
BRAY CONTROLS
PRODUCT PROFILE



Bray Tri Lok® - Triple Offset Valve
High Pressure • Zero Leakage
Metal To Metal Sealing

SEAT & SEAL RING

Field replaceable seat and seal ring system extends the overall life, without the need for costly off site repairs or total replacement.

STEM

Tri Lok’s unique splined disc-to-stem connection minimizes hysteresis, eliminates external connections and allows for easy assembly and disassembly. Tri Lok features a one piece stem with a blow out prevention ring located outside the pressure boundary, in accordance with international standards.

PACKING

Fully adjustable, field replaceable stem seal system eliminates fugitive emissions.

LOW FUGITIVE EMISSIONS

Tri Lok is certified to the most stringent fugitive emissions standards including API 641 and ISO/5848-1.



Size Range	3" – 48" (80mm – 1200mm)
Body Style	Wafer Lug Double Flanged Long Pattern (Gate)
Temperature Range	-320°F to 842°F (-196°C to 450°C)
Pressure Rating	ASME Class 150, 300, 600, 900
Shut Off Class	Zero Leakage
Body Materials	Carbon Steel Stainless Steel
Disc Materials	Carbon Steel Stainless Steel
Stem Materials	410 Stainless Steel 17-4PH XM-19 (Nitronic®)
Body Seat Materials	316SS Hardened
Disc Seal Materials	Laminated 318 Stainless Steel/Graphite Laminated 316 Stainless Steel/Graphite
Applications	High Pressure High Temperature Critical Service Cryogenic Service

McCannalok - Double Offset Butterfly Valve

High Pressure & Temperature

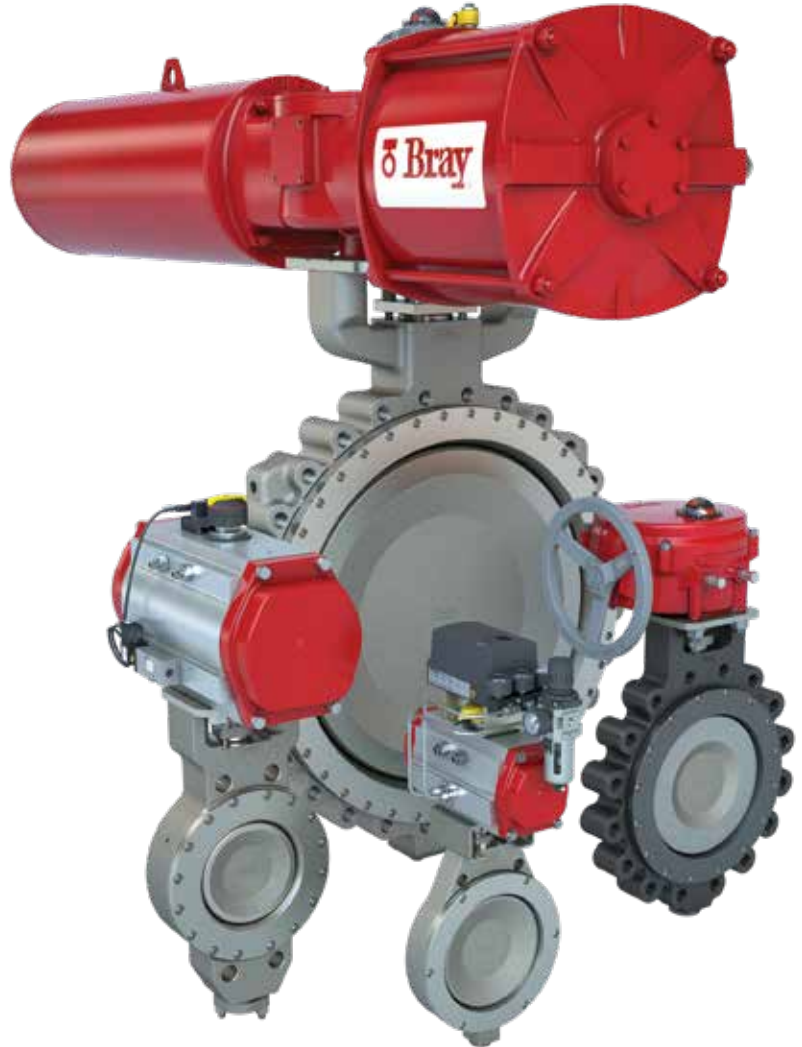
The Bray McCannalok’s innovative seat design offers easy maintenance and industry leading performance in high and low pressure services.

