BRAY INTERNATIONAL

PRODUCT PROFILE

Bray®

BRAY.COM

THE HIGH PERFORMANCE COMPANY

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INTRODUCTION

At Bray International, Inc., our business is helping our customers with their flow control requirements. Our modular product line of butterfly, ball, knife gate and check 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.

COMMITMENT TO QUALITY

Bray International 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."

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

TRI LOK®
Triple Offset Valve

> **High pressure**
> **Zero leakage**
> **Metal-to-metal sealing**

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	17-4PH, 410 Stainless Steel, XM-19 (Nitronic® 50)
Body Seat Materials	316SS Hardened
Disc Seal Materials	Laminated 318 Stainless Steel/Graphite
Applications	Critical Service, High Pressure, High Temperature, Cryogenic Service

REPLACEABLE SEAT & SEAL RING
A field replaceable seat and seal ring system extends the overall life, without the need for costly off site repairs or total valve replacement.

PACKING
The fully adjustable, field replaceable stem seal system reduces fugitive emissions.

STEM
Tri Lok's unique splined disc-to-stem connection minimizes hysteresis and eliminates external connections.

SUPERIOR SEAT HARDNESS
Tri Lok's industry leading seat and seal hardness differential protects the valve from seat and seal galling and extends the valve service life.

MCCANNALOK
High Performance
Butterfly Valve

> **High pressure**
> **High temperature**

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 and 600	
Shut Off Class	Zero leakage	
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	

The 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 McCannalok offers robust performance in some of the most demanding applications. The Cryogenic McCannalok offers industry-leading shut off for the air separation industry. The Metal Seated McCannalok offers low torque performance while providing customers with a rugged control valve for abrasive and harsh chemical applications. The Fire Safe McCannalok is validated to the latest industry standards and is offered in a low temperature configuration to service ship builders worldwide.

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® K500	
Seat Materials	EPDM, BUNA-N, 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 EPDM, Bonded BUNA-N	
Applications	High Pressure, HVAC, Dead End Service	

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® K500	
Seat Materials	Bonded EPDM, Bonded BUNA-N, Bonded FKM*	
Applications	Water, Wastewater, Seawater, Other Liquids and Gases	

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	EPDM, BUNA-N, PTFE Lined EPDM, FKM, Polyurethane	
Applications	Sanitary Service, Mildly Corrosive, Toxic Media, Other Liquids and Gases	

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	EPDM, BUNA-N, 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 EPDM, Bonded BUNA-N	
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 EPDM, Bonded BUNA-N	
Applications	FGD, Mining, Seawater	

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	

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.

SERIES 39

Size Range	2″ – 24″ (50mm – 600mm)
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 1
Body Materials	Ductile Iron, Carbon Steel, 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	Slurry Control, Highly Abrasive

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	

Amrēsist®

ACRIS PFA LINED BUTTERFLY VALVES

Size Range	1″ – 24″ (25mm – 600mm)
Body Style	Wafer, Lug
Temperature Range	-20°F to 320°F (-29°C to 160°C)
Pressure Ratings	185 psi (12.5 bar) 1″ to 12″ 150 psi (10 bar) 14″ to 24″
Body Material	Ductile Iron
Disc/Stem Materials	1k = 17-4SS over molded with PFA (1″ to 12″) 1k = 17-4SS shafts/high strength steel disc over molded with PFA (14″ to 24″) 1s = Carbon Steel over molded with PFA (2″ to 12″) 7t = Titanium grade 7 (3″ to 12″)
Applications	Highly corrosive and ultra pure industrial applications

ACRIS PFA LINED BALL VALVES

Size Range	1/2″ to 6″ (15mm – 150mm) Full Port - One Piece Ball/Stem 1″ to 4″ (25mm - 100mm) Standard Port - Floating Ball
Body Style	2 Piece
Ports	Full, Standard
Temperature Range	-49°F to 400°F (-45°C to 204°C)
Pressure Ratings	250psi (17bar) 1/2″ to 4″ 150psi (10 bar) 6″
Body Material	PFA Lined ASTM A-216 WCB | PFA Lined ASTM A-351 CF8M (optional)
Seat Materials	TFM
Applications	Highly corrosive and ultra pure industrial applications

SERIES 19 SEGMENTED

Port	Segmented V-Ball
Body Style	1 Piece
Size Range	1″ - 16″ | DN 25 to 400 (25mm - 400mm)
Temperature Range	-50°F to 500°F (-46°C to 260°C)
Pressure Rating	ASME Class 150, 300, 600 PN10, PN16, PN25, PN40
End Connections	Flanged ASME Class 150, 300, 600 & Wafer ASME Class 150, 300 PN10, PN16, PN25, PN40
Body Materials	Stainless Steel, Carbon Steel, Optional Special Alloys
Seat Materials	Metal, Tek-Fil®
Applications	Liquid, Gas, Steam, Pressure Control, Temperature Control, Level Control, Slurry & Abrasive Services, Suspended Solids

