



Limitorque® LQI

Compact Quarter-Turn Fail-Safe Electric Actuators



Experience In Motion

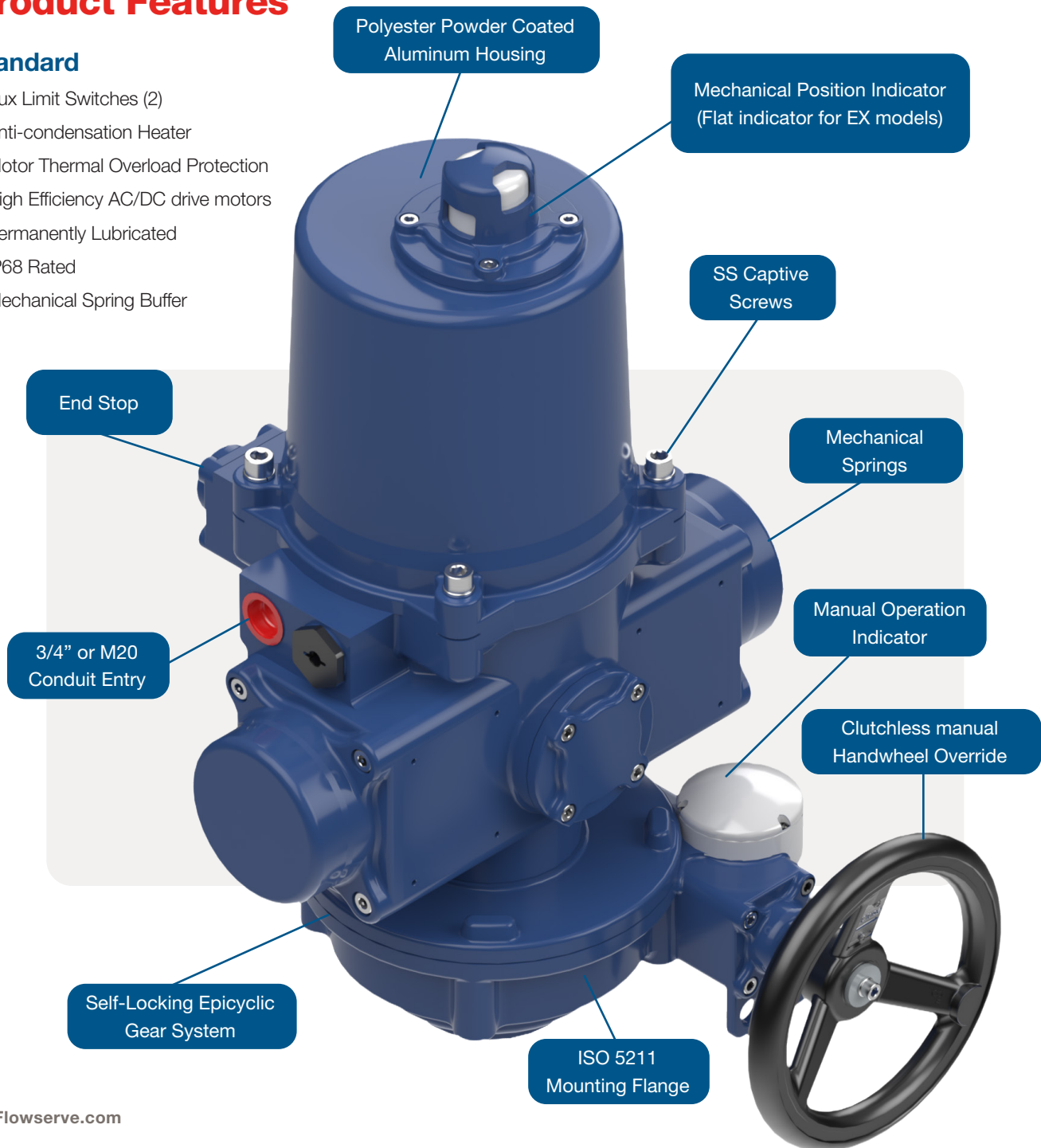
Product Overview

The LQI compact, spring return **fail-safe** electric actuators offer superior reliability and performance as well as lower Total Cost of Ownership (TCO). They provide broad application versatility and are highly customizable for meeting exacting customer needs. LQI actuators are designed to provide fail-safe positioning with a wide range of quarter turn valves, and also can be used to drive dampers in a broad range of power, oil and gas, chemical, water and general industry applications.