Available with low temperature, cryogenic, metal to metal, and fire safe seat designs; the Bray McCannalok offers robust performance in some of the most demanding applications.

The cryogenic Bray McCannalok offers industry leading shut off for the air separation industry.

The metal meated Bray McCannalok offers low torque performance while providing customers with a rugged control or isolation valve for abrasive and harsh chemical applications.

The fire safe Bray McCannalok is validated to the latest industry standards and is offered in a low temperature configuration for ship building.



Size Range	2" – 66" (50mm – 1500mm)	
Body Style	Wafer Lug Double Flanged	
Temperature Range	-320°F to 900°F (-196°C to 482°C)	
Pressure Rating	ASME Class 150, 300, 600	
Shut Off Class	Zero Leakage in Normal and Dead End Service	
Body Materials	Carbon Steel Stainless Steel Nickel Aluminum Bronze	
Disc Materials	Stainless Steel Nickel Aluminum Bronze	
Stem Materials	Stainless Steel Monel® K500	
Seat Materials	Resilient Seat	RPTFE with Resilient Energizer PTFE with Resilient Energizer
	Fire Safe	RPTFE and Inconel® with Resilient Energizer
	Polar®	Engineered Thermoplastic
	Metal Seat	Inconel®
	Low Temp.	TFM with Resilient Energizer
Applications	High Pressure High Temperature Low Temperature Cryogenic Service Critical Service	

SERIES 20/21

Size Range	1" - 20" (25mm - 500mm)	
Body Style	Wafer, Lug	
Temperature Range	-20°F to 400°F (-29°C to 204°C)	
Pressure Ratings	Bidirectional Bubble Tight Shut Off	150 psi (10.3 bar)
Body Materials	Cast Iron, Ductile Iron, Stainless Steel, Aluminum	
Disc/Stem Materials	Stainless Steel, EPDM Molded over SS, BUNA-N Molded over SS	
Seat Materials	BUNA-N, EPDM, PTFE Lined EPDM, FKM, Polyurethane	
Applications	Sanitary Service, Mildly Corrosive, Toxic Media, Other Liquids and Gases	



SERIES 22/23

Size Range	2" - 24" (50mm - 600mm)	
Body Style	Wafer, Lug	
Temperature Range	0°F to 392°F (-18°C to 200°C)	
Pressure Ratings	Bidirectional Bubble Tight Shut Off	150 psi (10.3 bar)
Body Materials	Ductile Iron, Carbon Steel, Stainless Steel	
Disc/Stem Materials	Stainless Steel, PTFE/SS, UHMWPE/SS, UHMWPE/DI, Hastelloy®, Titanium, PFA/SS	
Seat Materials	PTFE, Conductive PTFE, UHMWPE	
Applications	Highly Corrosive, Toxic Media, Ultra Pure Water	



SERIES 30/31

Size Range	2" - 20" (50mm - 500mm)	
Body Style	Wafer, Lug	
Temperature Range	-20°F to 400°F (-29°C to 204°C)	
Pressure Ratings	Bidirectional Bubble Tight Shut Off	175 psi (12 bar)
Body Materials	Cast Iron, Ductile Iron, Carbon Steel, Aluminum	
Disc Materials	Nylon 11 Coated Ductile Iron, Aluminum Bronze, Stainless Steel, Hastelloy®, Halar® Coated Ductile Iron	
Stem Materials	Stainless Steel, Monel®	
Seat Materials	BUNA-N, EPDM, FKM, Polyurethane, HTEPDM	
Applications	Water, Wastewater, Seawater, HVAC, Other Liquids and Gases	