SERIES 19L SEGMENTED

Port	Segmented V-Ball
Body Style	1 Piece
Size Range	1″ - 16″ | DN 25 to 400 (25mm - 400mm)
Temperature Range	-50°F to 500°F (-46°C to 260°C)
Pressure Rating	ASME Class 150, 300, 600 PN10, PN16, PN25, PN40
End Connections	Flanged ASME Class 150, 300, and 600 PN10, PN16, PN25, PN40
Body Materials	Stainless Steel, Carbon Steel, Optional Special Alloys
Seat Materials	Metal
Applications	Liquid, Gas, Steam, Pressure Control, Temperature Control, Level Control, Slurry & Abrasive Services, Suspended Solids

FLANGED SERIES F15/F30, RF15/RF30

Ports	Full, Standard Port	
Body Style	F15/F30 2 Piece, RF15/RF30 1 Piece	
Size Range	1/2″ – 12″ (15mm - 300mm)	
Temperature Range	-50°F to +650°F (-46°C to +343°C)	
Pressure Rating	ASME Class 150, 300 (PN10 to PN40)	
End Connections	ASME Class 150, 300 (PN10 to PN40)	
Body Materials	Stainless Steel, Carbon Steel, Alloys	
Seat Materials	Standard: TFM 1600	Optional: Tek-Fil®, PEEK, UHMWPE, RPTFE, Metal, Cavity Fillers
Applications	General Service, Process, Tank Farms, Fueling, Oil & Gas, NACE, Fire Safe, Potable water (NSF 61)	

RESOLUTE BALL™ DESIGN FOR SERIES F15/F30, RF15/RF30

Body Style	Model	Pressure Class	Size - NPS	Size - DN
Flanged (full port)	F15	ASME Class 150 | PN 10/16	1/2 to 12	15 to 300
	F30	ASME Class 300 | PN 25/40		
Flanged (standard port)	RF15	ASME Class 150 | PN 10/16	1 to 12	25 to 300
	RF30	ASME Class 300 | PN 25/40		
Available Standards and Certifications				
Valve Design	NACE MR0175 / ISO 15156			
Fugitive Emissions	API 641, ISO 15848–1, ISO 15848–2			
Features and Benefits	Direct Replacement Ball Design, Self Flushing/Cleaning, Reduced Seat-to-Ball Interface, Bidirectional Sealing, Multiple Seating Options			
Applications	Calcifying and Crystallizing Medias, Abrasive Slurries, Tank Drain and Isolation, Pump Isolation, White/Green/Black Liquor, Polymers/Monomers, Polyvinyl Chloride,Petrochemicals			

MULTI-PORT SERIES (MPT / MPC / MPS / MPB / MPF)

Ports	Full, Standard Port, T-Port, L-Port, LL-Port	
Body Style	3 & 4 Way	
Size Range	1/4" – 12" (8mm - 300mm)	
Temperature Range	-20°F to +450°F (-29°C to +232°C)	
Pressure Ratings	ASME Class 150, 300 (PN 10, 16, 25, 40), & 800/1000 PSI WOG (55/69 BAR)	
End Connections	Threaded, Tri-Clamp, Socket Weld, Butt Weld, Flanged	
Body Materials	Stainless Steel, Carbon Steel, Alloys	
Seat Materials	Standard: TFM 1600	Optional: Tek-Fil®, UHMWPE, RPTFE, PTFE, Cavity Fillers
Applications	Diverting, Mixing, Blending, and Bypassing	

TRUNNION SERIES

Ports	Full
Body Style	2-Piece, 3-Piece, Forged, Cast
Size Range	2" - 24" (50mm - 600mm)
Temperature Range	-50°F to +500°F (-46°C to +260°C)
Pressure Rating	ASME Class 150, 300, 600
End Connections	Flanged, Butt Weld, RTJ
Body Materials	Stainless Steel & Carbon Steel
Seat Materials	RPTFE, Nylon, Metal
Applications	Liquid & Gas Transmission and Storage, Emergency Shutdown, Suction and Discharge Isolation, Block and Bypass, Pumping Units, Compression Units, Reinjection Units, Metering Stations, Pig Trap Launchers and Receivers, Surge-Relief Skids

