



**EIM CONTROLS**

# HQ-SERIES

QUARTER TURN ELECTRIC ACTUATORS



**MECATORK S.A.S**

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ACTIONNEURS PNEUMATIQUES 1/4 DE TOUR  
ACTIONNEURS ELECTRIQUES  
ENSEMBLES VANNES MOTISEES

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HQ with LCU-B Controls



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The HQ Series Electric Quarter Turn Actuators are an extension of EIM's world famous 2000 Series M2CP & TEC2000 Actuators. This new range offers a light weight, compact unit suitable for butterfly, ball and plug valves including damper control. Torque capacities range from 40 ft-lb to 2,170 ft-lb (6 kg-m to 3000 kg-m) Models are available for 1 & 3 Phase Service and also 24VDC and 24VAC.

- Conforms to AWWA C542 Requirements.
- Standard construction is rated NEMA 4 and 6, IP67, with optional NEMA 7 and IP68 temporary submergence.
- All units (except HQ-006) are double reduction worm gear drives, which provide inherent self-locking characteristics. Motor brakes are not required.
- Main housing electrical enclosure is a spigot fit (slight taper) for easy removal and equipped with captive bolts.
- Declutchable handwheel feature which can be padlocked to avoid unauthorized operation.
- (4) limit switches and open/close torque switches. (Torque switches not available on HQ-006 & 008)
- Removable Drive Bushing for ease of machining (except HQ-006).
- Advanced Local Control Stations.
  - 3 phase available with digital position indication and separate terminal chamber.
  - 4-20ma proportional control (modulating) option.



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# STANDARD CONFIGURATION

## ① Manual Override (declutching system)

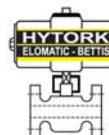
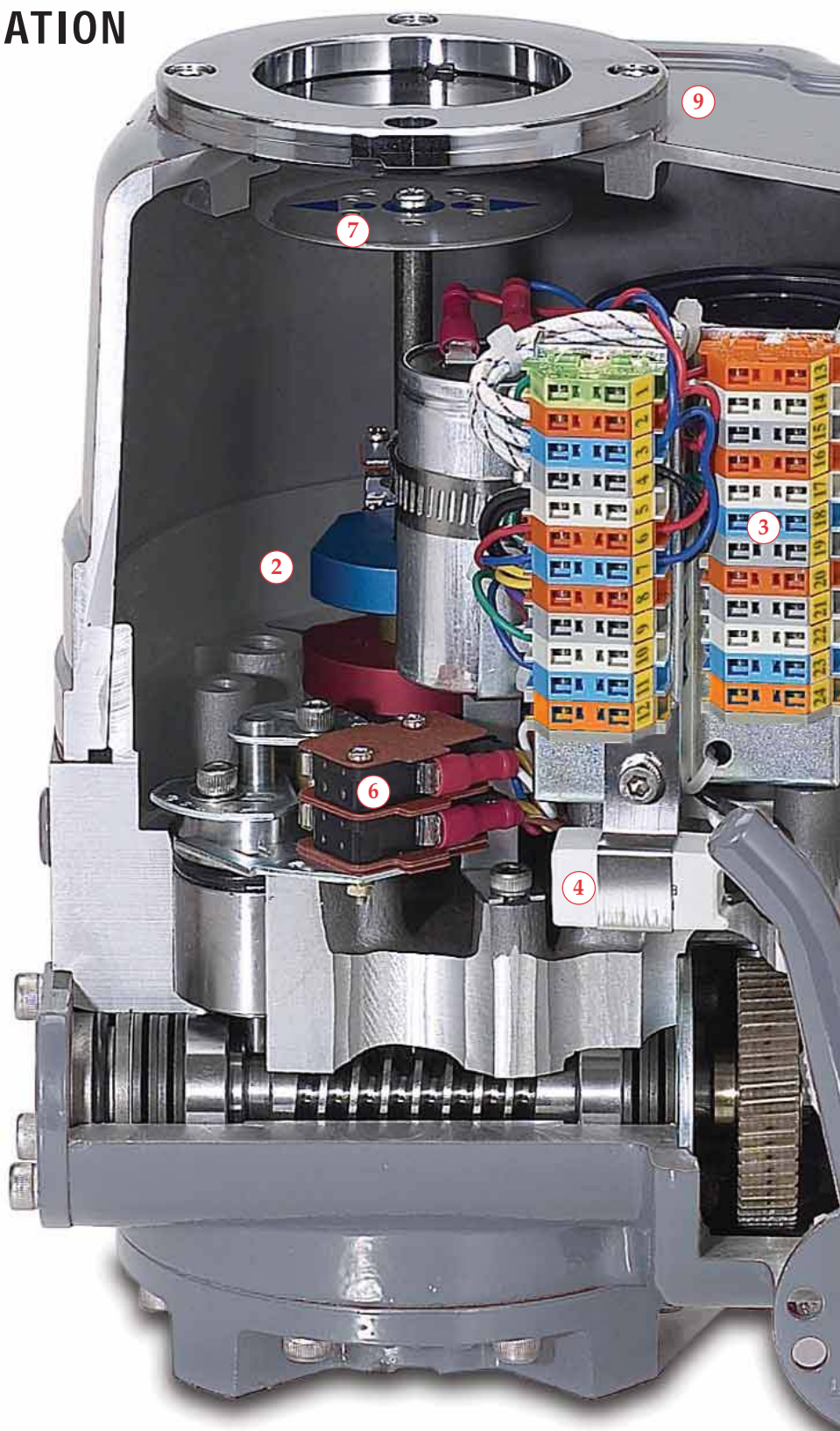
- Manual declutch lever provides positive engagement for emergency manual operation. Easy to declutch even under jammed valve condition.
- Power drive automatically restored when motor starts.
- Lever can be padlocked.

