



Keeping the World Flowing
for Future Generations

Rotork's SI range of self-contained electro-hydraulic actuators combine the simplicity of electrical operation with the precision of hydraulic control and the reliability of mechanical spring-return or accumulator fail-safe action.

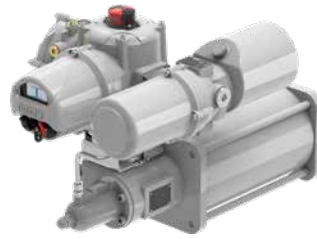
The SI range includes quarter-turn actuators with torque output from 75 to 200,000 Nm (55 to 147,500 lbf.ft) and linear actuators with thrust output up to 400 kN (90,000 lbf).

Designed to meet today's control and safety needs for both two-position and positioning control applications, the SI range is offered with a wide range of operating speeds, Emergency Shutdown (ESD) inputs, Partial Stroke Testing (PST), analogue, HART® and fieldbus communication capabilities to comply with all control configurations.

The SI range has been designed primarily for fail-safe applications where functional safety is paramount. They can be supplied as either fail-close or or fail-open on loss of ESD signal and, when selected, on loss of power supply. The actuators are suitable for use in Safety Instrumented Systems (SIS), certified to IEC 61508-2:2010.

The SI can be supplied to stayput on loss of power supply. Independent limit switches and position feedback are provided along with selectable status and alarm indication, with volt free relay outputs offered as standard.

- › Fail-safe closed or open on loss of ESD signal and / or loss of power supply
- › Stayput on loss of power supply (option)
- › Only requires an electrical power supply for operation (1-phase, 3-phase or 24 VDC)
- › Hazardous area certified Ex d IIB/IIC T4
- › Watertight up to IP66/68 (control module), IP66/67 (complete assembly)
- › Data logger – capable of storing up to 3,000 events
- › Advanced dual-stacked display presents valve and process data for asset management and data analysis



Skilmatic SI Range

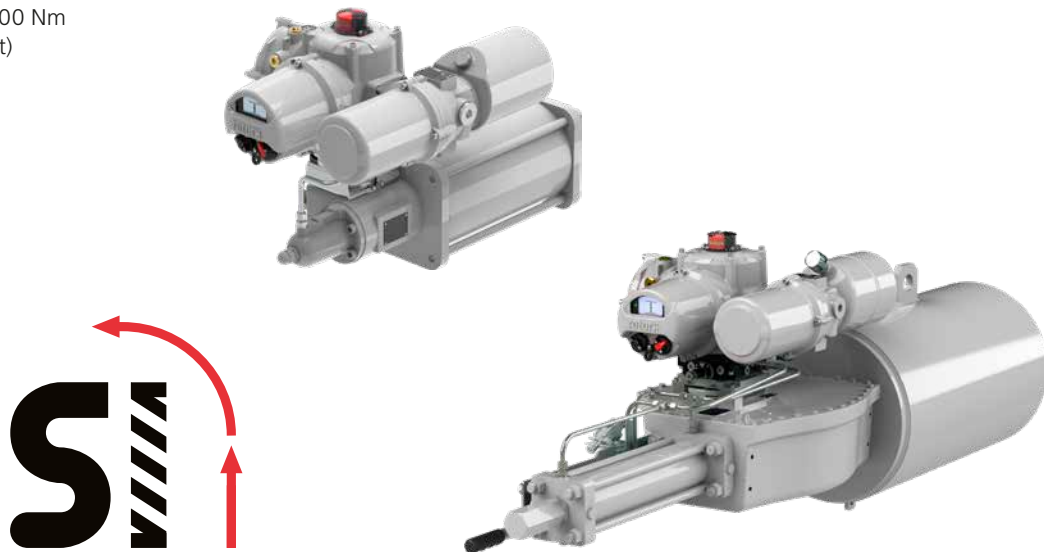
Spring-return self-contained
electro-hydraulic actuators

- › Non-intrusive setting – no cover removal required using secure *Bluetooth*® wireless connection
- › Operating temperatures: -50 to +70 °C
- › Non-intrusive setting – no cover removal required using secure *Bluetooth*® wireless connection
- › Partial Stroke Testing (PST) based on time and position with pressure (torque) logged
- › PST initiated via the Rotork *Bluetooth*® Setting Tool *Pro*, hardwired or remotely through network cards
- › PST results displayed on the screen with the last 25 recorded in the data logger
- › Configurable status and alarms with optional outputs
- › 4-20 mA positioning control resolution to <0.25%
- › Increased functionality over networks including *Pakscan*™, *Profibus*®, *Foundation Fieldbus*®, *Modbus*®, *DeviceNet*® and *HART*®

