



Quarter-Turn Electric Valve Actuator

Service Unique Nice Youthful Energy Honesty

SUNYEH



www.sunyeh.com



Introduction

Sun Yeh Electrical Ind. Co., Ltd. was established in 1986 and it is committed to continuous technical innovation, the most advanced product quality management, organizational excellence, and outstanding customer satisfaction.

Our sustainable development drives the product line extension to include quarter-turn actuators, spring return fail-safe actuators, linear actuators, and explosion-proof actuators. Sun Yeh offers various products that can be widely applied to the control of industrial processes, fluid control, water treatment, HVAC, chemical engineering, food processing, etc.

Sun Yeh is dedicated to providing you with high-quality products, which have been certified with CE, CSA, TS, SIL, CCC, ATEX, IECEx, and CNEx approvals, as well as meet RoHS, REACH and China RoHS environmental regulations, in addition to ISO 9001, ISO 14001, OHSAS 18001, and AEO.





Product Overview

OM series electric actuators offer torque ranges from 35 N·m / 310 in·lb to 4,500 N·m / 40,000 in·lb. These actuators come standard with a NEMA 4X, 5 & IP67 enclosure for outdoor use. All models are ISO 5211 compliant and equipped with a continuous mechanical position indicator and manual override (except BM-2 and OM-A). The manual override can be operated without clutch and brake.

Product Features

Self-locking Gear System

ISO 5211 Mounting Flange

Domed Position Indicator

Mechanical Stops

Clutchless Manual Transmission

Built-in Thermal Protection

NEMA 4X, 5 & IP67 Enclosure for Outdoor Use

Standard Specification

- Aluminum alloy, polyester powder coated. Corrosion protection C3 according to ISO 12944-6.
- NEMA 4X & IP67 (Waterproof and dustproof enclosure intended for outdoor use).

- All models are equipped with an easily visible, continuous, mechanical position indicator on top of the actuator cover.

- 30% duty cycle.

Enclosure

Duty Cycle

Domed Position Indicator

Mechanical Stops

- Adjustable mechanical stops are provided on OM-2 to OM-13, OM-F, OM-G, and OM-H actuators.

Gear Train

Motor

- Insulation class F.
- Built-in thermal protection prevents motor burnout.
 AC motor: 125±5°C / 257±9°F
 DC motor: 90±5°C / 194±9°F

- High alloy-steel gear trains with self-locking prevent back-drive.
- Gear trains are factory lubricated for actuators' full life cycle.



- Ambient temperature: -30°C to +65°C / -22°F to +149°F
- Relative humidity: 30% to 95%

Service Condition

Supply Voltages

Manual Override

- Non-clutch design means no lever, clutch, or brake required for manual operation.
- When the actuator is electrically activated, for safety reasons, the handwheel will not rotate.

Certifications

- CSA (except BM-2)
- CE (except BM-2)
- RoHS
- REACH
- China RoHS

Model	12V		24V		1-Phase		3-Phase		
	DC	AC	DC	AC	110V-120V	220-240V	220V	380V	440V
OM-A, OM-AM, OM-1	✓	✓	✓	✓	✓	✓			
BM-2					✓	✓	✓	✓	✓
OM-F and OM-G			✓	✓	✓	✓			
OM-H	✓		✓	✓	✓	✓	✓	✓	✓
OM-2 to OM-10	✓	✓	✓	✓	✓	✓	✓	✓	✓
OM-11 and OM-12			✓	✓	✓	✓	✓	✓	✓
OM-13					✓	✓	✓	✓	✓

Please contact your salesperson if other voltages are required.



• Non-Hazardous Area Enclosures

Standard	IP Rating	Ambient Temperature
IEC 60529 Edition 2.1: 2001	IP68, 7 meter / 72 hrs	-30°C to +65°C (-22°F to +149°F)

Enclosure

- TS Taiwan Hazardous Area Certification
- CNEEx China Hazardous Area Certification
- IECEx International Certification
- ATEX Certification for European Union
- CSA Hazardous Area Certification

Insulation class H

Motor

Modbus RTU RS485

Communication Protocols

- An anti-condensation heater increases the internal temperature of the actuator to prevent the freezing of lubricants and keeps the interior of the actuator dry to prevent product damage from moisture.
- Heater is not recommended if the ambient temperature is over 35°C / 95 °F.
- When temperatures vary significantly between day and night or between summer and winter, heater and heater thermostat (25±5°C / 77±9°F) are recommended.

Anti-condensation Heater

This option can switch the anti-condensation heater off when the temperature inside the actuator is higher than 25±5°C / 77±9°F.



Heater Thermostat

Actuators come standard with two limit switches, LS1 for fully-open and LS2 for fully-closed positioning. Two auxiliary limit switches are optional for fully-open and fully-closed position feedback.

Auxiliary Limit Switches

When using one control switch to operate two or more actuators, the isolating relay module is recommended.

Isolating Relay Module

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 an 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 an floating actuator for position indication.

Analog signal output 0-20mA, 4-20mA, 0-5V, 0-10V, 1-5V and 2-10V

Time Delay Controller

Time Delay Controller enables the running time to be delayed from a standard to 30s, 60s, etc. (Max. 200s, 300s or 600s) per system requirements.

Available for OM-2 to OM-13 220VAC/1PH and OM-2 to OM-8 110VAC

Time Delay Controller Set-up Table (sec.)

Dip switch (SR1)	1	2	3	4	5	6	7	8	9	0
200		30	60	90	120	150	200	200	200	200
300	Rated speed	60	90	120	150	180	210	240	270	300
600		60	100	150	200	250	300	400	500	600

Extended Duty Cycle Controller (IEC standard)

This option is suggested for extending duty cycle.

Model	75% Duty Cycle	50% Duty Cycle
OM-A and OM-AM	√	
OM-1 to OM-8 and OM-H	√	
OM-9 to OM-13		√

Other Running Times

3s, 8s and 150s

Please contact your salesperson if other operating times are required.

Voltages

125VDC, 575VAC/3PH and 208VAC/3PH

Please contact your salesperson if other voltages are required.

Enclosure Material

Optional SS316

Available for OM-1 to OM-6

This option provides torque overload protection. It must be ordered with actuator and installed and calibrated at the factory.

Torque Switch

Available for OM-2 to OM-13, OM-F, OM-G, and OM-H

Wiring can be done through the optional box, without removing the actuators' cover.



Junction Box

- This option contains LOCAL/REMOTE and CLOSE/OFF/OPEN rotary switches. Under LOCAL control mode, the controlled valves or dampers can be driven to open, stop, or close by CLOSE/OFF/OPEN rotary switch.
- IP rating: IP65
- Optional: IP67



Local Control Unit



This option converts the handwheel manual override to a chain driving override for overhead-mounting.

Chain Wheel

Available for OM-2 to OM-13, OM-F, OM-G, and OM-H

Rotational angle can be set up to 270°

- Standard: 0° to 90°
- Optional: 91° to 270°

Extended Travel

Available for OM-1 to OM-8, OM-F, OM-G, and OM-H

- Standard: 1/2"PS
- Optional: 3/4"PF, 3/4"NPT, 1/2"NPT, M20

Please contact your salesperson if other conduit entries are required.

Conduit Entries

- Standard: C3
- Optional: C4

Available for OM-A, OM-AM and OM-1 to OM-8, OM-F, OM-G, and OM-H

Please contact your salesperson if other corrosion classes are required.

