
BRAY CONTROLS
PRODUCT PROFILE



Table of Contents

Triple Offset Butterfly Valves	4
Bray Tri Lok® - Triple Offset Valve	4
Double Offset Butterfly Valves	5
McCannalok - Double Offset Butterfly Valve	5
Resilient Seated Butterfly Valves	6
Series 20/21	6
Series 22/23	6
Series 30/31	6
Series 31H	6
Series 31U	7
Series 3A/3AH	7
Series 39L	7
Series 32/33 & 35/36	8
Series 36H	8
Series 35F	8
Seat Materials	9
Actuators	10
Series 70 Electric Actuator	10
Series 92/93 Pneumatic Actuator	10
Series 98 Scotch Yoke Actuators	10
Controls	11
Series 6A Electro-Pneumatic Positioner	11
Series 6P Pneumatic Positioner	11
Series 5A, 5B and 5C Valve Status Monitors	11
Series 54 Valve Proximity Sensor	11
Series 63 Solenoid Valves	11



INTRODUCTION

At Bray Controls, our business is helping our customers with their flow control requirements. Our product line of butterfly valves, actuators and accessories 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 of all Bray products and their applications and can provide personal attention to every customer. To serve you locally Bray maintains a factory certified sales and service network, for all Bray products, throughout the world.

A complete listing of approvals and certifications can be found at bray.com.

COMMITMENT TO QUALITY

Bray Controls 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
- Cost of Ownership
- Customer Service
- Delivery

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

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.

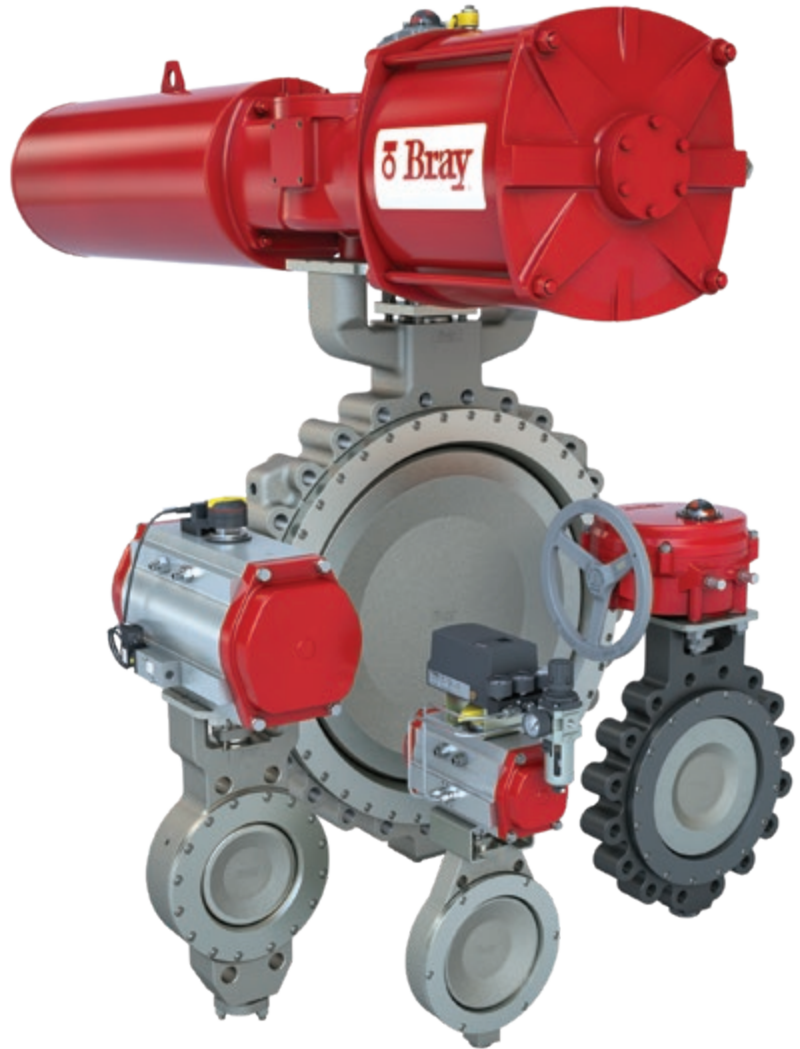


Size Range	3" – 48" (80mm – 1200mm)
Body Style	Wafer, Lug, Double Flanged, Long Pattern (Gate)
Temperature Range	-320°F to 842°F (-196°C to 450°C)
Pressure Rating	ASME Class 150, 300, 600, 900
Shut Off Class	Zero Leakage
Body Materials	Carbon Steel, Stainless Steel
Disc Materials	Carbon Steel, Stainless 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 Seated 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	





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.

