

# ACTUATORS & CONTROLS

## PRODUCT OVERVIEW

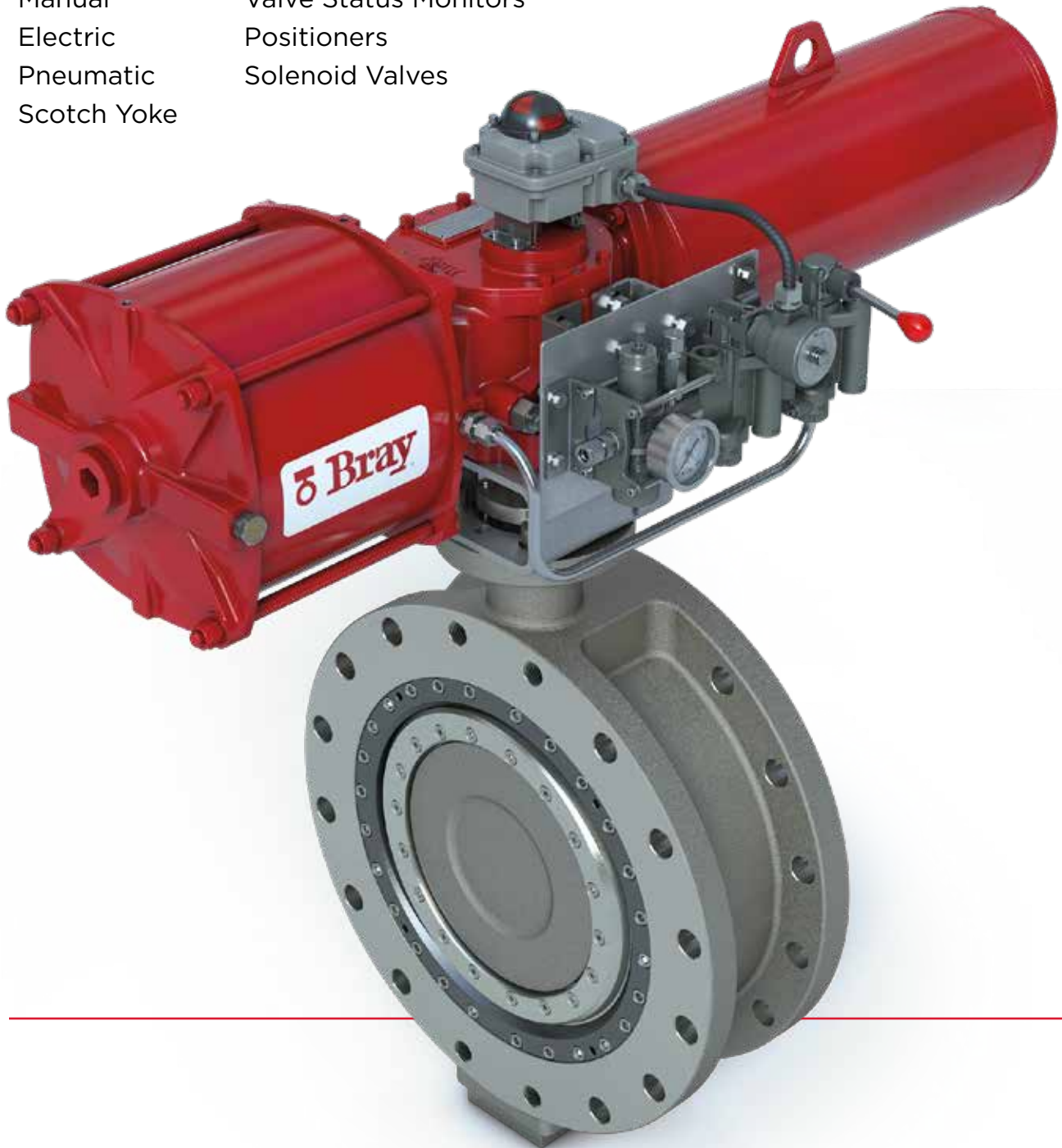
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### Actuators

Manual  
Electric  
Pneumatic  
Scotch Yoke

### Control Accessories

Valve Status Monitors  
Positioners  
Solenoid Valves



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**Bray**

[BRAY.COM](http://BRAY.COM)

THE HIGH PERFORMANCE COMPANY



At Bray our business is helping our customers with their flow control requirements. Our modular product line 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 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 quality standards, assuring product quality, precision manufacturing and internal process integrity.