Product Features

Standard

- Aux Limit Switches (2)
- Anti-condensation Heater
- Motor Thermal Overload Protection
- High Efficiency AC/DC drive motors
- Permanently Lubricated
- IP68 Rated
- Mechanical Spring Buffer



Product Options

Options	Description	WP	EX
Pot	Two resistances are available for selection: 1k ohm or 5k ohm.	•	•
Modulating	- Includes Pot and Analog input/output board - Analog Input: 4-20mA, 1-5V and 2-10V - Analog Output: 4-20mA and 2-10V	•	•
Analog Output	Analog output: 0-20 mA, 4-20 mA, 0-5 V, 0-10 V, 1-5 V and 2-10 V	•	•
Manual Override	Clutch-less manual override allows the valve or damper to be manually operated by the hand-wheel upon a power loss	•	•
SIL	SIL2 Certified with or without use of manual override. Available on Models 1-4	•	•
Paint	Optional C5 paint system for hazardous environments	•	

Duty Cycle

Model	Control Mode	Description	WP	EX
LQIFS 1/2/3/4/5 (See Note)	On-Off / Floating	50% duty cycle: -30°C to +40°C (-22°F to +104°F) 30% duty cycle: +41°C to +65°C (+105°F to +149°F)	•	
LQIFS 1/2/3/4 (See Note)	Modulating	50% duty cycle: -20°C to +40°C (-4°F to +104°F) 30% duty cycle: +41°C to +65°C (+105°F to +149°F)	•	
LQIFS 1/2/3/4	All EX	50% duty cycle: -30°C to +70°C (-22°F to +158°F)		•

Note: Weather Proof duty rating is based on ambient temperature

Explosion-Proof Certifications

ATEX Hazardous Areas Certification for European Union

Directive	Marking		Ambient Temperature	WP	EX
ATEX II 2 GD	Ex db IIBT 4 Gb (Standard)	Ex db h IIBT 4 Gb (with manual override)	-30°C to +70°C (-22°F to +158°F)		•
ATEX II 2 GD	Ex tb IIIC T130°C Db (Standard)	Ex tb h IIIC T130°C Db (with manual override)	-30°C to +70°C (-22°F to +158°F)		•
Standards: EN IEC 60079-0, EN 60079-1, EN 60079-31, EN ISO 80079-36, EN ISO 80079-37					

IECEx Hazardous Areas Certification for International Market

Marking		Ambient Temperature	WP	EX
Ex db IIBT 4 Gb (Standard)	Ex db h IIBT 4 Gb (with manual override)	-30°C to +70°C (-22°F to +158°F)		•
Ex tb IIIC T130°C Db (Standard)	Ex tb h IIIC T130°C Db (with manual override)	-30°C to +70°C (-22°F to +158°F)		•
Standards: IEC 60079-0, IEC 60079-1, IEC 60079-31, ISO 80079-36, ISO 80079-37				

CSA Hazardous Areas Certification for North America

Zone System								
Code	Hazard Class	Permitted Zone	Equipment Protection Level (EPL)	Group (Gas / Dust)	Temperature Classification	Ambient Temperature	WP	EX
AEx / Ex	I	1	db	IIA, IIB	T4	-30°C to +70°C (-22°F to +158°F)		•
AEx / Ex	II	21	tb	IIIA, IIIB, IIIC	T130°C	-30°C to +70°C (-22°F to +158°F)		•
Standards: CAN / CSA-C22.2 No. 60079-0, CAN / CSA-C22.2 No. 60079-1, CAN/ CSA-C22.2 No. 60079-31, UL 60079-0, UL 60079-1, UL 60079-31								
Division System								
Hazard Class		Permitted Division	Group (Gas / Dust)		Temperature Classification	Ambient Temperature	WP	EX
I		1	C, D		T4	-30°C to +70°C (-22°F to +158°F)		•
II		1	E, F, G		T130°C	-30°C to +70°C (-22°F to +158°F)		•
Standards: CSAC22.2 No. 30-M1986, CSAC22.2 No. 25-17, FM 3600, FM 3615, FM 3616								



Technical Information

Weather Proof

Model	Torque		Nominal Motor Power (W)	Weight				Mounting Base		
	Nm	in-lb		Standard		With Manual Override		Flange Type	Output Drive (A)	Output Drive Depth (B)
				kg	lb	kg	lb	ISO 5211	mm	mm
LQIFS 1	50	445	50	27	60	37	82	F07	17	30
LQIFS 2	130	1150	130	57	126	77	170	F10	22	41
LQIFS 3	200	1770	130	93	205	131.5	290	F12	27	45
LQIFS 4	260	2300	130	95	210	133.5	295	F12	27	45
LQIFS 5	360	3185	130	103	228	152	336	F12	36	46

Explosion Proof

Model	Torque		Nominal Motor Power (W)	Weight				Mounting Base		
	Nm	in-lb		Standard		With Manual Override		Flange Type	Output Drive (A)	Output Drive Depth (B)
				kg	lb	kg	lb	ISO 5211	mm	mm
LQIFS 1	50	445	50	28	62	38.5	85	F07	17	30
LQIFS 2	130	1150	130	63	139	83	183	F10	22	41
LQIFS 3	200	1770	130	96	212	135	298	F12	27	45
LQIFS 4	260	2300	130	96	212	135	298	F12	27	45

Operating Direction

The spring return direction cannot be changed in the field and must be configured at time of order.

Please select the fail action according to the required application.

