

Service Unique Nice Youthful Energy Honesty

SUNYEH



OM

SERIES

QUARTER TURN
ELECTRIC VALVE ACTUATORS



www.sunyeh.com

Service Unique Nice Youthful Energy Honesty

SUNYEH



Company Profile

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, multi-turn 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, ISO 45001, 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 (except BM-2)
- Mechanical Stops (except OM-1 / A / AM / J and BM-2)
- Clutchless Manual Transmission
- Built-in Thermal Protection
- NEMA 4X, 5 & IP67 Enclosure for Outdoor Use



Enclosure

- Aluminum alloy, polyester powder coated. Corrosion protection C3 according to ISO 12944-6.
- NEMA 4X, 5 & IP67 (Waterproof and dustproof enclosure intended for outdoor use).

Gear Train

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

Duty Cycle

- 30% duty cycle.

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

Domed Position Indicator

- All models are equipped with an easily visible, continuous, mechanical position indicator on top of the actuator cover (except BM-2).

Mechanical Stops

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

Service Condition

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

Supply Voltages

Model	12V		24V		1-Phase		3-Phase		
	DC	AC	DC	AC	110V-120V	220-240V	220V	380V	440V
OM-A, OM-AM and OM-1	√	√	√	√	√	√			
OM-J				√	√				
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.

Standard Specification



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

Enclosure

- Non-Hazardous Area Enclosures

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

Motor

- Insulation class H

Communication Protocols

- Modbus RTU RS485
- Available for: OM-2 to 6, F, G, H 110-120VAC/1-PH, 30% duty cycle
OM-2 to 8, F, G, H 220-240VAC/1-PH, 30% duty cycle
OM-2 to 8, F, G, H 110-240VAC/1-PH, 75% duty cycle
OM-9 to 13, 110-240VAC/1-PH, 50% duty cycle

Anti-condensation Heater

- 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.

Heater Thermostat

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



Thermal Insulation Blanket

- The combination of quarter-turn electric actuators with a Thermal Insulation Blanket is designed to remove and re-install easily. It makes the actuator run smoothly even in high temperature environment.
- Working conditions:
Withstand two hours at 250°C (482°F).
Withstand one hour at 300°C (572°F).
- Available for: OM-A, OM-AM, OM-1 to OM-8 floating control.

Auxiliary Limit Switches

- Actuators come standard with two limit switches, LS1 for fully-open and LS2 for fully-closed positioning. Two auxiliary limit switches (LS3 & LS4) are optional for fully-open and fully-closed position feedback.

Isolating Relay Module

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

Optional Items

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 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/1PH

Time Delay Controller Set-up Table (sec.)

Dip switch (SR1)	1	2	3	4	5	6	7	8	9	0
200	Rated speed	30	60	90	120	150	200	200	200	200
300		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 running times are required.

Voltages

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

Please contact your salesperson if other voltages are required.

Enclosure Material

- SS316; IP rating: IP67 (OM-1) and IP68 (OM-2 to OM-6, OM-F and OM-G).
- Available for: OM-1 to OM-6, OM-F and OM-G.

Please contact your salesperson if outline drawings of SS316 material are required.

Torque Switch

- This option provides torque overload protection. It must be ordered with actuator, installed and calibrated at the factory.
- Available for: OM-2 to OM-13, OM-F, OM-G, and OM-H

Junction Box

- Wiring can be done through the junction box without removing the actuators' cover.



Local Control Unit

- 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



Chain Wheel

- This option converts the handwheel to chain wheel for overhead-mounting.
- Available for: OM-2 to OM-13, OM-F, OM-G, and OM-H



Extended Travel

- Rotational angle can be set up to 270°
- Standard: 0° to 90°
- Optional: 91° to 270°
- Available for: OM-1 to OM-8, OM-F, OM-G, and OM-H

Conduit Entries

- 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.

Corrosivity Category (ISO 12944-6)

- Standard: C3
- Optional: C4

Please contact your salesperson if other corrosion classes are required.

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, IEC 60079-31

- 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: EN 60079-0, EN 60079-1, EN 60079-31

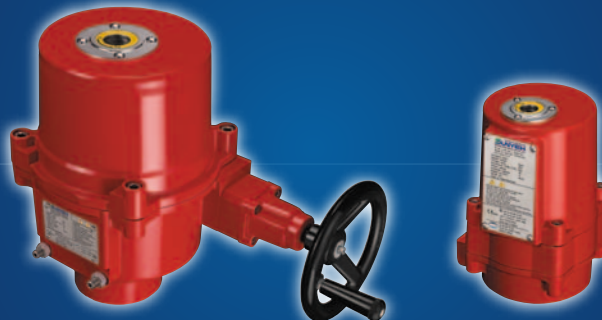
- CSA Hazardous Area Certification

Zone						
National Conformity	Class	Zone	Protection	Groups	T-Code	Ambient 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	Ambient 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