Bray is committed to customer support. Our extensively trained staff is knowledgeable in all aspects of Bray's products and their applications 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.

Bray recognizes that "our customers make us successful" and they have a choice of many manufacturers when selecting valves, actuators and accessories for their applications. Since many manufacturers have access to the same materials of construction for these products, Bray believes that a customer's purchase decision is heavily influenced by the following key factors:

- > Trust in the Manufacturer
- > Confidence in the Quality Assurance and Integrity of the Manufacturer
- > Proven Industry Experience
- > Features and Benefits of the Product
- > Delivery
- > Customer Service
- > Cost of Ownership

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

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**TECHNICAL SPECIFICATION**

|                                |  |
|--------------------------------|--|
| Type                           | Handle   |
| Valve Type                     | Butterfly valves                                 |
| Valve Size<br>Resilient Seated | 1"-12" [DN25 - DN300]<br>10 position notch plate |
| Valve Size<br>Double Offset    | 2"-8" [DN50 - DN200]<br>9 position notch plate   |
| Material                       | Epoxy-coated ductile iron<br>Stainless Steel     |

Bray offers two handles for on-off and throttling service, one for resilient seated and one for high performance (double offset) valves. These quarter turn handles have a locking spring and a directional pointer for valve disc position indication. Various options are available.

**APPROVALS & CERTIFICATES**

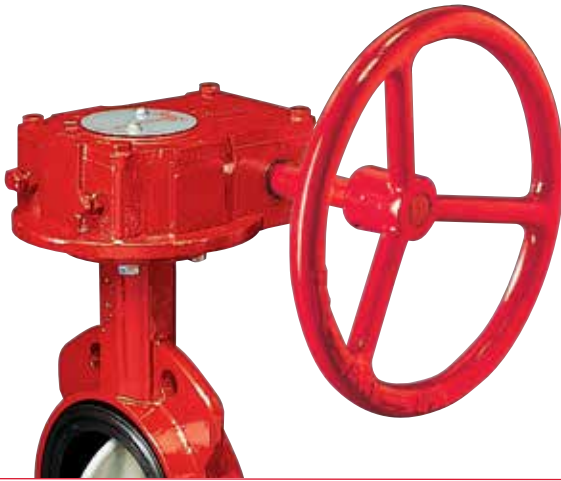
- > ABS

**PRODUCT FEATURES**

- > Excellent corrosion, abrasion and impact resistance
- > Infinite position notch plate for throttling applications
- > Ability to attach accessories for remote position indication

**OPTIONS**

|  |   |  |   |   |
|--|---|--|---|---|
|  |   |  |   |   |
| <p><b>Padlock Kit</b><br/>Allows the customer to lock the valve in the full open or closed position, tamper proofing the valve. By drilling a new hole in the top plate, the handle can be locked in mid travel.</p> | <p><b>180° Notch Plate</b><br/>Allows the operator to switch the handle to either side without removing the notch plate from the valve. For resilient seated valves only.</p> | <p><b>Infinite Position Plate</b><br/>Allows for very precise adjustments of valve disc positioning anywhere from 0° to 90°.</p> | <p><b>Memory Stop</b><br/>Allows the operator to set the maximum amount the valve can open. When set, this limit will remain fixed until the stop is reset.</p> | <p><b>2" Square Nut</b><br/>Used where the valve is buried under the surface. To rotate valve disc position, the nut is reached with a T-handle wrench.</p> |



Series 04 gear operator is self-lubricated for smooth, trouble-free operation and designed for heavy-duty on/off and throttling service. A self-locking worm and worm gear drive holds the valve in the desired position.

The Series 04 features a readily accessible handwheel, a valve-position indicator and mechanical travel stops which permit field adjustment of valve movement to specific degrees of rotation.