Product Order Matrix

Model	Input Power	Fail Dir	Control Type	Override	Enclosure	Pot	Control	Conduit	Paint
LQIFS 1 50Nm - 445in-lb	(1) 24VAC	(0) CW	(F) Floating	(0) None	(8) IP68 (WP)	(0) None	(0) None	(1) 3/4" NPT	(3) C3
LQIFS 2 130Nm - 1150in-lb	(2) 24VDC	(1) CCW	(M) Modulating	(M) Manual Override	(E) EX	(1) 1K Pot	(2) Analog In/Out	(3) M20	(4) C4/C5 (WP)
LQIFS 3 200Nm - 1770in-lb	(3) 110-120 1PH		(T) Two Wire On/Off		(5) IP68-SIL (WP)	(5) 5K Pot	(3) Analog Out		
LQIFS 4 260Nm - 2300in-lb	(4) 220-240 1PH				(L) EX-SIL				
LQIFS 5 360Nm - 3185in-lb (WP Only)	(5) 220-240 3PH (See Note)								
	(6) 380-415 3PH (See Note)								
	(7) 440-480 3PH (See Note)								

Supply Voltage and Control Mode

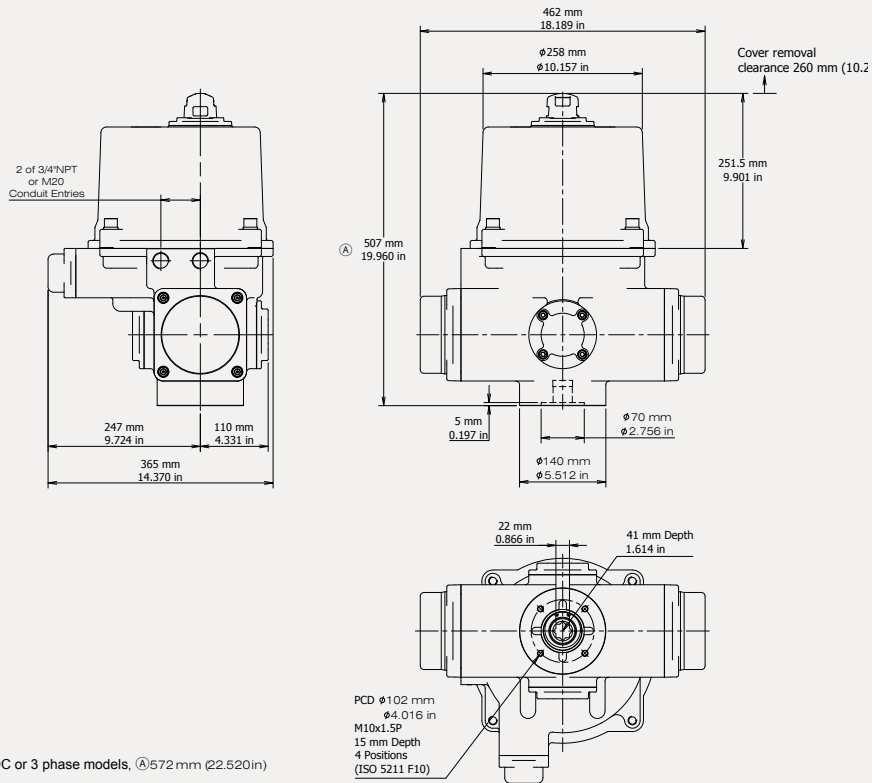
Model	24 V AC	24 V DC	110 - 120 V AC	220 - 240 V AC	220 - 240 V AC 3PH	380 - 415 V AC 3PH	440 - 480 V AC 3PH
Control	Control Mode						
LQIFS 1	On-Off	On-Off	On-Off Floating Modulating	On-Off Floating Modulating	On-Off	On-Off	On-Off
LQIFS 2							
LQIFS 3							
LQIFS 4							
LQIFS 5			On-Off	On-Off	N/A	N/A	N/A

