Divisions I and II
- ▼ Maximum Temperature = 140 ° F

Models E200 and E300 are CSA certified. File# LR79567

- ▶ Class I, Groups C and D
- ▶ Class II, Groups E, F and G
- ▶ Divisions I and II

## "E" SERIES ISO 5211 MOUNTING DIMENSIONS

## TORQUE

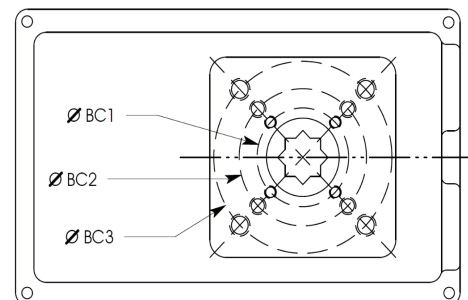
"E" SERIES MODEL	BOLT CIRCLE #1		MOUNTING BOLTS (Qty - 4)	BOLT CIRCLE #2		MOUNTING BOLTS (Qty - 4)	BOLT CIRCLE #3		MOUNTING BOLTS (Qty - 4)	TORQUE	
	in.	ISO		in.	ISO		in.	ISO		in-lbf	Nm
E100W	1.417	F03	10-24x0.44	1.969	F05	1/4-20x0.44	-	-	-	100	11
E100X	1.417	F03	10-24x0.44	1.969	F05	1/4-20x0.44	-	-	-	100	11
E200W	1.417	F03	10-24x0.44	1.969	F05	1/4-20x0.44	2.756	F07	5/16-18x0.5	200	23
E200X	1.969	F05	1/4-20x0.44	-	-	-	-	-	-	200	23
E200W (M)	1.417	F03	10-24x0.44	1.969	F05	1/4-20x0.44	2.756	F07	5/16-18x0.5	200	23
E300W	1.417	F03	10-24x0.44	1.969	F05	1/4-20x0.44	2.756	F07	5/16-18x0.5	300	34
E300X	1.969	F05	1/4-20x0.44	-	-	-	-	-	-	300	34
E300W (M)	1.417	F03	10-24x0.44	1.969	F05	1/4-20x0.44	2.756	F07	5/16-18x0.5	300	34
E400W	2.756	F07	5/16-18x0.40	-	-	-	-	-	-	400	45
E675W	2.756	F07	5/16-18x0.40	-	-	-	-	-	-	675	76
E675X	2.756	F07	5/16-18x0.40	4.015	F10	3/8-16x0.56	-	-	-	675	76
E1000W	2.756	F07	5/16-18x0.40	-	-	-	-	-	-	1000	113
E1000X	2.756	F07	5/16-18x0.40	4.015	F10	3/8-16x0.56	-	-	-	1000	113
E1500W	2.756	F07	5/16-18x0.40	4.015	F10	3/8-16x0.56	-	-	-	1500	169
E1500X	2.756	F07	5/16-18x0.40	4.015	F10	3/8-16x0.56	-	-	-	1500	169
E2000W	-	-	-	2.756	F07	5/16-18X0.63	4.015	F10	3/8-16 X .63	2000	226
E2000X	-	-	-	2.756	F07	5/16-18X0.63	4.015	F10	3/8-16 X .63	2000	226
E3840W	-	-	-	2.756	F07	5/16-18X0.63	4.015	F10	3/8-16 X .63	3840	434
E3840X	-	-	-	2.756	F07	5/16-18X0.63	4.015	F10	3/8-16 X .63	3840	434
E5000W	-	-	-	4.242	-	3/8-16 X .63	5.5118	F14	5/8-11 X .75	5000	565
E5000X	-	-	-	4.242	-	3/8-16 X .63	5.5118	F14	5/8-11 X .75	5000	565
E7020W	-	-	-	4.242	-	3/8-16 X .63	5.5118	F14	5/8-11 X .75	7020	793
E7020X	-	-	-	4.242	-	3/8-16 X .63	5.5118	F14	5/8-11 X .75	7020	793
E11520W	-	-	-	4.242	-	3/8-16 X .63	5.5118	F14	5/8-11 X .75	11520	1302
E11520X	-	-	-	4.242	-	3/8-16 X .63	5.5118	F14	5/8-11 X .75	11520	1302

