

# ASCO™ Series 159 Motorized Actuator

**SERIES  
159**

On/Off & High/Low/Off General Purpose & Watertight | Used with ASCO Series 158 or V710 Gas Valve Bodies

- The Series 159 motorized actuator is offered in On/Off or High/Low/Off configurations, mounting directly on the ASCO Series 158 and Series V710
- Push-type, self-contained, electrohydraulic linear actuators featuring dual internal control valves for repeatable positioning
- Low-fire position is factory set at the stroke midpoint, but can be field adjustable to any position between 15% and 100% of stroke
- When the actuator is mounted to a Series 158 or V710 valve body, position indicators on both sides of the actuator show the open or closed position of the valve
- Available in either slow or fast opening configurations



## Specifications

**Power Requirement:** 240 VA max.

**Closing Time:** 1 second max.

**Opening Time:**

**Fast Opening:**

- Typical time approximately 9 seconds max.
- At temperatures below -30°C, actuator may take as long as 30 seconds

**Slow Opening:**

- Typical time approximately 18 seconds max.
- At temperatures below -30°C, actuator may take as long as 60 seconds

**Note:** Opening times above are typical and can vary based on ambient temperature, duty cycle, and damper arm options. At temperatures below -30°C, the fast and slow opening actuator may take as long as 30 and 60 seconds, respectively.

## Electrical

**Standard voltages:** 120V/60Hz, 110V/50Hz, 240V/60Hz, 230V/50Hz

**Proof of Closure Switch (POC): (optional)**

A factory set, non-field adjustable SPDT switch.

120 or 240VAC Maximum Connected Load: 7A Resistive, 3A Inductive

**Auxiliary Switch: (optional)**

One integral SPDT switch; field adjustable to actuate at any position of stroke. 120 or 240VAC Maximum Connected Load: 7A Resistive, 3A Inductive

**Note:** The combined load on the optional proof of closure and auxiliary switches cannot exceed 1800 VA. Electrical options 4 and 5 are only available with an On/Off construction.

Actuator	Operating Voltage/Frequency	Current (Amps)		
		Inrush	Opening	Holding
P159A1 ON/OFF	120/60	11	1.7	0.06
	110/50	11.5	2.1	0.065
	240/60	5.0	0.7	0.03
	230/50	5.5	1.0	0.035
P159A2 HIGH/LOW/OFF	120/60	11	1.8	0.12
	110/50	11.5	2.2	0.13
	240/60	5.0	0.7	0.06
	230/50	5.5	1.0	0.07

## Enclosure

**Standard:** General Purpose Type 1

**Optional:** Watertight Type 4

(Also meets General Purpose Type 1 and Raintight Type 3)

## Ambient Temperature

-40°F to 150°F (-40°C to 66°C)

## Installation

The Series 159 motorized actuator mounts in any position directly to a Series 158 or V710 valve body.



## Damper Arm Rating

Drives damper in one direction only. 20 lb (9 kg) max. at 2.85" radius at 20°F to 150°F (-7°C to 66°C) and 10 lb (4.5 kg) max. at -40°F to 20°F (-40°C to -7°C) Travel 1.9" (49 mm) max.

## Approvals

**Series 159 Actuator with Series 158 and V710 Valves**

UL listed to standard 429 "Electrically Operated Valves," Guide Y10Z, File MP932 Safety Shutoff Valves

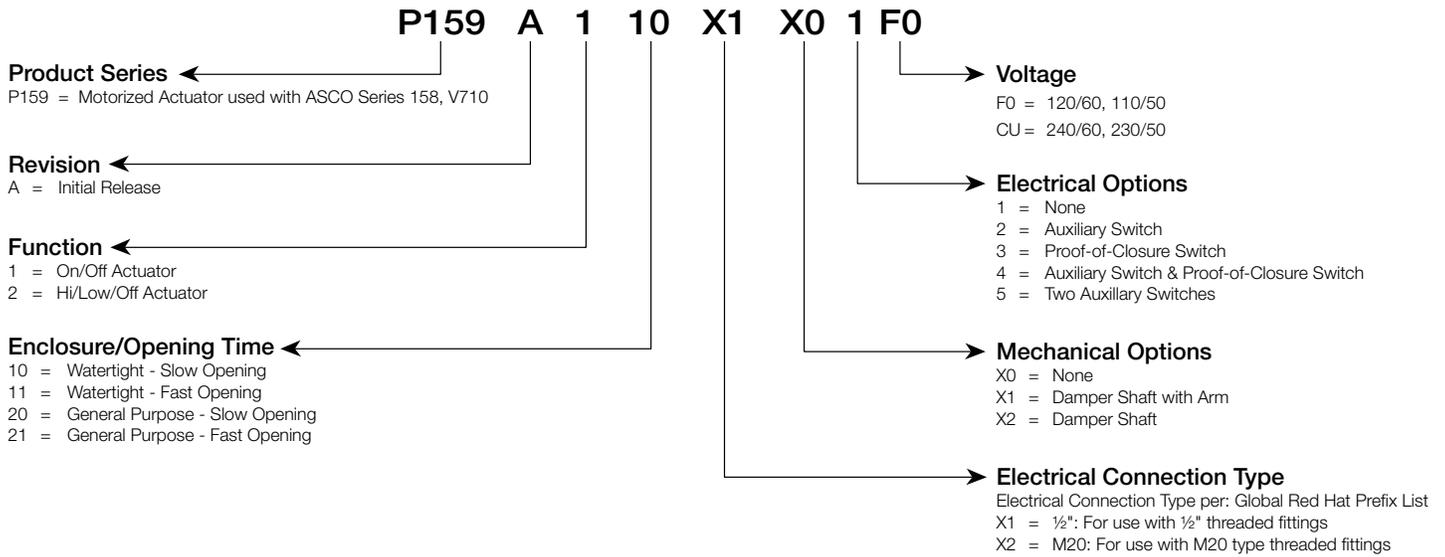
CSA Certified to: Automatic Gas Valves ANSI Z21.21 CSA 6.5, C/I, File 113070.

