

# rotork®

## Process Controls

### SM-1100/1500/1600 Rotary Actuators

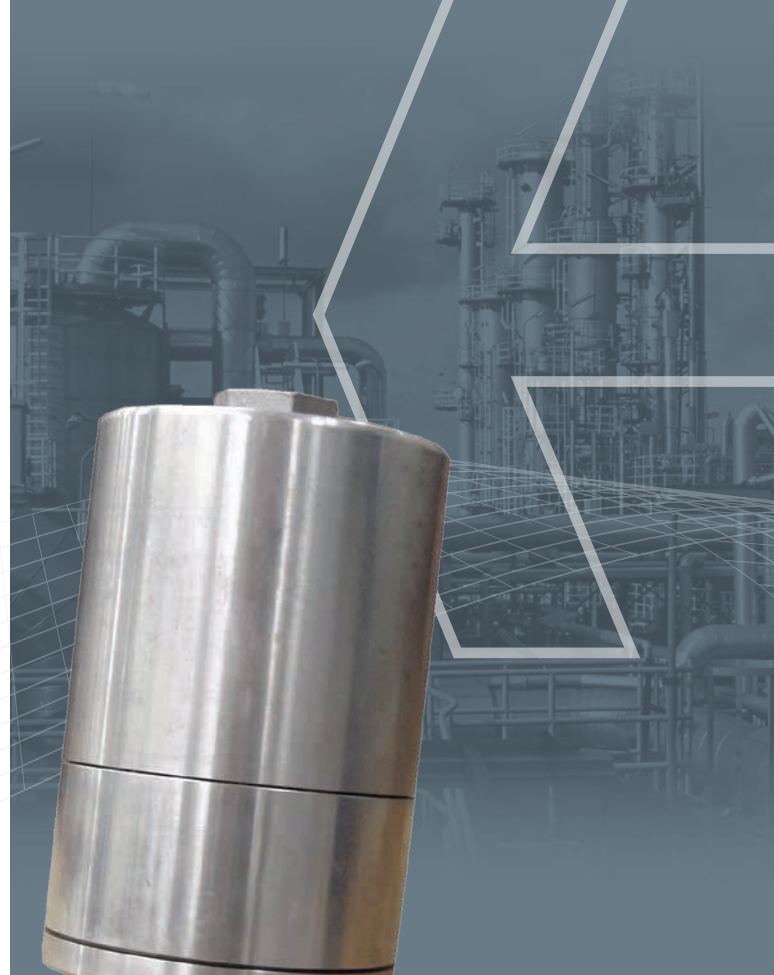
Rotork Process Controls designs and manufactures high quality, durable actuators designed for trouble-free performance under the most demanding conditions.

The SM-1100, SM-1500 and SM-1600 Series are multi-turn, rotary actuators, designed to meet the exacting requirements for closed-loop modulating positioning control. They can be applied to valves, metering pumps, hydraulic and pneumatic pressure regulators, dampers, and many more industrial/process control applications where reliable remote positioning control is required.

The gearing is totally enclosed, permanently lubricated. The actuator housing may be NEMA 4 Watertight or Explosion proof rated for Class I, Division 1, Groups C, D and dust ignition proof Class II, Division 1, Groups E, F, G Hazardous Locations.

#### Features

- Torques from 3.5 to 1,000 lbf.in (6 to 131 Nm).
- Rotation 40 degrees to 324 turns.
- Modulating duty: 2,000 starts per hour.
- Manual override option.
- Watertight IP-65 and explosion proof enclosures.
- AC input power (single-phase) or DC input power versions.
- Temperature range from -40 to 150 °F (-40 to 65 °C).
- FM and CSA certified.



## SM-1100/1500 /1600 Series

### Rotary Actuators



**Redefining Flow Control**

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### Digital Amplifier (Folomatic) Features:

- Easy pushbutton setup.
- Accepts either voltage or current command inputs.
- Isolated, two-wire, 4 to 20 mA feedback.
- Customer-adjustable deadband.
- Customer-adjustable zero and span.
- Selectable options for Loss-of-Signal action:
  - Lock in place - Run to preset.
- Field selectable dynamic brake.
- Solid state switching of motor for increased life.

### SM-1500/1600 Popular Options:

- Adjustable position switches for customer use.
- Custom mounting and interface hardware.
- Anti-condensation heater and thermostat.
- Motor brake (SM-1500/SM-1600 only).
- Manual Handcrank (SM-1500/SM-1600 only).