## ② Limit Switches

- 4 limit switches.
- 2 switches are dedicated for internal operation. 2 volt-free contacts are available for customer use.
- Switches are easily set. Each switch can be set and locked without disturbing other switch settings.

## ③ Terminal Block

- 24 Terminals
- Wire stripped length: .33in (8-9 mm)
- Terminal dimensions: .39 X .87 X 1.26 in (10 X 22 X 32 mm)



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**4 Heater**

- 7 or 10 watt.

**5 Main Housing**

- Main housing electrical enclosure is a spigot fit (slight taper for easy removal and equipped with captive bolts).

**6 Torque Switch**

- Open and close torque switches protect the valve. Switches are set at unit rating to eliminate nuisance tripping.

**7 Continuous Mechanical Dial Position Indicator.**

**8 Manual Override Handwheel**

**9 Surface Coating**

- All castings are fully anodized, internally and externally.
- Exterior polyester powder topcoat.



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# HQ OPTIONAL FEATURES

Available Options	
Local Control Stations	
LCU-D	1-Phase, (HQ-006 & 008 Only) (2) Selector Switches, Open/Stop/Close & Local/Remote <i>Note: LCU-D rated NEMA 4, IP65 only</i>
LCU-A	1 Phase - Suitable for HQ-015 to HQ-300 (2) Selector Switches, Open/Close & Local/Off/Remote, (5) LED's, Power On (White), Remote (Blue), Fault (Yellow), Full Open (Red), Opening (Flashing Red), Full Close (Green), Closing (Flashing Green), Control Transformer (110/230 Volt) <i>Note: For Open/Close Service only - Not Modulating</i>
LCU-B1	1 Phase - Suitable for HQ-015 to HQ-300 (2) Selector Switches, Open/Close & Local/Off/Remote, (5) LED's, Power On (White), Remote (Blue), Fault (Yellow), Full Open (Red), Opening (Flashing Red), Full Close (Green), Closing (Flashing Green), Control Transformer (110/230 Volt) <i>Note: Suitable for use with PCU (Modulating) &amp; CPT</i>
LCU-B3	3 Phase - Suitable for HQ-015 to HQ-300 (2) Selector Switches, Open/Close & Local/Off/Remote, (5) LED's, Power On (White), Remote (Blue), Fault (Yellow), Full Open (Red), Opening (Flashing Red), Full Close (Green), Closing (Flashing Green), Magnetic Reversing Starter, Control Transformer, Phase Detection <i>Note: Suitable for use with PCU (Modulating) &amp; CPT</i>
LCU-C	3 Phase - Suitable for HQ-015 to HQ-300 Same Selector Switches as LCU-A (3) LED's, Open (Red), Close (Green), Fault (Yellow), Digital Position Indication, Separate Terminal Chamber, Magnetic Reversing Starter, Control Transformer, Auto-Phase Correction, <i>Note: Suitable for use with PCU (Modulating) &amp; CPT</i>