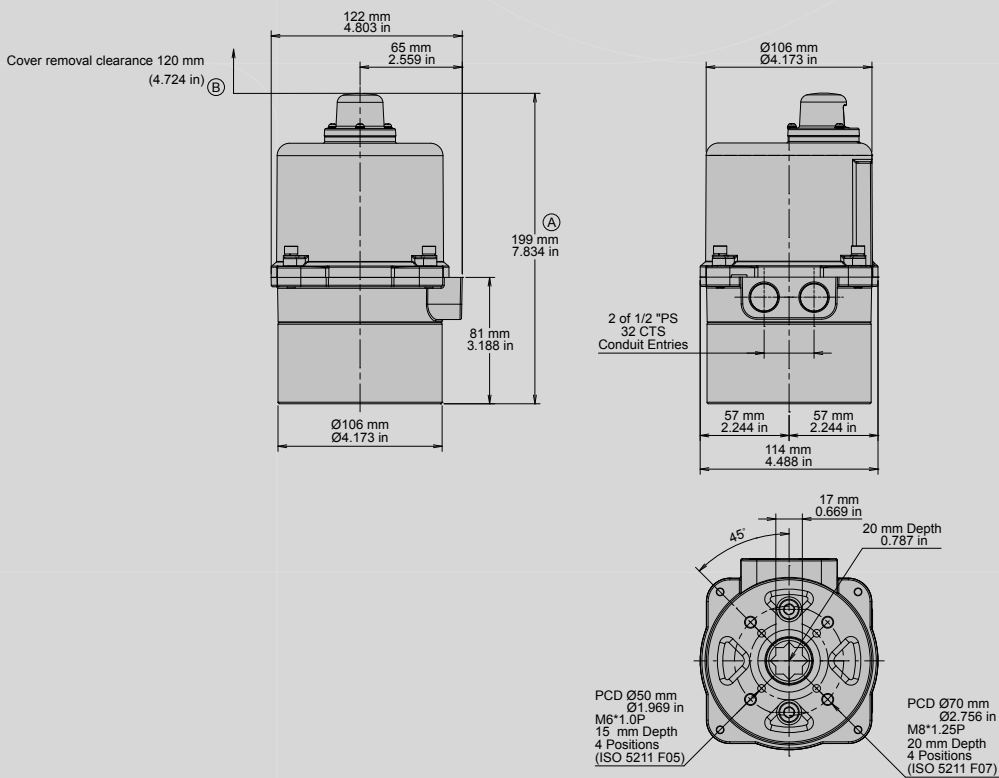
Model	Torque		Weight		Nominal Motor Power	Running Time	Manual Override	Flange Type
	N·m	in·lb	kg	lb	Watt	(Sec. / 90°)		ISO 5211
OM-1	35	310	2	4.4	10	12	Lever	F03 / F05
OM-A	50	445	3	6.6	10	27	N / A	F05 / F07
OM-AM	50	445	3	6.6	10	27	Lever	F05 / F07
OM-F	65	575	11	25	60	6	Handwheel	F07 / F10
OM-J	80	708	3	6.7	5	130	Lever	F05 / F07
OM-2	90	800	11	25	40	17	Handwheel	F07 / F10
BM-2	120	1065	5.5	13	40	9	N / A	F07
OM-G	120	1065	11	25	60	8	Handwheel	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		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