### Specifications:

Actuator	SM-1100	SM-1500	SM-1600
Torque Range lbf.in (Nm)	3.5 to 100 (0.4 to 11.3)	40 to 400 (4.5 to 45.2)	500 to 1,000 (56.5 to 113)
Rotation	40° to 60 turns	72° to 324 turns	
Speed	0.065 to 70 rpm	0.60 to 73 rpm	0.60 to 73 rpm
Approx. Weight lbs. (kg)	12 - 14 (5.4) to (6.4)	15 to 22 (6.8 to 10)	

- Temperature Limits: -40 to +150 °F (-40 to +65 °C)  
For greater temperature ranges, consult factory.
- Field Wiring: Barrier terminal blocks.
- Position Switch Rating: 120/240 VAC, 10 Amp.

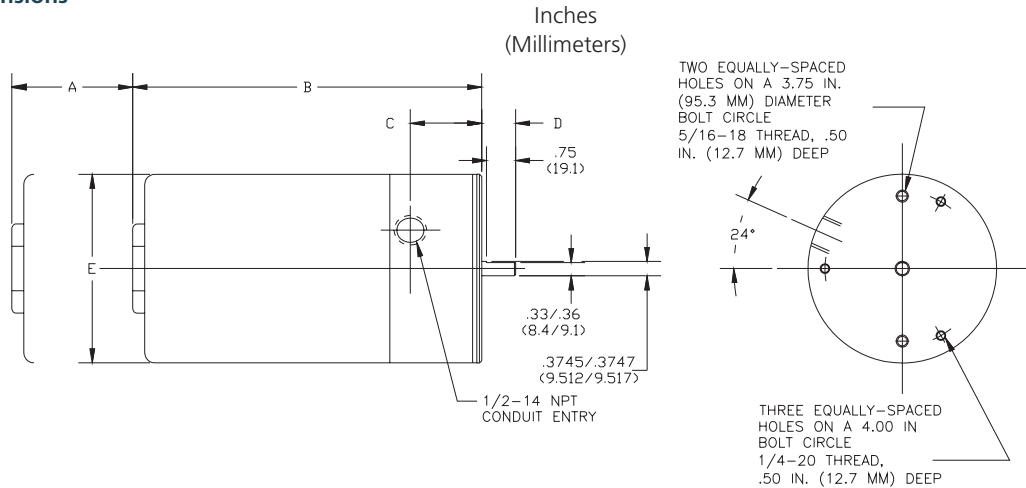


Redefining Flow Control

# SM-1100/1500/1600 Series

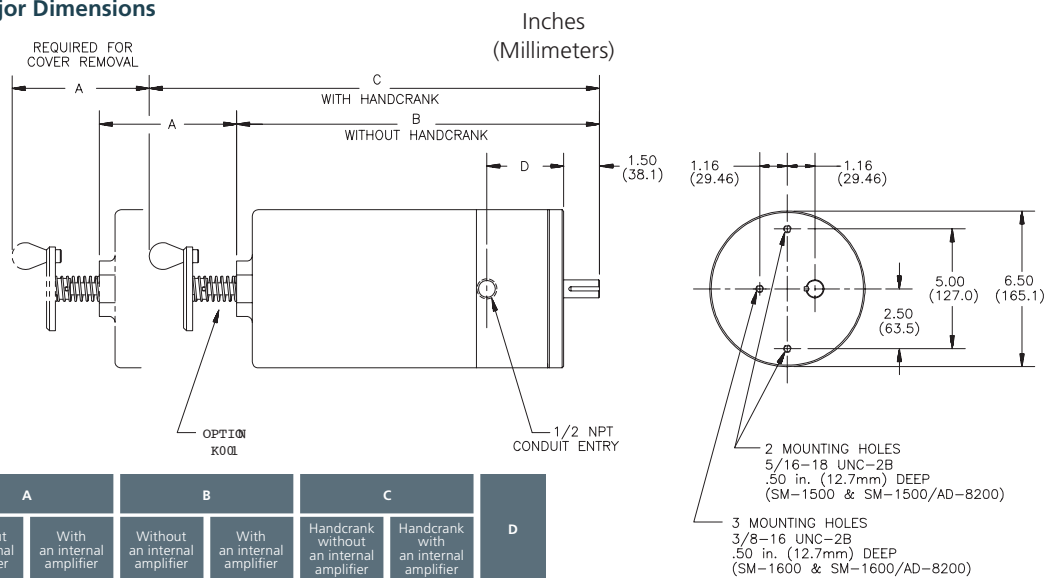
## Rotary Actuators

### SM-1100 Major Dimensions



SM-1100-N Without Internal Amp	A	B	C	D	E (Dia.)
Nema Type 4 Watertight and X-proof	6.28 (159.5)	8.65 (219.7)	1.84 (46.7)	0.88 (22.4)	4.88 (124)
SM-1100-D With Internal Amp	A	B	C	D	E (Dia.)
Nema Type 4 Watertight and X-proof	7.81 (198.4)	10.21 (259.3)	1.84 (46.7)	0.88 (22.4)	4.88 (124)