Other Options	
PCU	Proportional Control Unit ( <i>Modulating Service</i> ) Input Signal: 4-20mA, 0-20mA, 0-10 VDC, 1-5 VDC, Output Signal: 4-20mA, 0-10 VDC <i>Note: If PCU supplied with LCU-D, no local controls available</i>
CPT	Current Position Transmitter Output Signal: 4-20mA
PIU	Potentiometer, 1 K Ohm, included with PCU & CPT
IP68	Temporary Submersible Service (Not HQ-006) <i>35 Foot Head-72 Hours (10 Meter-72 Hours)</i>
ATEX	Explosionproof KEMA Certified EEx d IIB T4 <i>Note: HQ-008 thru 300 with no LCU controls only.</i>



LCU-B



LCU-C



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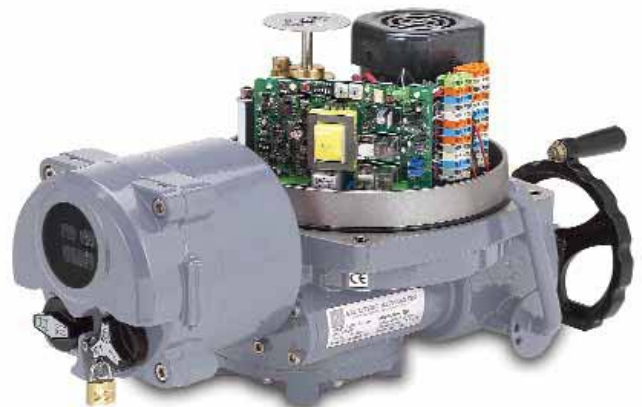
# HQ CAPACITIES & RATINGS

Model Size	Output Torque			Duty Cycle %	Operating Time (second)		Maximum Bore		No. Handwheel Turns	ISO Mounting Base	Approx. Weight	
	(ft-lb)	(in-lb)	(kg-m)		60 Hz	50 Hz	(inch)	(mm)			(lb)	(kg)
HQ-006	40	480	6	70	12	15	0.55 Sq.	14 Sq.	8.0	F03/05/07	7	3
HQ-008	60	720	8	70	13	16	0.79	20	10.0	F07	16	7.4
HQ-015	110	1,320	15	70	21	25	0.87	22	11.0	F07/F10	37	16.6
HQ-020	145	1,740	20	70	21	25	0.87	22	11.0	F07/F10	37	16.6
HQ-030	215	2,580	30	70	26	31	1.38	35	13.5	F10/F12	49	22
HQ-050	360	4,320	50	70	26	31	1.38	35	13.5	F10/F12	51	23
HQ-060	435	5,220	60	70	26	31	1.38	35	13.5	F10/F12	51	23
HQ-080	580	6,960	80	70	31	37	1.77	45	16.5	F12/F14	64	29
HQ-120	870	10,440	120	70	31	37	1.77	45	16.5	F12/F14	64	29
HQ-200	1,450	17,400	200	70	93	112	2.56	65	49.5	F16	166	75
HQ-300	2,170	26,040	300	70	93	112	2.56	65	49.5	F16	166	75