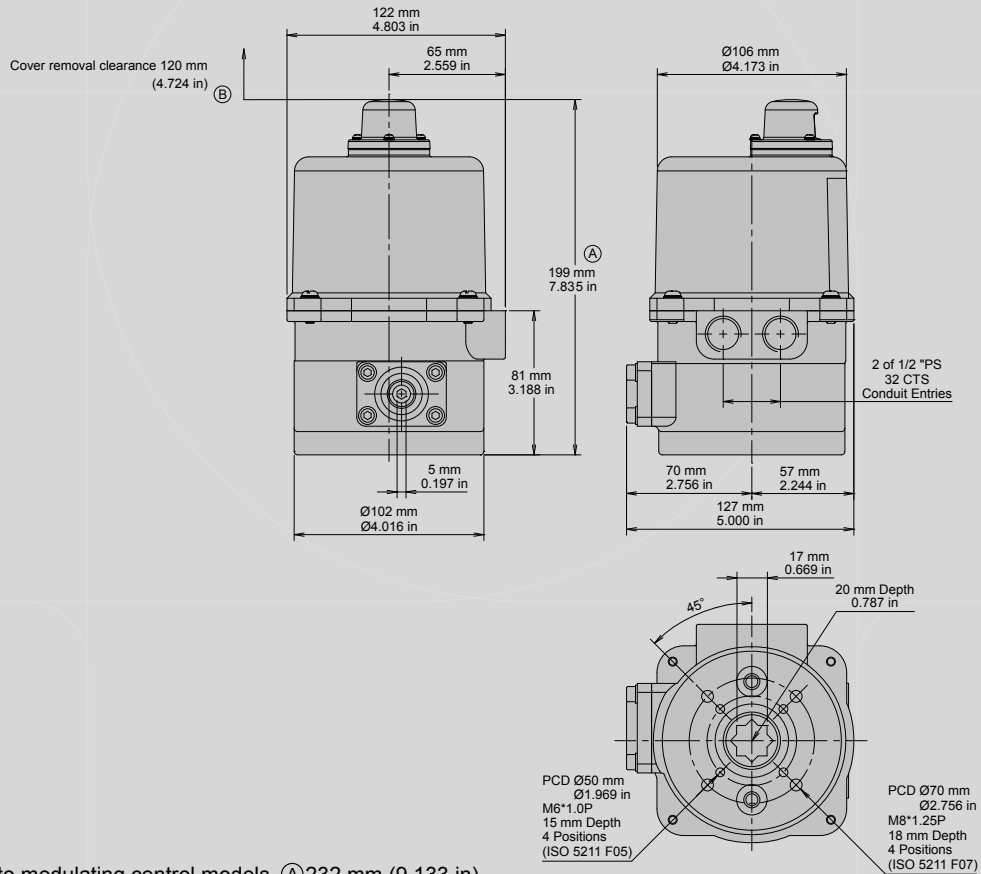
OM-A



- Apply to modulating control models, (A) 232 mm (9.133 in), Cover removal clearance, (B) 153 mm (6.023 in)
- No mechanical stops
- No manual override



OM-AM

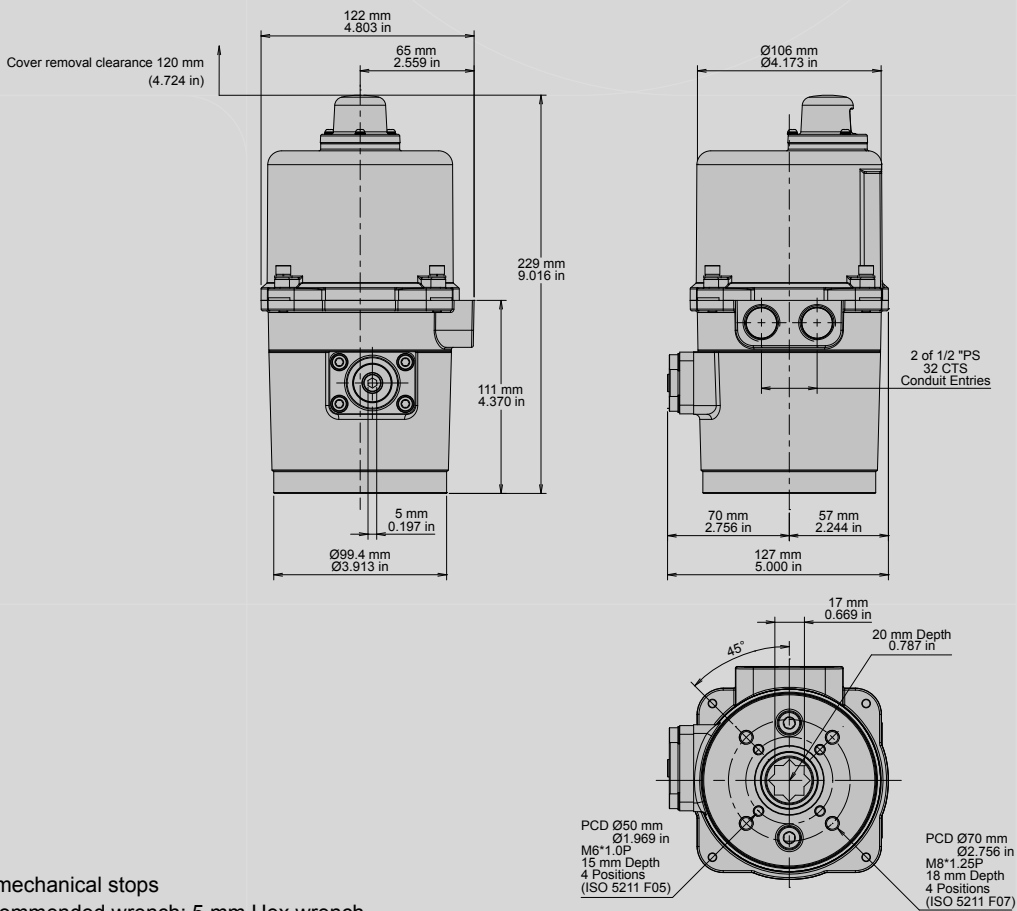


- Apply to modulating control models, (A)232 mm (9.133 in), Cover removal clearance, (B)153 mm (6.023 in)
- No mechanical stops
- Recommended wrench: 5 mm Hex wrench