W= NEMA 4 | X= NEMA 7 | (M)= Modulating

The table above provides the dimensions necessary to mount "E" Series actuators to a valve supplied by SVF Flow Controls, Inc. The Bolt Circle Dimensions include "ISO 5211" dimensions, the International Standard for mounting pad dimensions.

Several SVF Valve Series are direct mount. Other valve series may require the addition of a mounting kit. Contact SVF for additional information.

NOTE: Not all actuators have three Bolt Circles.



# "E" Series

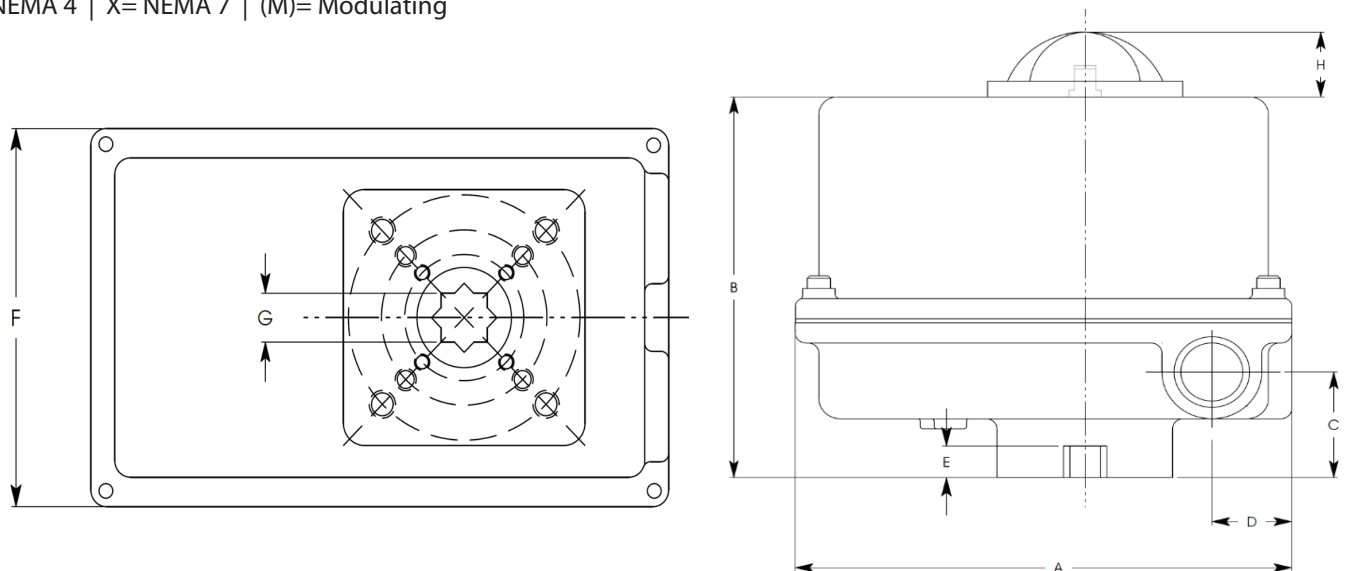
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## DIMENSIONS, WEIGHT (MODELS E100 ~ E1500)