**TECHNICAL SPECIFICATION**

|            |  |
|------------|--|
| Type       | Gear operator                                |
| Valve Type | Butterfly valves                             |
| Valve Size | 2"-48" [DN50 - DN1200]                       |
| Torque     | 2,000 to 24,000 lb-in.<br>[226 to 11,298 Nm] |
| Waterproof | NEMA 4, IP 65                                |

**APPROVALS & CERTIFICATES**

- > ABS

**PRODUCT FEATURES**

- > Heavy duty on/off service
- > Self-locking to hold any position
- > Field-adjustable travel stops
- > Ability to attach accessories for systematic observation

**OPTIONS**

| Part            | Description   |
|-----------------|---|
| Chain Wheel     | For remote access to valve positioning when the handwheel is not accessible, such as valves positioned high out of reach.                       |
| Padlock Kit     | Allows the customer to lock the valve in the full open or closed position.  |
| 2" Square Nut   | Used where the valve is buried under the surface. To rotate valve disc position, the nut is reached with a T-handle wrench. (Option not shown.) |
| Stainless Steel | For sanitary and corrosive applications. Available for valve size 1" - 16" [25mm - 400mm]   |



Remote Access Chainwheel



316 Stainless Steel



**TECHNICAL SPECIFICATION**

|            |   |
|------------|---|
| Type       | Declutchable gear operator              |
| Valve Type | Butterfly valves                        |
| Valve Size | 2" - 36" [DN50 - DN900]                 |
| Torque     | 2,000 to 24,005 lb-in [226 to 2,712 Nm] |
| Waterproof | NEMA 4, 4x and IP 65                    |

This operator is excellent for the safe handling of spring return actuators. During pneumatic operation, the worm of the gear unit is disengaged. Should the valve require opening or closing in the event of power loss, manual rotation of the declutch lever will provide a camming action and engage the worm to the segmented worm gear, allowing rotation of the valve using the handwheel.

**APPROVALS & CERTIFICATES**

- > ABS

**PRODUCT FEATURES**

- > Heavy duty on/off service
- > Self-locking to hold any position
- > Field-adjustable travel stops
- > Locking kits

**OPTIONS**

| Part            | Description   |
|-----------------|---|
| Chain Wheel     | For remote access to valve positioning when the handwheel is not accessible, such as valves positioned high out of reach.                       |
| Padlock Kit     | Allows the customer to lock the valve in the full open or closed position.  |
| 2" Square Nut   | Used where the valve is buried under the surface. To rotate valve disc position, the nut is reached with a T-handle wrench. (Option not shown.) |
| Stainless Steel | For sanitary and corrosive applications. Available for valve size 1" - 16" [25mm - 400mm]   |



Remote Access Chainwheel



316 Stainless Steel

**SRH SERIES - DEADMAN HANDLES**



Spring Return (Deadman) Handles are manufactured from heavy-duty stainless steel components to withstand frequent daily use in refueling, sampling, drains, and other OSHA applications that require positive closure of a manual valve. Each SRH handle has a locking device as standard to lock the valve in the preferred position.

**TECHNICAL SPECIFICATION**

|            |  |
|------------|--|
| Type       | Spring return handle                                     |
| Valve Type | Ball valves  |
| Valve Size | 1/4" - 2" [DN8 - DN50]                                   |
| Torque     | Up to 513 lb-in [58 Nm]                                  |
| Mounting   | EN ISO 5211  |
| Materials  | Housing - Ductile Iron<br>Gear Segment - Aluminum Bronze |

**PRODUCT FEATURES**

- > Easily retro-fitted
- > Locking device
- > Three sizes available
- > Ability to attach accessories for systematic observation

**FTG SERIES - MANUAL GEAR OPERATOR**



FTG Series Manual Gear Operators were designed to handle the toughest applications and provide years of trouble free service and reliability. It features a one piece steel worm gear input shaft with tapered roller bearings on both ends.

**TECHNICAL SPECIFICATION**

|                       |  |
|-----------------------|--|
| Type                  | Gear operator  |
| Valve Type            | Ball valves  |
| Torque                | 5,310 - 69,920 lb-in<br>[600 - 7900 Nm]                      |
| Waterproof            | NEMA 4, IP 66  |
| Mounting              | EN ISO 5211 [F0 - F16]                                       |
| Handwheel Ø Available | 8" - 30" [200mm - 750mm]                                     |
| Drive                 | Square drive (parallel & diagonal)<br>Keyed drive (optional) |
| Materials             | Housing - Ductile iron<br>Gear Segment - Aluminum bronze     |

**PRODUCT FEATURES**

- > Adjustable travel stops
- > Corrosion resistant, high visibility valve position indicator
- > Self-locking to hold any position
- > Ability to attach accessories for systematic observation