Outline Dimensions



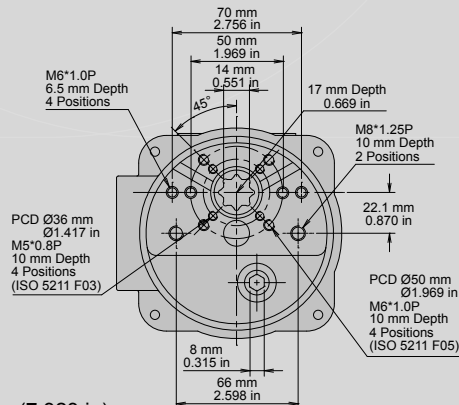
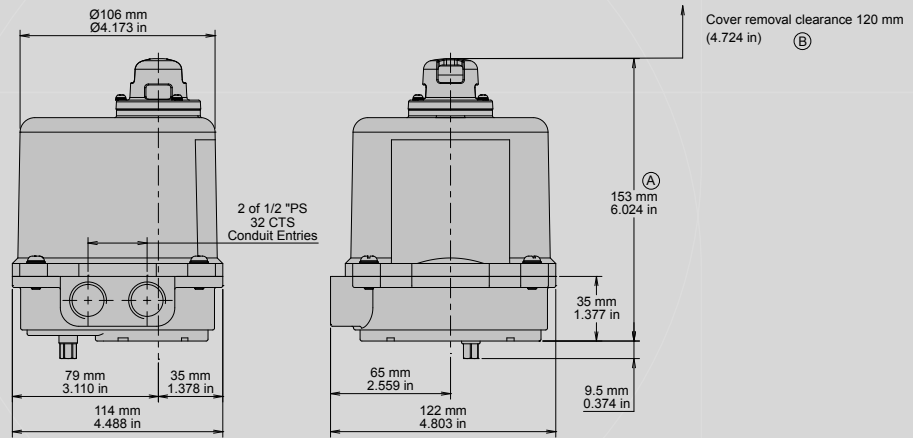
OM-J



- No mechanical stops
- Recommended wrench: 5 mm Hex wrench



OM-1

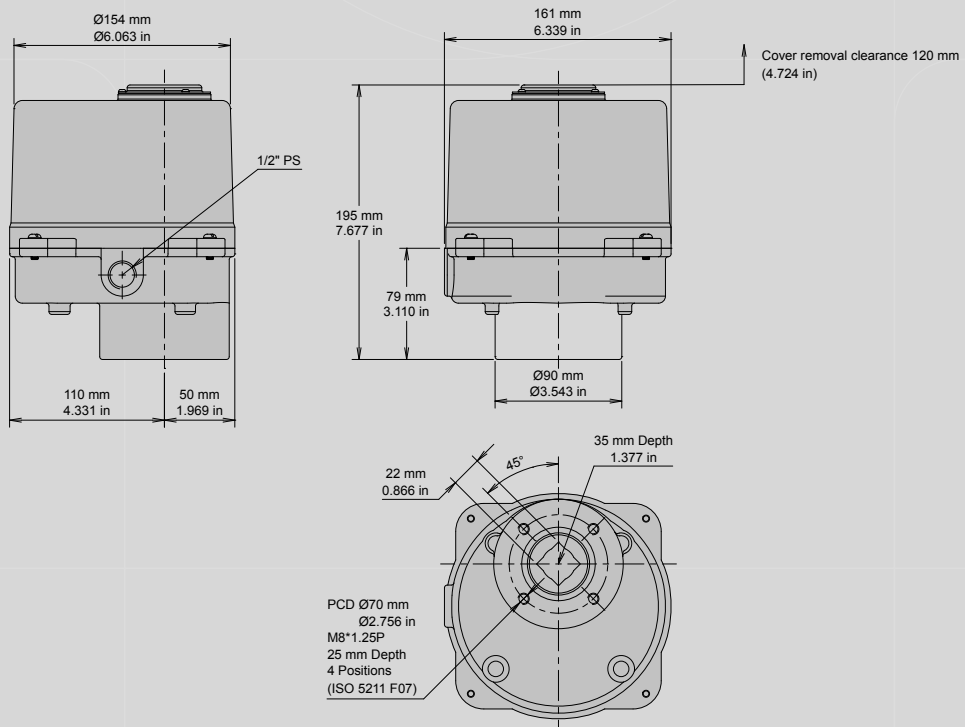


- Apply to modulating control models, **Ⓐ**186 mm (7.323 in),
Cover removal clearance, **Ⓑ**153 mm (6.023 in)
- No mechanical stops
- Recommended wrench: 8 mm Open-end wrench

