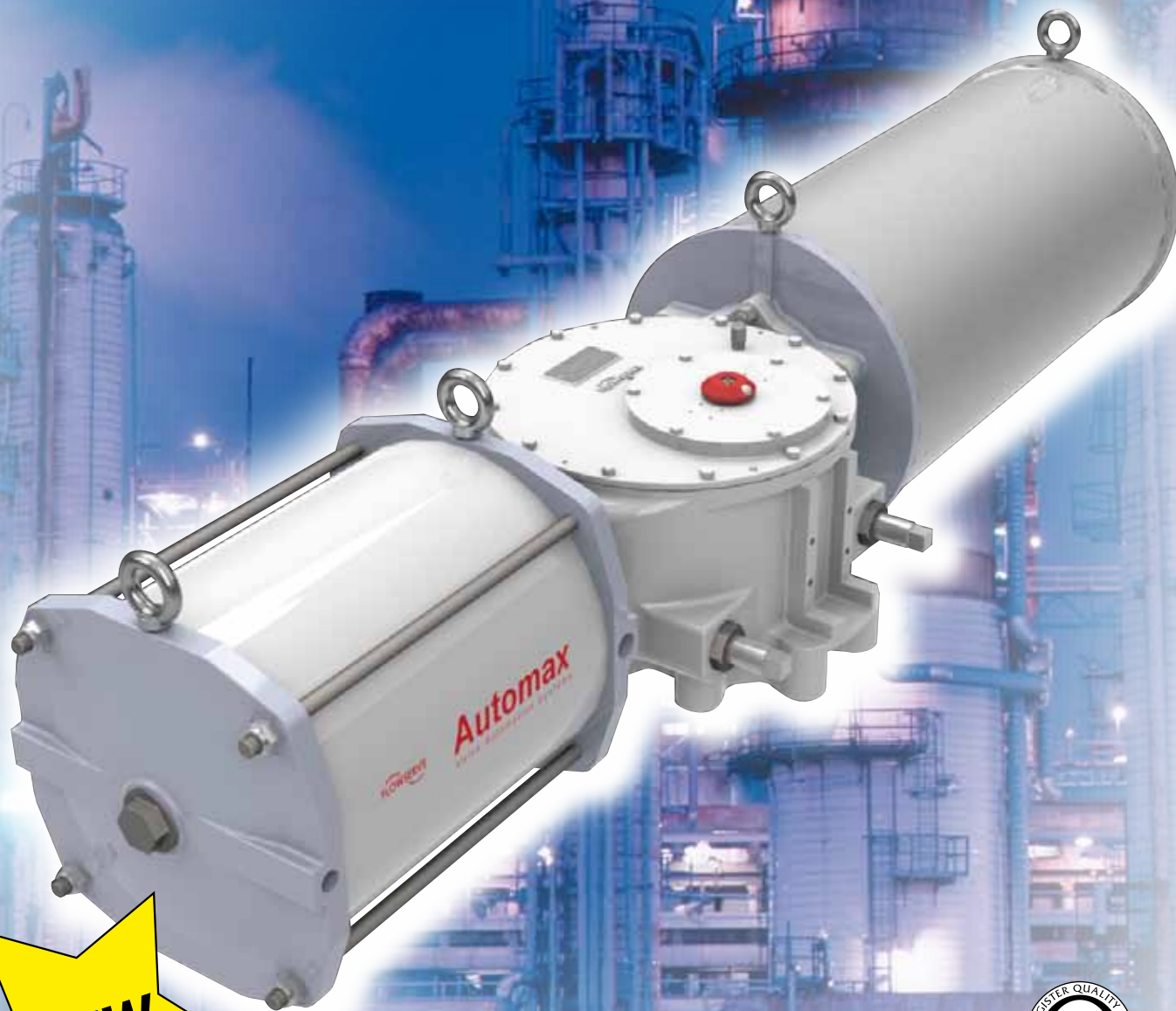




Automax Valve Automation Systems

RG Series Scotch Yoke Actuator



Quality
System
Certificate

Quality, Dependability and Productivity



As a leading manufacturer and aftermarket service provider of comprehensive flow control systems, Flowserve continued to expand its presence supporting infrastructure initiatives around the world. Our dedication toward global leadership in our industry drove us to another year of record-setting performance across several key operating measurements.



