

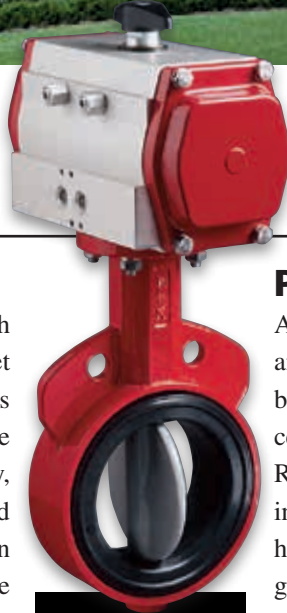
Bray[®] CONTROLS



PNEUMATIC
Actuators & Accessories



Bray[®] CONTROLS



INTRODUCTION

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

Bray products are used in a wide range of industries worldwide including:

- Chemical
- Beverages
- Pharmaceuticals
- Food Processing
- Petroleum Refining & Oilfield
- Transportation
- Microprocessors
- Marine
- Pulp & Paper
- Mining
- Power/FGD
- Irrigation
- Water & Wastewater Treatment
- Textile
- Desalination
- Steel Production
- Sugar/Ethanol
- HVAC
- Breweries/Wineries

PRODUCT QUALITY & PRECISION

Assuring product quality, precision manufacturing and internal process integrity, Bray Controls has been certified to ISO 9001 quality standards. The certification of compliance was issued by Lloyd's Register Quality Assurance (LQRA), a worldwide independent certifier. The basis for Bray Controls' high level of quality assurance are the quality control guidelines and procedures submitted, reviewed and approved in accordance with criteria established within ISO 9001:2000 and EU Directives.

“Bray Controls is focused on and committed to meeting the expectations and needs of our customers while continually improving the effectiveness of our quality management.”

- All Bray valves are pressure tested to 110% of rated pressure to assure bubble-tight shutoff.
- All Actuators are calibrated and cycle tested before shipment. Pneumatic actuators are also pressure tested to assure no leakage.
- Material Traceability - Certification is provided for all valves upon request for all pressure retaining components.
- Positive Material Identification - All materials are subjected to PMI testing to verify material traceability certificate.



BRAY SERIES 92/93 PNEUMATIC ACTUATOR

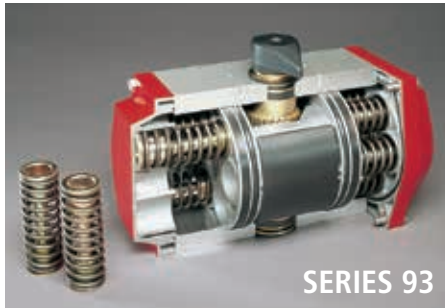


Output Torques to 44,130 Lb-in (4,986 N-m)

Styling, strength, compactness, and simplicity of design have been combined to produce the Bray Series 92 direct acting and the Series 93 spring return pneumatic actuators.

Engineering excellence and precision manufacturing has produced a modular product line with reduced overall size requirements and economic savings. In addition all Bray accessories are fully modular and directly mount to the actuator – providing flexibility and efficiency at reduced cost.

Bray Series 92/93 actuators are rack and pinion, opposed-piston actuators available in two versions: double acting for rotation of 90°, and spring return for 90° rotation.



SERIES 93

All double acting and spring return units are suitable for both on-off and throttling applications. Actuators which can be actuated with other media such as hydraulic oil or water are also available as an option.

STANDARD MATERIALS SELECTION

NAME	MATERIAL
Body	Extruded Aluminum Alloy, Anodized 316 Stainless Steel
End Caps	Die cast Aluminum Alloy with Corrosion Resistant Polyester Coating 316 Stainless Steel
Pistons	Die Cast Aluminum Alloy
Output Shaft/Pinion	Carbon Steel, Zinc Plated
Travel Stop	Alloy Steel
Shaft Bearings	Acetal
Piston Guides	Acetal
Fasteners	Stainless Steel
Springs	Spring Steel, Protective Coating
Piston O-Ring Seals	BUNA-N
Options:	Polyester Coated Body Exterior Electroless Nickel Plated Body Exterior Hard Anodized Body Exterior Seacorr Coated Body Exterior Stainless Steel Pinion
Temperature Range	Standard -4°F to 200°F (-20°C to 93°C)
	Low -40°F to 176°F (-40°C to 80°C)
	High 0°F to 300°F (-18°C to 149°C)
Note: Cycle life on low and high temperature seal kits reduced compared to standard Buna N seals	
Series 92 Double Acting	Available in 90°
Series 93 Spring Return	Available in 90° Rotation Operating Pressure 140 psig (10 bar) maximum



DIRECT MOUNTING

Bray actuators comply with ISO 5211 dimensions and mount directly to Bray valves without using external linkages. Field installation is simple, misalignment is minimized and contamination buildup between valve and actuator is reduced.

