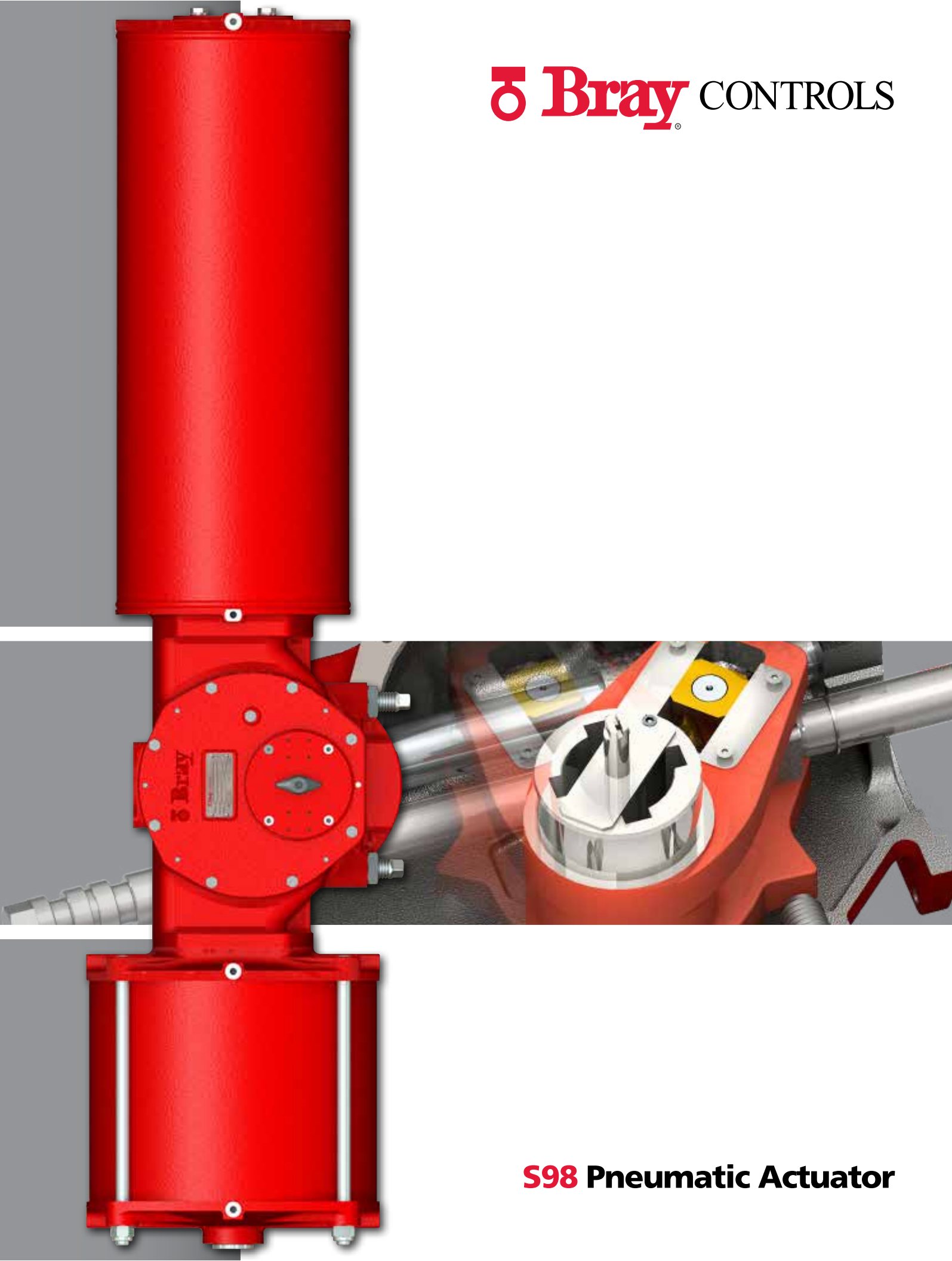
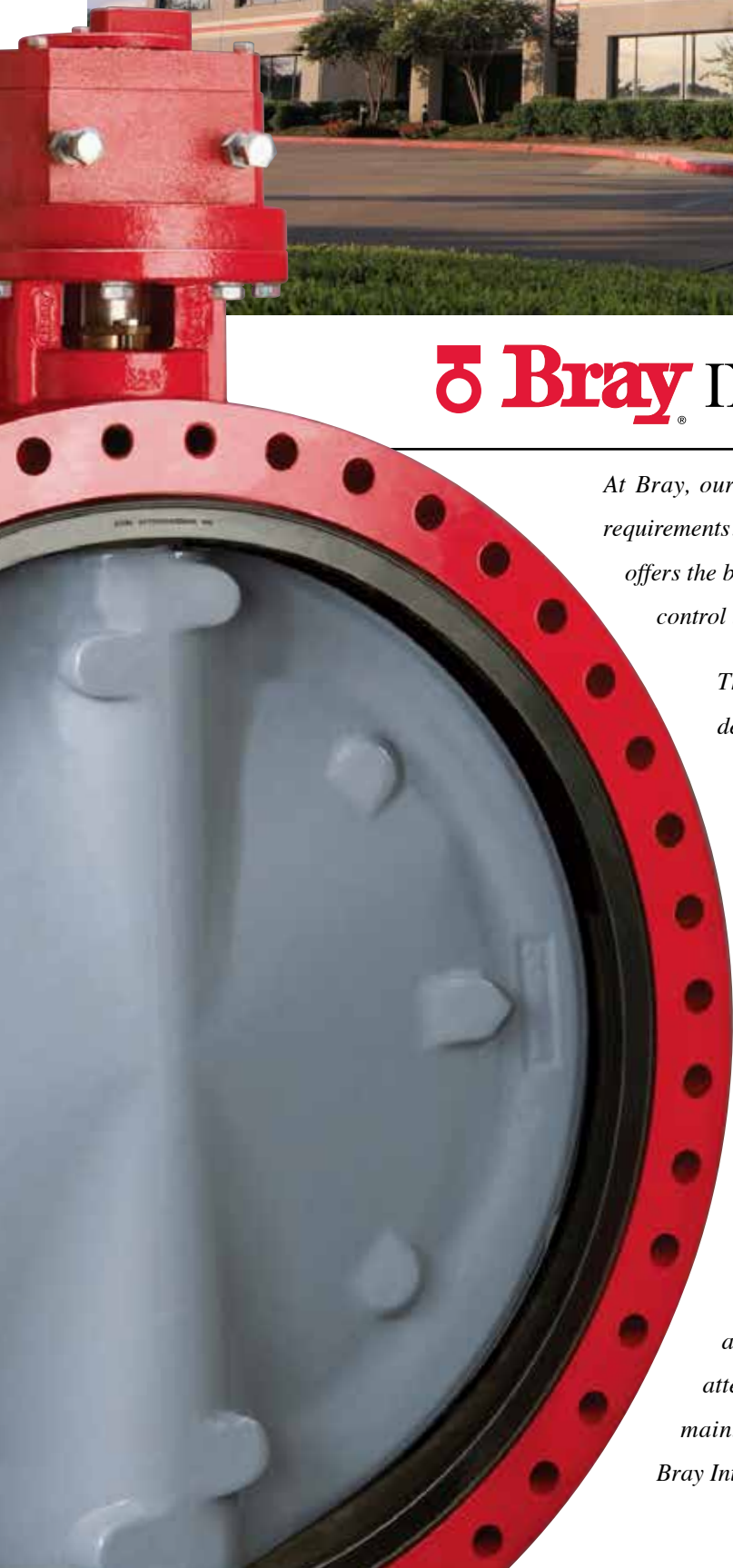