Flowserve continues to develop and manufacture precision-engineered flow control equipment — primarily pumps, valves, and seals for critical service applications in the oil and gas, power generation, chemical, water, and general industry markets.

This strategy emphasizes industry diversity and geographic breadth to mitigate the impact of normal economic downturns in any one of the industries or parts of the world we serve.

In addition to isolation and control valves, actuation, controls, and related equipment, FCD offers energy management products such as steam traps and condensate recovery systems. FCD products are used to manage the flow of liquids and gases, and are an integral part of any flow control system — frequently custom engineered to perform specific functions within our customers' unique environments.

Most importantly, the creativity, energy, and dedication of our employees around the world (a dedicated and focused workforce of more than 15,000 associates in more than 55 countries) will help us maintain and expand our place as "A Leader in Global Infrastructure".



Flow Control Division Automax Valve Automation Systems

Flowserve Corporation's Automax Valve Automation Systems provides complete valve and damper automation to the worldwide processing industries. We provide maximum value to the end user through a broad offering of products, services, application engineering and our systematic approach to automation.



Quality, Dependability and Productivity

Recognized as the leader in valve automation systems, Automax pneumatic actuators can automate valves with torque values from 25 to 2.2 million in-lbs (2.8 - 248,566Nm). Actuators are available in a wide range of materials suitable for use in the most demanding applications. Flowserve also offers a comprehensive range of NAMUR Controls and accessories such as lockout modules and gear overrides. To complete the package Flowserve can provide engineering design services for AutoBrakit Mounting hardware. We currently have more than 10,000 AutoBrakits designed and documented for traceability and repeatability on a global basis.

Automax

RG Series

Heavy-Duty Scotch Yoke Actuator

The Automax RG Series provides up to 2.2 million in-lbs of heavy-duty scotch yoke torque. Enhanced performance is achieved by using a superior yoke support system that significantly reduces transverse loads.



Features

- True Modular Design
- Torque Outputs:
 - DA – 2.2M in-lbs (248,566 Nm)
 - SR – 1.2M in-lbs (124,283 Nm)
- Pneumatic, Gas and Hydraulic Models
- Spring Return “Fail Safe” and Double Acting
- Open-Closed, Multi-position and Throttling
- ESD Performance
- Overrides, Line Break and Special Controls

IP67M Ingress Protection

O-Rings or dynamic quad seals are utilized to conform to IP67M specifications, ensuring optimal ingress protection.

Modular Construction

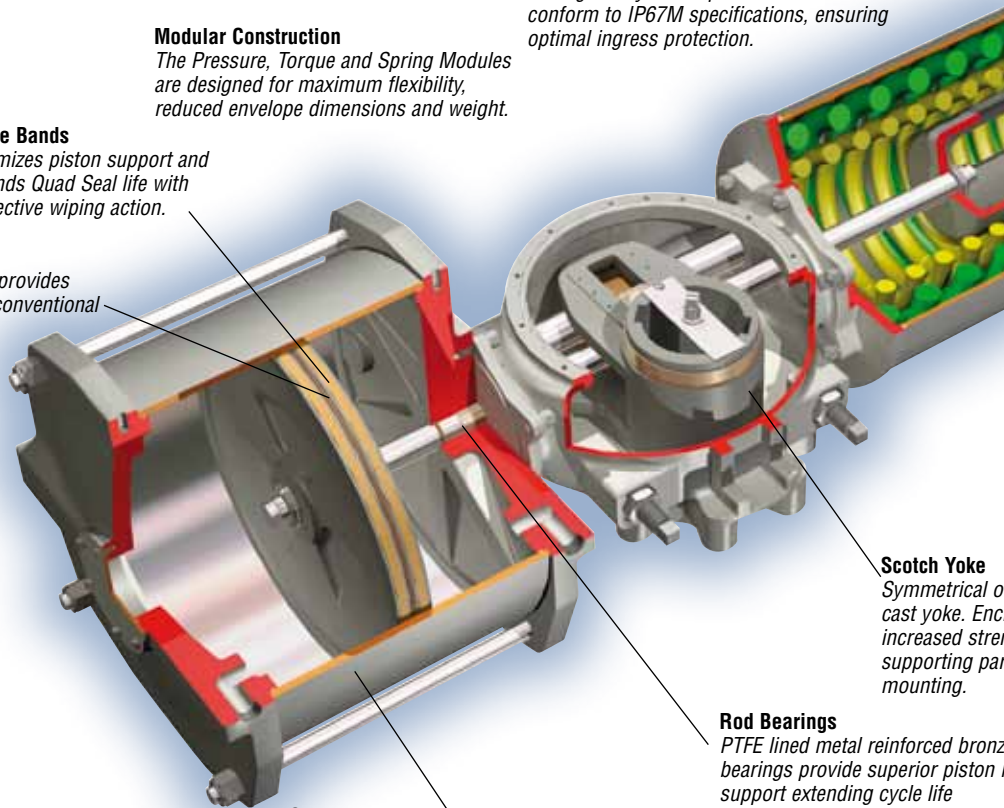
The Pressure, Torque and Spring Modules are designed for maximum flexibility, reduced envelope dimensions and weight.