Model Size	Rated Current (amps)					Local Control Options		
	1-Phase		3-Phase		D.C. 24V	1-Phase	3-Phase	D.C.
	110V	230V	380V	460V				
HQ-006	0.40	0.20	-	-	0.60	LCU-D	-	-
HQ-008	1.10	0.55	-	-	1.00	LCU-D	-	-
HQ-015	1.65	0.88	0.31	0.30	2.20	LCU-A/B	LCU-B/C	C/F
HQ-020	1.67	0.89	0.31	0.30	2.50	LCU-A/B	LCU-B/C	C/F
HQ-030	1.85	0.92	0.35	0.34	2.90	LCU-A/B	LCU-B/C	C/F
HQ-050	3.60	1.55	0.59	0.58	-	LCU-A/B	LCU-B/C	C/F
HQ-060	3.65	1.60	0.60	0.59	-	LCU-A/B	LCU-B/C	C/F
HQ-080	4.10	2.15	0.85	0.79	-	LCU-A/B	LCU-B/C	C/F
HQ-120	4.20	2.35	0.87	0.81	-	LCU-A/B	LCU-B/C	C/F
HQ-200	4.10	2.15	0.85	0.79	-	LCU-A/B	LCU-B/C	C/F
HQ-300	4.20	2.35	0.87	0.81	-	LCU-A/B	LCU-B/C	C/F

## Standard Features

Enclosure	Weatherproof, NEMA 4 & 6, IP67, Captive Enclosure Cover Bolts
Materials	Housing & Enclosure - Aluminum Alloy Worm Gear - Bronze, Worm - Alloy Steel
Duty Cycle	70% Defined as Run Torque
Motor Design	Squirrel Cage Induction
Motor Protection	Built-In thermals, Open 150°C +/- 5°C, Close 97°C +/- 15°C
Limit Switches	(4) Switches, SPDT, 250 VAC, 10 Amp Rated
Torque Switches	(2) Switches, SPDT, 250 VAC, 10 Amp Rated (NA HQ-006/008)
Terminal Block	(24) Points
Travel	90° +/- 10° (0-110°), mechanical stop adjustment
Position Indicator	Continuous
Manual Over-ride	Declutch Mechanism and handwheel (except HQ-006)
Self-Locking	Double Reduction Worm Gear (HQ-006 is spur drive with Motor Brake)
Space Heater	7-10 Watt
Lubrication	Grease, Moly EP Type
Temperature Rated	Basic Actuator, -14°F to +158°F (-10°C to +70°C) With LCU/Control Boards, -14°F to +130°F (-10°C to +55°C)
Coating	External Powder Coated, Polyester, EIM Grey Color
Drive Bushing	Removable Lug Drive (HQ-006 with 14 mm Square/0.55 inch)