TRIAD SERIES

Ports	Full, Standard Port	
Body Style	3 Piece	
Size Range	1/4" – 4" (8mm - 100mm)	
Temperature Range	-50°F to 550°F (-46°C to 287°C)	
Pressure Rating	2200 psi WOG (151 bar)	
End Connections	Threaded, Socket Weld, Butt Weld, Flanged, Extended Socket Weld or Butt Weld	
Body Materials	Stainless Steel, Carbon Steel, Special Alloys	
Seat Materials	Standard: TFM 1600	Optional: Tek-Fil®, PEEK, UHMWPE, RPTFE, Metal, Cavity Fillers
Applications	General Service, Process, Steam, Fire Safe, Industrial Gases, Critical Service, High Cycle	

SERIES 7000 / 8000

Port	Full Port	
Body Style	3 Piece	
Size Range	1/4" – 12" (8mm - 300mm)	
Temperature Range	-50°F to 550°F(-46°C to 287°C)	
Pressure Rating	1/4" - 4": 1000 psi WOG (69 bar), 6" - 12": 400 psi WOG (27 bar)	
End Connections	Threaded, Socket Weld, Butt Weld, Flanged, Extended Socket Weld or Butt Weld JIC (Male), Tank Bottom, Tri-Clamp	
Body Materials	Stainless Steel (7000), Carbon Steel (8000)	
Seat Materials	Standard: RPTFE	Optional: TFM 1600, Tek-Fil®, UHMWPE, Cavity Fillers
Applications	General Service, Process, OEM Equipment, Potable Water (NSF 61)	

SERIES 5000 / 6000

Port	Full Port
Body Style	3 Piece
Size Range	1/4″ – 4″ (8mm - 100mm)
Temperature Range	-50°F to 450°F (-46°C to 232°C)
Pressure Rating	1/4″ - 2″ 1000 psi CWP (69 bar), 2-1/2″ - 4″ 800 psi WOG (55 bar)
End Connections	Threaded, Socket Weld
Body Materials	Stainless Steel (5000), Carbon Steel (6000)
Seat Materials	RPTFE
Applications	General Service, OEM Equipment Process

MICRO PURE SERIES

Port	Tube Bore	
Body Style	3 Piece	
Size Range	1/2″ – 4″ (15mm - 100mm)	
Temperature Range	-50°F to 450°F (-46°C to 232°C)	
Pressure Rating	1000 psi WOG (69 bar)	
End Connections	Tri-Clamp, Extended Tube, JIC (Male)	
Body Materials	Stainless Steel	
Seat Materials	Standard: PTFE	Optional: TFM 1600, UHMWPE, Cavity Fillers
Applications	High Purity, Semi Conductor, Food & Beverage	

THREADED SERIES S85

Port	Full Port	
Body Style	2 Piece	
Size Range	1/2″ – 3″ (15mm - 80mm)	
Temperature Range	-50°F to 450°F (-46°C to 232°C)	
Pressure Ratings	1000 psi WOG (69 bar)	
End Connections	Threaded	
Body Materials	Stainless Steel	
Seat Materials	Standard: RPTFE	Optional: UHMWPE
Applications	General Service, Air, Water, Oil & Gas, Vacuum Service, Water Treatment, Water Filtration, Potable Water (NSF 61)	

THREADED SERIES S70/S90, S80, S20, S40, S51

Ports	Full, Standard, Reduced Port
Body Style	1 Piece & 2 Piece
Size Range	1/4″– 4″ (8mm - 100mm)
Temperature Range	-50°F to +450°F (-46°C to +232°C)
Pressure Ratings	Through 2000 psi WOG (138 bar)
End Connections	Threaded
Body Materials	Stainless Steel, Carbon Steel, Brass
Seat Materials	RPTFE, PTFE
Applications	General Service, Air, Water, Oil & Gas, Vacuum Service

SERIES M1 - SEVERE SERVICE

Size Range	1/2″ - 36″ (DN 15 - 900), custom and larger sizes upon request
Pressure Ratings	ASME 150-4500 | PN 10 - PN 720
Temperature	Standard design rated up to 1100 °F (593 °C), can be customized for higher temperatures
Design Standards	ASME B16.34, ASME Section VIII - Div 1, Appendix 2, PED 2014/68/EU
End Connections	Raised Face and Ring Type Joint (ASME B16.5 and DIN 2501) Butt welds (ASME B16.25), Socket weld (ASME B16.11) Hubs & Custom Ends Available
End-To-End	ASME B16.10 (Long Pattern), EN 558-1
Testing	MSS SP-61, API 598, ANSI/FCI 70-2, Custom Tests Available
Applications	Conventional Power, Combined Cycle Power Plants, Superheated Steam, Slurry Discharge, Hydromet Pump Isolation, High Pressure Acid Leaching, Acid Injection, Delayed Coking, Fluid Catalytic Cracking, Hydrotreating