 **Bray** CONTROLS



**S98 Pneumatic Actuator**

Bray International Headquarters – Office & USA Manufacturing  
Houston, Texas



## **Bray** INTERNATIONAL, Inc.

*At Bray, our business is helping our customers with their flow control requirements. Our modular product line of valves, actuators and accessories offers the best compatibility, economy and quality performance in the flow control industry.*

*Through years of field application experience, research and development Bray has designed products that meet or exceed the stringent requirements of today's flow control industry. We have earned a reputation for excellence by creating products of superior value and quality, providing personalized customer service and emphasizing on-time deliveries. Our success has always been the direct result of our fully integrated range of valve, actuator and control products. Rugged and reliable, our products are engineered to provide years of trouble free service.*

*Bray manufacturing facilities are certified to ISO 9001 and EU Directives, assuring product quality, precision manufacturing and internal process integrity.*

*Bray's extensively trained staff is knowledgeable in all aspects of flow control technology and provide personal attention to every customer. To serve you locally, each region maintains a factory certified sales and service network for all Bray International products.*



## MODULAR DESIGN

Direct Mounting  
to Bray Valves

# S98 Pneumatic Actuator

Bray's engineering excellence and precision manufacturing have produced a modular product line optimized for mounting on Bray valves. In addition all Bray accessories are fully configurable and directly mount to the actuator – providing flexibility and efficiency at reduced cost.