**OPTIONS**

|                |                           |  |
|----------------|---------------------------|--|
| Locking device | 2" square input drive nut | Grease fitting                               |
| Chain wheels   | Horizontal flag indicator | Flow pattern indicators for multiport valves |



**TECHNICAL SPECIFICATION**

|                            |  |
|----------------------------|--|
| Torque                     | 301 - 17,967 lb-in [34 - 2030 Nm]  |
| Temperature Range          | -20°F to +149°F [-29°C to +65°C]   |
| Voltage                    | AC: 24, 120, 230<br>DC: 24   |
| Rotation                   | 90°  |
| Mounting                   | EN ISO 5211  |
| Waterproof                 | NEMA 4, 4X and IP 65   |
| Explosion Proof (Optional) | NEMA 7 & 9<br>Class I, Div. 1, Group C, D<br>Class II, Div. 1, Group E, F, G |

The Series 70 features on/off or modulating control and offers easy access to terminal block wiring, cam adjustments and switch installation. Therefore, the time required for field start-up and adjustment is greatly reduced, and maintenance can be performed with assured ease and safety.

**APPROVALS & CERTIFICATES**

- > MD (2006/42/EC)
- > LVD (2014/35/EU)
- > EMC (2014/30/EU)
- > ATEX, ABS, EAC
- > cULus Approval
- > Bureau Veritas

**PRODUCT FEATURES**

- > High visibility position indicator
- > Manual declutchable handwheel
- > Easy access for field wiring and adjustment
- > Captive cover bolts
- > Self locking output drive assembly
- > Travel limit SPDT switches
- > Mechanical travel stops
- > Digital interface available
- > Optional Seacorr® coating for harsh environments
- > Optional modulating control using Servo NXT microprocessor

**OPTIONS**

| Part                         | Description   |
|------------------------------|---|
| Control Station              | Local-off-remote control switch, an open-stop-close switch, and two lights which locally indicate open and close valve position.  |
| Battery Backup Unit (BBU)    | Provides power to permit 24V actuators to reach fail-open or fail-close position in the event of a main power failure.  |
| Heater                       | Self-regulating temperature control to prevent condensation build-up.   |
| Potentiometer                | Provides continuous position feedback for a customer control system.  |
| Auxiliary Switches           | Up to four (voltage free) SPDT mechanical switches can be added to indicate travel position for remote customer control systems.  |
| Torque Switch                | Provide protection for the automated valve assembly in the event of an over-torque event.   |
| Electrical Cable Connections | Pre-wired multi-pin weatherproof cable receptacles allow quick-connect field installation and prevent internal cabling errors which could occur during commissioning. Cord sets can be supplied with connection/flying leads or connection/connection on cord set ends to plug directly into the actuator receptacle. |
| Servo NXT                    | Precise modulating control of the valve position in response to an analogue input signal using an on-board micro controller. It allows automatic calibration, LED fault diagnostics, and user selectable dead-band, speed control and fail position on loss of command signal.  |





The Series 92/93 pneumatic actuators are rack and pinion 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.

**TECHNICAL SPECIFICATION**

|                        |  |
|------------------------|--|
| Torque                 | Double Acting:<br>Up to 44,130 lb-in [4,986 Nm]<br>Spring Return:<br>Up to 14,169 lb-in [1601 Nm]  |
| Pressure Range         | 40 - 140 psi [ 2.8 - 10 bar]   |
| Temperature Range      | Standard: -4°F to 200°F [-20°C to +93°C]<br>Low: -40°F to 176°F [-40°C to +80°C]<br>High: 0°F to 300°F [-18°C to +176°C]<br>Extreme: Up to 482°F [250°C] |
| Media                  | Dry Compressed Air/Inert Gas   |
| Double Acting Rotation | 90°, 135°, 180°  |
| Spring Return Rotation | 90°  |
| Travel Stop            | 90° +/- 5°   |
| Mounting               | EN ISO 5211,<br>VDI/ VDE 3845 (NAMUR)  |

**APPROVALS & CERTIFICATES**

- > PED (2014/68/EU)                      > Bureau Veritas
- > ATEX (2014/34/EC)                    > ABS
- > SIL 3                                        > EAC

**PRODUCT FEATURES**

- > Completely enclosed and self-contained
- > Anodized aluminum bodies with polyester coated end caps as standard
- > Two independently adjustable travel stops
- > Integral porting
- > Permanently lubricated bearings and guides
- > NAMUR accessory compatible
- > Various coating options available
- > High torque to weight ratio

**OPTIONS**

- Dec clutchable gear operator (Series 05)
- Stainless steel
- Extended travel stops
- Optional Seacorr® coating coating for harsh environments
- Wide range of accessories to mount



The Series 98 scotch-yoke actuator features a modular design with a wide range of modules to suit the required process application. The heart of the Series 98 is the yoke, available in symmetrically or canted, that converts linear motion into rotational motion.