Notes

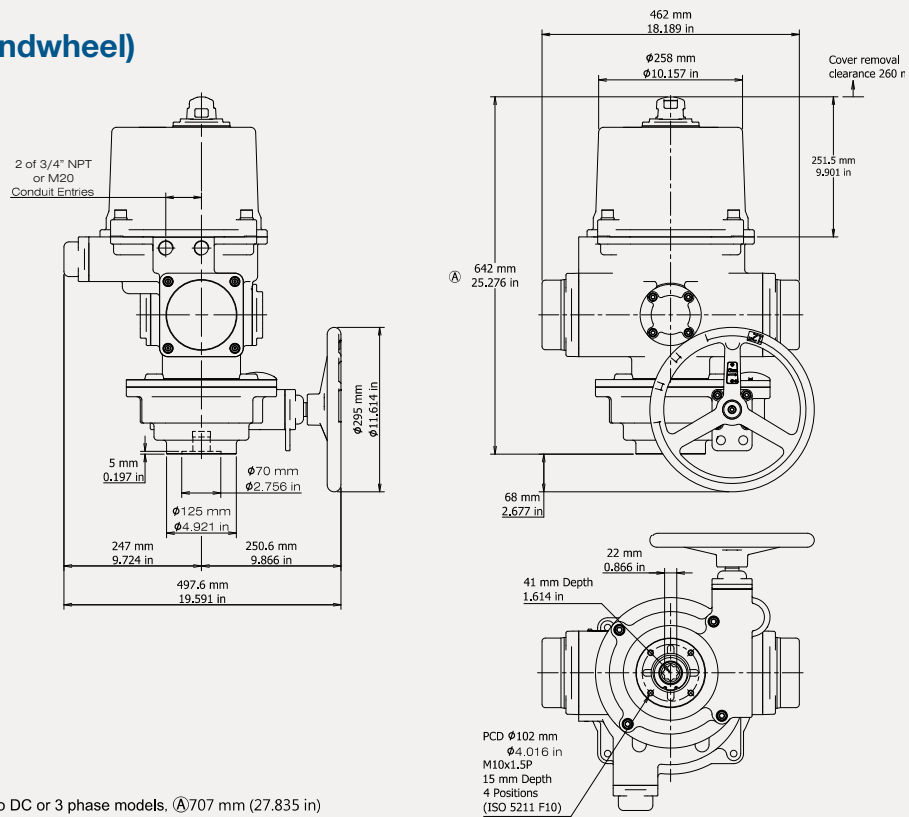
- (WP) = Non-Explosion Proof
(EX) = Explosion Proof
- 3PH for Explosion Proof units is only available at 220, 380, and 440
- Standard 4 LS (2 Control, 2 Aux)
- Standard Heater Included
- Standard fail direction is clockwise

Weather-Proof Outline Dimensions

LQIFS 2

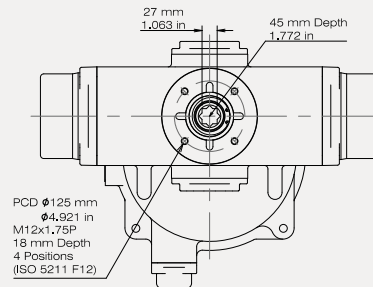
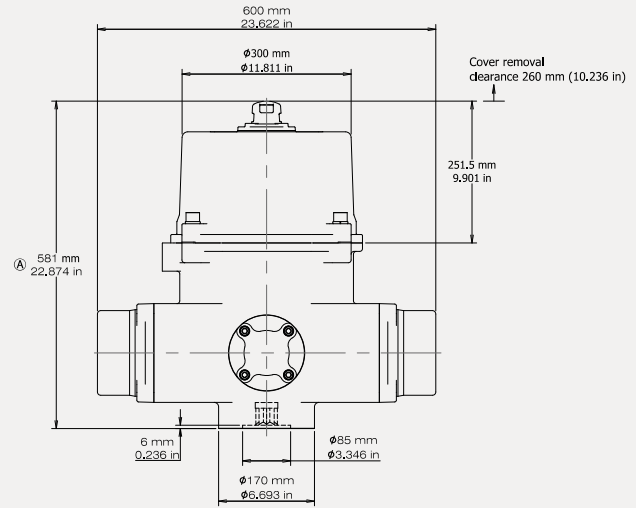
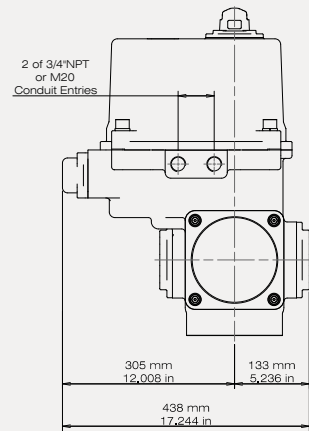


LQIFS 2 (with handwheel)



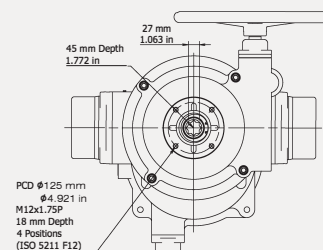
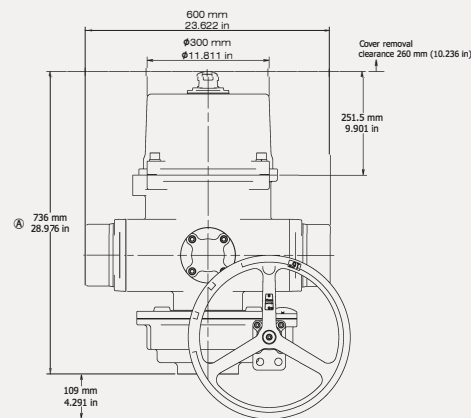
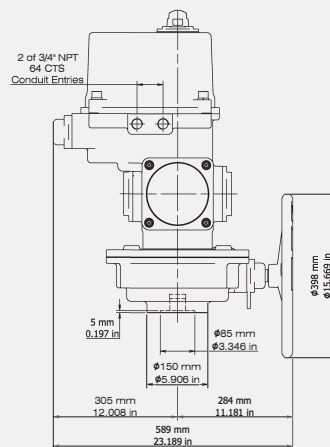
Weather-Proof Outline Dimensions