Corrosivity Category (ISO 12944-6)

Hazardous Area Enclosures

- TS Taiwan Hazardous Area Certification
- CNEx China Hazardous Area Certification
- ATEX Certification for European Union

Directive	Group	Ambient Temperature
ATEX II 2 GD	Ex db IIB T4 Gb	-30°C to +70°C / -22°F to +158°F
ATEX II 2 GD	Ex tb IIIC T130°C Db	-30°C to +70°C / -22°F to +158°F

Standards: IEC 60079-0, IEC 60079-1, IEC60079-31

- IECEx International Certification

Group	Ambient Temperature
Ex db IIB T4 Gb	-30°C to +70°C / -22°F to +158°F
Ex tb IIIC T130°C Db	-30°C to +70°C / -22°F to +158°F

Standards: EN60079-0, EN60079-1, EN60079-31

- CSA Hazardous Area Certification

Zone						
National Conformity	Class	Zone	Protection Method	Groups	T-Code	Standard Temperature
AEx / Ex	I	1	db	IIB, IIA	T4	-30°C to +70°C / -22°F to +158°F
AEx / Ex	II	21	tb	IIIC, IIIB, IIIA	T130°C	-30°C to +70°C / -22°F to +158°F

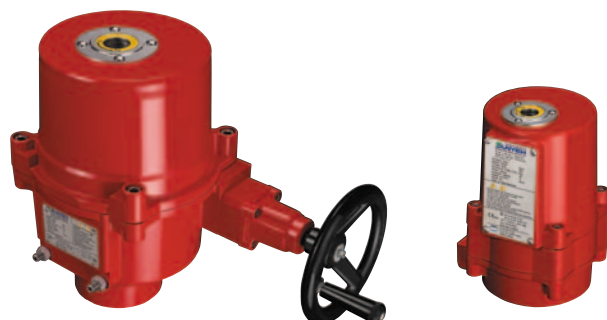
Standards:

CAN/CSA-C22.2 No. 0-10, 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				
Class	Division	Groups	T-Code	Standard Temperature
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:

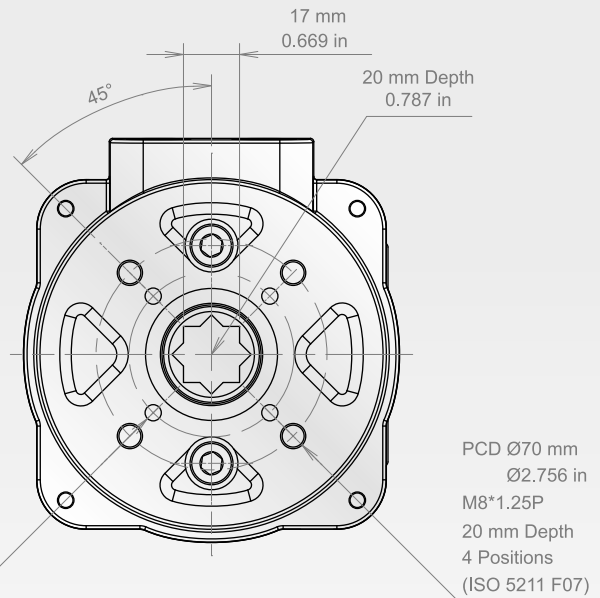
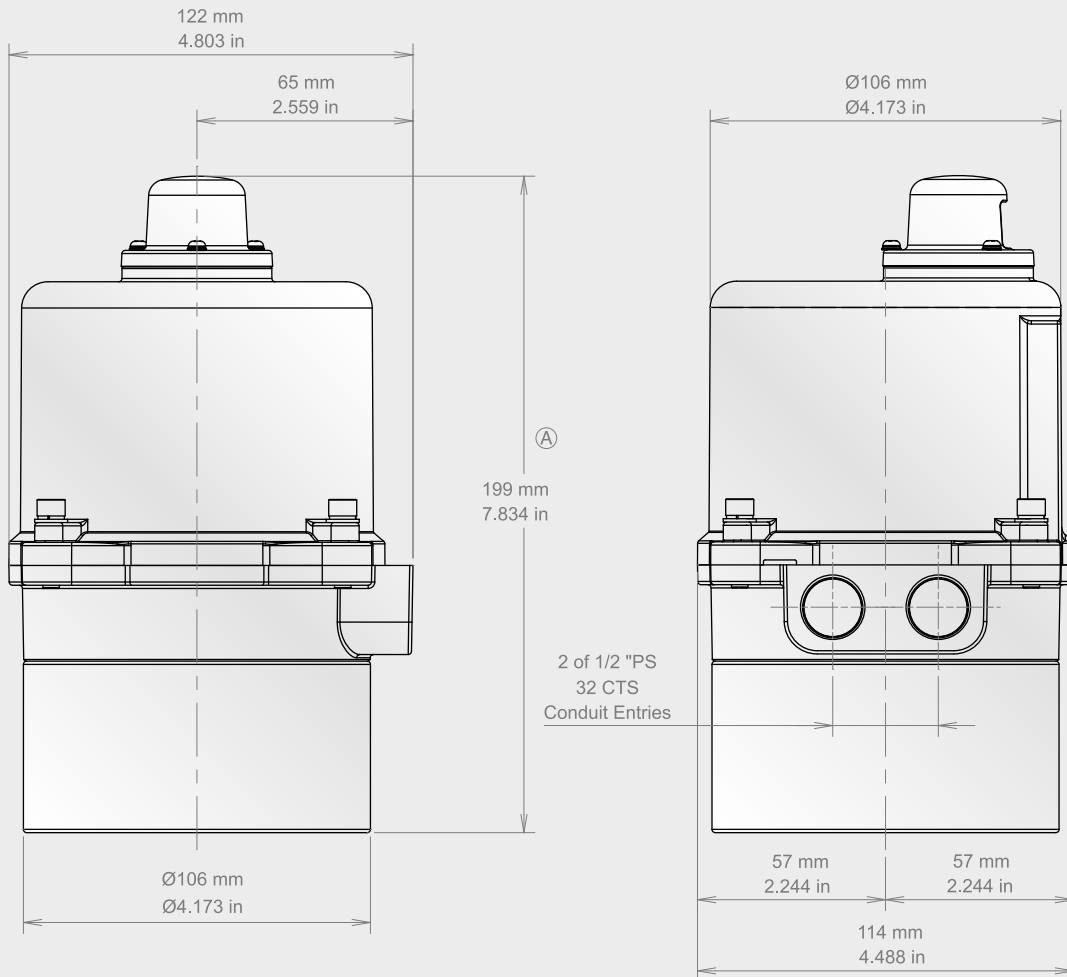
CAN/CSA-C22.2 No. 0-10, CSA C22.2 No. 30-M1986, CSA C22.2 No. 25-17, FM 3600, FM 3615, FM 3616



Model	Torque		Weight		Nominal Motor Power	Running Time	Manual Override	Flange Type
	N·m	in·lb	kg	lb	Watt	(sec. / 90°)		ISO 5211
OM-1	35	310	2	4.4	10	12	Lever	F03 / F05
OM-A	50	445	3	6.6	10	27	N / A	F05 / F07
OM-AM	50	445	3	6.6	10	27	Lever	F05 / F07
OM-F	65	575	11	25	60	6	Handwheel	F07 / F10
OM-2	90	800	11	25	40	17		F07 / F10
BM-2	120	1065	5.5	13	40	9	N / A	F07
OM-G	120	1065	11	25	60	8		F07 / F10
OM-3	150	1330	11	25	40	26		F07 / F10
OM-H	300	2655	17	38	60	24		F07 / F10
OM-4	400	3540	20	45	80	19		F10 / F12
OM-5	500	4430	20	45	80	26		F10 / F12
OM-6	650	5755	20	45	80	34		F10 / F12
OM-7	1000	8855	32	71	120	50	Handwheel	F12 or F14
OM-8	1500	13280	32	71	120	51		F12 or F14
OM-9	2000	17710	71	157	180	62		F14 or F16
OM-10	2500	22140	71	157	180	62		F14 or F16
OM-11	3000	26565	72	159	180	62		F14 or F16
OM-12	3500	31000	72	159	220	62		F14 or F16
OM-13	4500	40000	106	234	220	88		F16 / F25

※Motor power and speed data are based on 110VAC @60Hz, 30% duty cycle, Floating control.

