

Electric Actuators

On/Off and Modulating / 450-30,975 Lb-Ins Output Torque

200 SERIES



ultraflo®

200 SERIES

Ultraflo is proud to offer the 200 Series high torque electric actuator product line. Both **On-Off** and **Modulating** actuators are available in 9 units for a combined output torque range of **450–30,975 lb-ins**. All 200 Series units are **waterproof** (NEMA 4,4x,6 and IP67). In addition, the 200 Series complies with ISO 5211 patterns and directly mounts to the complete line of Ultraflo Butterfly Valves.

Motor & Capacitor On/Off 200 Series units have a 120 or 220 VAC 50/60 Hz single phase permanent split-capacitor reversible induction motor. These motors feature a built-in thermal overload protector with automatic reset. 12/24 VAC/VDC On/Off and Modulating units & 110/220 VAC Modulating units have brush/commutator DC motors. 3-Phase motors are also available upon request.

Spur Gear System The self-locking, heavy-duty spur gear train is composed of precision cut, multi-staged gears and shafts. The gears and shafts are heat treated high alloy steel designed to withstand locked rotor conditions. The gear train is permanently lubricated at the factory.

Travel Limit Switches Ultraflo has provided four SPDT switches as standard. The switches are 10A, 220 VAC. Two are used for motor control. Two voltage free auxiliary switches can signal a low wattage AC lamp or DC controller input.

Cams / Cam Adjustment The cams are infinitely adjustable by a Hex key with no special tools needed. Standard factory setting allows 90° reversible rotation between open and closed positions. Extended rotation units such as 180°, 270° or beyond are optional.

Enclosure Die-cast aluminum cover and base are waterproof and meet NEMA 4, 4x,6 and IP67 specifications. The enclosure features a high-quality gray polyester powder coating offering exceptional corrosion, wear, impact and ultra-violet resistance.

Features Manual Override Ultraflo's 200 Series Manual Override* features a non-declutch design. Upon power outage, manual operation of the actuator can easily be performed by turning the handwheel in the desired direction. **Valve Status Display** The highly visible display is prominently labeled and color coded – yellow for open, red for closed – indicating valve position through the full range of travel. The display enclosure is made of steel with high impact, heat and chemical resistant clear polycarbonate windows. This display withstands caustic washdown and offers excellent corrosion protection. **Heater** Pre-wired to the terminal block, the heater prevents condensation from collecting inside the actuator. **Terminal Block** Actuator switches are wired to a terminal block featuring clearly marked terminal numbers. The block has been placed near the two conduit entries for customer wiring. A wiring diagram is included inside the cover for easy reference. **Conduit Entries** Two entries are offered in 1/2" NPT threads. **Travel Stops** 200 Series units are supplied with mechanical travel stops for limiting actuator travel in both the open and closed positions. Travel Stops are set at the factory to 0° and 90°.

Modulating Servo A Servo for precise control of valve position is available. The Servo consists of a circuit board and a feedback potentiometer assembly, which both fit entirely within the standard 200 Series actuator housing. The circuit board has terminal blocks for customer field wiring, and other terminals for internal connection to the actuator components. The feedback potentiometer is driven by a gearset connected to the actuator output drive. The unit features proportional 4 to 20 mA or 2 to 10 VDC position feedback signal.

Certifications

ISO 9001
CE - All 200 Series sizes are certified
CSA - Sizes 01 through 06 are certified to USA and Canadian standards



200 Series
Size 12 Actuator

* Note: the Size 01 Actuator does not include a Manual Override handwheel.

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Optional Features

2 Adjustable Torque Switches SPDT mechanical switches calibrated at the factory. The switches independently respond to pre-determined loads in both directions of travel. The switches operate at any point of actuator travel and shut down the unit if loads exceed the pre-set limit.

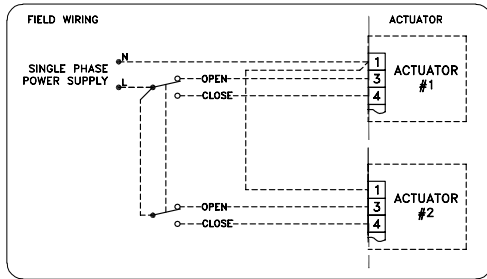
Potentiometer A potentiometer can be installed in On/Off units to give continuous feedback of the valve position.

Local Control Station Features Power On, Open and Close indicator lights, an Open/Off/Close switch, and a Local/Remote switch.

Technical Data Notes: The duty cycle for all size actuators for intermittent On/Off operation is 30%. The extended duty actuator with Servo is rated for 75% modulating operation for size 01-08 actuators and 50% for size 10-12 actuators.

Multiple Actuator Wiring Diagram

For correct installation use a multiple pole switch or relay as shown below. This wiring diagram is shown with 2 actuators.