LQIFS 3/4



- Apply to DC models, (A)631 mm (24.843 in)

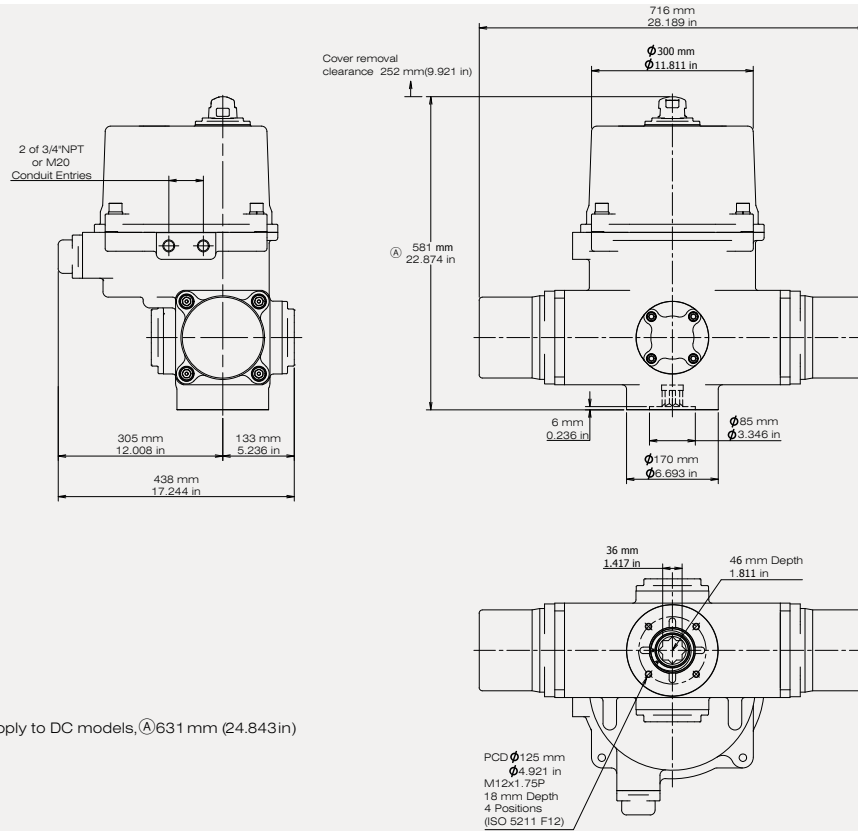
LQIFS 3/4 (with handwheel)



- Apply to DC models, (A)786 mm (30.945 in)

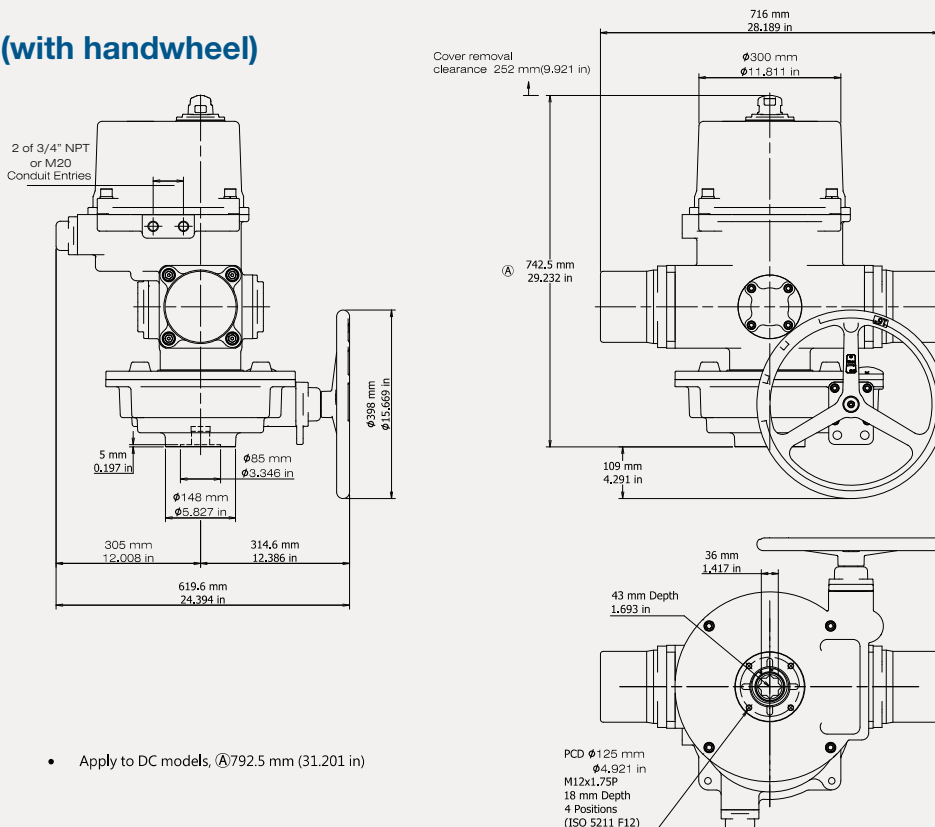
Weather-Proof Outline Dimensions

LQIFS 5



Apply to DC models, (A) 631 mm (24.843 in)