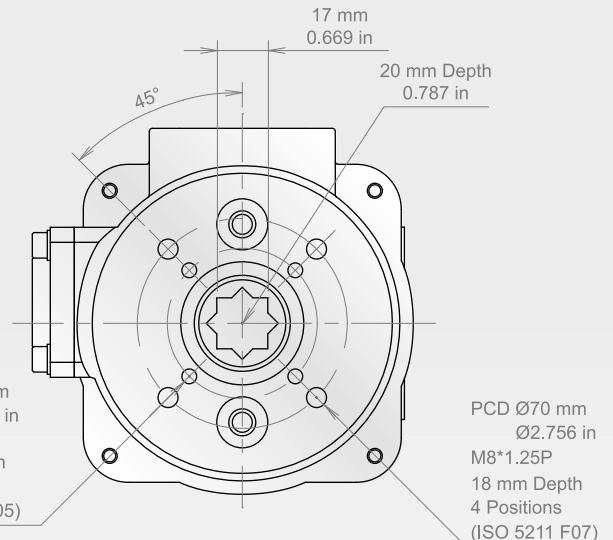
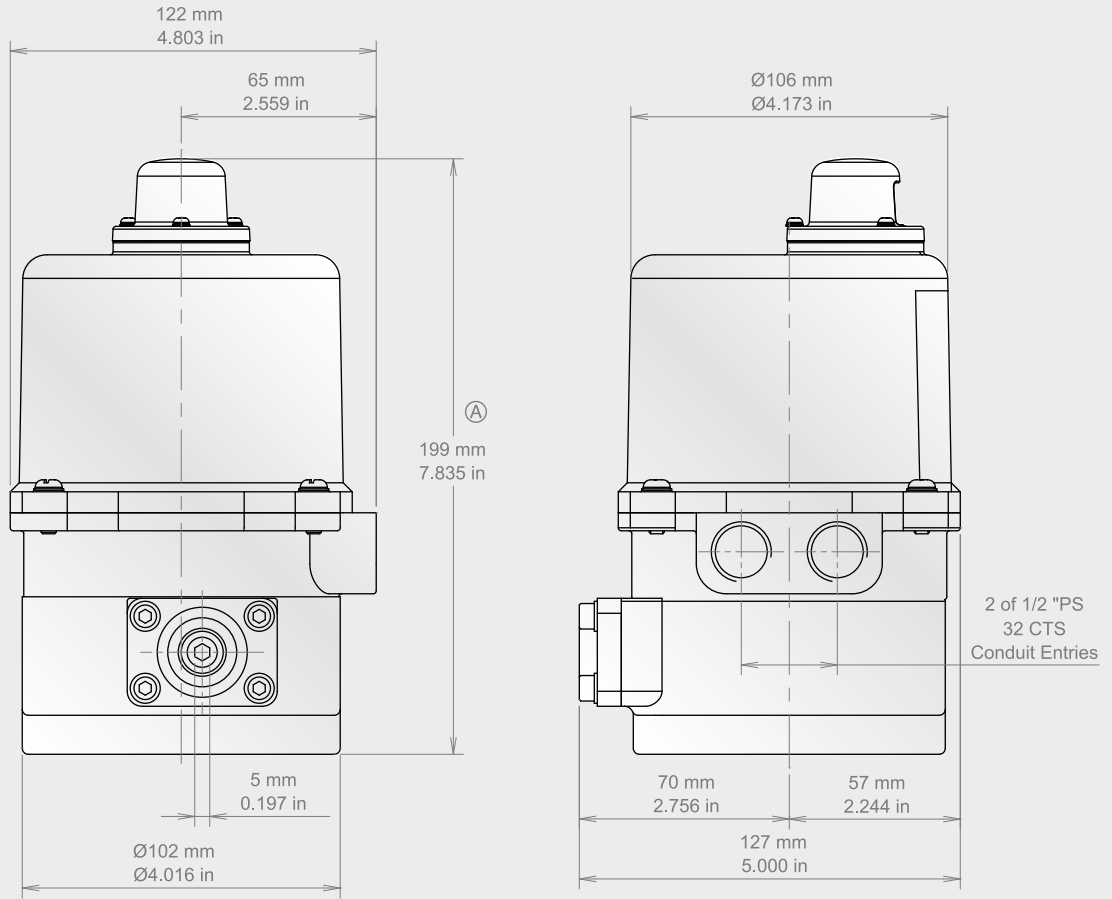
Outline Dimensions



OM-A

- Apply to modulating control models, (A)232 mm (9.133 in)
- No mechanical stops
- No manual override

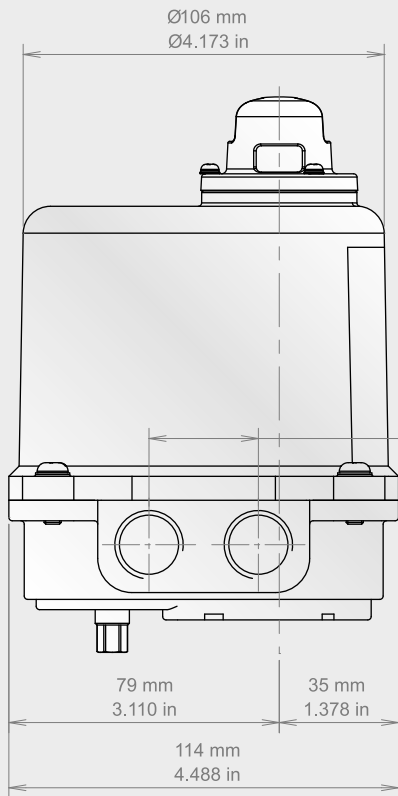
Outline Dimensions



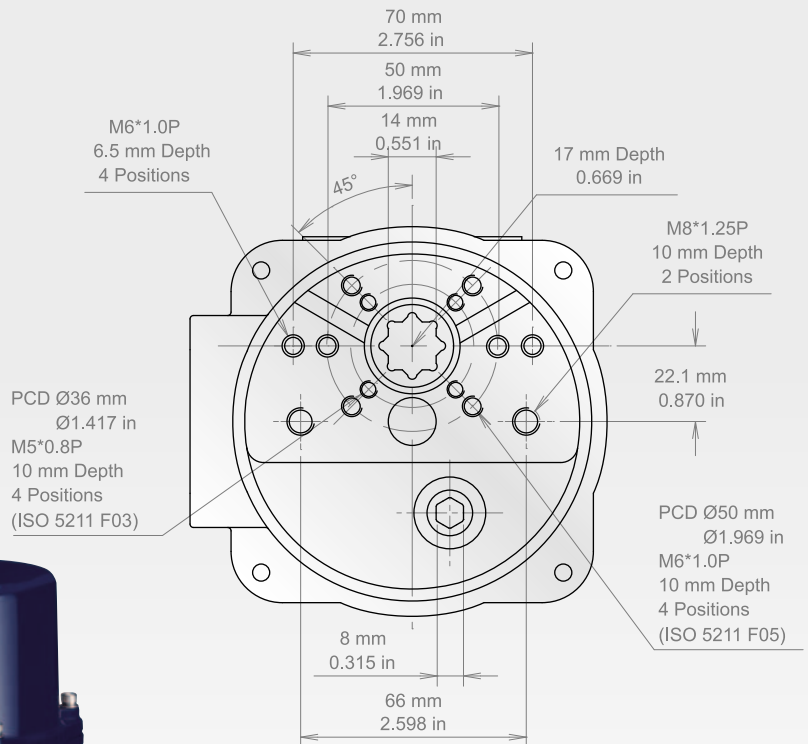
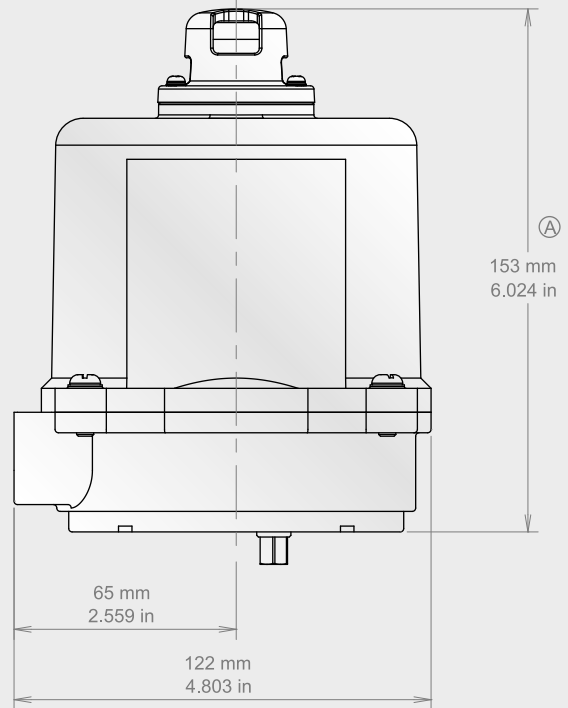
OM-AM