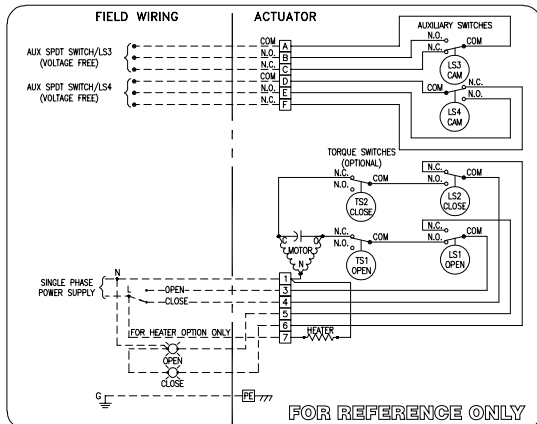


Do **Not** parallel wire multiple On-Off duty actuators.

Wiring Diagrams are for Reference Only.
Do NOT use for field wiring. Refer to Wiring Diagram in Actuator Housing.

Wiring Diagrams

ON-OFF 110V/220V AC



Technical Data - Single Phase Motors

Actuator Size	Torque Output lb-ins	Speed for 90° Operation in Seconds		120VAC Current in Amps		220-240VAC Current in Amps		24VDC/AC Current in Amps		Rim Pull lb-ins
		60 Hz	50 Hz	Run	Lock Rotor	Run	Lock Rotor	Run	Lock Rotor	
01	450	20	24	0.5	0.6	0.3	0.5	0.6	1.4	—
02	800	15	17	1.0	1.8	0.5	0.9	3.0	13.0	133
03	1335	22	26	1.0	1.8	0.5	0.9	3.0	13.0	159
04	3560	16	18	1.3	3.6	0.6	1.8	6.0	30.0	159
06	5785	28	31	1.8	3.6	0.8	1.8	7.5	30.0	266
07	8850	46	55	3.2	10.0	1.6	4.0	7.0	30.0	620
08	13275	46	55	4.0	10.0	2.0	5.0	7.5	30.0	797
10	22125	58	70	4.0	6.0	2.0	3.0	7.5	30.0	354
12	30975	58	70	4.0	5.0	2.2	3.0	15.0	26.0	442

Technical Data - Three Phase Motors

Actuator Size	Torque Output lb-ins	Speed for 90° Operation in Seconds		220VAC Current in Amps		380VAC Current in Amps		440VAC Current in Amps		Rim Pull lb-ins
		60 Hz	50 Hz	Run	Lock Rotor	Run	Lock Rotor	Run	Lock Rotor	
01	—	—	—	—	—	—	—	—	—	—
02	800	15	17	0.6	1.1	0.3	0.7	0.4	0.7	133
03	1335	22	26	0.6	1.1	0.3	0.7	0.4	0.7	159
04	3560	16	18	1.0	3.5	0.7	2.0	0.8	2.0	159
06	5785	28	31	1.0	3.5	0.7	2.0	0.8	2.0	266
07	8850	46	55	0.6	1.8	0.4	1.0	0.4	1.0	620
08	13275	46	55	0.8	2.8	0.6	1.6	0.6	1.2	797
10	22125	58	70	0.8	1.5	0.4	1.0	0.4	1.0	354
12	30975	58	70	1.2	2.5	0.6	1.5	0.6	1.5	442

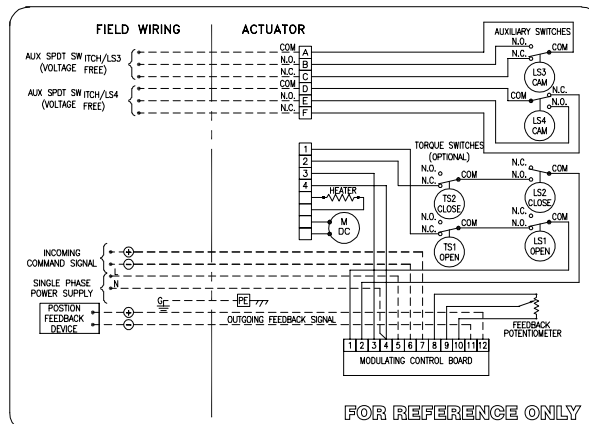
Temperature Range

-21°F (-30°C) to +148°F (+65°C)

Valve Sizing

Refer to Price Book for correct actuator sizing for Ultraflo Valves.

MODULATING 110V/220V AC



Notes:

- 1) Actuators are shown in closed position.
- 2) Actuators are shown with optional Torque Switches.
- 3) All switches are Single Pole Double Throw.
- 4) Terminal block accepts field wiring from 12-22 AWG.
- 5) Modulating Unit: Position Feedback Output is designed to drive an isolated 200-1k Ohm resistive load.