SERIES 31H

Size Range	2" - 20" (50mm - 500mm)	
Body Style	Lug	
Temperature Range	-20°F to 250°F (-29°C to 121°C)	
Pressure Ratings	Bidirectional Bubble Tight Shut Off	250 psi (17.2 bar)
Body Material	Ductile Iron	
Disc Materials	Nylon 11 Coated Ductile Iron, Aluminum Bronze, Stainless Steel	
Stem Materials	Stainless Steel	
Seat Materials	Bonded BUNA-N, Bonded EPDM	
Applications	High Pressure, HVAC, Dead End Service	





BRAY ACRIS® SERIES 24/25

Size Range	NPS 2 to 24 DN 50 to 600
Body Style	2-piece Wafer, Lug
Temperature Range	-20°F to 320°F -29°C to 160°C
Pressure Ratings	NPS 2 to 6: Up to 232 psi DN 50 to 150: Up to 16 bar NPS 8 to 24: Up to 150 psi DN 200 to 600: Up to 10 bar
Body Materials	Ductile Iron
Shutoff Rating	Zero leakage
Disc/Stem Materials	17-4 Stainless Steel with over-molded PFA disc
Liner Material	PFA
Seat Energizer Material	Silicone Viton™
Applications	Corrosive Chemical Semiconductor Ultrapure Water



SERIES 31U

Size Range	2" - 12" (50mm - 300mm)
Body Style	Lug
Temperature Range	0°F to 212°F (-18°C to 100°C)
Pressure Ratings	Bidirectional Bubble Tight Shut Off 285 psi (20 bar)
Body Materials	Ductile Iron, Carbon Steel, Nickel Aluminum Bronze
Disc Materials	Stainless Steel, Nickel Aluminum Bronze
Stem Materials	Stainless Steel, Monel® K500
Seat Materials	Bonded BUNA-N
Applications	High Pressure Industrial and Marine Dead End Service, On-Shore and Off-Shore Fire Protection



SERIES 3A/3AH

Size Range	2" - 20" (50mm - 500mm)
Body Style	Double Flanged
Temperature Range	-20°F to 400°F (-29°C to 204°C)
Pressure Ratings	Bidirectional Bubble Tight Shut Off 250 psi (17.2 bar)
Body Materials	Cast Iron, Ductile Iron, Carbon Steel
Disc Materials	Nylon 11 Coated Ductile Iron, Aluminum Bronze, Stainless Steel
Stem Materials	Stainless Steel, Monel®
Seat Materials	Bonded BUNA-N, Bonded EPDM, Bonded FKM*
Applications	Water, Wastewater, Seawater, Other Liquids and Gases



SERIES 39L

Size Range	2" - 20" (50mm - 500mm)
Body Style	Wafer, Flanged Long Body
Temperature Range	-20°F to 300°F (-29°C to 150°C)
Pressure Rating	230 psi (16 bar)
Shut Off Rating	> Class 4
Body Materials	Ductile Iron, Stainless Steel
Disc Materials	Chrome-Molly Iron (Hardened), PSZ Ceramic (Partially Stabilized Zirconia)
Stem Materials	Stainless Steel
Liner Materials	Ceramic (Sintered Silicone Carbide), Metallic Carbide Rich, Chrome Iron Alloy
Applications	Highly Abrasive, Slurry Control

SERIES 32/33 & 35/36

Size Range	S32/33 - 22" - 36" (550mm - 900mm) S35/36 - 22" - 120" (550mm - 3000mm)	
Body Style	S32/33 Wafer, S35/36 Full Flanged	
Temperature Range	-20°F to 250°F (-29°C to 121°C)	
Pressure Ratings	Bidirectional Bubble Tight Shut Off	150 psi (10.3 bar)
Body Materials	Cast Iron, Ductile Iron, Carbon Steel, Stainless Steel	
Disc Materials	Nylon 11 Coated Ductile Iron, Aluminum Bronze, Stainless Steel, Duplex Stainless Steel, Super Austenitic Stainless Steel, Hastelloy®, Monel®	
Stem Materials	Stainless Steel, Duplex Stainless Steel, Super Austenitic Stainless Steel, Monel®	
Seat Materials	BUNA-N, EPDM, FKM	
Applications	Water, Wastewater, Seawater, Other Liquids and Gases	