Type LCU-A & B



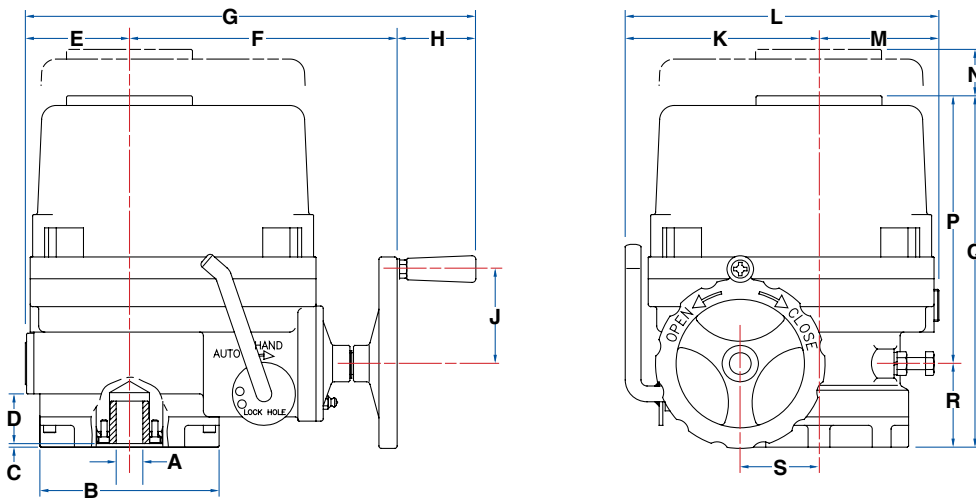
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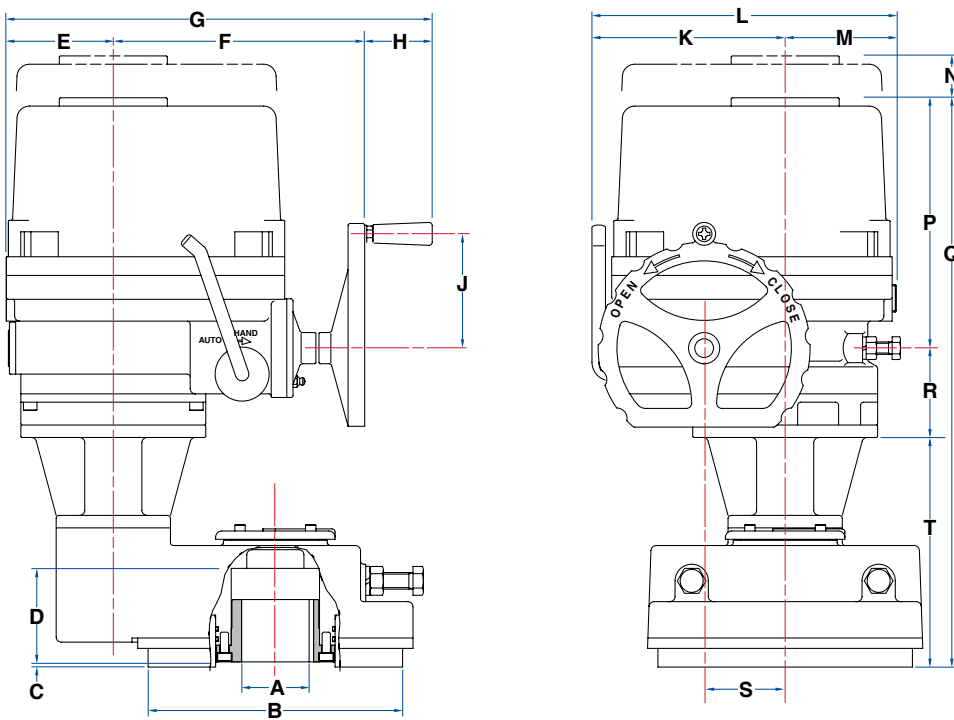
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# BASIC ACTUATOR DIMENSIONS