PNEUMATIC ACTUATOR OPTIONS



SERIES 5 - DECLUTCHABLE GEAR OPERATOR

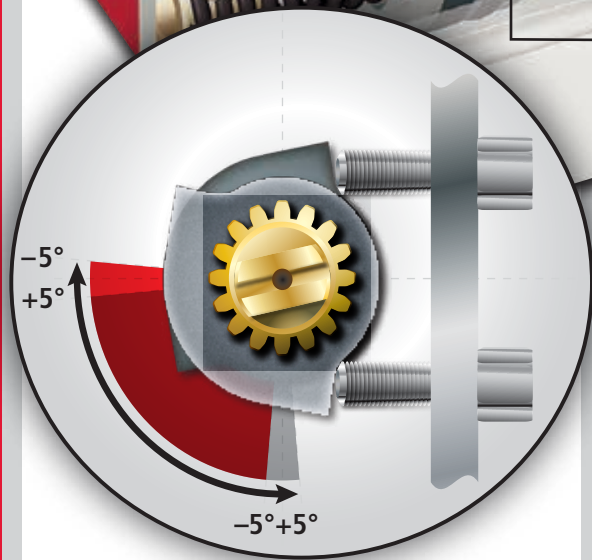
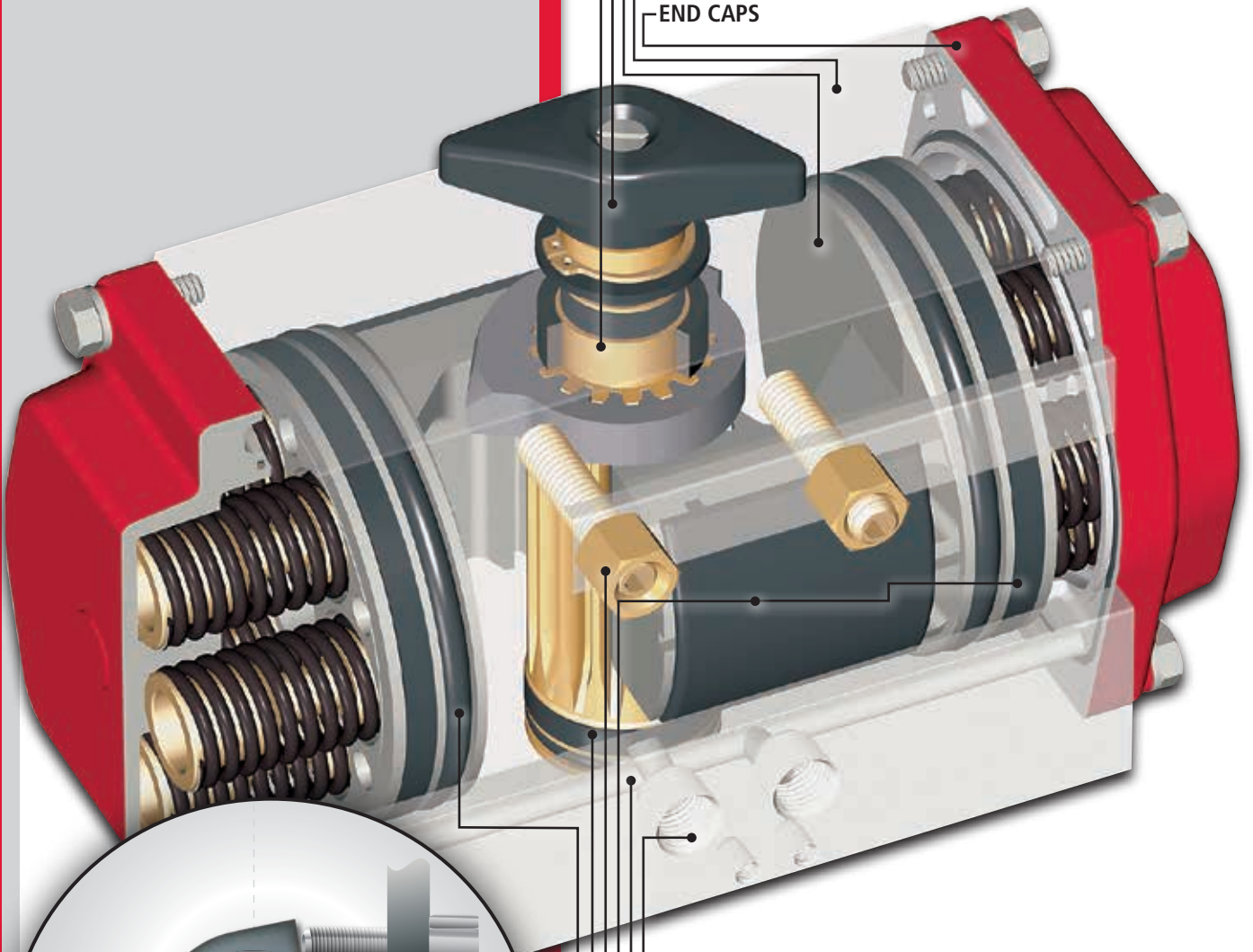


STAINLESS STEEL



EXTENDED TRAVEL STOPS

All Bray Series 92/93 actuators have permanently lubricated bearings and guides.



TRAVEL STOP ADJUSTMENT

The 0° and 90° travel positions have travel adjustments of +5° max. to -5° min. Extended travel stops are also offered as an option.

OUTPUT SHAFT and PINION GEAR

POSITION INDICATOR

PISTONS

BODY

END CAPS

PNEUMATIC SUPPLY PORTS: Available imperial or metric. NAMUR interface for accessory mounting is standard on all actuator sizes.

INTEGRAL PORTING: Reduces the cost of external tubing that is also easily damaged.

PISTON GUIDES and RINGS: Provide low coefficient of friction and absorb the side thrusts of the pistons.

TRAVEL STOPS: Adjusting screws limit the travel of the actuator to specific degrees of rotation in both open and closed directions.

OUTPUT SHAFT BEARINGS: Top and bottom of the pinion.

PISTON O-RING SEALS



Global Manufacturing, Service Around the Corner

To serve you locally, each region maintains a factory certified sales and service network for all Bray International products.

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