Guide Bands

Optimizes piston support and extends Quad Seal life with protective wiping action.

Piston Seals

Dynamic Quad Seal design provides enhanced cycle life versus conventional O-Rings.



Scotch Yoke

Symmetrical or canted ductile iron cast yoke. Enclosed yoke slot for increased strength with 2 keyways supporting parallel or perpendicular mounting.

Rod Bearings

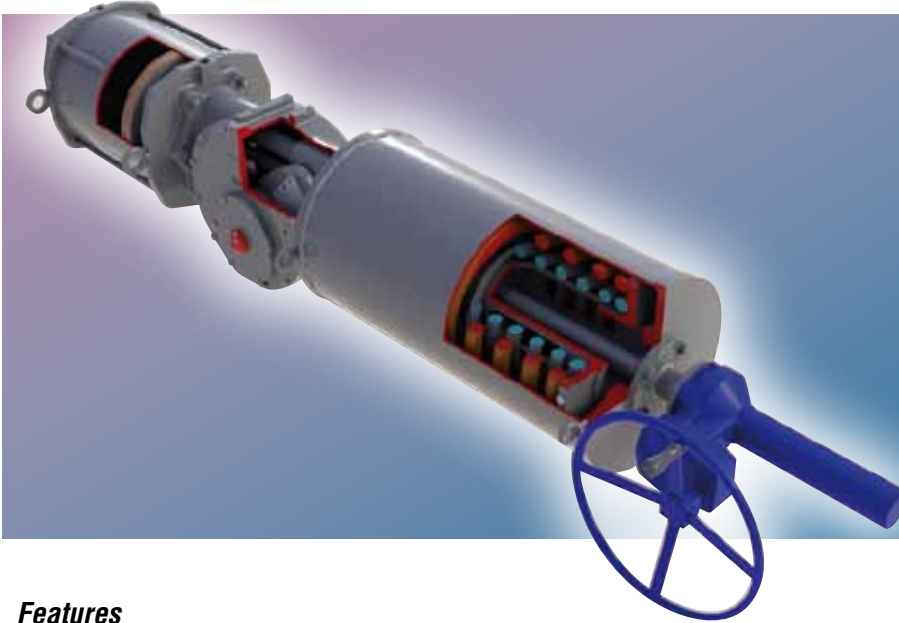
PTFE lined metal reinforced bronze bearings provide superior piston rod support extending cycle life

Cylinder

Heavy wall cylinders provide increased “job site” durability. Interior surface is honed and hard chrome plated to provide superior corrosion and wear resistance.