- Apply to modulating control models, $\text{\textcircled{A}}$ 232 mm (9.133 in)
- No mechanical stops
- Recommended wrench: 5 mm Hex wrench

Outline Dimensions

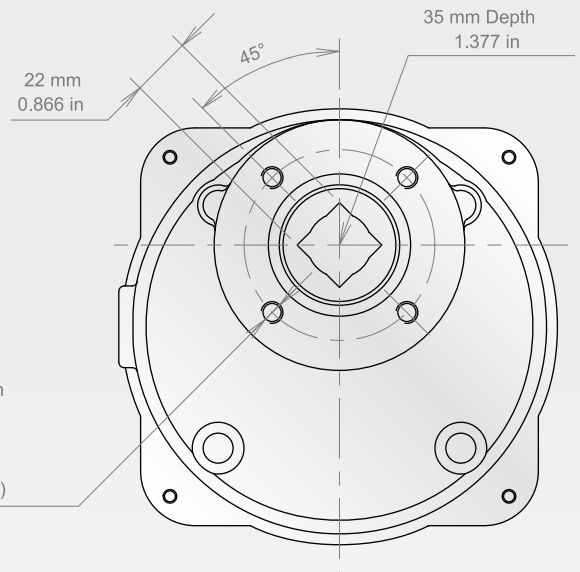
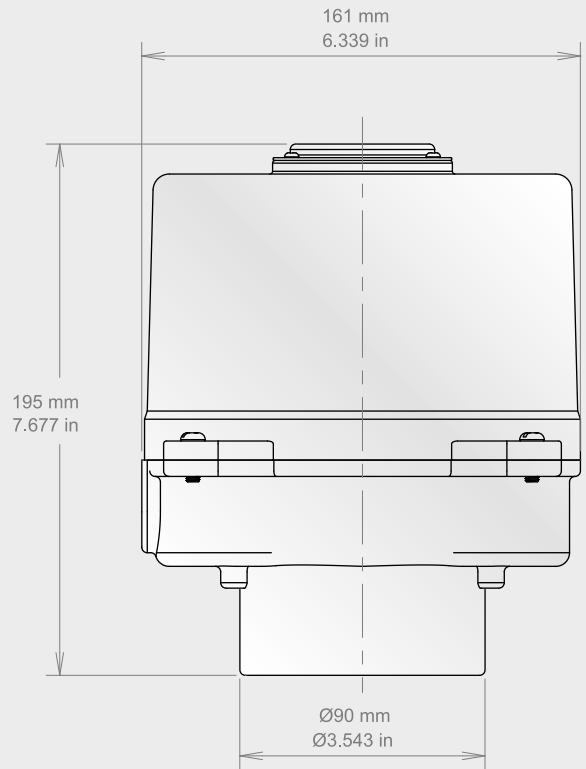
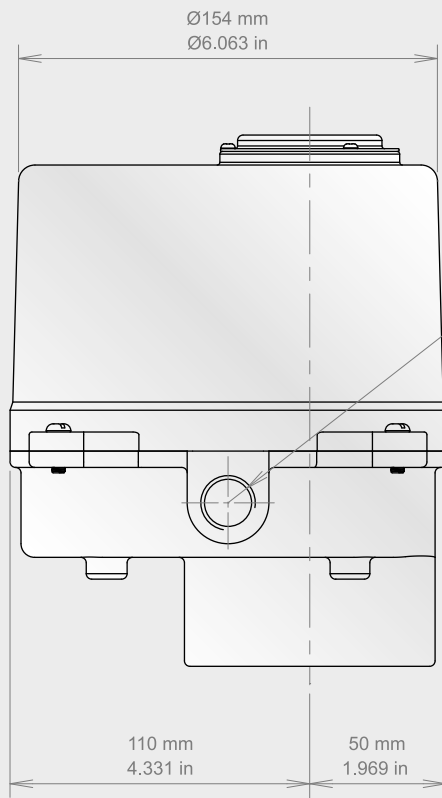


2 of 1/2 "PS
32 CTS
Conduit Entries



OM-1

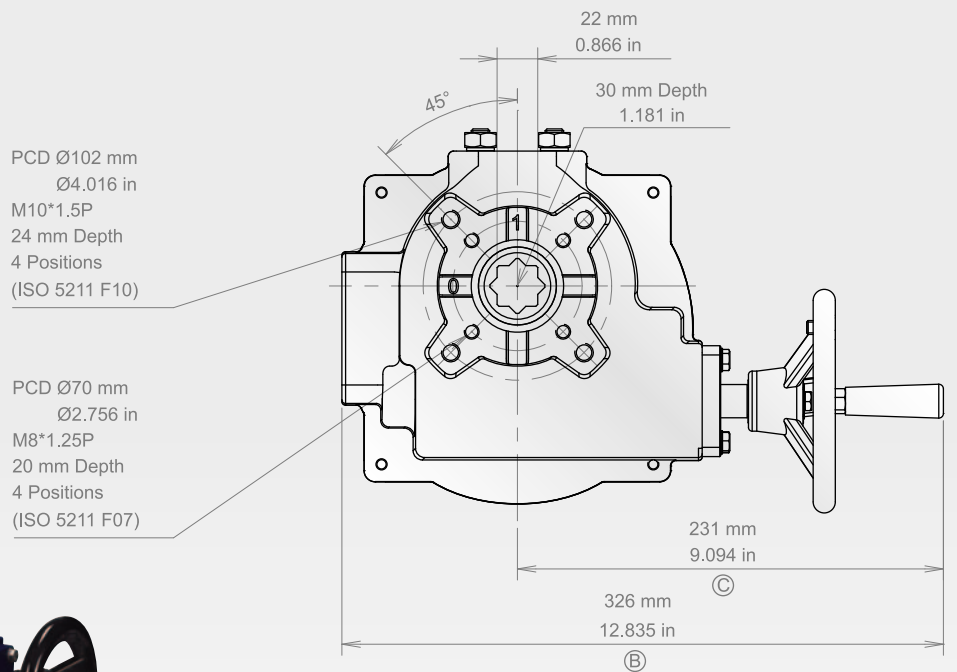
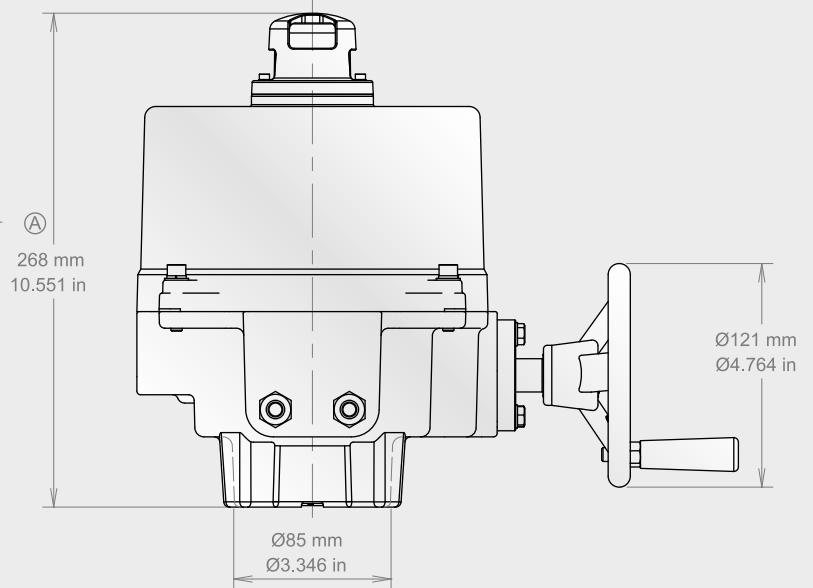
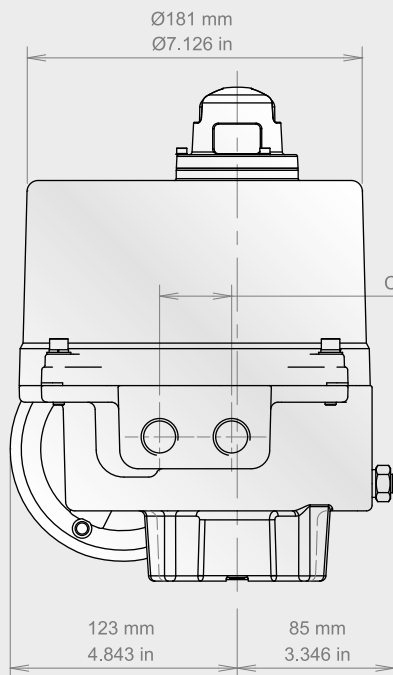
- Apply to modulating control models, \textcircled{A} 186 mm (7.323 in)
- No mechanical stops
- Recommended wrench: 8 mm Open-end wrench



