

ACTUATORS & CONTROLS

PRODUCT OVERVIEW

Actuators

Manual
Electric
Pneumatic
Scotch Yoke

Control Accessories

Valve Status Monitors
Positioners
Solenoid Valves



Bray

BRAY.COM

THE HIGH PERFORMANCE COMPANY



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.

TECHNICAL SPECIFICATION

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

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

 Padlock Kit 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.	 180° Notch Plate Allows the operator to switch the handle to either side without removing the notch plate from the valve. For resilient seated valves only.	 Infinite Position Plate Allows for very precise adjustments of valve disc positioning anywhere from 0° to 90°.	 Memory Stop Allows the operator to set the maximum amount the valve can open. When set, this limit will remain fixed until the stop is reset.	 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.
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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. [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



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.

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

APPROVALS & CERTIFICATES

- > ABS
- > Field-adjustable travel stops
- > Locking kits

PRODUCT FEATURES

- > Heavy duty on/off service
- > Self-locking to hold any position

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 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 [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) Keyed drive (optional)
Materials	Housing - Ductile iron 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 DC: 24
Rotation	90°
Mounting	EN ISO 5211
Waterproof	NEMA 4, 4X and IP 65
Explosion Proof (Optional)	NEMA 7 & 9 Class I, Div. 1, Group C, D 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 Bray series 76 is a quarter-turn industrial electric actuator with manual override for use on any quarterturn valve or damper requiring up to 79k in-lbs (9,000 Nm) of torque. Operating speeds vary between 17 to 130 seconds depending on torque, voltage, and frequency.

APPROVALS & CERTIFICATES

- > **Weatherproof:** FCC, ICES, CE, UKCA, CSA
- > **Explosionproof:** FCC, ICES, ATEX, IECEx, CSA

PRODUCT FEATURES

- > Special High torque induction motor with built in thermal protection to protect against overheating
- > Direct mounts to most quarter turn valves according to EN ISO 5211, resulting in a lower profile
- > Continuous valve position indication even on loss power
- > Padlockable declutch system for manual operation
- > Integral control station options
- > Removable blank bushing for ease of machining
- > Self-locking worm gear design eliminating the need for a motor brake
- > 4 Limit Switches standard on most sizes - Additional auxiliary limit switches available
- > Torque switches standard in actuator size 2 and above
- > Anti condensation heater
- > Permanently lubricated
- > Up to 28 point terminal strip

OPTIONS

Part	Description
Auxillary Limit Switches	In addition to the limit switches used to control the 'open' and 'closed' travel limits, actuators sized 2 through 7 have two auxiliary switches installed as part of the standard configuration. These auxiliary switches are assembled so that they are activated 3 degrees before their associated limit switch. Actuators are available with an additional set of auxiliary switches.
Auxillary Torque Switches	Mechanical Torque switches are a standard factory-installed and calibrated feature for series 76 actuators, sizes 2 through 7. Torque switches are not able to be installed in the size 1. Installation is simple, but due to the requirement for special calibration equipment, it is not available for field installation. Actuators, size 2 through 7, are available with an additional set of torque switches.
Potentiometer	A 1k Ohm potentiometer, standard in modulating applications, is available in on/off applications for direct feedback of position. The potentiometer is factory-calibrated for precise position feedback.
Position Transmitter	An analog position transmitter is an available option for on/ off applications in 1-phase and 3-phase models. The analog transmitter uses a potentiometer to provide continuous valve feedback of a 4-20 mA output signal with accuracy down to +/- 0.5%.