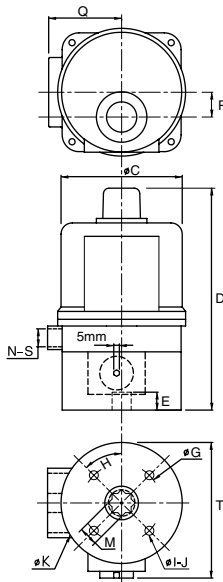
For 3-Phase, 24 VDC and additional actuator wiring diagrams, please consult the factory.

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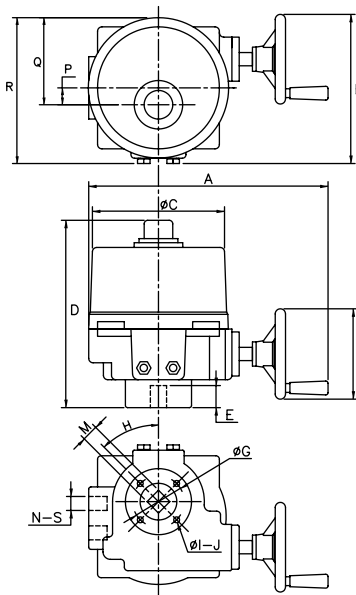
Dimensions

Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S' NPT	T
01	—	—	4.17	7.80*	0.67	—	2.76	45°	M8	4	4.02	—	0.67	2	0.87	2.56	—	1/2	4.99
02 & 03	12.83	8.19	7.13	10.04	1.18	4.84	2.76	45°	M8	4	3.54	—	0.87	2	0.91	4.69	7.97	1/2	—
04 & 06	15.51	11.57	8.54	12.48	1.57	7.64	4.02	45°	M10	4	4.92	—	1.38	2	0.63	5.16	9.48	1/2	—
07 & 08	13.70†	13.23	8.54	15.98	2.36	11.61	4.92	45°	M12	4	7.09	0.39	1.38	2	0.63	5.16	9.06	1/2	—
10 & 12	17.91	15.83	10.28	21.81	3.94	15.67	6.50	45°	M20	4	8.66	0.47	2.95	2	2.32	10.47	10.87	1/2	13.58

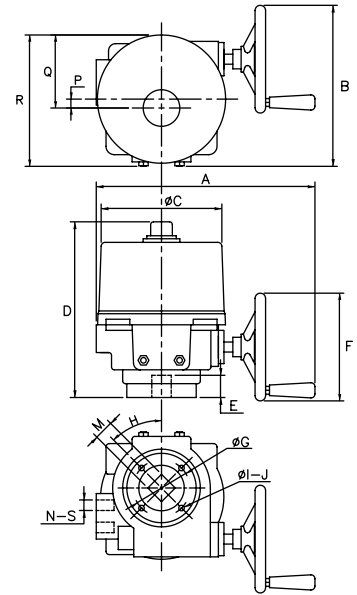
Model 01



Models 02 & 03



Models 04 & 06



Notes

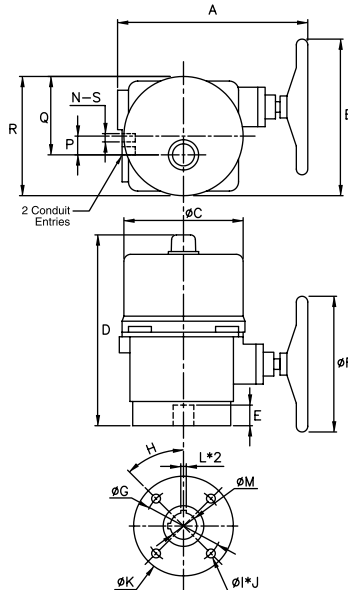
Dimensions are in Inches.

* "D" dimension for Size 01 modulating units is 9.17

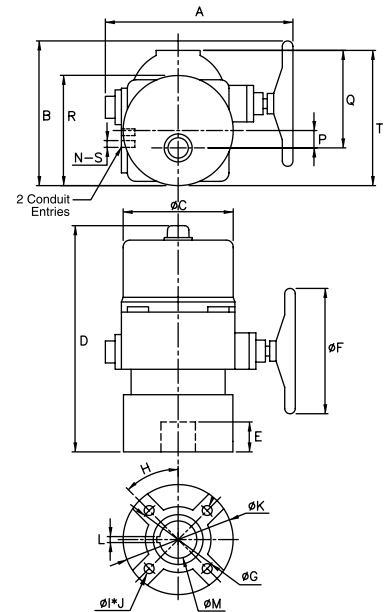
- 1/2" NPT standard
20mm available

† "A" dimension is 17.13 w/Torque Switches

Models 07 & 08



Models 10 & 12



The data represented in this brochure is for general information only. Manufacturer is not responsible for acceptability of these products in relation to system requirements. Consult your Ultraflo representative for specific performance data and proper materials selection for your particular application.

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