FM Approved to Class 7400 "liquid and gas safety shutoff valves." Complies with RoHS directives.

## Ordering Information

Order by Catalog Number and add suffix number for desired optional feature(s). Online configurator is available for this product on Emerson.com/combustion.

## Codification



## Actuator/Valve Compatibility Table

Actuator type	Actuator Electrical Options	Valve Type Compatibility	Valve Catalog Code Detailed
P159A1 ON/OFF	P159A1__X_X_1__ P159A1__X_X_2__ P159A1__X_X_5__	_158A Standard Construction Trim	_158A1 _158A5 _158A7 ①
	P159A1__X_X_3__ P159A1__X_X_4__	_158A Standard Construction Trim w/ Valve Seal Overtravel	_158A2 _158A6 _158A8 ①
	P159A1__X_X_1__ P159A1__X_X_2__ P159A1__X_X_5__	V710_B Quick Opening (Std)	V710_B_
	P159A1__X_X_3__ P159A1__X_X_4__	V710_B Quick Opening Overtravel Construction	V710_B_V22
P159A2 HIGH/LOW/OFF	P159A2__X_X_1__ P159A2__X_X_2__	_158A Linear Trim	_158A3 _158A7 ②
	P159A2__X_X_3__	_158A Linear Trim w/ Seal Overtravel	_158A4 _158A8 ②
	P159A2__X_X_1__ P159A2__X_X_2__	V710_B Linear Trim Construction	V710_B_V15
	P159A2__X_X_3__	V710_B Linear Trim Overtravel Construction	V710_B_V25

① Actuator to be installed on upstream valve position. (Closest to valve inlet port)  
② Actuator to be installed on downstream valve position. (Closest to valve outlet port)