SERIES M4 - SEVERE SERVICE

Size Range	NPS 1/2″ - 2-1/2″ SW or BW (DN 15 - 65), NPS 3″ & 4″ BW (DN 80 & 100)
Bore Sizes	0.63″, 1.03″, 1.56″
Pressure Ratings	ASME 1700, 3100, 4500 1/2″ thru 2-1/2″, Limited Class 3″ and 4″ Standard Class
Temperature	Up to 1100°F (593°C), Customizable for higher temperature upon request
Design Standards	ASME B16.34, Bore sizes per ASME TDP-1, PED 2014/68/EU
End Connections	SW per ASME B16.11, BW per ASME B16.25
Body Materials	A105, A182-F22 Cl.3, A182-F91
Ball Materials	410 SS/HVOF Chromium Carbide, A182-F91/F92, Inconel® 718/Fused Chromium Carbide
Seat Materials	410 SS/HVOF Chromium Carbide, Inconel® 718/HVOF Chromium Carbide
Testing	API 598, MSS SP 61, Custom Tests Available
Characteristics	On/Off, Zero Leakage
Applications	Power Plant Steam Vent and Drains, Isolation or Blowdown of Steam, water, and other high temperature and/or high pressure medias

V-CONTROL

Ports	V-Port (15°, 30°, 60° & 90°, Custom and Slotted Ports), Full, Standard Port	
Body Style	Flanged, 1-Piece, 2-Piece, 3-Piece	
Size Range	1/2″ - 12″ | DN 15 tp 300 (15mm - 300mm)	
Temperature Range	-50°F to +650°F (-46°C to +343°C)	
Pressure Rating	F-Series: ASME Class 150, 300 | PN 10, PN 16, PN 25, PN 40 Triad: 2200 psi WOG S7000/S8000/S7500: 1000 psi WOG	
End Connections	Flanged, Threaded, Socket Weld, Butt Weld, Extended Socket Weld or Butt Weld, Tri-Clamp	
Body Materials	Stainless Steel, Carbon Steel, Alloys.	
Seat Materials	Standard: Tek-Fil®	Optional: RPTFE, TFM, PEEK, Metal
Applications	Flow Control, Level Control, Temperature Control, Low Pressure Steam Control	

SERIES 740 BIDIRECTIONAL KNIFE GATE VALVES

Size Range	2″ - 36″ (50 - 900mm)	**Body Materials**	CF8 (304), CF8M (316)
Pressure Rating	2″-24″ 150psi (10bar), 30″-36″ 100psi (7bar)	**Gate Materials**	304 SS, 316 SS
Body Style	Single Piece (Lug)	**Seat Materials**	Buna-N, EPDM
Design	MSS SP-81	**Stem**	304
Testing	MSS SP-151	**Packing Materials**	PTFE Impregnated Synthetic Fiber
Face-to-Face	MSS SP-81		
Certification	CE/PED, AWWA C520 (2019)	**Actuator Options**	Handwheel Bevel Gear Pneumatic Hydraulic Electric
Drilling	ASME B16.5 CL150, ASME B16.47 CL150		

Applications: On/off service and isolation of clean, dirty, corrosive or viscous media in pulp & paper, chemical, mining, power and wastewater applications.

SERIES 746 BIDIRECTIONAL SLURRY VALVES

Size Range	2″ to 24″ (50 - 600mm)	**Body Materials**	Ductile Iron
Pressure Rating	240psi (16bar)	**Gate Materials**	316SS
Body Style	One-piece (Wafer)	**Liner Materials**	Polyurethane
Design	Manufacturer Standard	**Packing Materials**	PTFE impregnated synthetic fiber
Testing	MSS SP-151		
Face-to-face	Per Industry Standard	**Actuator Options**	Handwheel Bevel Gear Pneumatic Hydraulic Electric
Drilling	ASME B16.5 CL150		

Applications: On/off service handling corrosive or abrasive media in pulp & paper, chemical, mining and power applications.

SERIES 755 BIDIRECTIONAL SLURRY VALVES

Size Range	2″ to 24″ (50 - 600mm)	**Body Materials**	CF8, CF8M, WCB, DI
Pressure Rating	150psi (10bar), 240psi (16bar), 300psi (20bar)	**Gate Materials**	304, 316SS
Body Style	Two-piece bolted (Wafer)	**Seat Materials**	Buna-N, EPDM
Design	Manufacturer Standard	**Packing Materials**	PTFE impregnated synthetic fiber
Testing	MSS SP-151		
Face-to-face	MSS SP-81	**Actuator Options**	Handwheel Bevel Gear Pneumatic Hydraulic Electric
Drilling	ASME B16.5 CL150		

Applications: Heavy-duty on/off service and isolation of dirty, corrosive, abrasive or viscous media in chemical, mining and power applications.

