



Keeping the World Flowing
for Future Generations



R series

Compact explosionproof electric actuator

R series multi-turn actuators provide precision modulating control for needle valves, metering valves, high pressure valves and plug valves.

R series part-turn actuators are compact, lightweight, and are compatible with ball valves, multi-port and shut off valves.

Specifications

Enclosure:	Aluminum die cast anodized, stainless
Temperature range:	0 to +65 °C internal (derate duty cycle at high temp.)
Ext. temp. range:	-40 to +60 °C (with heater option)
Stall protection:	Electronic position and motion detection
Feedback:	TTL, 4-20 mA, Modbus®
Manual override:	Optional
Gears and bearings:	Metal and bronze, oiled/greased for life
External fasteners:	Stainless steel
Life expectancy:	250,000 cycles in specified conditions
Motor:	Brushless DC motor, computer control
Voltages/current:	12-24 VDC/Max 3A, 110/220 VAC/Max 1.5A @ 50/60 Hz
Positioning precision:	+/- 3 deg for ¼ and ½ turn; +/- 0.25 deg for multi-turn
Positioning resolution:	+/- 0.15 deg max.
Range/speed setting:	DIP switches inside enclosure

Control options:	Analog (4-20 mA, 1-5 V, 1-10 V), Modbus®, TTL (on/off)
End travel detection:	For needle valve, by motion detection
Power setting:	Adjustable
Mechanical shock:	Repeated ≤ 130 g – force no effect, occasional ≤ 150 g – force no effect > 150 g – force not tolerated
Mechanical vibration:	Random SAE J1211, chassis, exterior
Thermal shock:	-20 to +60 °C 10 min
Failsafe battery:	LiPo rechargeable battery
Weight:	RxJ, RxL, RxM: 980 g RxH, RxF: 1700 g

Certifications

IP 68 (60529:2013)
Class I, Division 1, Groups B, C and D
Class II, Division 1, Groups E, F and G
IECEX Certified
ICES-001 ISSUE 5 July 2020
IEC 61000-6-2:2016, IEC 61000-6-4:2018
FCC 47 CFR PART 15 SUBPART B
EN 61326-1:2013 (GROUP 1, CLASS A; Industrial
electromagnetic environment)



Specifications cont.

Multi-turn models

Isolated signals [AI and AF models only]:
Optical isolation 1,000 V min

Feedback 4-20 mA [AF model only]:

For sensing resistor of max. 250 Ohms. Floats +6 VDC/-2 VDC from power Gnd

Position power loss:

Standard: "remembers" position before shut down, will reset valve based on torque setting when the signal is between 3 and 4 mA

¼ and ½ turn models

RDx-xxxDx24

TTL signals in (control): Float at 24 V, < 1 mA to pull to 0 V

TTL signals out (feedback): 24 V at 0.5 A max.

Performance data

RCx multi-turn models

Model	Torque range (lbf.in)	Torque range (Nm)	Speed range (1 turn in sec)
RCJ	4 to 16	0.45 to 1.81	1 to 7*
RCL	12 to 48	1.36 to 5.42	1 to 7
RCM	35 to 145	3.95 to 16.38	4 to 23
RCH	120 to 497	13.56 to 56.15	18 to 90
RCF	230 to 915	25.99 to 103.38	38 to 186

MDx ¼ and ½ turn models

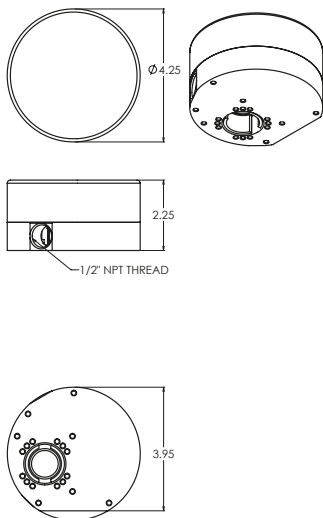
Model	Torque range (lbf.in)	Torque range (Nm)	Speed range (¼ turn in sec)
RDM	212 to 247	23.95 to 27.91	1 to 3
RDH	430 to 532	48.58 to 60.11	3 to 9
RDF	710 to 1050	80.22 to 118.63	5 to 15

* De-rate the duty cycle to 25% for the highest torque values.

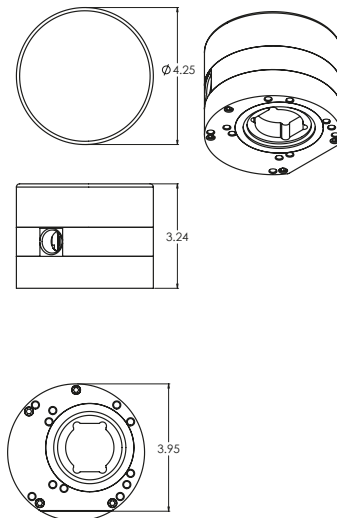
Note: Speed and torque depend on settings by dip switch of actuator. Consult user manuals of individual units. Actuators are set for optimum speed.

Dimensional data

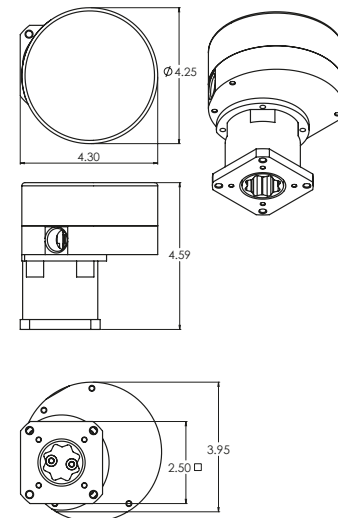
RxJ / RxL / RxM



RxH



RxF



Dimensions in inches

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

www.rotork.com

Corporate Headquarters
Rotork plc

tel +44 (0)1225 733200

email mail@rotork.com

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