**TECHNICAL SPECIFICATION**

|                    |   |
|--------------------|---|
| Torque             | Double acting:<br>Up to 885,074 lb-in [100,000 Nm]<br>Single acting:<br>Up to 445,245 lb-in [50,306 Nm] |
| Operating Pressure | 40.6 - 150 psi [2.8 - 10.3 bar]   |
| Temperature Range  | Standard: -20°F to 200°F [-29°C to +93°C]<br>High: up to 300°F [149°C]<br>Low: down to -51°F [-46°C]    |
| Yoke               | Symmetric or canted   |
| Travel Stop        | 90° up to +/- 5°  |
| Mounting           | Base: EN ISO 5211,<br>Accessories: VDI/ VDE 3845  |
| Enclosure          | IP 66/IP67M (IEC 60529)   |
| Media              | Dry compressed air/inert gas  |

**APPROVALS & CERTIFICATES**

- > PED (2014/68/EU)
- > ATEX
- > EAC
- > ABS
- > SIL 3

**PRODUCT FEATURES**

- > Compact, modular design for ease of maintenance
- > High torque to weight ratio
- > Easy field configuration
- > Premium epoxy/polyurethane coating
- > Special coating (for harsh environments) optional
- > Quad ring and U-cup seals for dynamic sealing
- > Tectyl® coated springs for corrosion protection
- > Honed and hard chrome-plated cylinder for wear and corrosion prevention
- > Replaceable self lubricating metal backed PTFE bearings for enhanced service life
- > NAMUR mounting for shaft driven accessories

**MODULES & OPTIONS**

| Pressure Modules | Direct Acting Modules           | Spring Modules                  |
|------------------|---------------------------------|---------------------------------|
| Pneumatic        | Pneumatic                       | Standard                        |
| Hydraulic        | Jackscrew direct drive override | Jackscrew direct drive override |
|                  | Extended travel stop            | Extended travel stop            |
|                  | Jackscrew gear driven override  | Jackscrew gear driven override  |
|                  | Hydraulic override              | Hydraulic override              |
|                  | Hydraulic damper                | Hydraulic damper                |
|                  | Mechanical PST/Lockout          | Mechanical PST/Lockout          |



## TECHNICAL SPECIFICATION

|                               |   |
|-------------------------------|---|
| Connections                   | Two conduit entries<br>Metric and imperial  |
| Waterproof                    | NEMA 4, 4x and IP 66/67   |
| Intrinsically Safe (Optional) | Class I Division 1 Groups A, B, C, & D T6<br>Class II Division 1 Groups E, F, G T85°C<br>II 1G Ex ia IIC Ga T6<br>II 2G Ex ia IIC Gb T6           |
| Explosion Proof (Optional)    | Class I Division 1 Groups A, B, C & D T6<br>Class II Division 1 Groups E, F, G T85°C<br>II 2 G Ex db IIB + H2 T6 Gb<br>II 2 D Ex tb IIIC T85°C Db |
| Mounting                      | VDI/VDE 3845  |
| Temperature Range             | -13°F to 149°F [-25°C to +65°C]   |

The Bray Series 5A, 5B and 5C Valve Status Monitors (VSM) provide visual and electrical indication of position on any VDI/VDE 3845 compliant quarter-turn rotary actuators. Our solutions enable end users to better monitor their process no matter the conditions. The VSMs can be installed in both perpendicular and parallel orientations without changing brackets. Available as general purpose (Series 5A and 5B) or hazardous locations (Series 5C, and 5A/B Intrinsically safe).