TECHNICAL SPECIFICATION

Voltage	3 Phase: 220V, 380V & 460V 1 Phase: 110V, 220V & 240VAC 24V DC, 24V AC/DC
Torque rating	3 Phase: Up to 79,000 in-lbs (9,000 Nm) 1 Phase: Up to 26,500 in-lbs (3,000 Nm) DC: Torque up to 2,600 in-lbs (300 Nm)
Travel	90 degrees +/- 5°
Mounting	ISO 5211/MSS SP-101
Enclosure Ratings	NEMA: 4, 4X, 6 Ingress Protection: 66/67 Submersible: IP68 (Optional)
Main Housing	High grade aluminum alloy Anodized interior and exterior Polyester powder top coated
Duty Cycle	S2 (On-Off) Per EN 60034-1 S4 (Modulating) Per EN 60034-1
Motor	Squirrel Caged AC Induction Motor: > Class F Motor Insulation 311F(155C) > Embedded thermal protection 275F (135C) DC Brushed Motor: > Class B Motor Insulation 266F (130C)



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.

APPROVALS & CERTIFICATIONS

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

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

MODULAR DESIGN

PRESSURE MODULE

- > Hydraulic
- > 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



TECHNICAL SPECIFICATION

Torque	Double acting: Up to 885,074 lb-in [100,000 Nm] Single acting: 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] High: up to 300°F [149°C] Low: down to -51°F [-46°C]
Yoke	Symmetric or canted
Travel Stop	90° up to +/- 5°
Mounting	Base: EN ISO 5211, Accessories: VDI/ VDE 3845
Enclosure	IP 66/IP67M (IEC 60529)
Media	Dry compressed air/inert gas

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

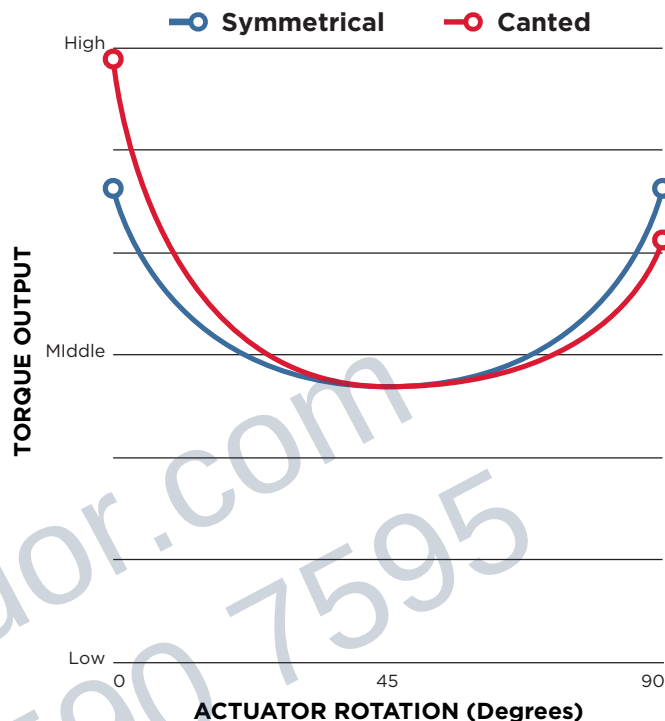
- > Torque output curve is balanced.
- > Torque demands are similar at seat break and end positions.



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



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.



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: Up to 44,130 lb-in [4,986 Nm] Spring Return: 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] Low: -40°F to 176°F [-40°C to +80°C] High: 0°F to 300°F [-18°C to +176°C] 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, VDI/ VDE 3845 (NAMUR)

APPROVALS & CERTIFICATES

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

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

OPTIONS

Switch	Series 5A (max. qty.)	Series 5B (max. qty.)	Series 5C (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	-

TECHNICAL SPECIFICATION

Connections	Two conduit entries Metric and imperial
Waterproof	NEMA 4, 4x and IP 66/67
Intrinsically Safe (Optional)	Class I Division 1 Groups A, B, C, & D T6 Class II Division 1 Groups E, F, G T85°C II 1G Ex ia IIC Ga T6 II 2G Ex ia IIC Gb T6
Explosion Proof (Optional)	Class I Division 1 Groups A, B, C & D T6 Class II Division 1 Groups E, F, G T85°C II 2 G Ex db IIB + H2 T6 Gb 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]