"E" SERIES MODEL	A		B		C		D		E		F		G		H		Weight	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs	kg
E100W	5.75	146	4.72	120	1.31	33	0.87	22	0.39	10	4.13	105	0.43	11	0.89	23	5	2.3
E100X	6.06	154	4.95	126	1.34	34	1.60	41	0.39	10	5.25	133	0.35	9	0.89	23	5	2.3
E200W	6.88	175	6.13	156	1.76	45	2.43	62	0.63	16	4.25	108	0.55	14	0.91	23	7	3.2
E200X	8.53	217	6.39	162	1.39	35	2.23	57	0.63	16	8.66	220	0.55	14	-	-	15	6.8
E200W (M)	7.34	186	6.88	175	2.11	54	2.23	57	0.63	16	4.75	121	0.55	14	-	-	7	3.2
E300W	6.88	175	6.13	156	1.76	45	2.43	62	0.63	16	4.25	108	0.55	14	0.91	23	7	3.2
E300X	8.53	217	6.39	162	1.39	35	2.23	57	0.63	16	8.66	220	0.55	14	-	-	15	6.8
E300W (M)	7.34	186	6.88	175	2.11	54	2.23	57	0.63	16	4.75	121	0.55	14	-	-	7	3.2
E400W	7.00	178	7.09	180	1.76	45	1.80	46	0.63	16	7.00	178	0.67	17	1.94	49	13	5.9
E675W	7.00	178	7.09	180	1.76	45	1.80	46	0.63	16	7.00	178	0.67	17	1.94	49	13	5.9
E675X	8.50	216	7.10	180	1.76	45	1.85	47	0.63	16	8.50	216	0.67	17	1.90	48	13	5.9
E1000W	7.00	178	7.09	180	1.76	45	1.80	46	0.63	16	7.00	178	0.67	17	1.94	49	13	5.9
E1000X	8.50	216	7.10	180	1.76	45	1.85	47	0.63	16	8.50	216	0.67	17	1.90	48	13	5.9
E1500W	8.50	216	7.09	180	1.76	45	1.80	46	0.63	16	7.00	178	0.67	17	1.94	49	17	7.7
E1500X	8.50	216	7.09	180	1.76	45	1.80	46	0.63	16	8.50	216	0.67	17	1.90	48	17	7.7

W= NEMA 4 | X= NEMA 7 | (M)= Modulating



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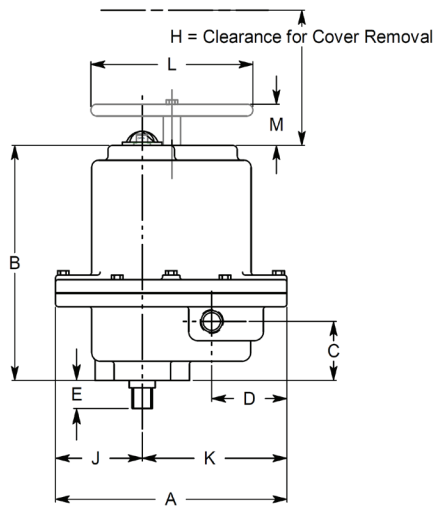


## DIMENSIONS, WEIGHT (MODELS E2000 ~ E11520)

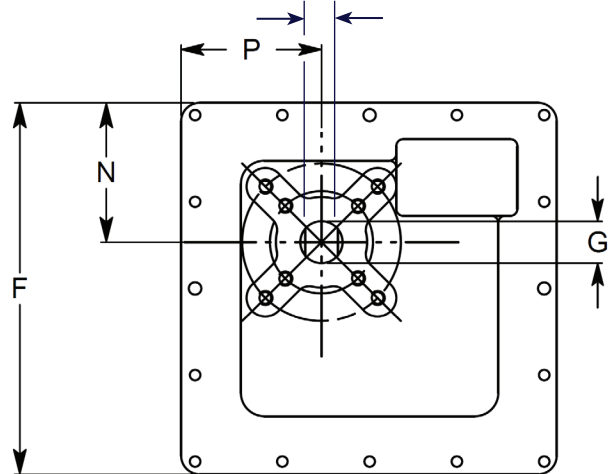
"E" SERIES MODEL	A in.	B in.	C in.	D in.	E in.	F in.	G in.	H in.	J in.	K in.	L in.	M in.	N in.	P in.	Weight lbs
E2000	10.0	9.96	2.50	3.25	1.19	10.0	1.12	6.00	3.75	6.25	7.0	3.0	3.75	3.75	30
E3840	10.0	9.96	2.50	3.25	1.19	10.0	1.12	6.00	3.75	6.25	7.0	3.0	3.75	3.75	30
E5000	14.0	14.0	5.00	4.94	1.19	13.0	1.12	7.00	5.31	13.0	10.0	4.31	5.44	5.31	100
E7020	14.0	14.0	5.00	4.94	1.60	13.0	1.12	7.00	5.31	13.0	10.0	4.31	5.44	5.31	100
E11520	14.0	14.0	5.00	4.94	1.60	13.0	1.12	7.00	5.31	13.0	10.0	4.31	5.44	5.31	100