BM-2

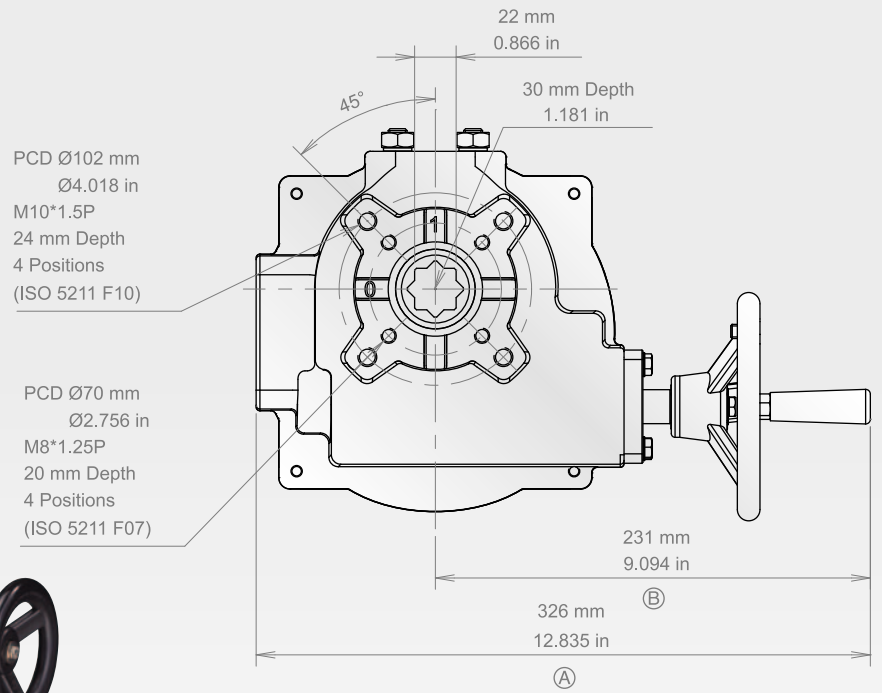
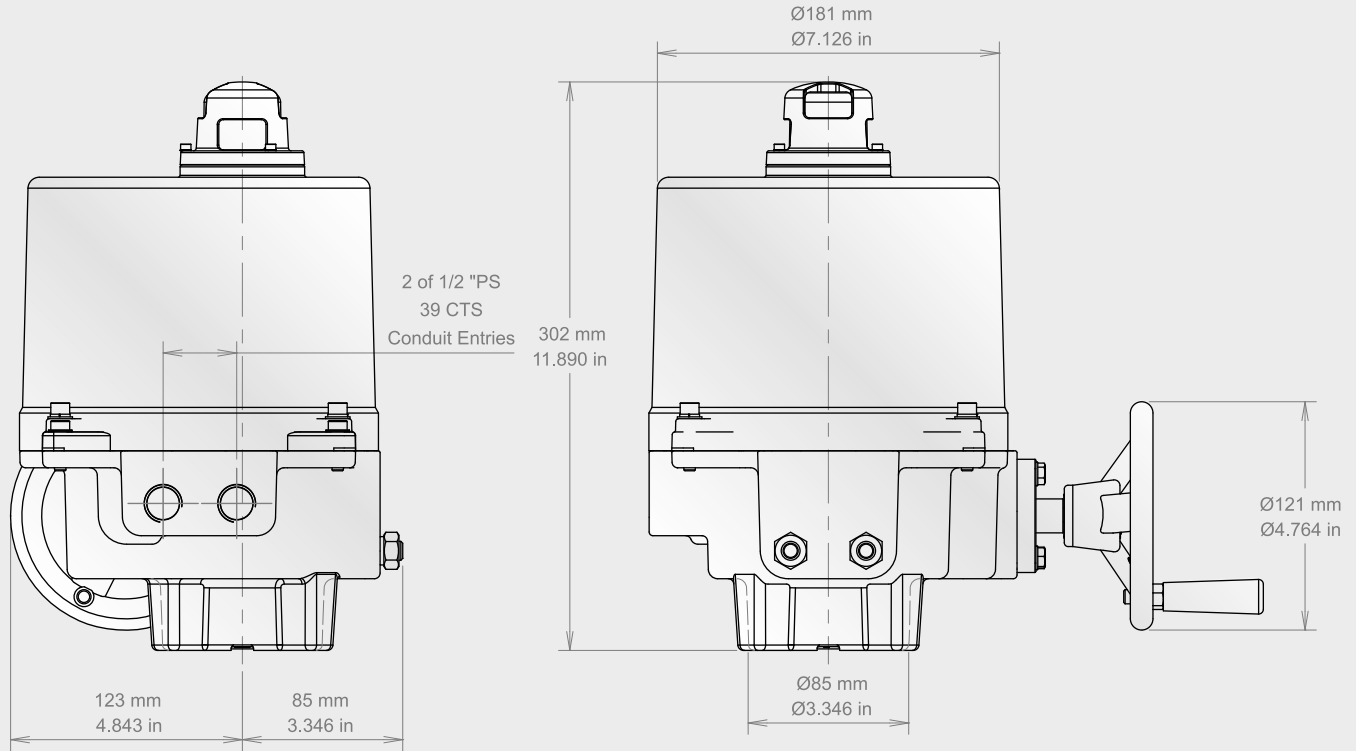
Plastic cover (material: ABS Impact Resistance)
 No manual override, mechanical stops and certificates