The Series 98 actuators were designed primarily for pneumatic operation to a maximum pressure of 150 psi (10.3 Bar) and for temperature ranges of -40°F (-40°C) to 300°F (+149°C).

- » Compact design offers a high torque to weight ratio
- » Modular Design offers easy configuration in the field
- » Module alignment ensured by precision machined centering rings
- » Torque Output ranging from 4,000 to 885,000 Lb-in (450 to 100,000 Nm)
- » Spring End Torque ranging from 575 to 44,000 Lb-in (65 to 49,720 Nm)
- » Premium epoxy/polyurethane coating as standard

### Operating Conditions

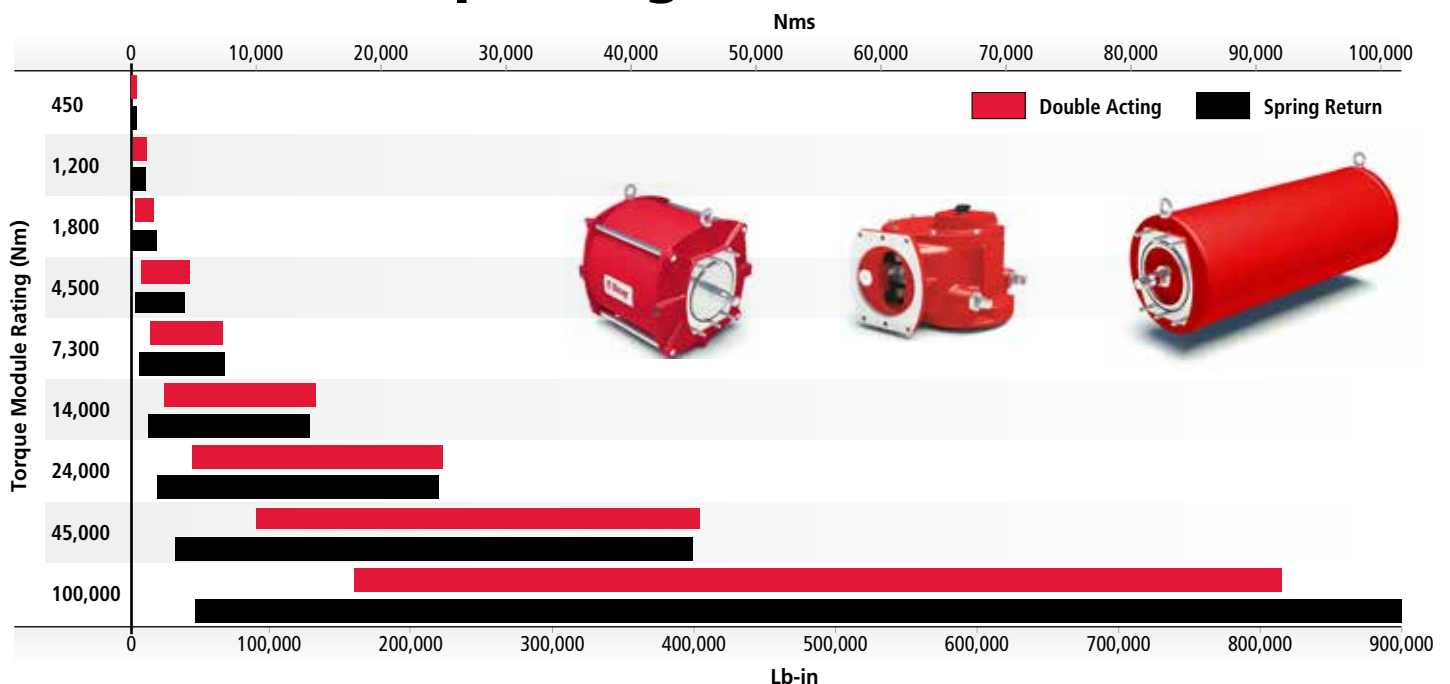
<b>Pressure Range</b>	40 - 150 psi (2.8 - 10.3 bar)
<b>Media</b>	Dry Compressed Air/Inert Gas*
<b>Temperature Range Options</b>	Standard: -20°F to 200°F (-29°C to 93°C)
	High Temperature: Up to 300°F (149°C)*
	Low Temperature: Down to -40°F (-40°C)*

### Compliances

<b>Torque Base</b>	Mounting Dimensions as per ISO 5211: 2001(E)
<b>Accessories</b>	Shaft Driven Accessories Mounting per NAMUR-VDE
<b>Performance Testing</b>	EN 15714-3:2009
<b>Ingress Protection</b>	IP66/IP67M per IEC 60529
<b>Safety</b>	ATEX, SIL 3 suitable, PED on request

\*Contact Factory for other media or non-standard temperature range.