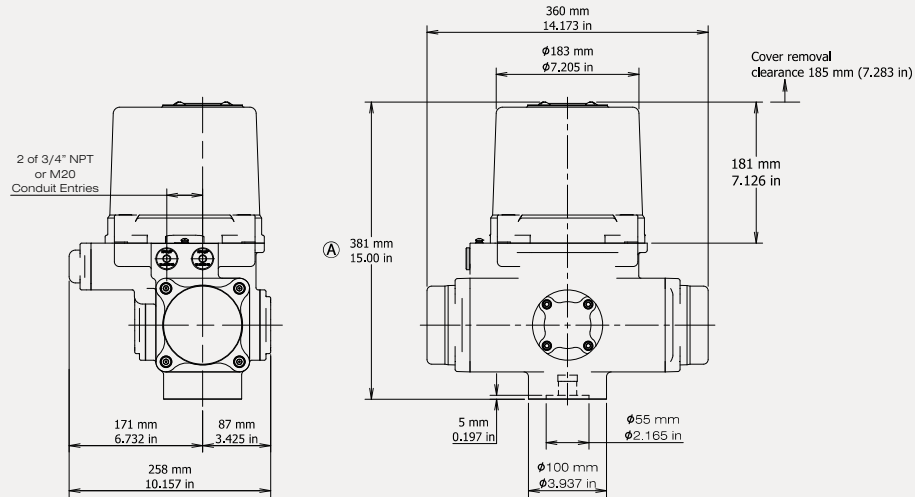
LQIFS 5 (with handwheel)



Apply to DC models, (A) 792.5 mm (31.201 in)

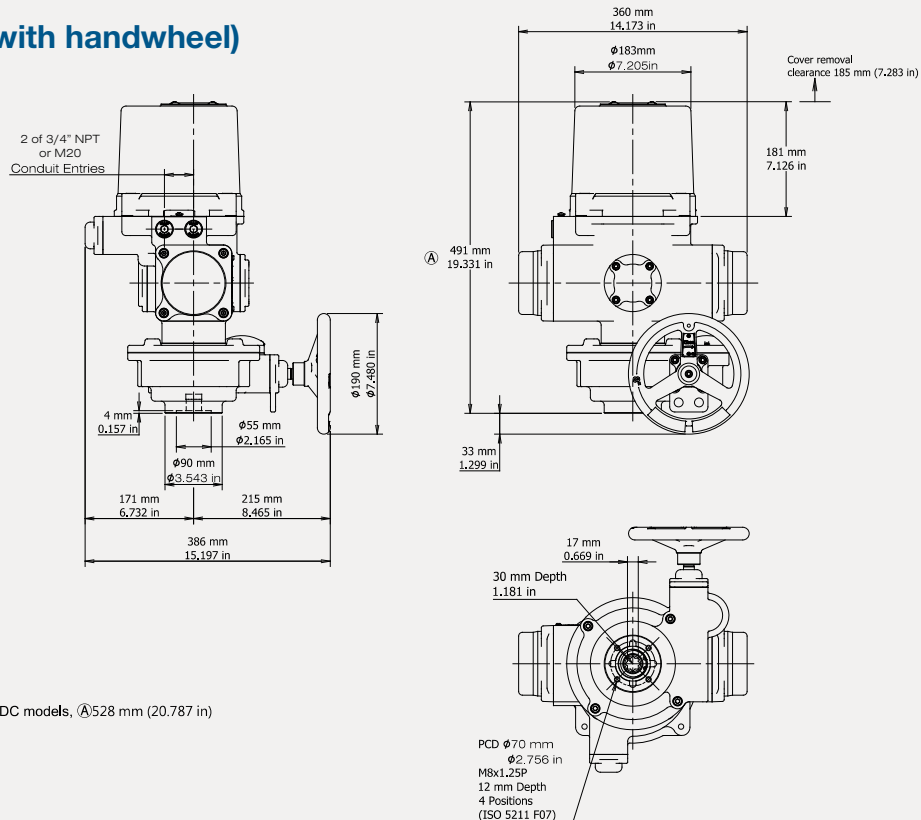
Explosion-Proof Outline Dimensions

LQIFS 1



- Apply to DC models, (A)418 mm (16.457 in)