Outline Dimensions



OM-2/3

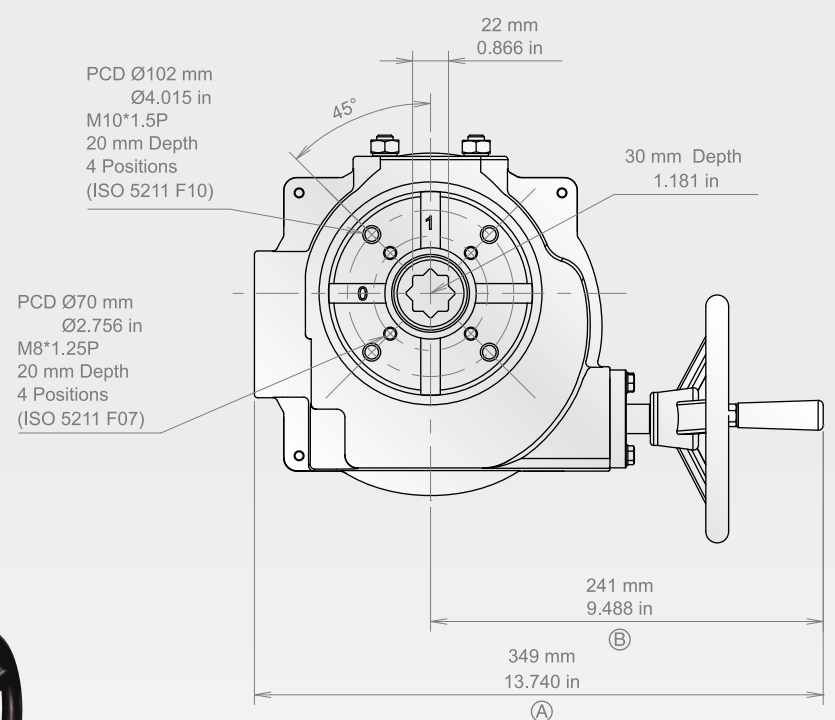
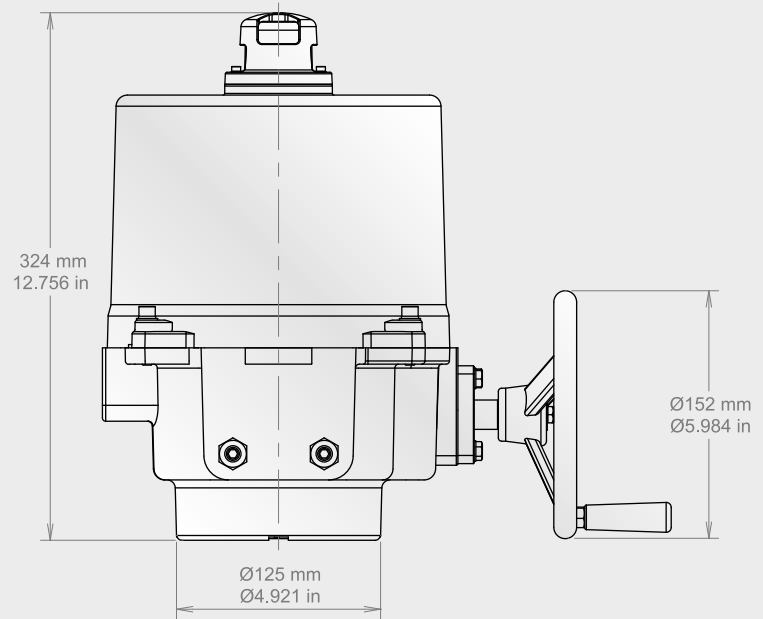
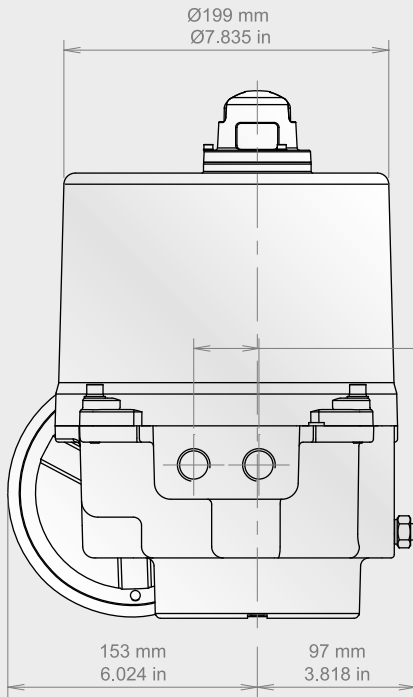
- Apply to DC models or 75% duty cycle, A 302 mm (11.890 in)
- With torque switch, B 363 mm (14.291 in), C 268 mm (10.551 in)



With torque switch, **A**363 mm (14.291 in), **B**268 mm (10.551 in)

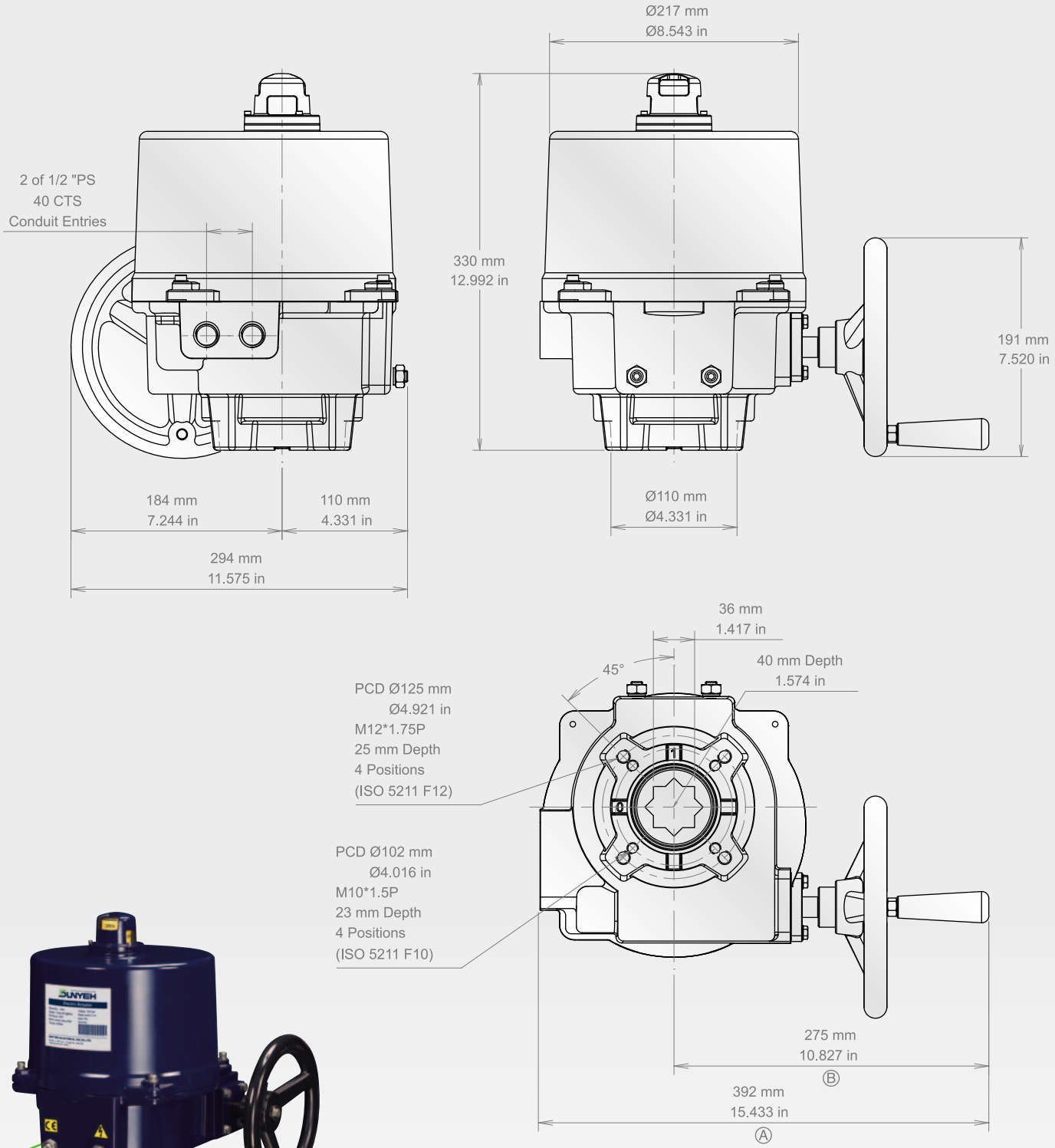
OM-F/G

Outline Dimensions



With torque switch, Ⓐ400 mm (15.748 in), Ⓑ292 mm (11.496 in)