HQ-008  
to  
HQ-120



HQ-200  
to  
HQ-300

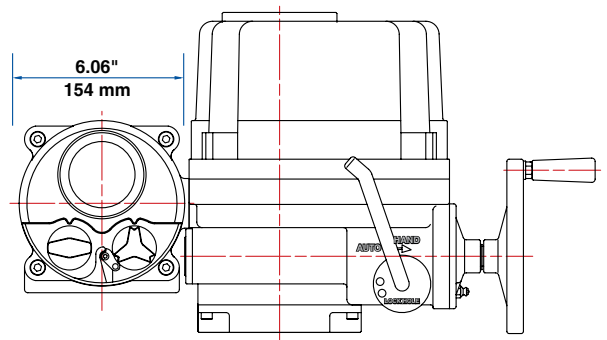
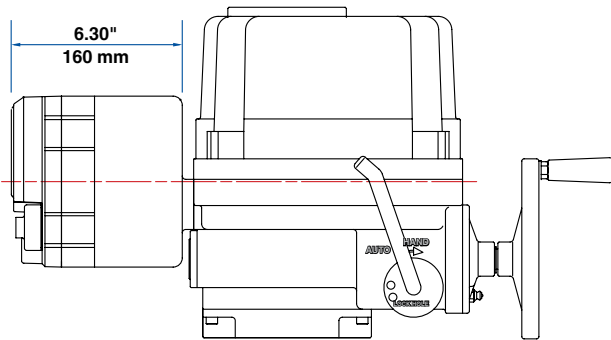
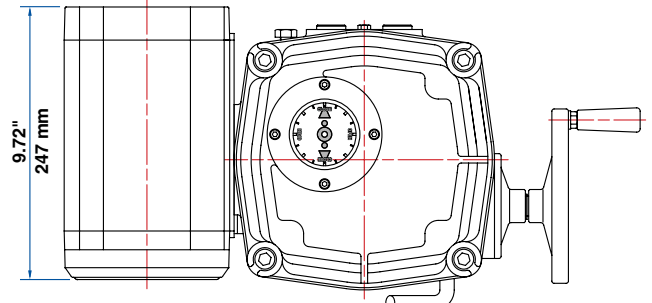
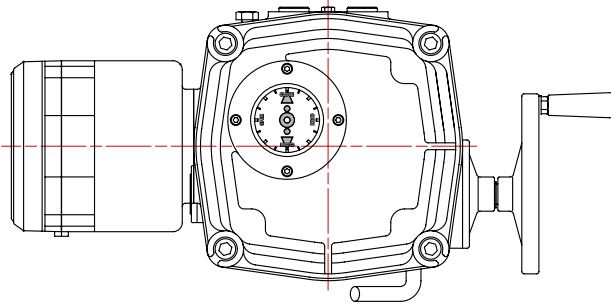


Model	Base	A-Max.	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
HQ-008	F07	0.79 (20)	3.46 (88)	0.12 (3)	1.26 (32)	1.97 (50)	6.18 (157)	10.16 (258)	2.01 (51)	2.36 (60)	3.94 (100)	6.69 (170)	2.76 (70)	4.72 (120)	6.57 (167)	8.66 (220)	2.09 (53)	1.57 (40)	
HQ-015 HQ-020	F07 & F10	0.87 (22)	4.92 (125)	0.12 (3)	1.65 (42)	2.87 (73)	7.87 (200)	13.31 (338)	2.56 (65)	3.07 (78)	5.59 (142)	9.02 (229)	3.43 (87)	6.30 (160)	7.56 (192)	10.24 (260)	2.68 (68)	2.13 (54)	
HQ-030 HQ-050 HQ-060	F10 & F12	1.38 (35)	5.83 (148)	0.12 (3)	1.93 (49)	3.23 (82)	8.70 (221)	14.49 (368)	2.56 (65)	3.07 (78)	6.30 (160)	10.20 (259)	3.90 (99)	7.09 (180)	8.70 (221)	11.42 (290)	2.72 (69)	2.56 (65)	
HQ-080 HQ-120	F12 & F14	1.77 (45)	7.01 (178)	0.12 (3)	2.24 (57)	4.06 (103)	9.53 (242)	16.14 (410)	2.56 (65)	4.33 (110)	7.32 (186)	11.69 (297)	4.37 (111)	8.27 (210)	9.49 (241)	12.40 (315)	2.91 (74)	3.07 (78)	
HQ-200 HQ-300	F16	2.56 (65)	9.65 (245)	0.20 (5)	3.54 (90)	4.06 (103)	9.53 (242)	16.14 (410)	2.56 (65)	4.33 (110)	7.32 (186)	12.56 (319)	5.24 (133)	8.27 (210)	9.49 (241)	21.57 (548)	2.91 (74)	3.07 (78)	9.17 (233)