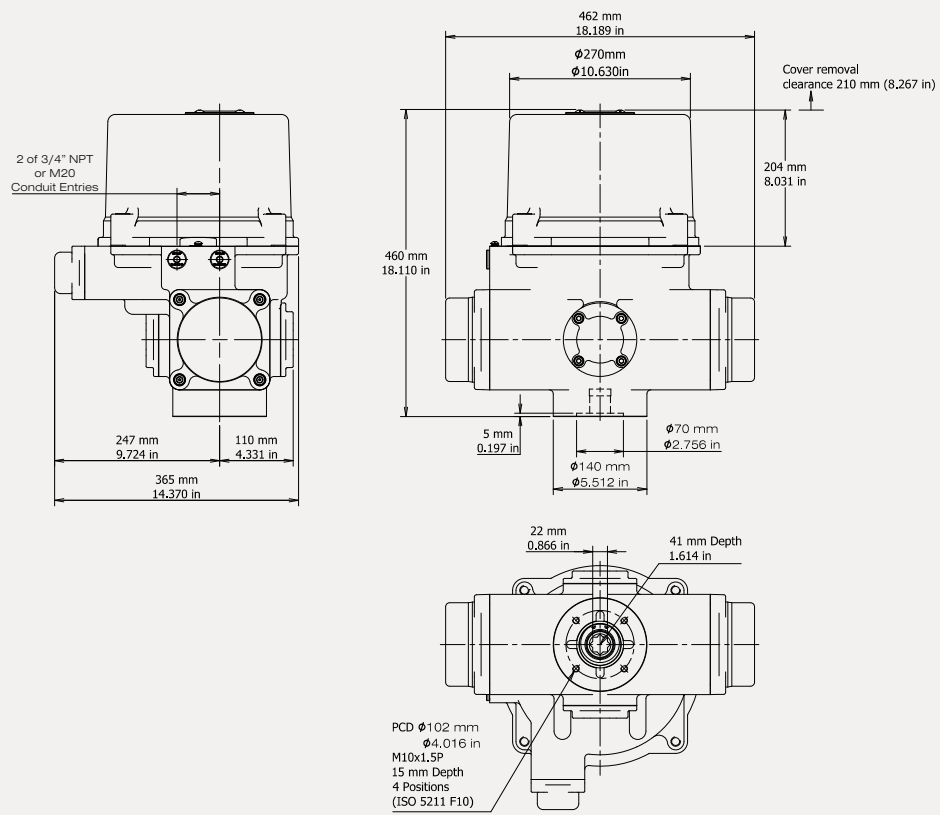
LQIFS 1 (with handwheel)



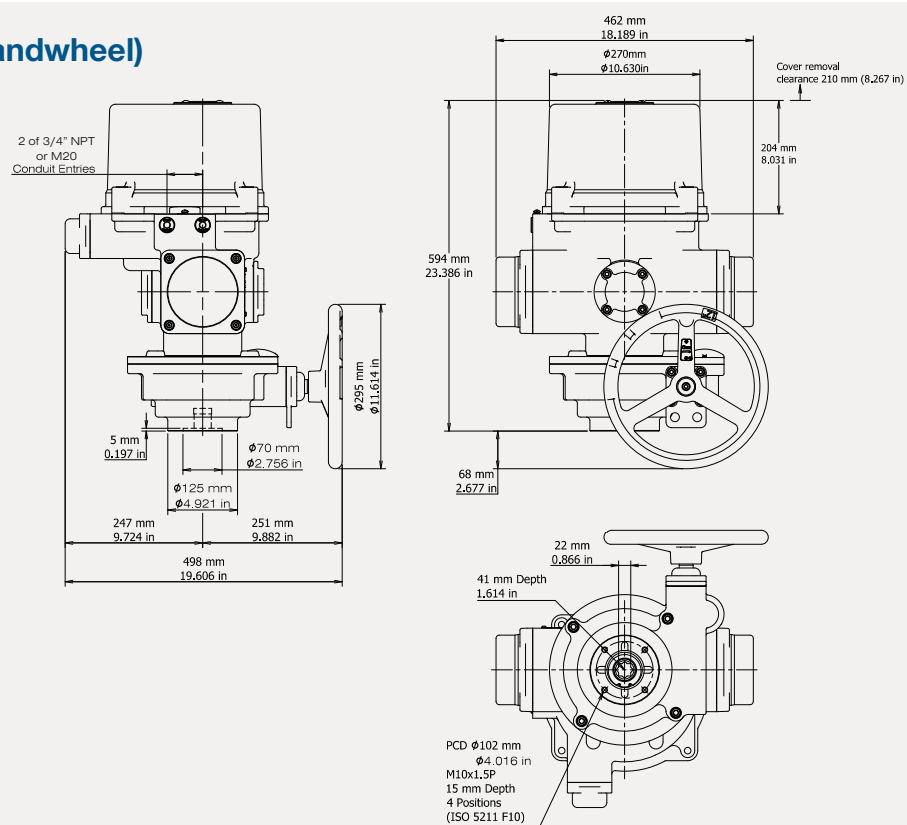
- Apply to DC models, (A)528 mm (20.787 in)

