BRAY INTERNATIONAL

PRODUCT PROFILE

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THE HIGH PERFORMANCE COMPANY

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TRI LOK® TRIPLE OFFSET VALVE

Size Range	NPS 3 to 48 | DN80 to 1200
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

McCANNALOK HIGH PERFORMANCE BUTTERFLY VALVE

Size Range	NPS 2 to 66 | DN50 to 1500	
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	
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	

McCANNALOK CRYOGENIC HIGH PERFORMANCE BUTTERFLY VALVE

Size Range	NPS 3 to 24 | DN80 to 600
Body Style	Wafer | Lug
Temperature Range	-320°F to 250°F | -196°C to 121°C
Pressure Rating	ASME Class 150 | 300
Shut Off Class	Zero Leakage (at ambient temperatures) BS 6364 (at cryogenic temperatures) ISO 28921 (at cryogenic temperatures)
Body Materials	316 Stainless Steel
Stem Materials	XM-19
Packing	PTFE | Graphite
Bearing	Teflon Lined Stainless Steel | Nitride Hardened Stainless Steel
Disc Materials	316 Stainless Steel
Seat Material	Polar® Seat
Extended Bonnet	316 Stainless Steel
Applications	Liquid Oxygen, LNG Liquefaction, LNG Receiving Terminals, LPG Handling, Petroleum, Refrigeration, Steel Production

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SERIES 3W/3L

Size Range	NPS 2 to 24 | DN50 to 600	
Body Style	Wafer, Lug	
Temperature Range	-20°F to 250°F | -29°C to 121°C	
Pressure Ratings	Bidirectional Bubble Tight Shut Off	High Pressure Disc - 250 psi | 17.2 bar
		Standard Disc NPS 2-12 | DN 50-300 - 175 psi | 12 bar NPS 14-24 | DN 350-600 - 150 psi | 10.3 bar
		Low Pressure Disc - 50 psi | 3.4 bar
Body Materials	Cast Iron, Ductile Iron	
Disc Materials	Nylon 11 Coated Ductile Iron, Aluminum Bronze, 316 Stainless Steel, Duplex Stainless Steel 4A	
Stem Materials	416 Stainless Steel, Stainless Steel (EN 1.4057)	
Seat Materials	EPDM, BUNA-N, HT-EPDM	
Applications	HVAC, Chilled Water, Desalination, Sour Gas (NACE), Steam, Vacuum	

SERIES 30/31

Size Range	NPS 2 to 20 | DN50 to 500	
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	NPS 2 to 20 | DN50 to 500	
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 20/21

Size Range	NPS 1 to 20 | DN25 to 500	
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	

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SERIES 32/33 & 35/36

Size Range	S32/33 – NPS 22 to 36 | DN550 to 900 S35/36 – NPS 22 to 120 | DN550 to 3000	
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	NPS 22 to 60 | DN550 to 1500	
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 3A/3AH

Size Range	NPS 2 to 20 | DN50 to 500	
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 31U

Size Range	NPS 2 to 12 | DN50 to 300	
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	

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SERIES 22/23

Size Range	NPS 2 to 24 | DN50 to 600	
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 39

Size Range	NPS 2 to 24 | DN50 to 600
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

AMRESIST ACRIS PFA LINED BUTTERFLY VALVES

Size Range	NPS 1 to 24 | DN25 to 600
Body Style	Wafer | Lug
Temperature Range	-20°F to 320°F | -29°C to 160°C
Pressure Ratings	NPS 1 to 12 | DN25 to 300 - 185 psi | 12.5 bar NPS 14 to 24 | DN350 to 600 - 150 psi | 10 bar
Body Material	Ductile Iron
Disc/Stem Materials	17-4SS over molded with PFA - NPS 1 to 12 | DN25 to 300 17-4SS shafts/high strength steel disc over molded with PFA NPS 14 to 24 | DN350 to 600 Carbon Steel over molded with PFA - NPS 2 to 12 | DN50 to 300 Titanium grade 7 - NPS 3 to 12 | DN80 to 300
Applications	Highly Corrosive And Ultra Pure Industrial Applications

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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)
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SERIES 19 SEGMENTED

Size Range	NPS 1 to 16 | DN25 to 400
Port	Segmented V-Ball
Body Style	1 Piece
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

Size Range	NPS 1 to 16 | DN25 to 400
Port	Segmented V-Ball
Body Style	1 Piece
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