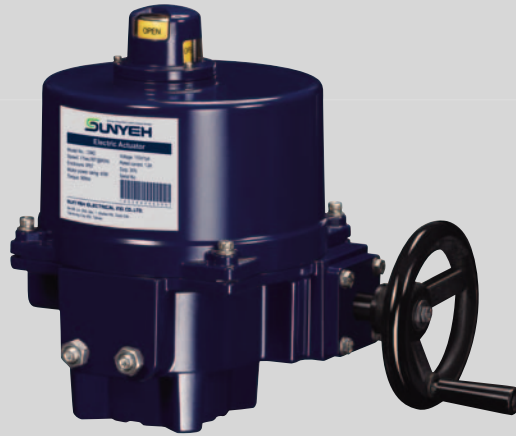
Outline Dimensions



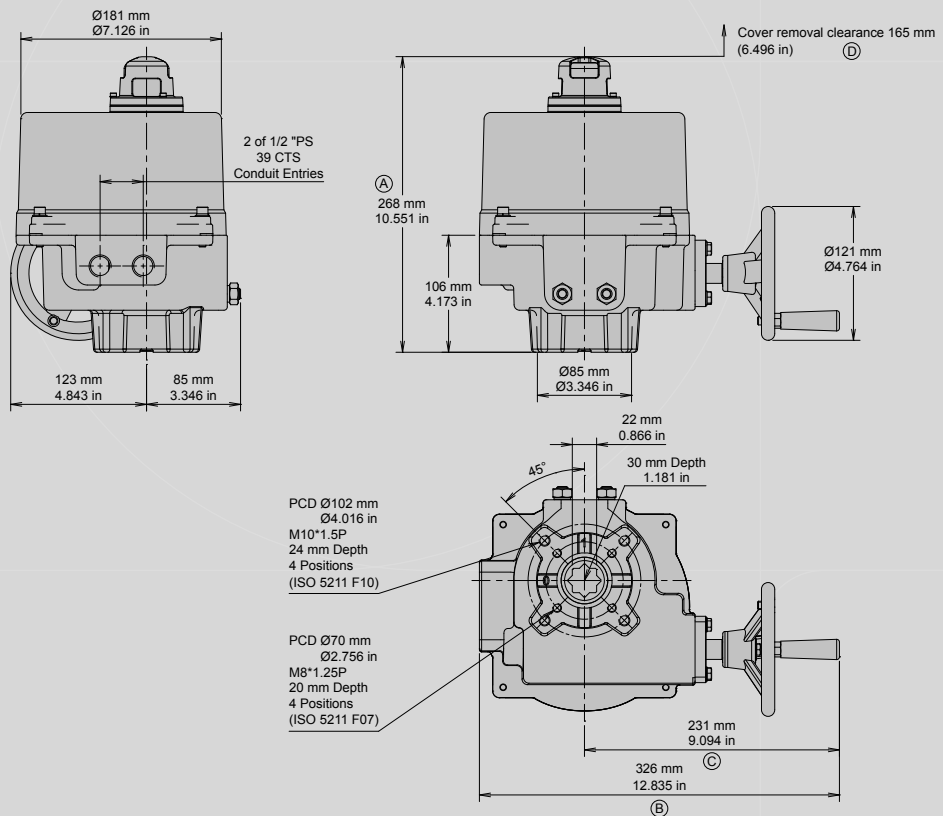
BM-2



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



OM-2 / 3

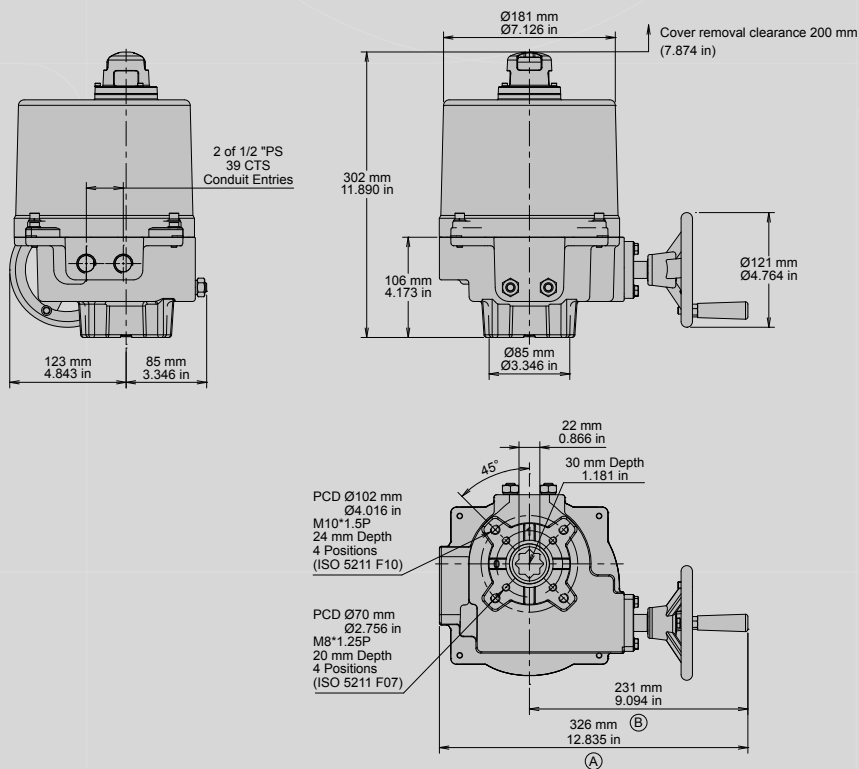


- Apply to DC models or 75% duty cycle, (A) 302 mm (11.890 in), Cover removal clearance, (D) 199 mm (7.834 in)
- With torque switch, (B) 363 mm (14.291 in), (C) 268 mm (10.551 in)

Outline Dimensions



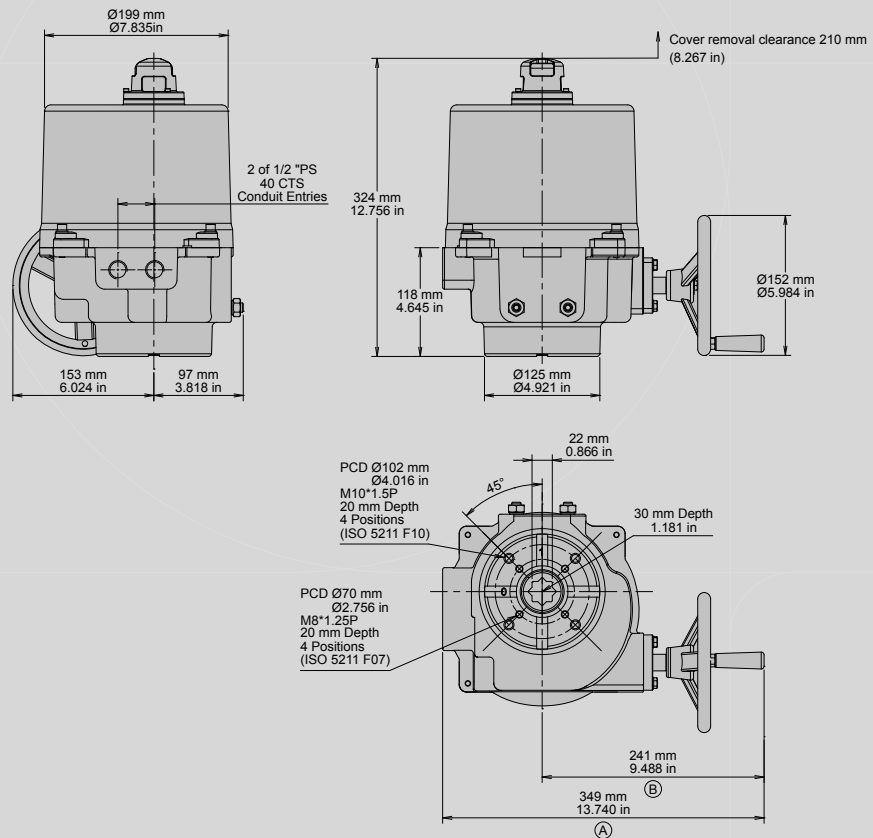
OM-F / G



- With torque switch, (A) 363 mm (14.291 in), (B) 261 mm (10.275 in)