APPROVALS & CERTIFICATES

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

**Only for hazardous locations options*



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	
Design	Extreme low profile	Compact	Intrinsically Safe	Non-Sparking
Housing material	Thermoplastic PBT	Thermoplastic PBT	Thermoplastic PBT	Powder coated aluminum and polycarbonate (PC)
Mounting	30x80mm 30x130mm	30x80mm 30x130mm	30x80mm 30x130mm	30x80mm 30x130mm
Connectivity	Connector Cable gland	Connector Cable gland	Connector Cable gland	Cable gland
Temperature range	-25 to 70°C -13 to 158°F	-25 to 70°C -13 to 158°F	-25 to 100°C -13 to 212°F	-40 to 75°C -40 to 167°F
Ingress protection	IP66/67	IP66/67	IP66/67	IP66/67/69K
Electrical Output	2-wire DC 3-wire DC PNP	3-wire DC PNP 3-wire DC PNP with output AS-i with output AC/DC	NAMUR IS NAMUR IS with output	2-wire DC
Solenoid outputs	None	One	One	One
Activator	Non adjustable	Standard adjustable High visibility adjustable	Standard adjustable 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 ⅛
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 Polycarbonate plastic
Filter Element	5 micron standard

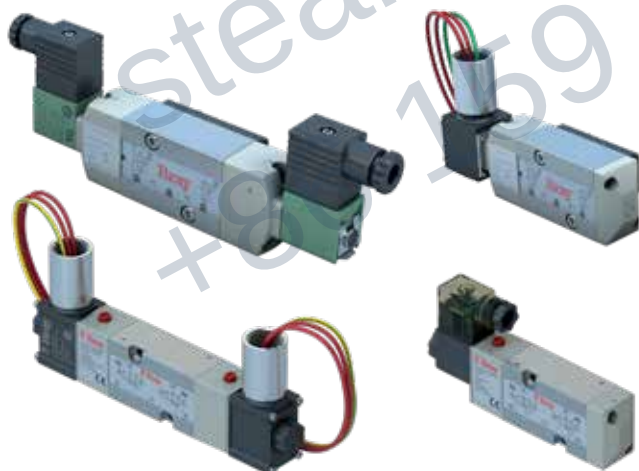
* Do not attach to pressurized bottles.

** 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 G1/4 available for DIN Models
Electrical Connection	NEMA Housings: ½" NPT DIN Housing: Cable Gland PG9
Temperature Range	AC: -13°F to +140°F [-25°C to +60°C] 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 ³ /h]
Input Signal	4-20 mADC HART, Foundation Fieldbus, Profibus PA, DeviceNet
Connections	Air: 1/4" NPT [G 1/4"] Signal: 1/2" 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
- > FM
- > TÜV
- > IECEx

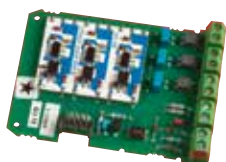
PRODUCT FEATURES

- > 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

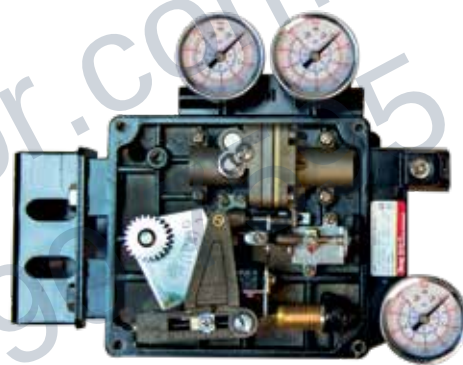




The Series 6P positioner provides outstanding control for a wide range of quarter-turn valves. This design provides fast, sensitive response characteristics to meet the most demanding control objectives using a 0.2 – 1.0 bar on split range pneumatic control signal. A high visibility dome position indicator 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.

SINCE 1986, BRAY HAS PROVIDED FLOW CONTROL SOLUTIONS
FOR A VARIETY OF INDUSTRIES AROUND THE WORLD.

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HEADQUARTERS

Bray International, Inc.

13333 Westland East Blvd.

Houston, Texas 77041

Tel: +1.281.894.5454

steamvendor.com
+86 159 0590 7595

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