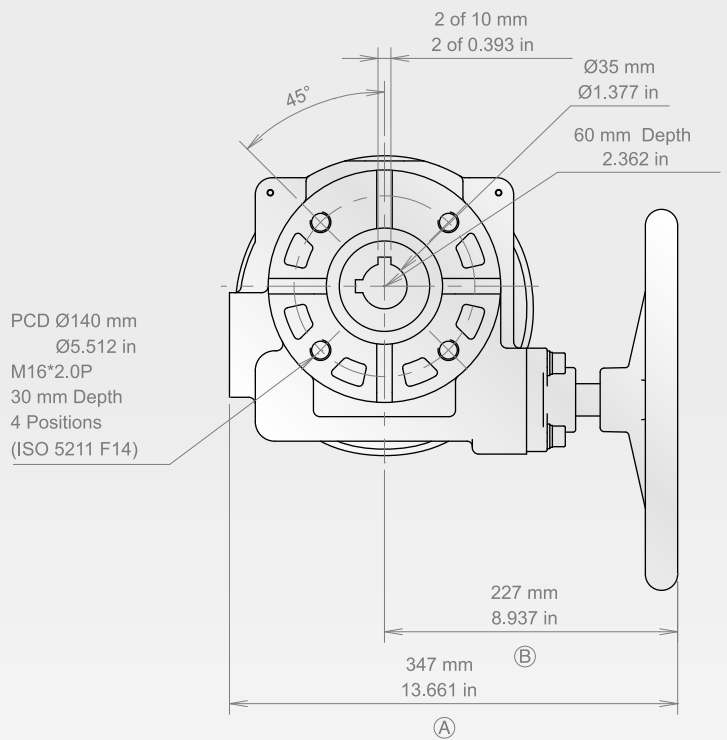
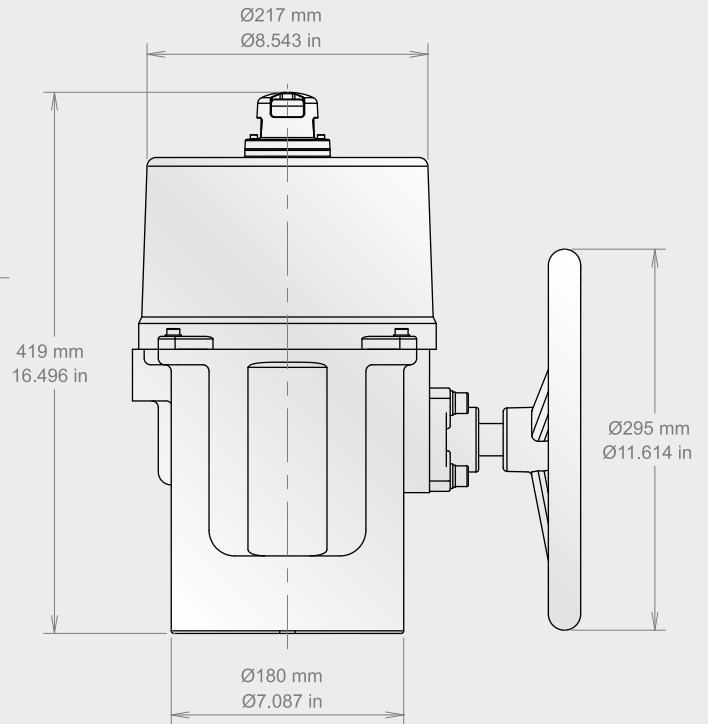
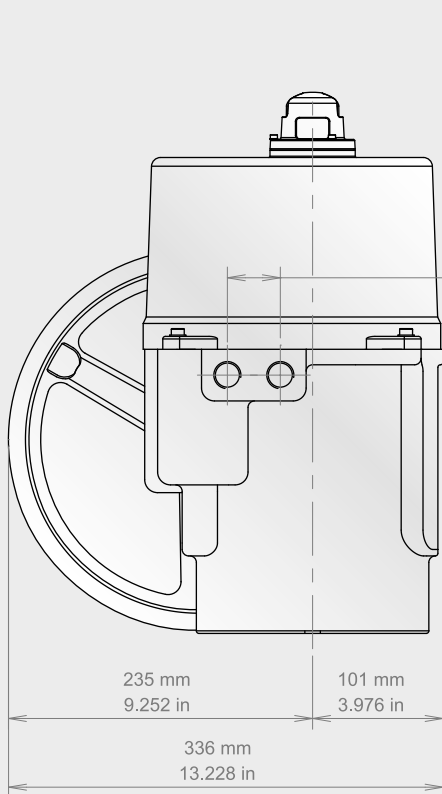
OM-H



With torque switch, Ⓐ458 mm (18.031 in), Ⓑ341 mm (13.425 in)

OM-4/5/6

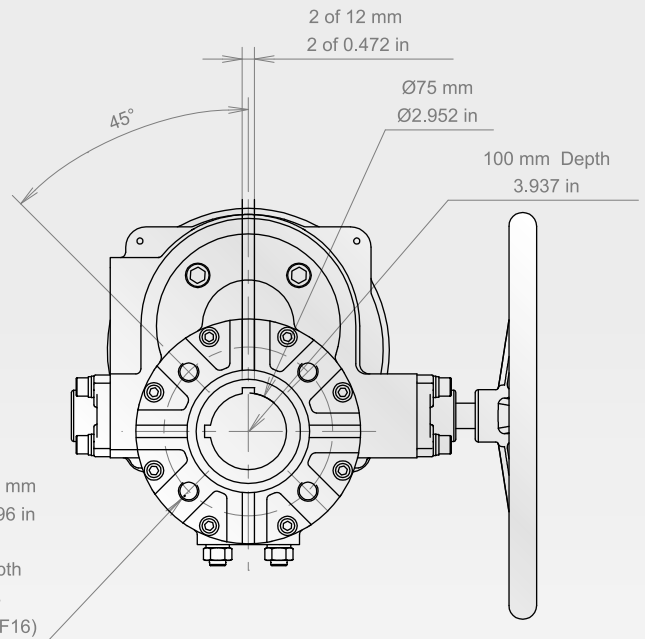
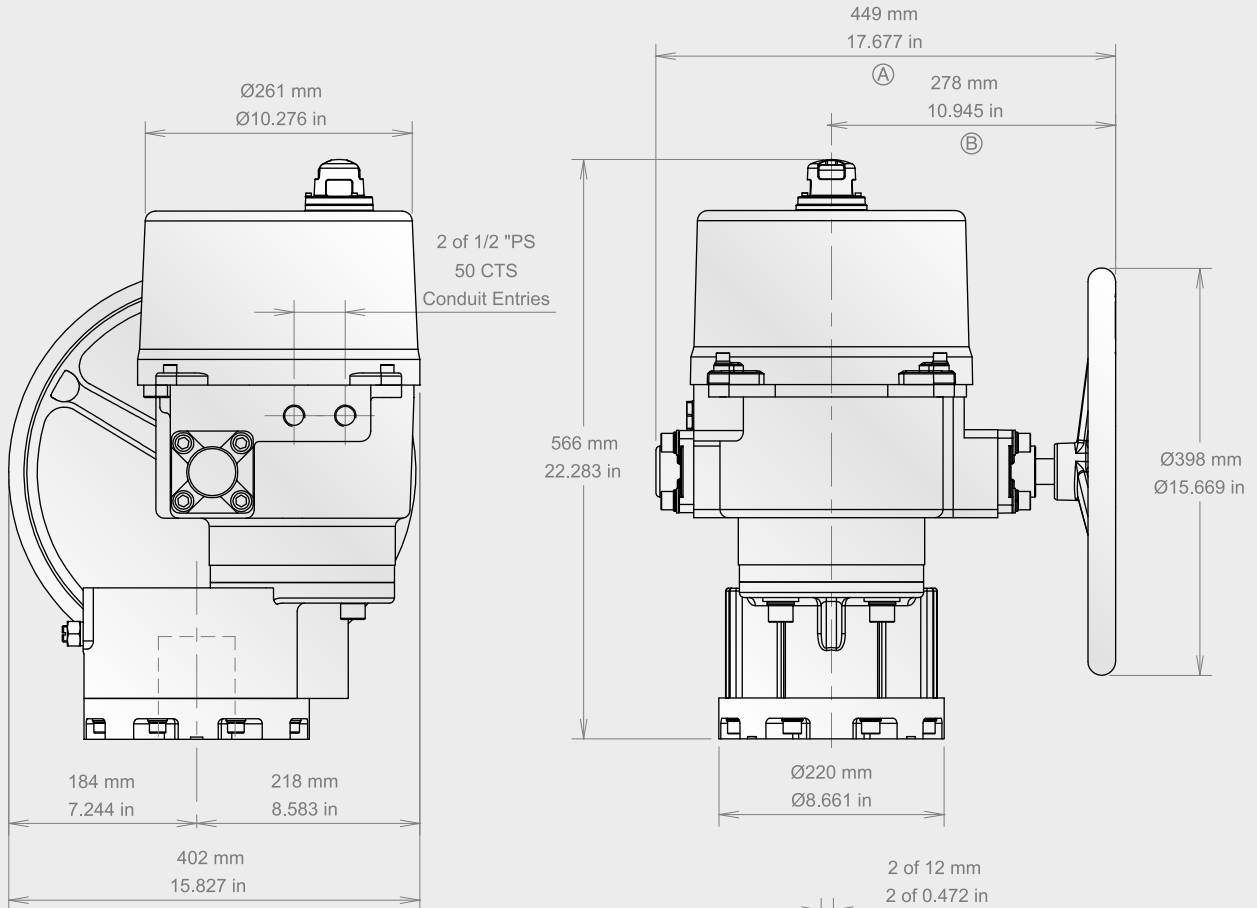
Outline Dimensions