"E" SERIES MODEL	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	J mm	K mm	L mm	M mm	N mm	P mm	Weight kg
E2000	254	253	64	83	30	254	28	152	95	159	178	76	95	95	14
E3840	254	253	64	83	30	254	28	152	95	159	178	76	95	95	14
E5000	356	356	127	125	30	330	28	178	135	330	254	109	138	135	46
E7020	356	356	127	125	41	330	28	178	135	330	254	109	138	135	46
E11520	356	356	127	125	41	330	28	178	135	330	254	109	138	135	46

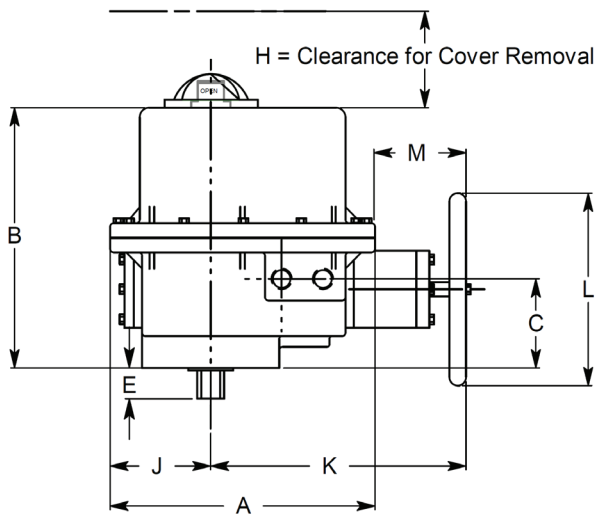
### MODELS E2000 ~ E3840



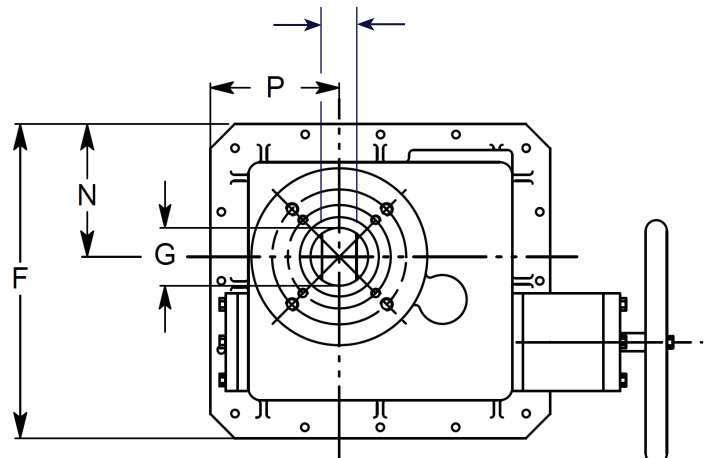
Across Flats: 0.875" (22mm)



### MODELS E5000 ~ E11520



Across Flats: 0.875" (22mm)