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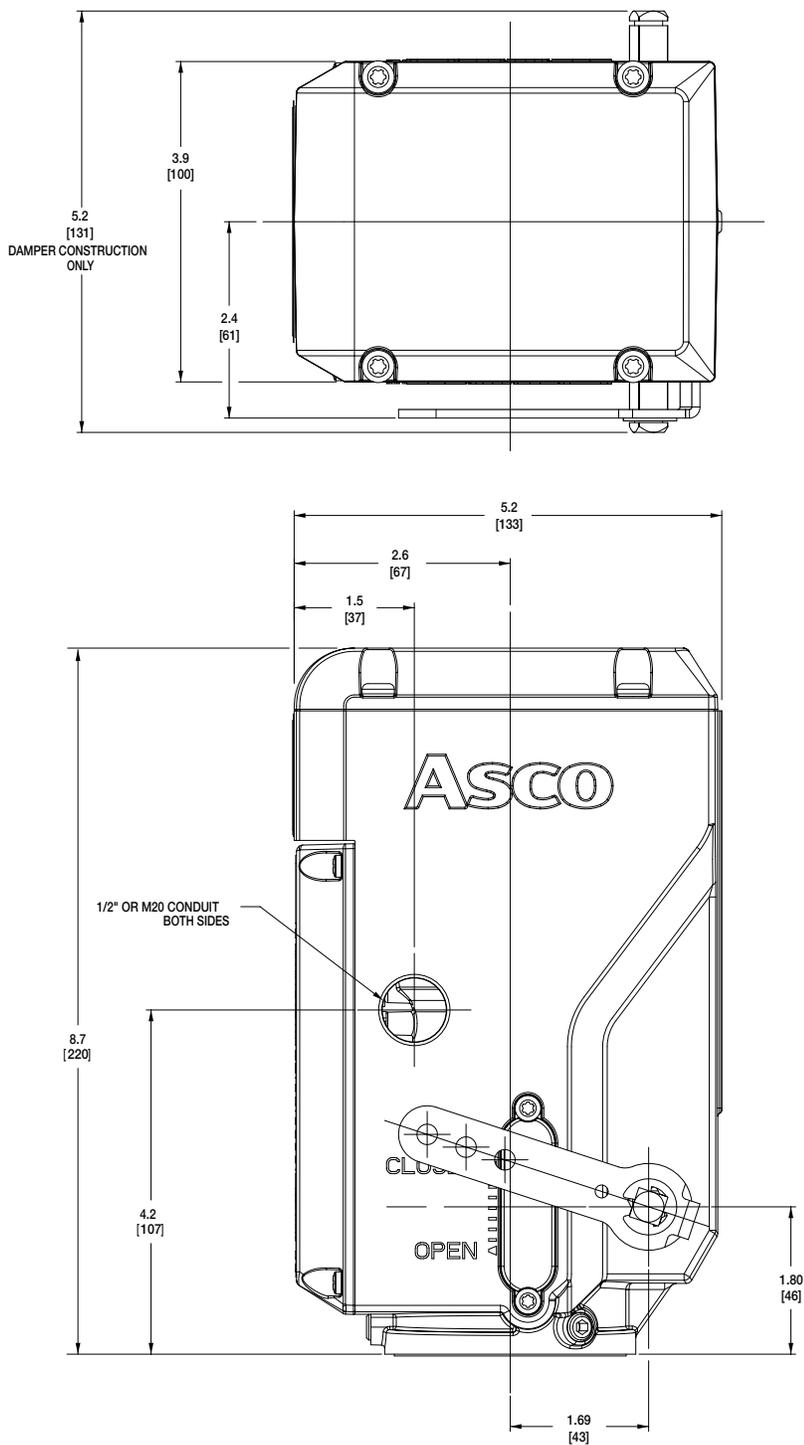
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## Specifications English (Metric)

Base Catalog Number	Actuator Type	Mechanical Options	Constr. Ref.
<b>Watertight Slow Opening (18 Sec)</b>			
P159A110__X0__	On/Off Actuator	None	1
P159A110__X1__	On/Off Actuator	Damper Shaft With Arm	2
P159A110__X2__	On/Off Actuator	Damper Shaft	3
P159A210__X0__	High/Low/Off Actuator	None	1
P159A210__X1__	High/Low/Off Actuator	Damper Shaft With Arm	2
P159A210__X2__	High/Low/Off Actuator	Damper Shaft	3
<b>General Purpose Slow Opening (18 Sec)</b>			
P159A120__X0__	On/Off Actuator	None	1
P159A120__X1__	On/Off Actuator	Damper Shaft With Arm	2
P159A120__X2__	On/Off Actuator	Damper Shaft	3
P159A220__X0__	High/Low/Off Actuator	None	1
P159A220__X1__	High/Low/Off Actuator	Damper Shaft With Arm	2
P159A220__X2__	High/Low/Off Actuator	Damper Shaft	3
<b>Watertight Fast Opening (9 Sec)</b>			
P159A111__X0__	On/Off Actuator	None	1
P159A111__X1__	On/Off Actuator	Damper Shaft With Arm	2
P159A111__X2__	On/Off Actuator	Damper Shaft	3
P159A211__X0__	High/Low/Off Actuator	None	1
P159A211__X1__	High/Low/Off Actuator	Damper Shaft With Arm	2
P159A211__X2__	High/Low/Off Actuator	Damper Shaft	3
<b>General Purpose Fast Opening (9 Sec)</b>			
P159A121__X0__	On/Off Actuator	None	1
P159A121__X1__	On/Off Actuator	Damper Shaft With Arm	2
P159A121__X2__	On/Off Actuator	Damper Shaft	3
P159A221__X0__	High/Low/Off Actuator	None	1
P159A221__X1__	High/Low/Off Actuator	Damper Shaft With Arm	2
P159A221__X2__	High/Low/Off Actuator	Damper Shaft	3

**Dimensions: mm (inches)**



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## Mechanical Options



**CONSTRUCTION 1 - MECHANICAL OPTION X0**  
CONSTRUCTION WITHOUT DAMPER



**CONSTRUCTION 2 - MECHANICAL OPTION X1**  
CONSTRUCTION WITH DAMPER SHAFT WITH ARM



**CONSTRUCTION 3 - MECHANICAL OPTION X2**  
CONSTRUCTION WITH DAMPER SHAFT