RG Series

Heavy-Duty Scotch Yoke Actuator



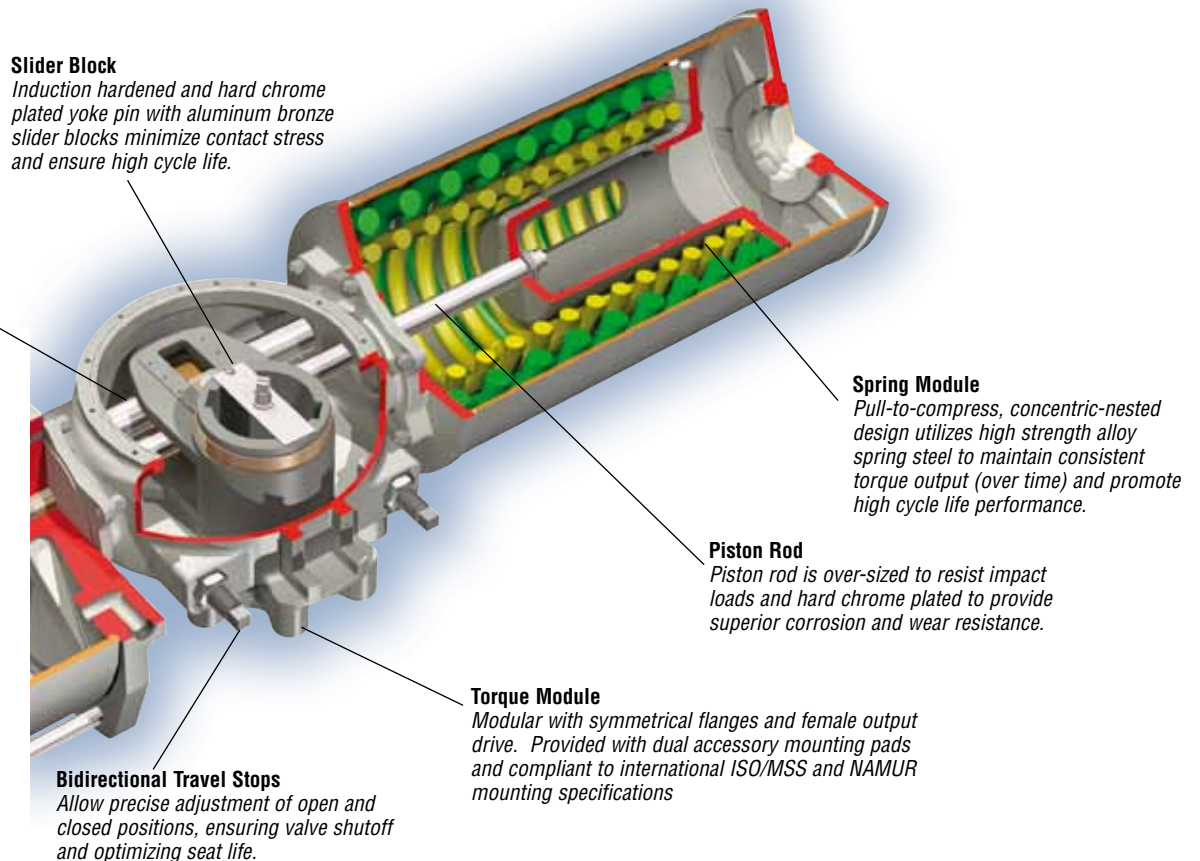
When combined with the extensive range of Automax automation products, the RG Series offers the opportunity to standardize on a single source for your complete quarter-turn automation needs.

Features

- Hard Chrome Plated Cylinder Walls
- Symmetrical and Canted Yoke
- Guide Bar Yoke Support
- Dual DD Cylinder Option
- Field Reversible Action

Override Options

Spring Module design facilitates field retrofitting of jackscrew or hydraulic overrides



Slider Block

Induction hardened and hard chrome plated yoke pin with aluminum bronze slider blocks minimize contact stress and ensure high cycle life.

Steel Guide Bar

Hard chrome plated alloy steel guide bar provides optimal support of the transverse loads.

Bidirectional Travel Stops

Allow precise adjustment of open and closed positions, ensuring valve shutoff and optimizing seat life.