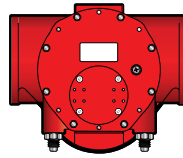
## S98 Actuator Torque Ranges



# S98 Torque Modules

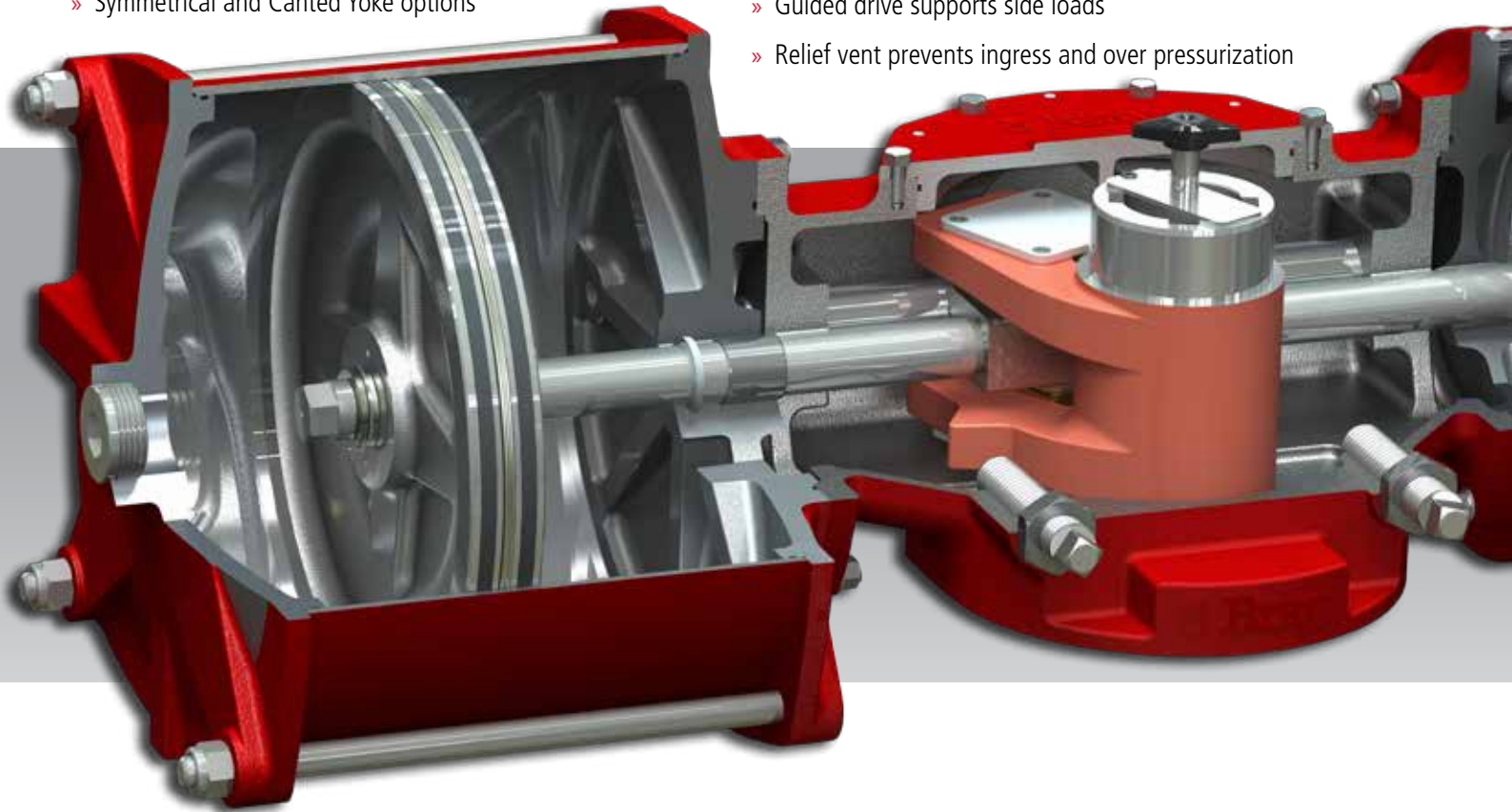


- » Integral single piece cast housing for rigidity
- » Two ISO drilling patterns in base to maximize direct mounting
- » Symmetrical and Canted Yoke options