SERIES 36H

Size Range	22" - 60" (550mm - 1500mm)	
Body Style	Full Flanged	
Temperature Range	-20°F to 250°F (-29°C to 121°C)	
Pressure Ratings	Bidirectional Bubble Tight Shut Off	232 psi (16 bar)
Body Materials	Ductile Iron	
Disc Materials	Nylon 11 Coated Ductile Iron, 316 Stainless Steel, Aluminum Bronze	
Stem Materials	17-4 PH Stainless Steel	
Seat Materials	Bonded BUNA-N, Bonded EPDM	
Applications	High Pressure, HVAC, Dead End Service	



SERIES 35F

Size Range	32" - 60" (800mm - 1500mm)	
Body Style	Full Flanged	
Temperature Range	-20°F to 250°F (-29°C to 121°C)	
Pressure Ratings	Bidirectional Bubble Tight Shut Off	75 psi (5.2 bar)
Body Materials	Cast Iron, Ductile Iron, Hastelloy®	
Disc Materials	Duplex Stainless Steel, Super Austenitic Stainless Steel, Hastelloy®	
Stem Materials	Stainless Steel	
Seat Materials	Bonded BUNA-N, Bonded EPDM	
Applications	FGD, Mining, Seawater	



Pressure/Temperature ratings and material availability depend on valve size and series. Please consult your local Bray representative for your specific application.

FKM is the ASTM D1418 designation for Fluorinated Hydrocarbon Elastomers (also called Fluoroelastomers) Hastelloy® is a registered trademark of Haynes International, Inc. Halar® is a registered trademark of Solvay Solexis, Inc.


Peroxide Cured EPDM

-20°F to 250°F (-29°C to 121°C)

HTEPDM

-20°F to 300°F (-29°C to 150°C)

BUNA-N (Black or White)

0°F to 212°F (-18°C to 100°C)

FKM

0°F to 400°F (-18°C to 204°C)

Polyurethane

-20°F to 175°F (-29°C to 80°C)

Neoprene Seat (Black Or White)

0°F to 180°F (-18°C to 82°C)

PTFE Lined EPDM

-20°F to 250°F (-29°C to 121°C)

PTFE Lined HTEPDM

-20°F to 300°F (-29°C to 150°C)

Virgin PTFE

0°F to 400°F (-18°C to 204°C)

Conductive PTFE

0°F to 400°F (-18°C to 204°C)

UHMWPE

0°F to 185°F (-18°C to 85°C)

PEROXIDE CURED EPDM food grade seats are standard and perfectly suitable for sanitary applications as well as standard industrial uses.

HTEPDM is a proprietary rubber blend offered by Bray to increase the thermal resistance properties of standard EPDM and is formulated to provide long term service at elevated temperatures for hot water. HTEPDM Food Grade seats are suitable for sanitary applications as well as standard industrial uses.

BUNA-N (Black or White) is an excellent general purpose seat material which is particularly suitable for hydrocarbon service.

FKM has improved acid, oil, and temperature resistance over standard seat materials.

POLYURETHANE will withstand severe impact, recover its original shape after distortion and resist abrasion better than other elastomers.

NEOPRENE (Black or White) is an all-purpose polymer with desirable characteristics including high resiliency with low compression, resistance for vegetable and animal oil, and flame resistance. This sealing material is excellent for

refrigerants, ammonia and freon, and is principally used in pulp and (non-bleached) paper lines. Neoprene is not recommended for strong oxidizing acids, chlorinated solvents, esters, ketones, aromatic hydrocarbons or hydraulic fluids. White neoprene is generally used in sanitary applications while the black grade provides better abrasion and oil resistance than the white grade neoprene.