# "E" Series

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## "E" SERIES ELECTRIC ACTUATOR - QUICK REFERENCE GUIDE

"E" SERIES MODEL	CURRENT RATINGS												WIRE SIZE	CONDUIT SIZE	SPEED Sec/90 °	DUTY CYCLE
	115 VAC 60Hz/1Ph		115 VAC EXTENDED DUTY 60Hz/1Ph		24 VAC		24V DC		12V DC		230VAC 60Hz/1Ph					
	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR	FL	LR				
E100	0.40	0.55	-	-	0.40	2.40	0.40	2.40	0.60	2.90	0.33	0.38	AWG 14	1 x 1/2"	2.5	75%
E200	0.38	0.75	0.38	0.75	0.70	3.20	0.70	3.20	1.30	4.20	0.18	0.38	AWG 14	1 x 1/2"	5	25%
E300	0.38	0.75	0.38	0.75	0.70	3.20	0.70	3.20	1.30	4.20	0.18	0.38	AWG 14	1 x 1/2"	5	25%
E400	0.38	0.75	0.38	0.75	0.90	3.20	0.90	3.20	1.70	4.20	0.18	0.38	AWG 14	1 x 1/2"	10	25%
E675	0.38	0.75	0.38	0.75	0.90	3.20	0.90	3.20	1.70	4.20	0.18	0.38	AWG 14	1 x 1/2"	15	25%
E1000	0.38	0.75	0.38	0.75	1.10	3.20	1.10	3.20	2.20	4.20	0.18	0.38	AWG 14	1 x 1/2"	15	25%
E1500	0.38	0.75	0.38	0.75	1.10	3.20	1.10	3.20	2.20	4.20	0.18	0.38	AWG 14	1 x 1/2"	30	25%
E2000	1.20	2.90	-	-	3.70	25.0	3.70	25.0	6.90	48.0	1.40	2.00	AWG 14	1 x 3/4"	12	100%
E3840	1.20	2.90	-	-	5.00	25.0	5.00	25.0	10.0	48.0	1.40	2.00	AWG 14	1 x 3/4"	14	100%
E5000	2.50	4.00	-	-	14.0	32.6	14.0	32.6	16.5	38.5	1.40	2.00	AWG 14	1 x 3/4"	68	100%
E7020	2.50	4.00	-	-	14.0	32.6	14.0	32.6	16.5	38.5	1.40	2.00	AWG 14	1 x 3/4"	68	100%
E11520	2.50	4.00	-	-	-	-	-	-	-	-	1.40	2.00	AWG 14	1 x 3/4"	68	100%

## HOW TO ORDER "E" SERIES ELECTRIC ACTUATORS

MODEL	ENCLOSURE	VOLTAGE	DUTY CYCLE	OPTIONS
E100 E200 E300 E400 E675 E1000 E1500 E2000 E3840 E5000 E7020 E11520	W= NEMA 4 Weatherproof  X= NEMA 7 Hazardous Area Locations  V= NEMA 4X (4X Option on NEMA 4 Model Only)	1= 12 VDC 2= 24 VDC 4= 115 VAC 5= 230 VAC 6= 24 VAC	S= 25% E= 75%* F= 100%**  * 75% Duty Cycle is Standard on Model E100 and Optional on Models E200 thru E1500  ** 100% Duty Cycle is only available on Models E2000 thru E11520 (Standard).	C = Control Package P = Potentiometer (1K) S1 = Limit Switch Kit (1- SPDT) † S2 = Limit Switch Kit (2- SPDT) † T = Heater & Thermostat D = 180 ° 3-Position K = Brake (Power off 115 VAC)  † All limit switches are rated 15A, 1/2HP at 125-150 VAC; 0.5A at 125 VDC
	<i>Order Example: (E100W4ET)</i>			
	<i>Example Description: E100 actuator, NEMA 4 weatherproof enclosure, 115 VAC, 75% duty cycle, heater &amp; thermostat option.</i>			
E100	W	4	E	T