Torque Module

Modular with symmetrical flanges and female output drive. Provided with dual accessory mounting pads and compliant to international ISO/MSS and NAMUR mounting specifications

Spring Module

Pull-to-compress, concentric-nested design utilizes high strength alloy spring steel to maintain consistent torque output (over time) and promote high cycle life performance.

Piston Rod

Piston rod is over-sized to resist impact loads and hard chrome plated to provide superior corrosion and wear resistance.

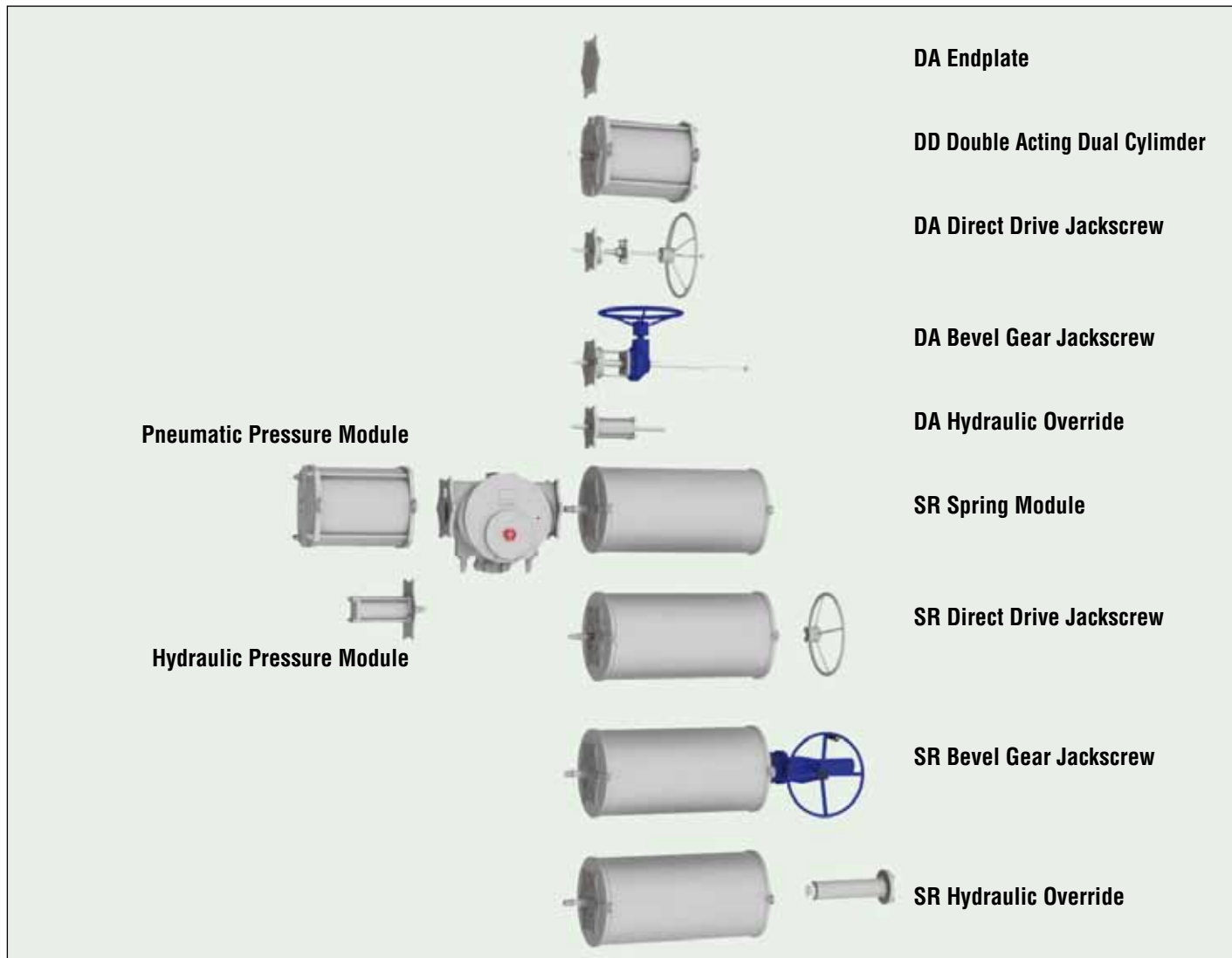
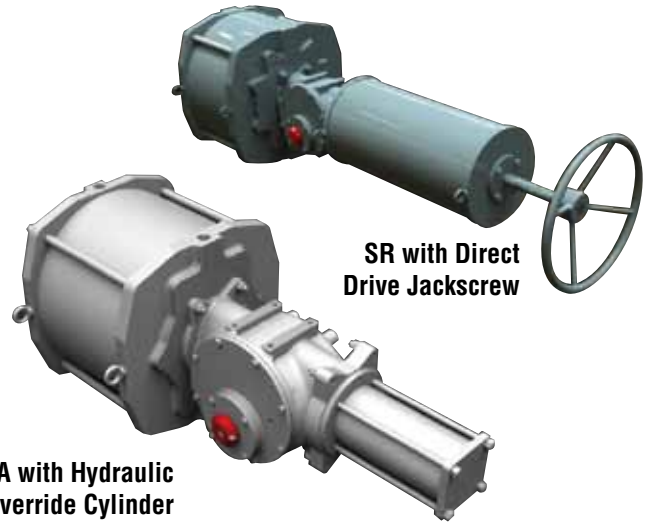
RG Series