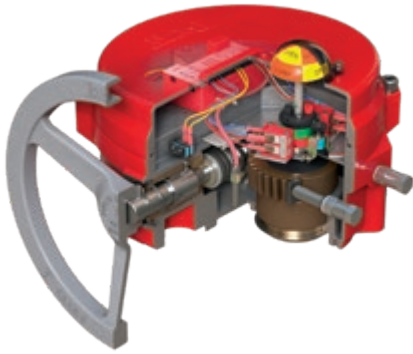
PTFE LINED EPDM seats are usually used where BUNA-N and EPDM seats are not chemically suitable, especially in corrosive services.

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

Low profile, compact, high output actuator for quarter turn applications

- > On/Off or modulating (Servo NXT)
- > Manual declutchable handwheel
- > Optional Seacorr® coating for harsh environments
- > High visibility dome position indicator
- > Network protocols available

Voltages	120, 220, 24VAC 50/60 Hz, 1-phase, 24VDC
Output Torque	300 to 18,000 lb-ins (34 to 2,034 Nm)
Standard Enclosure	NEMA Type 4, 4X
Explosion Proof (Optional)	NEMA Type 4, 4X, 7, 9 Class I, Div 1 & 2, Group C, D Class II, Div 1 & 2, Group E, F, and G



Extreme High Temperature Actuator

Stainless Steel Actuator

SERIES 92/93 PNEUMATIC ACTUATOR

Rack and pinion actuators available in double acting and spring return

- > Standard units have anodized aluminum bodies with polyester coated end caps
- > SIL 3 capable
- > Optional Seacorr® coating for harsh environments
- > Integral porting
- > Internal bidirectional travel stops

Torque	Double Acting up to 44,130 lb-in (4,986 Nm) Spring End Torque up to 14,173 lb-in (1,601 Nm)	
Pressure Range	40 - 140 psi (2.8 - 10 bar)	
Media	Dry Compressed Air/Inert Gas*	
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)
	Extreme High Temperature	0°F to 482°F (-18°C to 250°C)

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



Pneumatic Actuator



Hydraulic Actuator



Self-Contained Electro-Hydraulic Actuator

SERIES 98 SCOTCH YOKE ACTUATORS

For quarter turn rotary operation

- > Low Pressure Pneumatic Actuator
- > High Pressure Hydraulic Actuator
- > Optional Self-Contained Integral Hydraulic Power Pack or Centralized Hydraulic Power Unit to power multiple hydraulic actuators.
- > Compact design with a high torque to weight ratio
- > Modular design offers easy configuration in the field
- > Premium epoxy/polyurethane coating as standard
- > SIL 3 capable
- > Pressure Equipment Directive (PED) 97/23/EC compliant
- > Standardized interfaces ISO 5211, VDI/VDE 3845 for accessories
- Optional**
- > Manual overrides
- > Hydraulic dampener for fast acting operation, lockout/pst device
- > Lockout/PST device

Torque	Double Acting	Pneumatic or Hydraulic up to 885,000 lb-in (100,000 Nm)
	Spring Return (Spring End)	Pneumatic or Hydraulic up to 445,261 lb-in (50,306 Nm)
Pressure Range	Pneumatic	40 - 150 psi (2.8 - 10.3 bar)
	Hydraulic	500 - 3000 psi (35 - 207 bar)
Media	Pneumatic Dry compressed air/inert gas Hydraulic Hydraulic Fluid (Standard Trim) ISO VG 32/46, ISO-L-HV, flash point >157°C	
Temperature Range	Standard	-4°F to 200°F (-20°C to 93°C)
	High Temperature	Up to 300°F (149°C)
	Low Temperature	Down to -50°F (-46°C)



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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