SERIES 768 BIDIRECTIONAL SLURRY VALVES

Size Range	2″ - 24″ (50 - 600mm)	**Body Materials**	DI
Pressure Rating	2″-16″ 150psi (10bar) 18″-24″ 90psi (6.2bar)	**Gate Materials**	316SS
Body Style	Two-piece Bolted (Wafer)	**Seat Materials**	Natural Rubber, EPDM
Design	Manufacturer Standard	**Secondary Seal**	EPDM
Testing	Manufacturer Standard	**Actuator Options**	Handwheel Bevel Gear Pneumatic Hydraulic Electric
Face-to-Face	Per Industry Standard		
Drilling	ASME B16.5 CL150		

Applications: On/off service and isolation of clean, dirty, corrosive or viscous media in pulp & paper, chemical, mining, power and wastewater applications.

SERIES 762 BIDIRECTIONAL SLURRY VALVES

Size Range	3″ to 48″ (80 - 1200mm)	**Body Materials**	3″-28″ Ductile Iron 30″-48″ WCB
Pressure Rating	3″-24″ 100psi (7bar), 26″-42″ 75psi (5bar) 44″-48″ 50psi (3bar)	**Gate Materials**	316SS
Body Style	Two-piece bolted (Flanged)	**Seat Materials**	Natural Rubber, EPDM
Design	Manufacturer Standard	**Secondary Seal**	EPDM
Testing	Manufacturer Standard		
Face-to-Face	Per Industry Standard	**Actuator Options**	Handwheel Bevel Gear Pneumatic Hydraulic Electric
Drilling	ASME B16.5 CL150, ASME 16.47 CL150		

Applications: Heavy-duty on/off service and isolation of dirty, corrosive, abrasive or viscous media in chemical, mining and power applications.

SERIES 765 BIDIRECTIONAL SLURRY VALVES

Size Range	2″ to 12″ (50 - 300mm)	**Body Materials**	Ductile Iron
Pressure Rating	90psi (6.2bar)	**Gate Materials**	304SS
Body Style	Two-piece bolted (Wafer)	**Seat Material**	Natural Rubber
Design	Manufacturer Standard	**Wiper Material**	EPDM
Testing	Manufacturer Standard		
Face-to-face	MSS SP-81	**Actuator Options**	Handwheel Bevel Gear Pneumatic Hydraulic Electric
Drilling	ASME B16.5 CL150		

Applications: Heavy-duty on/off service and isolation of dirty, corrosive, abrasive or viscous media in chemical, mining and power applications.

SERIES 767 BIDIRECTIONAL SLURRY VALVES

Size Range	3″ to 24″ (80 - 600mm)	**Body Materials**	WCB
Pressure Rating	300psi (20bar), 450psi (31bar), 740psi (51bar)	**Gate Materials**	316SS
Body Style	Two-piece bolted (Flanged)	**Seat Materials**	Natural Rubber, EPDM
Design	Manufacturer Standard	**Secondary Seal**	EPDM
Testing	Manufacturer Standard		
Face-to-face	Per Industry Standard	**Actuator Options**	Handwheel Bevel Gear Pneumatic Hydraulic Electric
Drilling	ASME B16.5 CL150 ASME B16.5 CL300		

Applications: High pressure on/off service and isolation of dirty, corrosive, abrasive or viscous media in chemical, mining and power applications.

SERIES 940 UNIDIRECTIONAL KNIFE GATE VALVES

Size Range	2″ to 24″ (50 - 600mm)	**Body Materials**	CF8, CF8M
Pressure Rating	150psi (10bar)	**Gate Materials**	316, 304SS
Body Style	940-Single piece Lug	**Seat Materials**	Metal, Buna-N, EPDM, FKM, PTFE
Design	MSS SP-81	**Packing Materials**	PTFE Impregnated synthetic fiber
Testing	MSS SP-151		
Face-to-Face	MSS SP-81	**Actuator Options**	Handwheel Bevel Gear Pneumatic Hydraulic Electric
Certification	CE/PED, AWWA C520 (2019)		
Drilling	ASME B16.5 CL150		

Applications: General purpose on/off service and isolation of clean, dirty, corrosive, abrasive, viscous and high temperature media in power, mining, pulp & paper, cement, carbon black and chemical applications.