## APPROVALS & CERTIFICATES

- > CE
- > UL50E Salt Spray
- > ATEX\*
- > IP 66/67/68
- > cULus
- > IECEx\*

*\*Only for hazardous locations options*

## PRODUCT FEATURES

- > High visibility position indicator with double seal to prevent water ingress
- > Shatter and UV resistant dome
- > Stainless steel captive cover bolts
- > Easy access terminals
- > Splined cams for easy and accurate adjustment without tools
- > Flexible mounting options with adjustable bracket for NAMUR mounting pads
- > Available industrial communication protocols module (CommPro) for AS-i, DeviceNet and Profibus DP
- > Explosion-proof housing or intrinsically safe proximity switches available for hazardous locations

## OPTIONS

| Switch                             | Series 5A<br>(max. qty.) | Series 5B<br>(max. qty.) | Series 5C<br>(max. qty.) |
|------------------------------------|--------------------------|--------------------------|--------------------------|
| SPDT Mechanical Switch             | 2                        | 6                        | 6                        |
| SPDT Mechanical Gold Plated Switch | 2                        | 6                        | 6                        |
| PNP N.O. 3-wire Switch             | 2                        | 6                        | 6                        |
| PNP N.C. 3-wire Switch             | 2                        | 6                        | 6                        |
| NPN N.O. 3-wire Switch             | 2                        | 6                        | 6                        |
| NPN N.C. 3-wire Switch             | 2                        | 6                        | 6                        |
| 140V 2-wire Switch                 | 2                        | 6                        | 6                        |
| 250V 2-wire Switch                 | 2                        | 6                        | -                        |
| SPDT Reed Switch                   | 2                        | 6                        | -                        |
| DPDT-DB Mechanical Switch          | -                        | 2                        | 2                        |
| CommPro (with SPDT Switch)         | -                        | 4                        | 4                        |
| NAMUR Intrinsically Safe Switch    | 2                        | 6                        | -                        |



This Series 54 provides position indication for quarter turn valves. The superior design offers reliable and durable valve monitoring and control solutions for efficient plant operation.

The compact Series 54 directly mounts to VDI/VDE 3845 compliant actuators resulting in a smaller actuator profile while saving on cost.

Various electrical output options allow integration of the Series 54 into all standard process control environments.

### PRODUCT FEATURES

- > Two independent sensors for open and close valve position indication
- > Optimised for indoor and outdoor use
- > Rugged design resistant to shock, vibration, UV and corrosion
- > Hermetically sealed to protect against the ingress of liquids or solids
- > Maintenance free design
- > Non-contact sensor eliminates the effect of mechanical wear
- > Eliminates potential switch welding, arcing and sparking
- > Quick and easy installation
- > LED indication for sensor power, switch and solenoid status
- > AS-i sensor available for digital network solution for valve actuator interface
- > DC 2-wire sensor available for hazardous area process environments

### APPROVALS & CERTIFICATES

- > cULus
- > ATEX
- > FM
- > CE
- > IECEX

### SPECIFICATION

|                    | General Service             | Industrial Service  | Hazardous Location                                |   |
|--------------------|-----------------------------|---|---|---|
|                    |                             |   | Intrinsically Safe                                | Non-Sparking                                  |
| Design             | Extreme low profile         | Compact   |   |   |
| Housing material   | Thermoplastic PBT           | Thermoplastic PBT   | Thermoplastic PBT                                 | Powder coated aluminum and polycarbonate (PC) |
| Mounting           | 30x80mm<br>30x130mm         | 30x80mm<br>30x130mm   | 30x80mm<br>30x130mm                               | 30x80mm<br>30x130mm                           |
| Connectivity       | Connector<br>Cable gland    | Connector<br>Cable gland  | Connector<br>Cable gland                          | Cable gland                                   |
| Temperature range  | -25 to 70°C<br>-13 to 158°F | -25 to 70°C<br>-13 to 158°F   | -25 to 100°C<br>-13 to 212°F                      | -40 to 75°C<br>-40 to 167°F                   |
| Ingress protection | IP66/67                     | IP66/67   | IP66/67   | IP66/67/69K                                   |
| Electrical Output  | 2-wire DC<br>3-wire DC PNP  | 3-wire DC PNP<br>3-wire DC PNP with output<br>AS-i with output<br>AC/DC | NAMUR IS<br>NAMUR IS with output                  | 2-wire DC                                     |
| Solenoid outputs   | None                        | One   | One   | One   |
| Activator          | Non adjustable              | Standard adjustable<br>High visibility adjustable                       | Standard adjustable<br>High visibility adjustable | High visibility adjustable                    |
| Certifications     |                             |   |   |   |

**SERIES 55 - FILTER REGULATOR**



The Series 55 Filter Regulator is a 5 micron filter designed to provide nominal filtration removal of solids and liquids from the compressed air with accurate control to any pneumatic control device and are strongly recommended for use with the Bray Series 6A and 6P positioners.