SERIES F15/F30, RF15/RF30 FLANGED

Size Range	NPS ½ to 12 | DN15 to 300	
Ports	Full, Standard Port	
Body Style	F15/F30 2 Piece, RF15/RF30 1 Piece	
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™ ACCESSORY FOR SERIES F15/F30, RF15/RF30

Body Style	Model	Pressure Class	Size - NPS	Size - DN
Flanged (Full Port)	F15	ASME Class 150 | PN 10, PN 16	½ to 12	15 to 300
	F30	ASME Class 300 | PN 25, PN 40		
Flanged (Standard Port)	RF15	ASME Class 150 | PN 10, PN 16	1 to 12	25 to 300
	RF30	ASME Class 300 | PN 25, PN 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

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KUGELHAHN MÜELLER - KM 20/21 - FLANGED

Size Range	NPS ½ to 8 | DN15 to 200
Body Type	Two-piece Fanged
Port	Full port
Temperature Range	PTFE: -76°F to 392°F | -60°C to 200°C O-Ring: 13°F to 392°F | -25°C to 200°C
Pressure Rating	40 bar
Valve Design	EN 12569 | EN 593 | NE 167
Material Standard	EN 16668 | AD2000 W0
Food Contact	EC 1935
Marking	EN 19 | DIN EN IEC 61406* | DIN 91406*
Top Flange	ISO 5211
Flange Drilling	EN 1092-1 PN 10, 16, 25, 40
Face-to-Face	EN 558 Series 1 | Series 27
Testing Standard	EN 12266-1
Fugitive Emissions Certification	ISO 15848-1 | TA Luft VDI 2440
Media	Acids, Alkalis, Corrosive Chemicals, Gases, Hydrogen, Oxygen, Water
Applications	Chemical Gases, Chemical Fluids, Petrochemicals, Food & Beverage (FDA), Pharmaceutical, Water and Wastewater Treatment

* Auto ID available shortly.

SERIES 1B TRUNNION MOUNTED

Size Range	NPS 2 to 24 | DN50 to 600
Ports	Full
Body Style	2-Piece | 3-Piece | Forged | Cast
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

AMRESIST ACRIS PFA LINED

Size Range	NPS ½ to 6 | DN15 to 150 - Full Port - One Piece Ball/Stem NPS 1 to 4 | DN25 to 100 - 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	NPS ½ to 4 - 250psi | DN15 to 100 - 17bar NPS 6 - 150psi | DN150 10 bar
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

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SERIES MPT/MPC SERIES MPF SERIES 3HP MULTI-PORT

Size Range	NPS ¼ to 12 | DN8 to 300	
Ports	Full | Standard Port | T-Port | L-Port | LL-Port	
Body Style	3 & 4 Way	
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	

TRIAD SERIES 3-PIECE

Size Range	NPS ¼ to 4 | DN8 to 100	
Ports	Full | Standard Port	
Body Style	3 Piece	
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 3-PIECE

Size Range	NPS ¼ to 12 | DN8 to 300	
Port	Full Port	
Body Style	3 Piece	
Temperature Range	-50°F to 550°F | -46°C to 287°C	
Pressure Rating	NPS ¼ to 4 - 1000 psi WOG | DN8 to 100 - 69 bar NPS 6 to 12 - 400 psi WOG | DN150 to 300 - 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 Series 7000 | Carbon Steel Series 8000	
Seat Materials	Standard: RPTFE	Optional: TFM 1600, Tek-Fil®, UHMWPE, Cavity Fillers
Applications	General Service, Process, OEM Equipment, Potable Water (NSF 61)	

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SERIES 5000/6000 3-PIECE

Size Range	NPS ¼ to 4 | DN8 to 100
Port	Full Port
Body Style	3 Piece
Temperature Range	-50°F to 450°F | -46°C to 232°C
Pressure Rating	NPS ¼ to 2 - 1000 psi CWP | DN8 to 50 - 69 bar NPS 2½ to 4 - 800 psi WOG | DN65 to100 - 55 bar
End Connections	Threaded, Socket Weld
Body Materials	Stainless Steel Series 5000 | Carbon Steel Series 6000
Seat Materials	RPTFE
Applications	General Service, OEM Equipment Process

SERIES S7500/S7700 MICRO PURE 3-PIECE

Size Range	½ to 4 | DN15 to 100	
Port	Tube Bore	
Body Style	3 Piece	
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	

SERIES S85 THREADED

Size Range	NPS ½ to 3 | DN15 to 80	
Port	Full Port	
Body Style	2 Piece	
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)	

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

Size Range	NPS ¼ to 4 | DN8 to 100
Ports	Full | Standard | Reduced Port
Body Style	1 Piece & 2 Piece
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