- » Integral travel stops
- » Replaceable self lubricating metal backed PTFE bearings for enhanced service life
- » NAMUR mounting for shaft driven accessories, standardized across models

- » Guided drive supports side loads
- » Relief vent prevents ingress and over pressurization

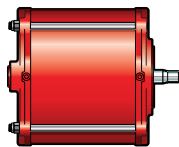


# S98 Pressure Modules



- » Corrosion protected external tie rods designed for long seal life and reliability
- » Honed and hard chrome plated cylinder barrel for wear and corrosion protection and enhanced seal performance
- » Multiple ports available
- » Quad ring and U-cup seals for dynamic sealing
- » Dual wear bands for better guidance of piston

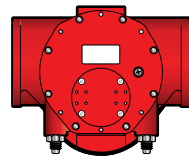
## Pressure Module: Torque Module



Pneumatic



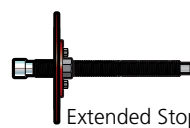
Hydraulic



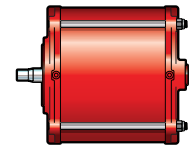
# S98 Direct Acting Modules



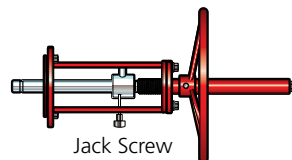
## Direct Acting Modules



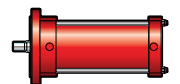
Extended Stop



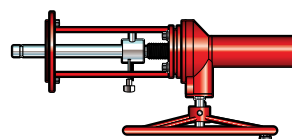
Pneumatic



Jack Screw



Hydraulic Override



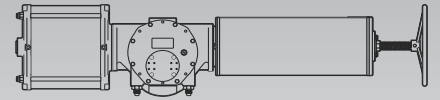
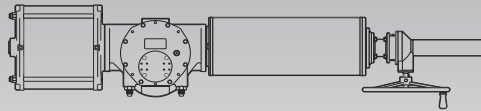
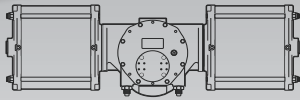
Jack Screw with Gear Drive

**MODULAR  
DESIGN**

**Direct Mounting to Bray Valves**



S98 actuator suitable for a specific application can be configured by combining modules.



## S98 Spring Modules

- » Fully enclosed and welded design for safety
- » Guided and centered springs for smooth operation
- » No metal to metal contact of spring or guide
- » Thrust base for mounting jackscrew and hydraulic override
- » Tectyl coated springs for corrosion protection