S13 Actuators

S13 Quarter-turn Actuators

Torque 75 to 36,000 Nm
(55 to 26,550 lbf.ft)



S13 actuators are compact and robust spring-return actuators designed for all types of ball, butterfly, plug valves and dampers. They consist of a self-contained electro-hydraulic control module with a spring-return scotch yoke or rack and pinion drive. The actuators are available as either fail-safe clockwise or anti-clockwise. They can also be configured to stayput on loss of power supply.

S13 actuators are certified to IEC 61508-2:2010 for SIS with a Systematic Capability SC-3 and suitable for use in SIL 2 and SIL 3 system.

SI range actuators are specifically designed for safety critical applications and accept various input signals as standard, including ESD and PST.

Optional fieldbus communication can be provided for remote monitoring and control and can be used in conjunction with a hardwired ESD input to maintain the safety integrity of the system when used on ESD applications.

S13 actuators can accept an analogue input signal to accurately position a control valve. They can also provide a 4-20 mA output of valve position.

Linear S13 thrust output is available up to 235 kN (52,830 lbf). For thrust and operating times, please contact Rotork.

Model	Torque Nm (lbf.ft)		Operating Time (sec)			
			Hydraulic Direction		Spring Direction	
	From	To	From	To	From	To
S13	75 (55)	36,000 (26,550)	1.7	420	0.1	527

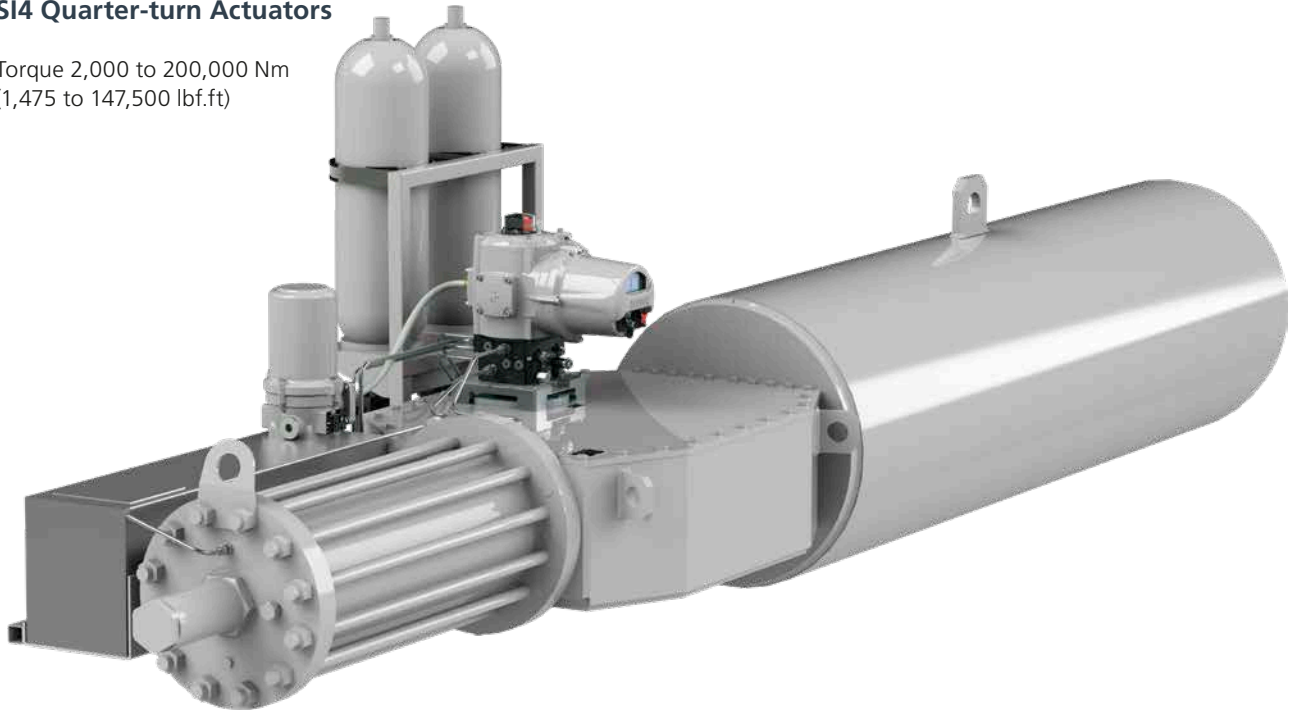
See product specification datasheet for full details.