**TECHNICAL SPECIFICATION**

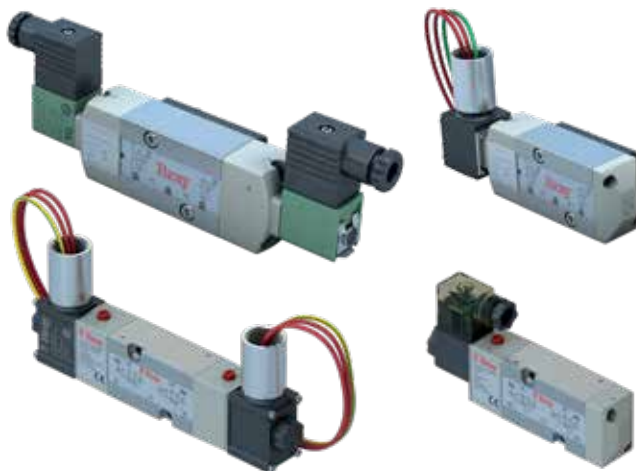
|                   |  |
|-------------------|--|
| Pressure Ports    | ¼" NPT or G ¼"                         |
| Gauge Ports       | G ⅜                                    |
| Temperature Range | 32°F - 176°F [0°C - 80°C]              |
| Pressure Rating*  | 0 - 250 psi [0 - 17.2 bar]             |
| Set Pressure      | 7.3 - 125 psi [0.5 - 8.6 bar]          |
| Flow (SCFM)**     | 30                                     |
| Housing           | Metallic zinc<br>Polycarbonate plastic |
| Filter Element    | 5 micron standard                      |

\* Do not attach to pressurized bottles.  
 \*\* SCFM = Standard cubic feet per minute at 100 psig inlet, 90 psig no flow secondary setting and 10 psig pressure drop.

**PRODUCT FEATURES**

- > Locking nob allows for downstream pressure adjustment and locks the pressure setting in place
- > Bowl quick release allows for easy removal of the bowl and guard for access to the filter element
- > Bowl provides easy view of liquid levels
- > Pushbutton drain allows easy removal of liquid from the bowl
- > Metal bowl guard provides steady breakage protection from external environmental forces

**SERIES 63 - SOLENOID VALVE**



These units can be used with either spring return or double acting actuators where on/off electrical operation is required. Units have ¼" NPT conduit connections and IP65 DIN units have cable gland PG9 connectors, also available with ½" NPT conduit adapters.

**TECHNICAL SPECIFICATION**

|                            |   |
|----------------------------|---|
| Operation                  | 4-way [½] to 3-way [¾]  |
| Pneumatic Connection       | ¼" NPT<br>G1/4 available for DIN Models                                     |
| Electrical Connection      | NEMA Housings: ½" NPT<br>DIN Housing: Cable Gland PG9                       |
| Temperature Range          | AC: -13°F to +140°F [-25°C to +60°C]<br>DC: -13°F to +77°F [-25°C to +25°C] |
| Duty Cycle                 | Continuous  |
| Media                      | Filtered air or inert gas   |
| Mounting                   | NAMUR VDI/VDE 3845  |
| Waterproof                 | NEMA 4, 4X or IP 65   |
| Explosion Proof (Optional) | NEMA 7, 9   |
| Operating Speed            | 10 cycles per minute - with more if needed                                  |

**APPROVALS & CERTIFICATES**

- > CE
- > ATEX
- > Bureau Veritas
- > CSA
- > UL recognised

**PRODUCT FEATURES**

- > Compact, modular design
- > Spool control valve
- > Convertable from 3-way [¾] or 4-way [½]
- > Pilot operated
- > Single or dual coil
- > Double or single acting



Precision digital control with proven reliability the Series 6A positioners were designed with ease of installation, simple calibration, efficiency and economy in mind. Units for rotary single acting and double acting actuators are offered as standard. Various housing options and intrinsically safe versions are also available.