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SERIES M1 - SEVERE SERVICE

Size Range	NPS ½ to 36 | DN15 to 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 ½ to 2½ | DN15 to 65 SW or BW NPS 3 and 4 | DN80 and 100 BW
Bore Sizes	0.63″ | 1.03″ | 1.56″
Pressure Ratings	ASME 1700, 3100, 4500 NPS ½ to 2½ | DN15 to 65 Limited Class NPS 3 and 4 | DN80 and 100 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

15° V-Port | 30° V-Port | 60° V-Port

90° V-Port | Custom Slotted | Custom Flow

V-CONTROL BALLS FOR SERIES F15/F30 | RF15/RF30 TRIAD SERIES | SERIES 7000/8000 | SERIES S7500

Size Range	NPS ½ to 12 | DN 15 to 300
Ports	V-Port 15°, 30°, 60° & 90° | Custom and Slotted Ports | Full Standard Port
Body Style	Flanged, 1-Piece, 2-Piece, 3-Piece
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 7000/8000 | 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

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SERIES 740 BIDIRECTIONAL KNIFE GATE VALVES

Size Range	NPS 2 to 36 | DN50 to 900
Pressure Rating	NPS 2 to 24 - 150ps DN50 to 600 - 10bar NPS 30 to 36 - 100ps DN750 to 900 - 7bar
Body Style	Single Piece (Lug)
Design	MSS SP-81
Testing	MSS SP-151
Face-to-Face	MSS SP-81
Certification	CE/PED, Canadian CRN, AWWA C520 2019
Drilling	ASME B16.5 CL150 ASME B16.47 CL150
Actuator Options	Handwheel Pneumatic Electric Bevel Gear Hydraulic

Body Materials	CF8 (304), CF8M (316)
Gate Materials	304 SS, 316 SS
Seat Materials	BUNA-N
Stem	304
Packing Materials	PTFE Impregnated Synthetic Fiber

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

SERIES 752 BIDIRECTIONAL KNIFE GATE VALVES

Size Range	NPS 2 to 24 | DN50 to 600
Pressure Rating	150psi, 240psi 10bar, 16bar
Body Style	Two-Piece Bolted (Wafer)
Design	MSS SP-81
Testing	MSS SP-81
Face-to-Face	MSS SP-81 150psi | 10bar, 240psi | 16bar models
Certification	Canadian CRN
Drilling	ASME B16.5 CL150
Actuator Options	Handwheel Pneumatic Electric Bevel Gear Hydraulic

Body Materials	CF8, CF8M, WCB, DI
Gate Materials	304SS, 316SS
Seat Materials	BUNA-N, EPDM
Stem Material	304
Packing Materials	PTFE Impregnated Synthetic Fiber

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

SERIES 746 BIDIRECTIONAL SLURRY VALVES

Size Range	NPS 2 to 24 | DN50 - 600
Pressure Rating	240psi | 16bar
Body Style	One-Piece (Wafer)
Design	Manufacturer Standard
Testing	MSS SP-81
Face-to-face	MSS SP-81
Certifications	ATEX, TR CU
Drilling	ASME B16.5 CL150
Actuator Options	Handwheel Pneumatic Electric Bevel Gear Hydraulic

Body Materials	Ductile Iron
Gate Materials	316SS
Liner Materials	Polyurethane
Stem	304
Packing Materials	PTFE Impregnated Synthetic Fiber

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

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SERIES 755 BIDIRECTIONAL SLURRY VALVES

Size Range	NPS 2 to 24 | DN50 to 600
Pressure Rating	150psi, 240psi 10bar, 16bar
Body Style	Two-Piece Bolted (Wafer)
Design	Manufacturer Standard
Testing	MSS SP-151
Face-to-face	MSS SP-81
Certification	Canadian CRN
Drilling	ASME B16.5 CL150
Actuator Options	Handwheel Pneumatic Electric Bevel Gear Hydraulic

Body Materials	CF8, CF8M, WCB, DI
Gate Materials	304, 316
Seat Materials	BUNA-N
Packing Materials	PTFE Impregnated Synthetic Fiber

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	NPS 2 to 12 | DN50 to 300
Pressure Rating	90psi | 6.2bar
Body Style	Two-Piece Bolted (Wafer)
Design	Manufacturer Standard
Testing	Manufacturer Standard
Face-to-face	MSS SP-81
Certification	Canadian CRN
Drilling	ASME B16.5 CL150
Actuator Options	Handwheel Pneumatic Electric Bevel Gear Hydraulic