EZI-VAC AIR RELEASE - VACUUM BREAK VALVE

Sizes Available	NPS 1 to 16 (DN25 – DN400)
Rating	ANSI B6.5 class 150, 300, 600 @ 35°C nominal
Body	Fabricated carbon steel or cast ASTM A216 | Stainless | Duplex steel
Float	High density polyethylene or urethane coated aluminum
Outlet Cover	Carbon steel standard | Stainless steel optional
Connection	Flanged ANSI B16.5 RF Class 150, 300, 600 (or as required)
Seal	Chutex wear resistant natural rubber standard. Other options on request.
Gasket	BS-N90 Shore O-ring between body and outlet flange for high pressure seal
Fasteners	Class 8.8 galvanized carbon steel. Stainless option as required
Lining	Natural rubber. Nitrile, urethane and bromobutyl option
Finish	Grit blast 2.5 and 2 part Interzone | 954 epoxy paint
Testing	AS4037-1999 and EN 12266 PT 1 & 2 or AP1598 as specified
Standard	ASME B16.34, ASME B16.5 | ASME B31.3
Option	Non slam/ bird screen/ flush port/secondary release
Applications	Slurries, chemical, sand, pulp and dewatering

MAXI-CHECK H - HIGH WEAR BALL CHECK VALVE (MCH)

Sizes Available	NPS 2 to 30 (DN50 - DN750)
Rating	ANSI B16.5 Class 150. 300, 600 and 900 @ 65° nominal
Body	Carbon Steel standard | Stainless Steel option
Figure	MCH50-MCH750
Connection	Flanged ANSI B16.5 RF Class 150, 300, 600 & 900 (certified) or as required
Ball	Stainless Steel | Silica Bronze | Aluminum Urethane Coated
Seat	304 SS machined to suit ball (Seat is replaceable)
Seal	Molded rubber (40 Shore hardness) when required (Seal is replaceable)
Gasket	O-Ring used between flanges for high pressure seal
Fasteners	Class 8.8 galvanized Carbon Steel. Hi-Tensile and Stainless options as required
Lining	Natural rubber as standard. Nitrile and Bromobutyl option
Finish	Grit blast 2.5 and 2 part Interzone 954 epoxy paint
Testing	AS4037-1999 and EN 12266 PT 1&2 or API598 as specified
Standard	ASME B16.34-2009 ASME B16.5 ASME B31.3-2002
Applications	Slurries, chemicals, sands, pulp, dewatering and ash disposal

MAXI-CHECK L - LOW WEAR BALL CHECK VALVE (MCL)

Size Available	NPS 3 to 24 (DN80 – DN600)
Rating	Max work pressure: 30 Bar
Body	Fabricated carbon steel
Figure	MCL80 to MCL600
Connection	Flanged either Table D, E, PN10, PN16 (EN or AS) or ANSI150/300
Ball	Metal core urethane coated
Seat	Carbon steel seat is integral to the body
Gasket	90 shore O ring used between flanges for seal
Fasteners	Class 8.8 galvanized carbon steel. Stainless options as required
Lining	Hot vulcanized natural rubber standard
Finish	Abrasive clean to 2.5 and painted with Interzone 954, a 2 part epoxy suited to harsh environment
Testing	AS4037-1999 and EN 12266 PT 1&2 or API598 as specified
Standard	ASME B16.34 ASME B16.5 ASME B31.3
Applications	Chemical, sewerage, pulp, food and dewatering

MAXI-CHECK I - DUAL FUNCTION BALL CHECK ISOLATION VALVE (MCI)

Sizes Available	NPS 2 to 30 (DN50-DN750)
Actuation	Hand wheel actuated up to DN450 | Bevel gearbox DN500-DN750 and higher
Option	Electric, pneumatic or hydraulic actuators as required. Proximity switches are optional
Figure	MCI 50 to MCI 750
Rating	ANSI B16.5 class 150. 300, 600 and 900 @ 65° nominal
Body	Carbon Steel standard | Stainless Steel optional
Connection	Flanged ANSI B16.5 RF class 150, 300, 600 & 900 (certified) or as required
Ball	Stainless Steel/ Silica Bronze/ Urethane Coated Aluminum core (hollow)
Seat	304 SS machined to suit ball (Seat is replaceable)
Seal	Molded rubber (40 Shore hardness) when required (Seal is replaceable)
Gasket	0 Ring used between flanges for high pressure seal
Fasteners	Class 8.8 galvanized Carbon Steel. Hi-Tensile and Stainless options as required
Lining	Natural rubber as standard. Nitrile and Bromobutyl option
Finish	Grit blast 2.5 and 2 part Interzone 954 epoxy paint
Testing	AS4037-1999 and EN 12266 PT 1&2 or API598 as specified
Standard	ASME B16.34-2009 ASME B16.5 ASME B31.3-2002
Applications	Slurries, Chemicals, Sands, Pulp, Dewatering and Ash Disposal