First dimensions are U.S. inch  
Second dimensions in parenthesis are Metric mm



# OPTIONAL CONTROL PACKAGE DIMENSIONS



**HQ with LCU-A & B**

**HQ with LCU-C**

ISO 5211 Mounting Base	Bolt Circle		No. Taps Straddle Centerline	Tap Size		Tap Depth	
	Metric	Inch		Metric	Inch	Metric	Inch
F07	70	2.76	4	M8	0.31	12	0.47
F10	102	4.02	4	M10	0.39	15	0.59
F12	125	4.92	4	M12	0.36	18	0.71
F14	140	5.51	4	M16	0.67	24	0.94
F16	165	6.50	4	M20	0.79	30	1.18

Note: All bases are Metric. The inch designation is for reference only

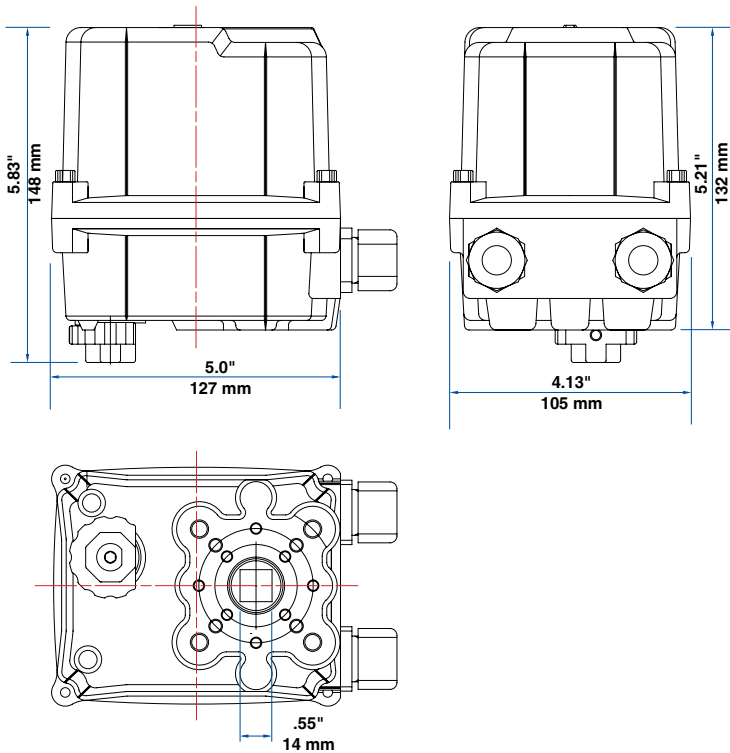


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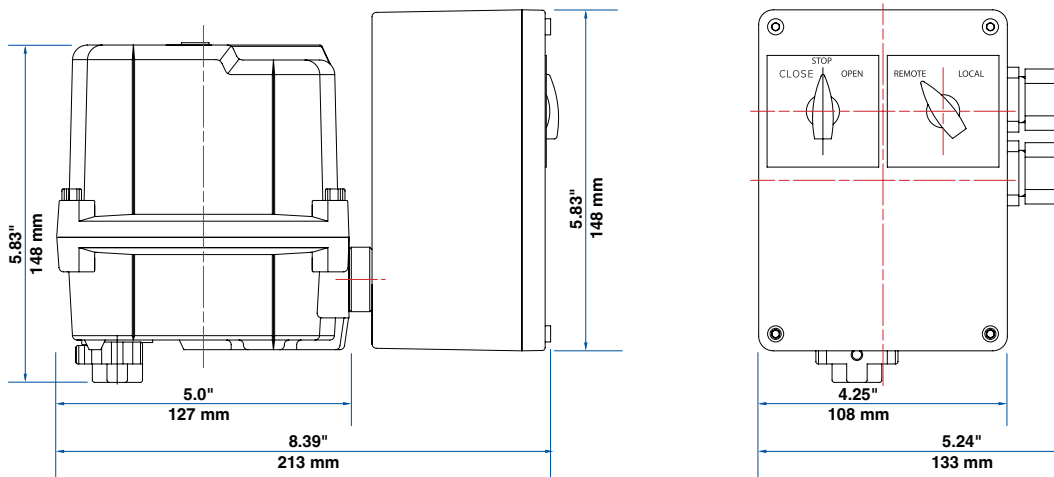
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# MODEL HQ-006 DIMENSIONS