PTFE LINED EPDM seats are usually used where BUNA-N and EPDM seats are not chemically suitable, especially in corrosive services.

VIRGIN PTFE inherent molecular bonding provides optimum protection against permeation of the line media.

CONDUCTIVE PTFE seats combine electrostatic discharge protection and the excellent chemical resistance properties of PTFE.

UHMWPE provides exceptional chemical resistance, and are the ideal choice for highly abrasive chemical applications.

Seat material availability depends on valve size and series. Please consult your local Bray representative for your specific application as the pressure and temperature of service also affect seat life and performance.

SERIES 70 ELECTRIC ACTUATOR

SPECIFICATIONS

Output Torque	120/230 V	300 to 18,000 lb-in 34-2034 N m
	24 V	S70-E06: 600 lb-in 68 N m
		S70-E20: 2,000 lb-in 226 N m
		S70-050: 5,000 lb-in 565 N m
Control Options	On/Off	Interposing Relay Board (I.R.B) 120/230 VAC
		On/Off NXT Controller 24VAC/DC
	Modulating	Servo NXT Controller 120/230 VAC/24 VAC/DC 4-20 mA, 0-10 V, 0-5 V, 2-10 V
	Communication Protocols	Analog DeviceNet EtherNet/IP
Voltages	120/230 VAC 50/60 Hz, 1-phase 24 VAC/VDC	
Enclosure Ratings	NEMA 4, 4x, 7, 9 and IP65, IP67 (IP67 does not include S70-130/131 and 180/181) Class I, DIV 1 & 2, Group C, D Class II, DIV 1 & 2, Group E, F, G	
Mounting	ISO5211	
Motor	120/230 VAC: 1-phase, reversable, permanent split capacitor induction motor	
	24 V: Permanent magnet brushed DC Motor	
Temp. Range	-20°F to 150°F -29°C to +65°C	
Switch Options	2 SPDT mechanical switches standard	
	Additional auxiliary switches available (up to 6 total)	
	Optional torque switches available	
Duty Rating	Continuous Duty	Will operated continuously at max ambient temperature of 104°F 40°C
	Intermittent Duty	One motor-on period followed by three motor-off periods

CERTIFICATIONS AND APPROVALS

UL, CSA and CE approved (most 120V models)

70-24V: CE approved

NOTES: A complete listing of certifications and approvals can be found at BRAY.COM

SERIES 76 ELECTRIC ACTUATOR

SPECIFICATIONS

Voltage	3 Phase: 220V, 380V & 460V 1 Phase: 110V, 220V & 240VAC 24V DC, 24V AC/DC
Torque Rating	3 Phase: Torque up to 79,000 in-lbs (9,000 Nm) 1 Phase: Torque up to 26,500 in-lbs (3,000 Nm)
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
Position Indicator	Top mount visual position indicator
Travel	90 degrees +/- 5°
Motor	Squirrel Caged AC Induction Motor Class F Motor Insulation 311F(155C) Embedded thermal protection 275F (135C)
Duty Cycle	S4 Per EN 60034-1
Control Options	Potentiometer: 1K Ohm Position Transmitter: Output Signal: 4-20mA dc Modulating: 0-20mA, 4-20mA, 0-5V, 1-5V, 0-10V, 2-10V Local Control Stations
Ambient Temperature	-4°F -20°C to 140°F +60°C -40°F -40°C to 140°F +60°C Opt.
Conduit Entries	Weatherproof: Sizes 1 thru 5 = 3x 3/4" NPT or 3x M20 Sizes 6 thru 7 = 2x 3/4" NPT + 1x 1"NPT or 2x M20 + 1x M25 Explosionproof: 2x 3/4" NPT or 2x M25
Drive Bushing	Removable Lug Drive
Mounting	ISO 5211 MSS SP-101
Lubrication	Grease moly EP
Manual Override	Declutch mechanism, which can be padlocked