PENTA-WEDGE - SLURRY GATE VALVE (PW)

Size Available	NPS 4 to 24 (DN100-DN600) (larger sizes on request)
Actuation	DN100-DN300 Hand wheel, DN300-DN700 Gearbox 4:1 ratio, subject to pressure. Hydraulic, pneumatic or electric actuators are an option as required
Figure	PW100-PW600
Rating	From 150 psi (10 bar) to 2175 psi (150 bar) at 150°F (65°C)
Body	GR 460R boiler plate and ASTM A106 pipe to suit as standard, other on request
Connection	Flanged ANSI B16.5 Class 150, 300, 600 or 900 (certified) or as required
Packing	Oxidized Acrylic & Kevlar blended fiber, PTFE dispersion mineral lubricant
Stem	AISI 304 Stainless Steel as standard, other on request
Disc	Polyurethane lined steel disc
Dimensions	ASME B16.10 table 1, 2 & 3 or on customer request
Testing	AS4037 and EN 12266 PT 1&2 or API598 as specified
Finish	Grit blast 2.5 and 2 part Interzone 954 epoxy paint
Standard	ASME B16.34 ASME B16.5 ASME B31.3 ASME B16.10
Applications	Slurries, sewerage, sands, pulp and dewatering-abrasive applications

TISO-CHECK - AUTOMATIC CHANGEOVER BALL CHECK VALVE (TC)

Size Available	NPS 4 to 24 (DN100 – DN600)
Figure	TC0100 – TC600
Rating	ANSI B16.5 class 150 @ 65°C nominal 10 BAR CWP
Connection	Flanged either Table D, E, PN10, PN16 (EN or AS) or ANSI150.
Body	G350 carbon steel
Ball	Aluminum core urethane coated
Seat	Replaceable AISI 304 stainless steel
Fasteners	Class 8.8 galvanized carbon steel. Stainless options as required
Lining	Natural rubber as standard. Nitrile ceramic and Bromobutyl option
Finish	Grit blast 2.5 and 2 part Interzone 954 epoxy paint
Testing	AS4037 and EN 12266 PT 1&2 or API598 as specified
Option	Stainless steel construction
Applications	Cyclone feed pumps, standby pumps circuits

Bray/Rite®

MODEL 205 & 210 CHECK VALVE

Size Range	1" – 60" (25mm – 1500mm)
Temperature Range	-20°F - 450°F
Pressure Ratings	ASME 125, 150, 300, 600, 900, 1500
Body/Disc Materials	ASTM A 126 CLB, ASTM A 395, ASTM A 216 WCB ASTM A 351 CF8M, Titanium
Seat Materials	BUNA-N, EPDM, PTFE, Viton, A240 - 304
Spacer	PTFE, A479 - 316
Accessories	External Springs, External Weights, Backflush Lever, Limit Switch External Position Indicators, Emergency Shutoff Fusible Link, Flanged Valve, Heavy Duty Hinge

Available with Special Accessories

MODEL DDCV CHECK VALVE

Size Range	2" – 12" (50mm – 300mm)
Temperature Range	-40°F - 250°F
Pressure Ratings	ASME 150
Body/Disc Materials	Ductile Iron, ASTM A 351 CF8M
Seat Materials	BUNA-N, EPDM
Spacer	PTFE

KUGELHAHN MÜELLER

KM 20/21 - FLANGED BALL VALVE

Size Range	NPS 1/2 to 8 (DN15 – DN200)
Body Type	Two-piece flanged
Port	Full port
Temperature Range	PTFE -60°C to 200°C O-Ring -25°C to 200°C
Maximum Operating Pressure	40 bar
Flange Drilling	EN 1092-1 PN 10, 16, 25, 40
Top Flange	ISO 5211
Face-to-Face	EN 558 Series 1 | Series 27
Valve Design	EN 12516 | AD2000
Seat Tightness Test	EN 12266-1 Rate A
Fugitive Emissions Certification	ISO 15848-1 | TA Luft VDI 2440
Applications	Chemical Gases, Chemical Fluids, Petrochemicals, Food & Beverage (FDA), Pharmaceutical, Water And Wastewater Treatment
Media	Acids, Alkalis, Corrosive Chemicals, Gases, Hydrogen, Oxygen, Water

Series 98
Pneumatic Actuator

Series 98H
Hydraulic Actuator

Series 98EH
Self-Contained
Electro-Hydraulic Actuator

- Low Pressure Pneumatic Actuator
- High Pressure Hydraulic Actuator
- Compact design with a high torque to weight ratio
- Modular design offers easy configuration in the field
- Module alignment ensured by precision machined centering rings
- 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
- All Bray control accessories are fully configurable and directly mount to the actuator providing flexibility and efficiency at reduced cost.