SI4 Actuators

SI4 Quarter-turn Actuators

Torque 2,000 to 200,000 Nm
(1,475 to 147,500 lbf.ft)



SI4 actuators offer the flexibility of customisation to suit specific applications and process conditions. They consist of a self-contained electro-hydraulic control module with a spring-return scotch yoke drive. This eliminates the high installation and maintenance costs associated with conventional electro-hydraulic systems which utilise central hydraulic power units.

Accumulators can be offered on the SI4 actuator range to provide multiple back-up strokes on loss of power supply, along with increasing the hydraulic stroke speed on these spring-return actuators.

SI4 actuators are certified to IEC 61508-2:2010 for SIS with a Systematic Capability SC-3 and suitable for use in SIL 2 and SIL 3 systems.

Optional fieldbus communication can be provided for remote monitoring and control and can be used in conjunction with a hardwired ESD input to maintain the safety integrity of the system when used on ESD applications.

SI4 actuators can accept an analogue input signal to accurately position a control valve. They can also provide a 4-20 mA output of valve position.

Linear SI4 thrust output is available up to 400 kN (90,000 lbf). For thrust and operating times, please contact Rotork.

Model	Torque Nm (lbf.ft)		Operating Time (sec)			
			Hydraulic Direction		Spring Direction	
	From	To	From	To	From	To
SI4	2,000 (1,475)	200,000 (147,500)	5	400	0.1	500

See product specification datasheet for full details.



Intelligent Asset Management (iAM)

Rotork's Intelligent Asset Management (iAM) is a cloud-based asset management system for intelligent actuators and the flow control equipment they operate.

The system helps customers reduce unplanned downtime (and the poor performance, reduced output yields and reputational damage that can accompany downtime) by using analytics based on data taken from the data logs within intelligent actuators to create a maintenance plan.

It provides advanced condition monitoring for easy and accurate reporting of the condition of valves/flow control assets and anomaly detection, enabling proactive maintenance. It can improve long-term operational stability of all assets.

iAM is a robust, safe and secure online platform with a simple to use intuitive interface. Summary views and colour coded maps simplify complex analytics into easy to understand visuals. The customer can see a full picture of the status of valves and associated flow control equipment at a glance.

Smart maintenance enabled by iAM's advanced analytics is based on data from the field, rather than periodic or limited maintenance based on guesswork. iAM removes the need to manually review data, saving time and reducing asset failures.

For full details see PUB056-025.



Rotork Insight 2 Software

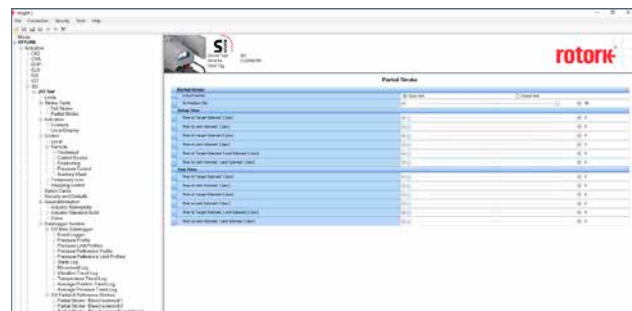
Insight 2 facilitates the review, configuration and analysis of setup configuration and data logger information for Bluetooth® wireless enabled Rotork actuators.

All Bluetooth wireless enabled Rotork actuators include an onboard data logger which captures and stores valve, actuator, control signal operation and status data. This can be viewed locally on the display or on a PC using Insight 2.

Log data is time and date stamped and can be viewed on an event by event basis. Insight 2 enables the user to pre-configure actuator missions on a PC, transfer them to a Rotork Bluetooth® Setting Tool Pro and transmit them to the actuator on-site. The missions can be dedicated to specific actuators by type or serial number and are password protected for extra security.

Standard missions include: extraction of actuator configuration and data logger, modification of actuator parameters and option configuration.

For full details see PUB095-002.



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

www.rotork.com

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