Standard HQ-006



HQ-006 with Optional PCU or LCU-D

ISO 5211 Mounting Base	Bolt Circle		No. Taps Straddle Centerline	Tap Size		Tap Depth	
	Metric	Inch		Metric	Inch	Metric	Inch
F03	36	1.42	4	M5	0.20	12	0.47
F05	50	1.97	4	M6	0.24	12	0.47
F07	70	2.76	4	M8	0.31	12	0.47

Note: All bases are Metric. The inch designation is for reference only



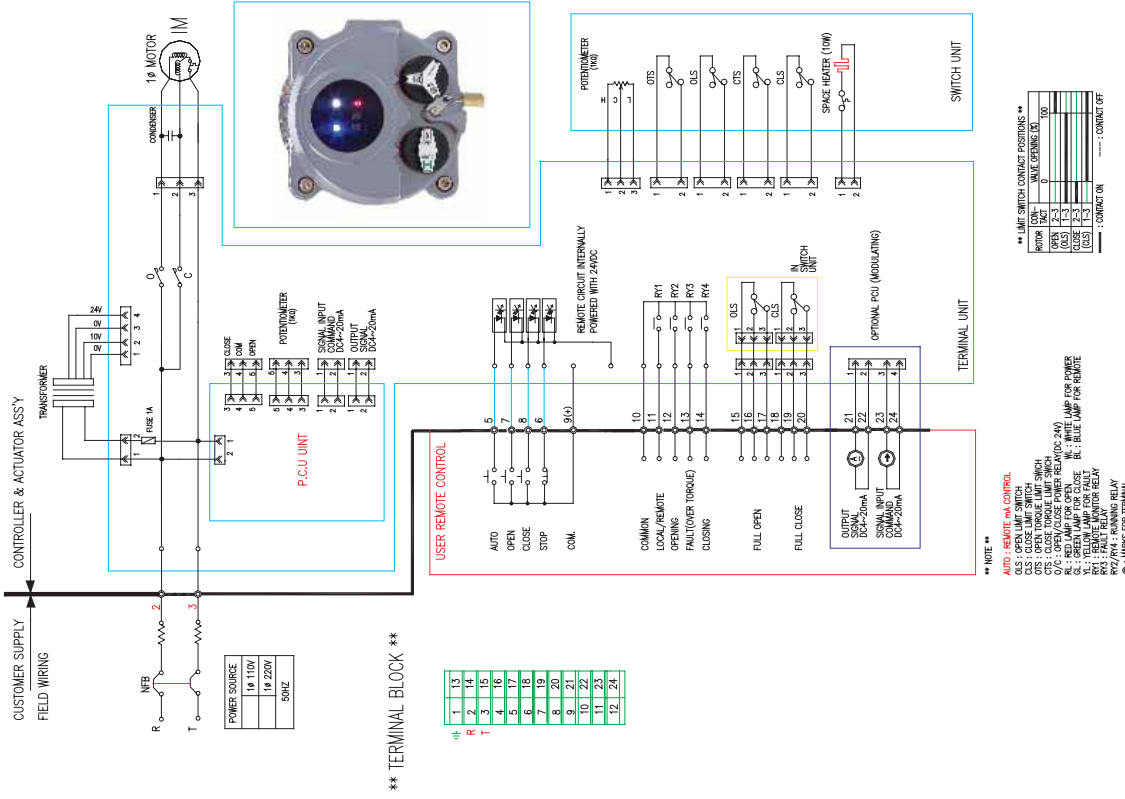
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DIAGRAMS

LCU-B (1-Phase)



LCU-C (3-Phase)

