

OVERVIEW

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 -50°F to 300°F (-46°C to 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 2,038 to 885,100 lb-in (250 to 100,000 Nm)
- > Spring end torque ranging from 2,744 to 445,261 lb-in (310 to 50,306 Nm)
- > Premium epoxy/polyurethane coating as standard



SPECIFICATIONS

Media	Dry Compressed Air/Inert Gas/Natural Gas
Pressure Range	40 - 150 psi (2.8 - 10.3 bar)
Temperature Range	Standard: -20°F to 200°F (-29°C to 93°C)
Options	High Temperature: Up to 300°F (149°C) Low Temperature: Down to -50°F (-46°C)

Contact factory for other media or non-standard temperature range.

COMPLIANCES

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

SYMMETRICAL OR 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 — offering an inherent optimization of torque requirements associated with many valve applications.



SYMMETRICAL YOKE

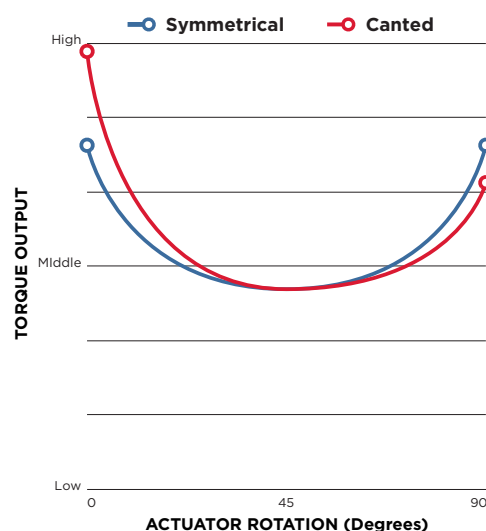
- > Torque output curve is balanced.
- > Torque demands are similar at seat break and end positions.



CANTED YOKE

- > Applications call for optimizing the torque output vs shaft angle curve.
- > Torque output curve is shifted.
- > Torque demands are not the same at seat break and end positions.

S98 TORQUE CURVE COMPARISON



MODULAR DESIGN

PRESSURE MODULE

- > Pneumatic

TORQUE MODULE

- > Symmetrical or Canted Yoke

HAND PUMP

- > Hand Pump for Hydraulic Override

**DIRECT ACTING OR
SPRING RETURN MODULES**

- > Jackscrew Direct Drive Override
- > Jackscrew Gear Driven Override
- > Hydraulic Override
- > Extended Travel Stop
- > Hydraulic Damper
- > Partial Stroke Testing/Locking Device



OPTIONS

DAMPER

- > Provides self contained hydraulic cushioning at the end of high speed stroke, preventing slamming and seat damage to the valve, as well as shock to the piping. (Available for Double Acting or Spring Return.)



**EMERGENCY SHUTDOWN
CAPABILITY**

- > Fast Acting (less than one second)
- > Rugged Design
- > Customizable Configurations
- > Manual and Automatic Release Options
- > Certified Safety Integrity Level 3 (SIL) per IEC 61508

PARTIAL STROKE DEVICE

- > Allows ESD valve function verification without disrupting the running process.



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.



**VALVE STATUS
MONITORS**
Series 5A | 5B | 5C



PROXIMITY SENSORS
Series 54



POSITIONER
Series 6A