Heavy-Duty Scotch Yoke Actuator

Accessories

Modular Construction

- Double Acting to Spring Return (FCW or FCCW)
- Pneumatic or Hydraulic Pressure Modules
- Torque Module with symmetrical or canted yokes
- Override Options – Direct Drive Jackscrew, Bevel Gear Jackscrew or Hydraulic Override





Actuator Model Designation

How to Order																						
Series	Body Size	Cylinder Size						Action			Spring Module	Torque Pattern (Yoke)	Sealing/Temp	Manual Override	Material/Coatings	Options						
RG	1	05	06	07	08	09	10	12	DA-	Double Acting	Single Cylinder	0	S-	Symmetrical	N-	Nitrile, -20° to 180° F	O-	None	GE-	Grey Epoxy (std)	00-	None
	2	08	09	10	12	14	16	DD-	Double Acting	Dual Cylinder		C-	Canted	V-	Viton, 0° to 300° F	G-	Sandwich Declutch Gbox	PO-	Primer Only	TC-	Ext. Stopper -CW	
	3	10	12	14	16	18	20				1			J-	Jackscrew	WE-	White Epoxy	TO-	Ext. Stopper -CCW			
	4	14	16	18	20	22	24				2			D-	Gear Drive Jackscrew	SP-	Specials	TB-	Ext. Stopper -Both Dir			
	5	16	18	20	22	24	28	SR-	Spring Return	Fail CW	3			H-	Hydraulic			S xxxx-	Specials code			
	6	18	20	22	24	28	32	36	SO-	Spring Return	Fail CCW	4			L-	Low Temp, -55° to 180° F						
	7	24	28	32	36	40				5												
	8	28	32	36	40				6													
											7											
											8											
Model Code Example:																						
RG	5	22						SR			6	C	N	D	GE	TC						

Module Weights, Lbs

Model	Torque Module	Pressure Module														Spring Module									
		5	6	7	8	9	10	12	14	16	18	20	22	24	28	32	36	1	2	3	4	5	6	7	8
RG1	68	31	35	47	53	66	94	139									84	88	95	94	98	101	108	107	
RG2	99				56	69	99	143	209	320							132	145	152	158	159	171	178	185	
RG3	143						100	142	200	318	406	561					218	252	243	252	256	304	295		
RG4	295								217	339	427	586	741	942											
RG5	510									356	455	610	853	994	1892										
RG6	933										493	616	861	1051	2098	3357	3912	1134	1370	1339	1372	1535	1504		

Automax Valve Automation Systems

Rotary Switches and Positioners

- Workhorse
- High Reliability
- Hostile Environments
- UL, FM, CSA and ATEX GENELEC Approvals
- Metallic and Non-metallic Housings
- Pharos Visual Indication Option
- Fieldbus Communications
- Multiple Switch Options



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