OM-H

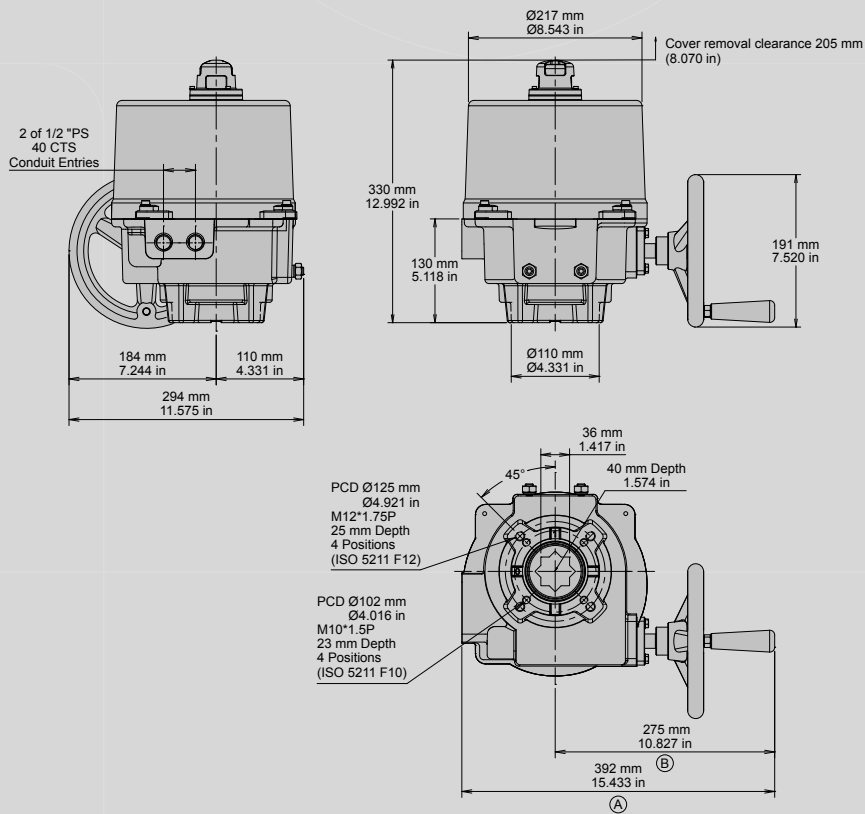


- With torque switch, (A) 400 mm (15.748 in), (B) 286mm (11.259 in)

Outline Dimensions



OM-4 / 5 / 6

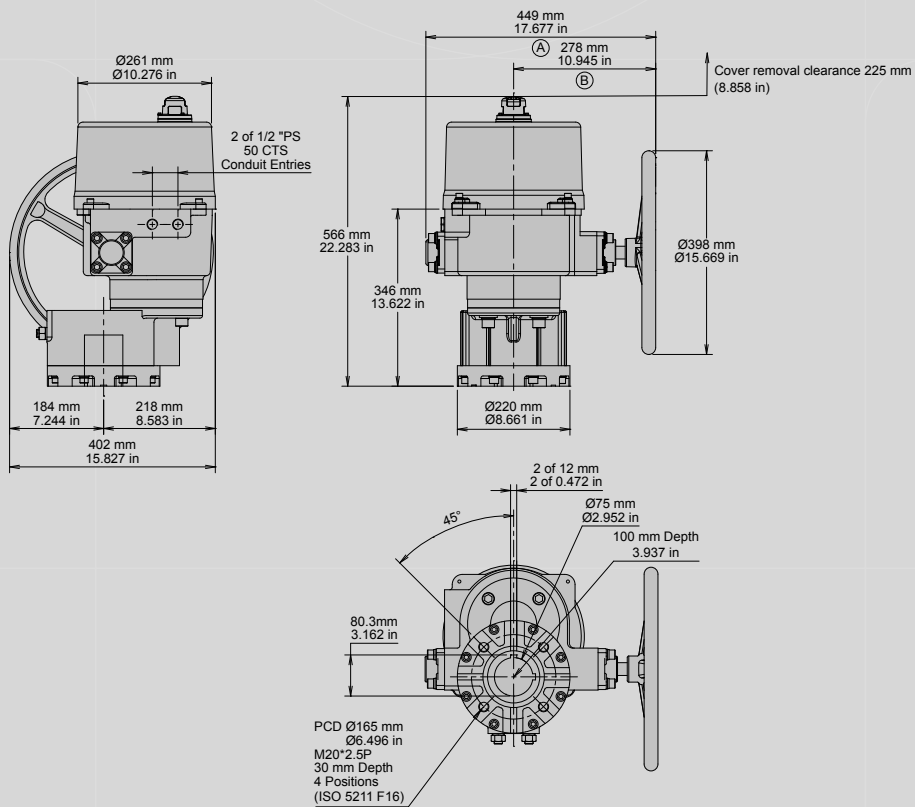


- With torque switch, Ⓐ 458 mm (18.031 in), Ⓑ 341 mm (13.425 in)