### SM-1500/SM-1600 Major Dimensions



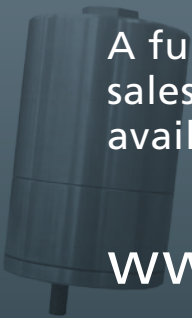
SM-1500-N/SM-1600	A		B		C		D
	Without an internal amplifier	With an internal amplifier	Without an internal amplifier	With an internal amplifier	Handcrank without an internal amplifier	Handcrank with an internal amplifier	
Nema Type 4 Watertight and X-proof	7.00 (177.8)	10.13 (257.3)	12.20 (309.9)	15.33 (389.4)	18.89 (479.8)	18.89 (479.8)	3.20 (81.3)
Output Shaft Dimensions	SM-1500 Series		SM-1600 Series				
Output Shaft Diameter	0.7490/0.7496 (19.025/19.040)		0.9990-0.9996 (25.375/25.390)				
Keyway Dimensions	0.187 W x 0.105 D x 1.25 L		0.250 W x 0.145 D x 1.25 L				
Key (supplied)	3/16 Sq. x 1.19 L		1/4 Sq. x 1.19 L				

These dimensions are subject to change without notice and should not be used for preparation of drawings or fabrication of installation mounting. For current installation manuals and other product information, see [www.rotork.com](http://www.rotork.com).

**Selection Chart**

		<b>SM-1100</b>		
1	Basic Model	<b>SM-1110 SM-1170</b>	<b>SM-1120</b>	<b>SM-1140</b>
2	Speed, rpm	0.6/100 (11.3)	0.6/100 (11.3)	0.75/100 (11.3)
		1.2/100 (11.3)	1.2/100 (11.3)	1.5/100 (11.3)
		2.5/56 (6.3)	2.5/100 (11.3)	3/100 (11.3)
	Torque lbf.in (Nm)	5/28 (3.2)	5/56 (6.3)	6/100 (11.3)
		10/14 (1.6)	10/28 (3.2)	12/70 (7.9)
		20/7 (0.8)	20/14 (1.6)	25/35 (4.0)
		40/3.5 (0.4)	40/7 (0.8)	50/19 (2.1)
3	Input Voltage	<b>SM-1110 SM-1120</b>	<b>1:</b> 115 VAC, 1-Phase, 50/60 Hz	
		<b>SM-1140</b>	<b>6:</b> 24-36 VDC	
		<b>SM-1170</b>	<b>2:</b> 240 VAC, 1-Phase, 50/60 Hz	
4	Amplifier	<b>N</b>		
		<b>D</b>		
5	Rotation	Select rotation between 40° and 60 turns		

		<b>SM-1500/SM-1600</b>			
1	Basic Model	<b>SM-1520 SM-1590</b>	<b>SM-1530 SM-1550</b>	<b>SM-1580</b>	<b>SM-1630 SM-1650 SM-1680</b>
2	Speed, rpm	0.6/400 (45)	0.6/400 (45)	0.6/400 (45)	—
		2/400 (45)	2/400 (45)	2/400 (45)	2.5/1000 (131)
		4/400 (45)	4/400 (45)	4/400 (45)	5/500 (56)
		7/400 (45)	7/400 (45)	7/400 (45)	—
	Torque lbf.in (Nm)	15/400 (45)	15/200 (23)	15/270 (31)	—
		26/300 (34)	26/100 (11)	26/160 (18)	—
		41/190 (21)	41/67 (8)	41/100 (11)	—
		53/150 (17)	53/50 (6)	53/75 (8)	—
3	Input Voltage	<b>SM-1520, SM-1530, SM-1630</b>	<b>1:</b> 120 VAC, 1-Phase, 50/60 Hz		
		<b>SM-1550, SM-1590, SM-1650</b>	<b>2:</b> 240 VAC, 1-Phase, 50/60 Hz		
		<b>SM-1580, SM-1680</b>	<b>6:</b> 24 VDC		
4	Amplifier	<b>N</b>	without built in digital amplifier		
		<b>D</b>	with built in amplifier		
5	Rotation	Select rotation between 72° and 324 turns			



A full listing of our worldwide sales and service network is available on our website.

[www.rotork.com](http://www.rotork.com)

**UK**  
Rotork plc  
tel +44 (0)1225 733200  
fax +44 (0)1225 333467  
email mail@rotork.com

**USA**  
Rotork Process Controls  
tel +1 (414) 461 9200  
fax +1 (414) 461 1024  
email rpcinfo@rotork.com

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