Optional

- Manual overrides
- Hydraulic dampener for fast acting operation
- Lockout/PST device
- Self-Contained Integral Hydraulic Power Pack or Centralized Hydraulic Power Unit to power multiple hydraulic actuators.

OPERATING CONDITIONS

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)

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

COMPLIANCES

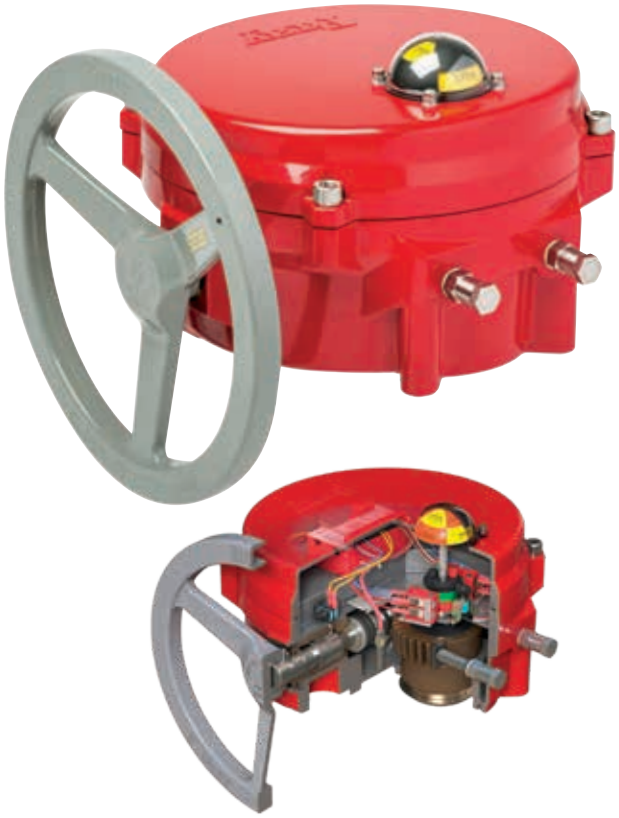
Torque Base	Mounting Dimensions as per ISO 5211: 2001(E)
Accessories	Shaft diven accessories mounting per NAMUR-VDE
Performance Testing	EN 15714-3:2009
Ingress Protection	IP66/IP67M per IEC 60529
Safety	ATEX, SIL 3 suitable, PED on request

SYMMETRICAL YOKE

The symmetrical yoke provides a balanced torque output curve. This is the best choice in applications where the torque requirements at the seat break out and end positions are similar. As the name suggests, the output torque curve is symmetrical about the mid rotation point.

CANTED YOKE

The torque demands of some valve types are not the same at the break and end points These applications call for optimizing the torque output vs shaft angle curve. The canted yoke option shifts the torque output curve. The torque output is matched to the application requirements.



SERIES 70 ELECTRIC ACTUATOR

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

- UL, CSA and CE certification on most units
- Low profile, light weight
- High visibility dome position indicator
- Simple manual override handwheel system
- On/Off or modulating control
- Terminal strip for cable terminations
- Hand or screw driver adjustment of travel limit cams
- ISO 5211 for direct mounting
- Manual declutchable handwheel
- Network protocols available
- Optional hazardous location model available
- Optional Seacorr® coating for harsh environments

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

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.

Extreme High Temperature Actuator

Stainless Steel Actuator

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

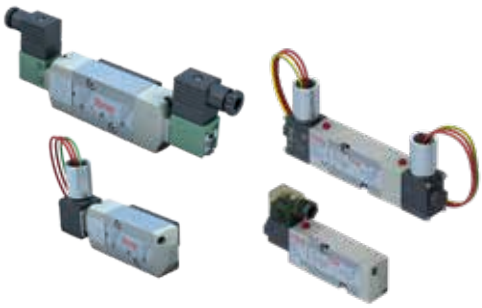
> Pneumatic to pneumatic positioner for single and double acting actuators
> Rugged aluminum diecast housing for harsh environments
> Minimal setup time for zero and span adjustment
> Split range capabilities
> High visibility dome position indicator
> Optional 2 x SPDT mechanical switches

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
> NEMA 4, 4X and 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.

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