CERTIFICATIONS AND APPROVALS

Weatherproof: FCC, ICES, CE, UKCA, CSA

Explosionproof: FCC, ICES, ATEX, IECEx, CSA



S92 Double Acting



S93 Spring Return



Extreme High Temperature Actuator



Stainless Steel Actuator

BRAY SERIES 92/93

Rack and pinion actuators available in double acting and spring return

SPECIFICATIONS

Output Torque	Double Acting up to: 44,130 lb-in 4,986 N m Spring End Torque up to: 14,173 lb-in 1,601 N m	
Pressure Range	40 - 140 psi 2.8 - 10 bar	
Temperature Range¹	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
	Extreme High Temperature	0°F to 482°F -18°C to 250°C
Supply Media	Dry Compressed Air Inert Gas*	
Series 92 Double Acting	Available in 90°, 135°, 180° rotation	
Series 93 Spring Return	Available in 90° Rotation	
Direct Mounting	ISO 5211: 2001(E)	
Testing Standard	EN 15714-3:2009	
Control Options	On-Off Modulating Double Acting Spring Return	
Power Source	Pneumatic	
Enclosure Ratings	IP66/IP67M per IEC 60529	
Options	Single or Double Acting Extended Travel Stops	
Valve Compatibility	Butterfly Valves Ball Valves	

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

¹ Cycle life on low and high temperature seal kits is reduced compared to standard BUNA-N seals.

FEATURES

- > Series 92/93 is completely enclosed and self contained
- > Minimal maintenance
- > Safe, simple disassembly and assembly.
- > Two independently adjustable travel stop screws and a cam on the output shaft to permit precise bidirectional adjustment of movement in both the open and closed positions for quarter turn valves (+5° to -5° limit adjustment)
- > Integral porting
- > Standard units have anodized aluminum bodies with polyester coated end caps
- > Optional Seacorr® coating for harsh environments
- > SIL 3 capable
- > NAMUR accessory compatible

CERTIFICATIONS AND APPROVALS

ABS | ATEX | Bureau Veritas | PED | SIL 3



BRAY SERIES 98 PNEUMATIC

Media¹	Dry Compressed Air Inert Gas Natural Gas
Pressure Range	40 to 150 psi 2.8 to 10.3 bar
Temperature Range¹	Standard -20°F to 200°F -29°C to 93°C
	High Temperature Up to 300°F Up to 149°C
	Low Temperature Down to -50°F Down to -46°C
Torque Output	Double Acting 1787 lb-in to 885,100 lb-in Double Acting 220 N m to 100,000 N m
Spring End Torque	2,741 to 445,261 lb-in 310 to 50,306 N m
Torque Base	Mounting Dimensions as per ISO 5211: 2017
Accessories	Shaft Driven Accessories Mounting per NAMUR-VDE
Performance Testing	EN 15714-3:2009
Ingress Protection	IP67M per IEC 60529
Safety	ATEX SIL 3 suitable PED on request

¹ Contact factory for other media or non-standard temperature range.



BRAY SERIES 98H HYDRAULIC

Media¹	Hydraulic Fluid - Standard Trim ISO VG 32/46, ISO-L-HV, flash point>157°C
Pressure Range	500 to 3000 psi 35 to 207 bar
Temperature Range¹	Standard: -20°F to 212°F -29°C to 100°C
	Low Temperature: Down to -50°F Down to -46°C
	PED: -20°F to 176°F -29°C to 80°C
Torque Output	Double Acting 730 lb-in to 885,100 lb-in Double Acting 84 N m to 100,000 N m
Spring-End Torque	2,741 to 445,261 lb-in 310 to 50,306 N m
Mounting Base	ISO 5211: 2017
Accessory Mounting	NAMUR-VDE (Shaft Driven)
Performance Testing	EN 15714-4:2009
Ingress Protection	IP67M and IP68 per IEC 60529
Safety	ATEX SIL 3 suitable PED on request

¹ Contact factory for other media or non-standard temperature range.