Explosion-Proof Outline Dimensions

LQIFS 2

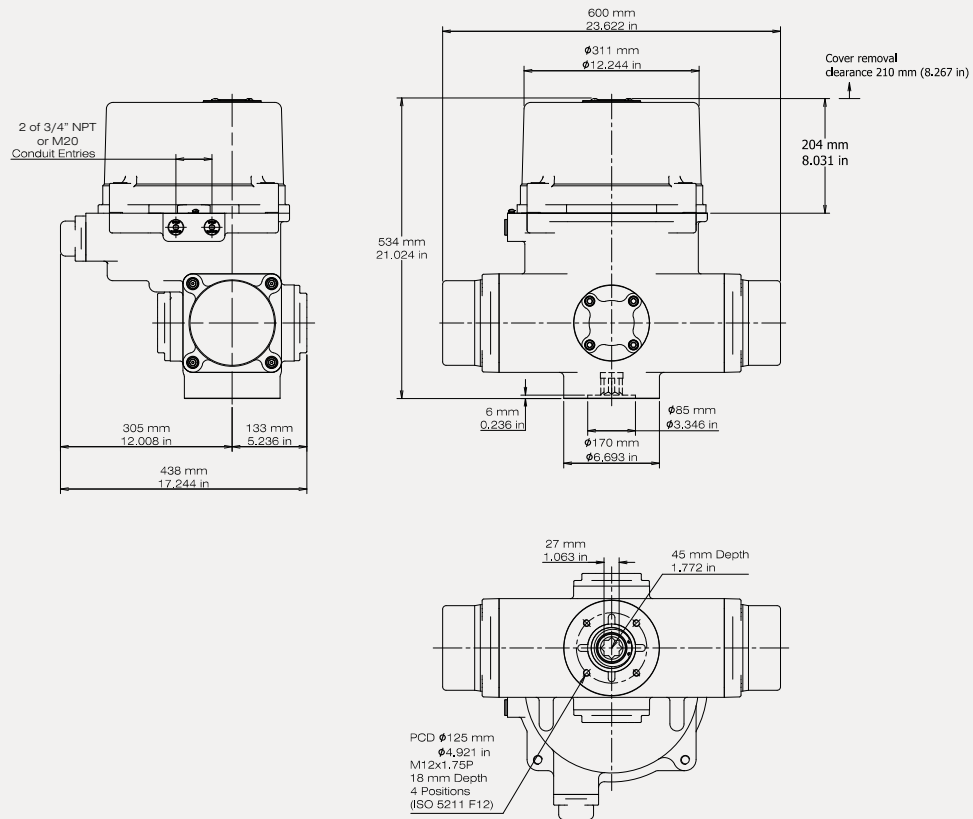


LQIFS 2 (with handwheel)

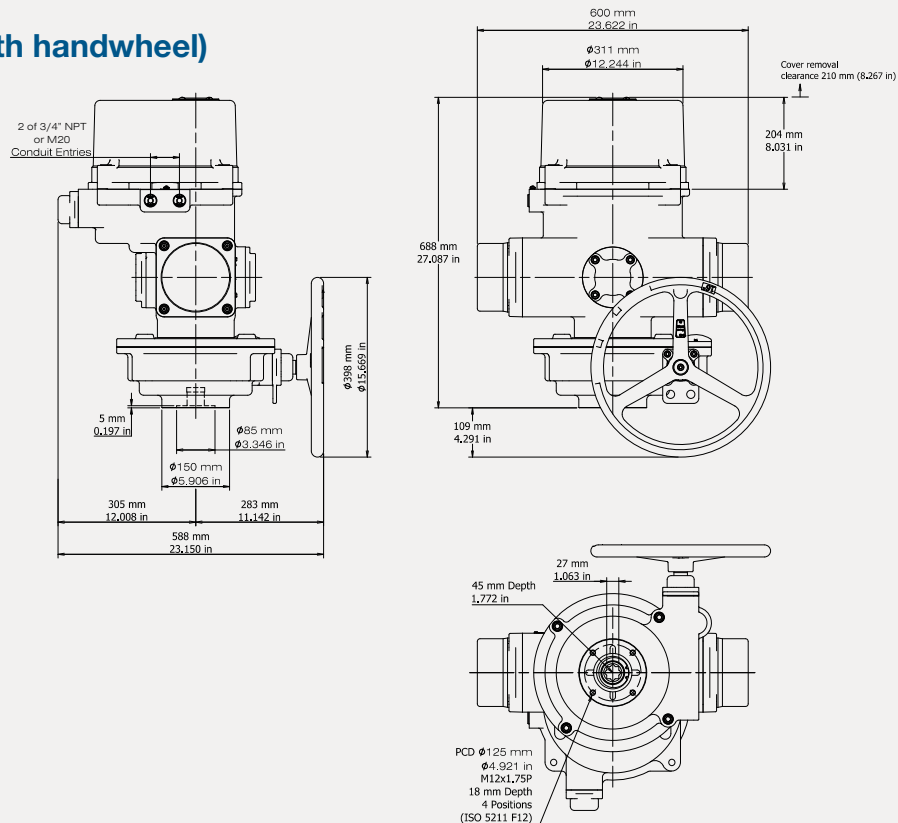


Explosion-Proof Outline Dimensions

LQIFS 3/4



LQIFS 3/4 (with handwheel)





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