Outline Dimensions



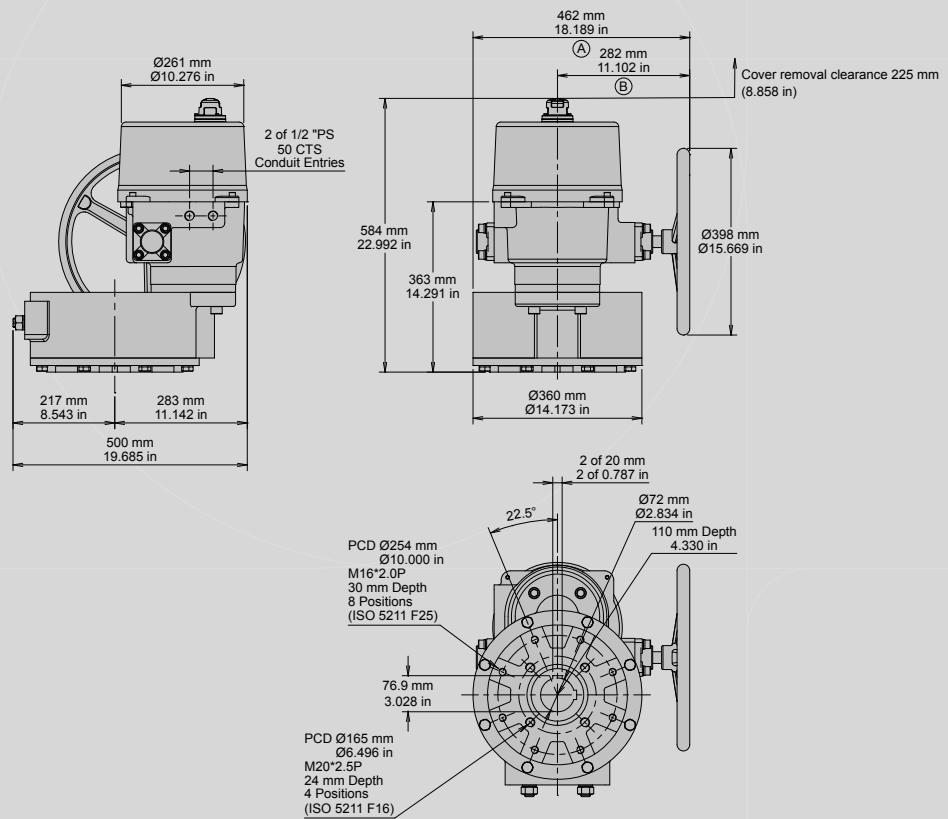
OM-9 / 10 / 11 / 12



- With torque switch, ① 459 mm (18.071 in), ② 288 mm (11.339 in)
- Optional flange size: F14 (M16*2.0P)

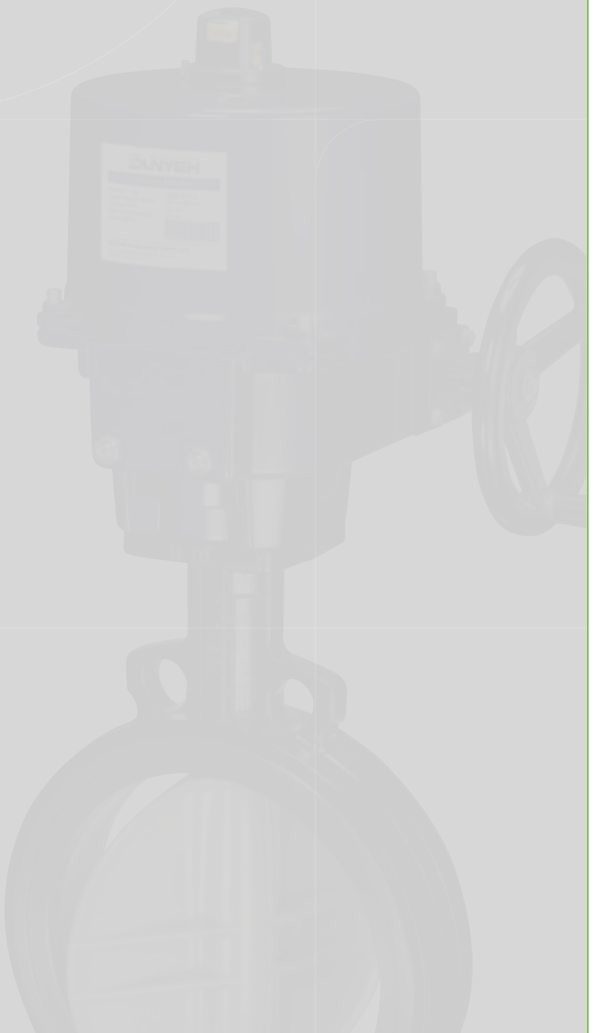


OM-13



- With torque switch, (A)472 mm (18.583 in), (B)292 mm (14.496 in)

MEMO





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