## TECHNICAL SPECIFICATION

|                            |   |
|----------------------------|---|
| Supply Pressure            | 20 - 102 psi [1.4 - 7 bar]                                      |
| Air Consumption            | 0.02 scfm [0.03 Nm <sup>3</sup> /h]                             |
| Input Signal               | 4-20 mA DC<br>HART, Foundation Fieldbus, Profibus PA, DeviceNet |
| Connections                | Air: ¼" NPT [G ¼"]<br>Signal: ½" NPT [M20x1.5]                  |
| Temperature Range          | -22°F to 176°F [-30°C to 80°C]                                  |
| Waterproof                 | NEMA 4, 4x and IP 66  |
| Explosion Proof (Optional) | NEMA 7 & 9  |
| Mounting                   | VDI/VDE 3845  |

## APPROVALS & CERTIFICATES

- > ATEX
- > TÜV
- > FM
- > IECEx

## PRODUCT FEATURES

- > Zero bleed design
- > On-line adaptive control
- > Corrective and preventative maintenance self-diagnostic checks
- > LCD monitor
- > Auto calibration
- > Friction clutch locking device
- > Non-contacting position sensor technology
- > Integral volume booster

## ACCESSORIES & OPTIONS

| Part                                     | Description  |
|--|--|
| Gauge Manifold                           | An externally mounted gauge manifold is offered with up to three gauges to measure air supply and the actuator input and output pressures.           |
| Volume Boosters                          | These modules increase air volume output and improves response time.   |
| Retransmission Module (IY)               | This 4-20 mA DC output board indicates valve position to the control room.   |
| Programmable Electronic Switches (Alarm) | Two semiconductor switch outputs and one alarm output may be programmed to activate at various travel positions. One digital input is also included. |
| Limit Switches                           | Mechanical switches or intrinsically safe inductive proximity switches (SIA).  |

Electronic Switch



Mechanical Limit Switch



Retrans Module

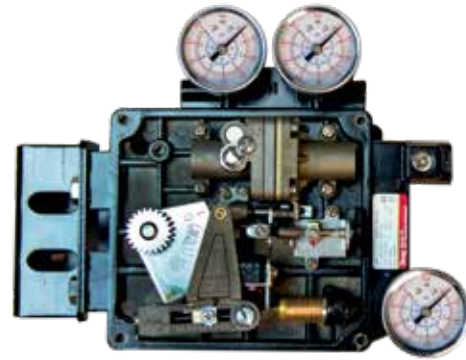




The Series 6P positioner provides outstanding control for a wide range of quarter-turn valves. This design provides fast, sensitive response characteristics to meet the most demanding control objectives using a 0.2 – 1.0 bar on split range pneumatic control signal. A high visibility dome position indicator and 3 gauges are provided as standard. The Series 6P is available with many options including position feedback limit switches.

**TECHNICAL SPECIFICATION**

|                   |  |
|-------------------|--|
| Supply Pressure   | 20 - 102 psi [1.4 - 7 bar]                   |
| Action            | Double and single acting, Direct and reverse |
| Input Signal      | 3 - 15 psi [0.2 - 1.0 bar]                   |
| Connections       | ¼" NPT                                       |
| Temperature Range | -4°F to 158°F [-20°C to 70°C]                |
| Waterproof        | NEMA 4, 4x and IP 66                         |
| Mounting          | VDI/VDE 3845 (NAMUR)                         |
| Certification     | CE   |



**PRODUCT FEATURES**

- > Two-stage pilot relay
- > High visibility dome position indicator
- > Field upgradable
- > Vibration resistant
- > Split range
- > Minimal time for zero and span adjustment
- > Corrosion resistant materials
- > Gauge manifold
- > Adjustable NAMUR mounting bracket
- > Double or single acting

**ACCESSORIES & OPTIONS**

| Part                   | Description  |
|------------------------|--|
| Special Cams           | Special cams for non-standard ranges may be modified by the factory.   |
| Air Filter (Series 55) | A coalescing air filter is recommended for all positioners to eliminate dust, moisture, and oil particles from contaminating the unit. |
| Mechanical Switches    | 2x SPDT mechanical switches.   |
| Proximity Sensor       | For non-contacting limit switch applications, 2 x DC-NPN are available to provide open and close valve indication.                     |
| Position Transmitter   | A 4-20mA position transmitter provides continuous valve position indication from 0 - 90 degrees of travel.                             |

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