BRAY SERIES 98EH

Torque Output	Double Acting 730 lb-in to 885,100 lb-in Double Acting 84 N m to 100,000 N m
Spring-End Torque	2,741 lb-in to 445,261 lb-in 310 N m to 50,306 N m
Supply Voltage	12 or 24 VDC or 48VDC 120 - 220 VAC 480 V 3-Phase 50/60 Hz Solar or wind charged power packs
Control Signal	4-20mA or 0-10VDC 12 or 24 VDC or 48 VDC 120 - 220 VAC Network Protocols

Rugged and repeatable performance under the most challenging conditions.



BRAY SERIES 93EH ELECTRIC FAIL-SAFE

Torque Output	Double Acting 75 lb-in to 44,130 lb-in Double Acting 9 N m to 4,986 N m
Spring-End Torque	24 lb-in to 14,173 lb-in 3 N m to 1,601 N m
Supply Voltage	12 or 24 VDC or 48VDC 120 - 220 VAC 50/60 Hz Solar or wind charged power packs
Control Signal	4-20mA or 0-10VDC 2 or 24 VDC or 48 VDC 120 - 220 VAC Network Protocols

Compact tubeless configurations are excellent where space and weight consideration is important.



SERIES 6A ELECTRO-PNEUMATIC POSITIONER

- > Precision digital control
- > Zero bleed design
- > Compatible with rotary or linear actuators for single and double acting applications
- > Various housing options available
- > Precise, microprocessor driven flow control and advanced communication
- > Non-contacting position sensor technology
- > Integral volume booster
- > Connective and preventative maintenance self-diagnostic checks



SERIES 6P PNEUMATIC POSITIONER

- > Pneumatic to pneumatic positioner for single and double acting actuators
- > Rugged aluminum diecast housing for harsh environments
- > Minimal setup time for zero and span adjustment
- > Split range capabilities
- > High visibility dome position indicator
- > Optional 2 x SPDT mechanical switches



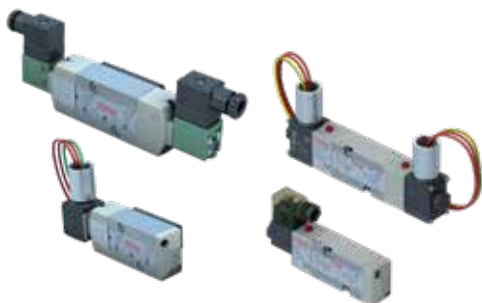
SERIES 5A, 5B AND 5C VALVE STATUS MONITORS

- > Discrete status monitor for quarter turn rotary actuators
- > NEMA 4, 4X and IP66 and IP67 ingress protection
- > Intrinsically safe or explosion-proof options for hazardous locations
- > High visibility dome position indicator
- > Up to 6 SPDT switches or non-contacting proximity switches
- > Switches pre-wired to internal terminal block
- > Available in die-cast aluminum housing coated with 2-layers of polyester or fiberglass reinforced PBT housing for highly corrosive environments



SERIES 54 VALVE PROXIMITY SENSOR

- > Dual proximity sensors for valve position
- > IP66, IP67, IP69K ingress protection available
- > Available solenoid outputs
- > 2 or 3 wire DC, AC/DC, intrinsically safe, and AS-i interface
- > Pin connector or conduit versions available



SERIES 63 SOLENOID VALVES

- > Weatherproof NEMA 4, 4X and explosion proof housings available
- > Flying leads or DIN connectors, single or dual coil
- > 5/2 or 3/2 operation
- > NAMUR mounted
- > High flow up to 1.4 Cv
- > Intrinsically safe versions available
- > Available voltages 12, 24 VDC; 24, 110, 220 VAC

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

VISIT **BRAY.COM** TO LEARN MORE ABOUT BRAY PRODUCTS AND LOCATIONS NEAR YOU.

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THE HIGH PERFORMANCE COMPANY

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