### Spring Return Modules



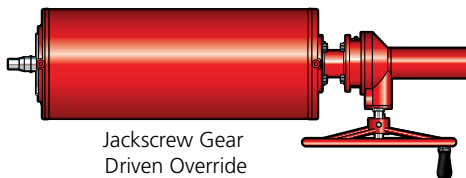
Standard



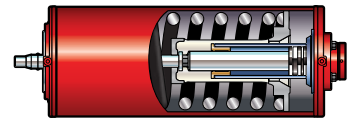
Jackscrew Direct Drive Override



Extended Travel Stop



Jackscrew Gear Driven Override

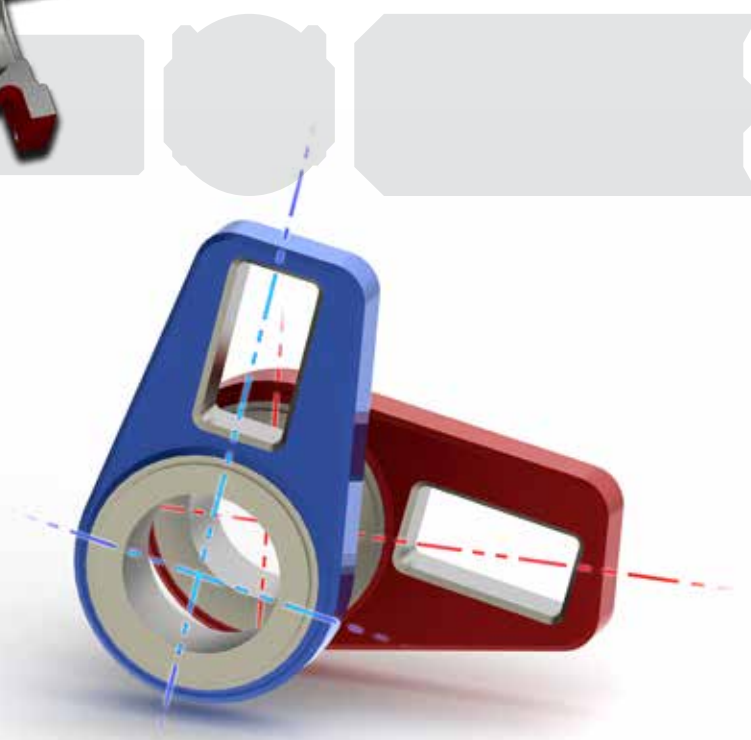


Hydraulic Override

# Symmetrical & Canted Yokes



The heart of the Series 98 actuator is the scotch yoke. This mechanism converts linear motion into rotational motion. The piston and/or springs directly couple to a rotating yoke with a slot that engages the sliding blocks. This type of actuator has a distinct torque curve which starts high then dips toward the middle of the stroke and ends with increasing torque, thus offering an inherent optimization of torque requirements associated with many valve applications.



## Symmetrical

The symmetrical yoke provides a balanced torque output curve. This is the best choice in applications where the torque requirements at the seat break out and end positions are similar. As the name suggests, the output torque curve is symmetrical about the mid rotation point.

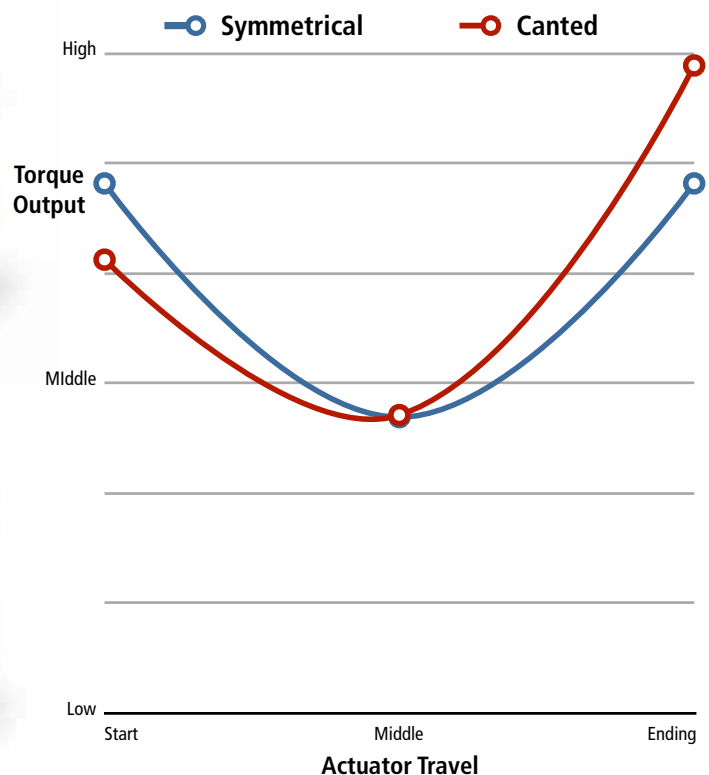


## Canted

The torque demands of some valve types are not the same at the break and end points. These applications call for optimizing the torque output vs. shaft angle curve. The canted yoke option shifts the torque output curve. The torque output is matched to the application requirements.



## S98 Torque Curve Comparison





## S98 Accessories

Add to the versatility of the S98 by choosing the applicable accessories from Bray's complete line of positioners, status monitors and solenoids. The combination of actuators and accessories offer the best compatibility, economy and quality performance in the flow control industry.

### S6A Electro-Pneumatic Positioners

- » Precise, microprocessor driven advanced communication (HART, Profibus, Foundation Field Bus)
- » For use with both double or single acting actuators
- » Partial stroke test capable



### S50 Valve Status Monitors

- » 10 amps at 125 or 250 volts AC
- » Internal travel switches that are prewired to a terminal block
- » Weatherproof or Explosion proof available



### S52 Valve Status Monitors

- » ProxSensor provides two proximity sensors in one fully sealed, compact enclosure.
- » AC, DC, Intrinsically safe and BUS Network versions are offered.



### Solenoid Valves

- » 3-Way or 4-Way
- » Weatherproof or Explosion proof available

### Filter Regulator

- » 5 micron filter designed to provide removal of solids and liquids from compressed air.