OM-7/8

With torque switch, Ⓐ435 mm (17.126 in), Ⓑ315 mm (12.402 in)
Optional flange size: F12 (M12*1.75P)

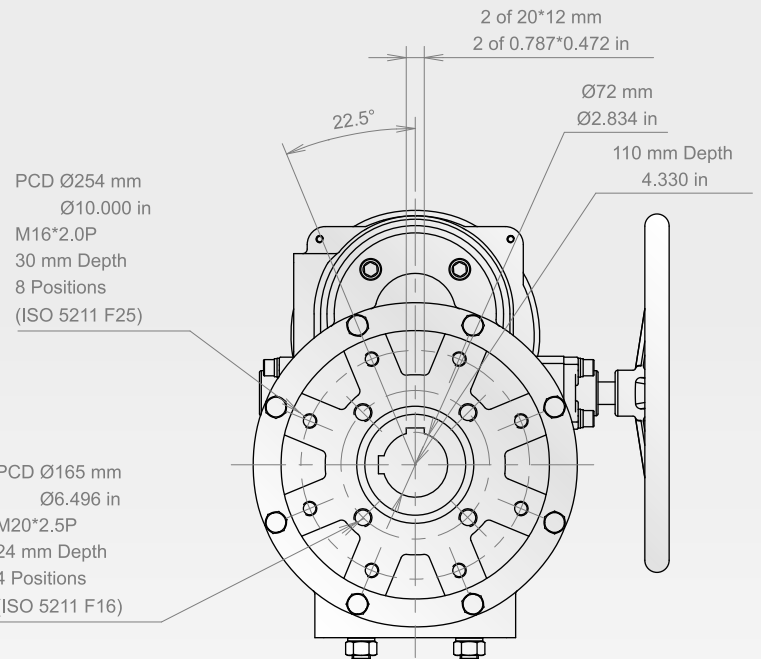
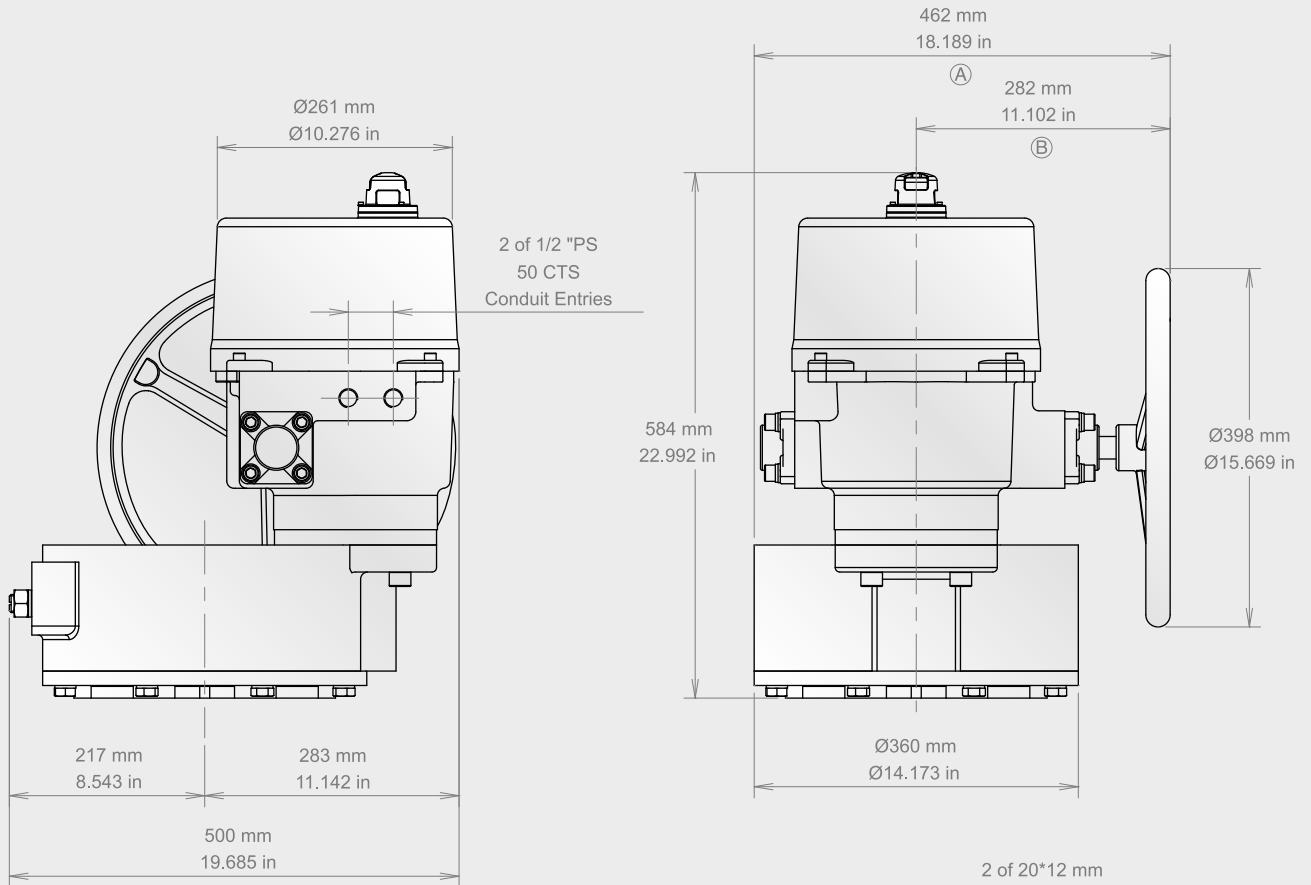
Outline Dimensions



- With torque switch, A 459 mm (18.071 in), B 288 mm (11.339 in)
- Optional flange size: F14 (M16*2.0P)

OM-9/10/11/12

Outline Dimensions



With torque switch, (A) 472 mm (18.583 in), (B) 292 mm (11.496 in)

OM-13



Service Unique Nice Youthful Energy Honesty

SUNYEH

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