Body Materials	Ductile Iron
Gate Materials	304
Seat Material	Natural Rubber
Stem Material	304
Wiper Material	EPDM

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

SERIES 762 SLURRYSHIELD® BIDIRECTIONAL SLURRY VALVES

Size Range	NPS 3 to 48 | DN80 to 1200
Pressure Rating	NPS 3 to 24 - 100psi DN80 to 600 - 7bar NPS 26 to 42 - 75psi DN650 to 1050 - 5 bar NPS 44 to 48 - 50 psi DN1100 to 1200 - 3 bar
Body Style	Two-Piece Bolted (Flanged)
Design	Manufacturer Standard
Testing	Manufacturer Standard
Face-to-Face	Per Industry Standard
Certification	Canadian CRN, PED Category I Module A (Group 2 liquids)
Drilling	ASME B16.5 CL150 ASME 16.47 CL150
Actuator Options	Handwheel Pneumatic Electric Bevel Gear Hydraulic

Body Materials	NPS 3 to 28, DN80 to 700 - Ductile Iron NPS 30 to 48, DN750 to 1200 - WCB
Gate Materials	316, 2205, 17-4 PH (depending on pressure rating)
Seat Materials	Natural Rubber, EPDM
Stem Material	304
Secondary Seal	EPDM

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

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SERIES 767 SLURRYSHIELD® BIDIRECTIONAL SLURRY VALVES

Size Range	NPS 3 to 36 | DN80 to 900
Pressure Rating	300psi, 450psi, 740psi 20bar, 30bar, 51bar
Body Style	Two-Piece Bolted (Wafer)
Design	Manufacturer Standard
Testing	Manufacturer Standard
Face-to-face	Per Industry Standard
Certification	Canadian CRN, PED Category, Module A (Group 2 Liquids)
Drilling	ASME B16.5 CL300
Actuator Options	Handwheel Pneumatic Electric Bevel Gear Hydraulic

Body Materials	WCB
Gate Materials	316SS, 2205, 17-4 (depending on pressure rating)
Sleeve Material	Natural Rubber
Stem Material	304
Secondary Seal	EPDM

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

SERIES 768 SLURRYSHIELD® BIDIRECTIONAL SLURRY VALVES

Size Range	NPS 2 to 24 | DN50 to 600
Pressure Rating	NPS 2 to 16, 150psi NPS 18 to 24, 90psi DN50 to 400, 10bar DN450 to 600, 6.2bar
Body Style	Two-piece Bolted (Wafer)
Design	Manufacturer Standard
Testing	Manufacturer Standard
Face-to-Face	Per Industry Standard
Certification	Canadian CRN, PED Category, Module A (Group 2 Liquids)
Drilling	ASME B16.5 CL150
Actuator Options	Handwheel Pneumatic Electric Bevel Gear Hydraulic

Body Materials	DI
Gate Material	316SS, 2205, 17-4 (depending on pressure rating)
Sleeve Materials	Natural Rubber, EPDM
Stem Material	304
Secondary Seal	EPDM

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

SERIES 940 UNIDIRECTIONAL KNIFE GATE VALVES

Size Range	NPS 2 to 24 | DN50 to 600
Pressure Rating	150psi | 10bar
Body Style	Single Piece Lug
Design	MSS SP-81
Testing	MSS SP-151
Face-to-Face	MSS SP-81
Certification	CE/PED, AWWA C520 (2019)
Drilling	ASME B16.5 CL150
Actuator Options	Handwheel Pneumatic Electric Bevel Gear Hydraulic

Body Materials	CF8, CF8M
Gate Materials	316, 304SS
Seat Materials	Metal, BUNA-N, EPDM, FKM, PTFE
Packing Materials	PTFE Impregnated Synthetic Fiber

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.

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SERIES 941 UNIDIRECTIONAL KNIFE GATE VALVES

Size Range	NPS 2 to 36 | DN50 to 900
Pressure Rating	NPS 2 to 24 - 150psi DN50 to 600 - 10bar
Body Style	Single Piece - Lug
Design	MSS SP-81
Testing	MSS SP-151
Face-to-Face	MSS SP-81
Certification	CE/PED, Canadian CRN
Drilling	ASME B16.5 CL150
Actuator Options	Handwheel Pneumatic Electric Bevel Gear Hydraulic

Body Materials	CF8M (316)
Gate Materials	316SS
Seat Materials	Integral
Stem Materials	304
Gland Material	304
Packing Materials	Energized Quad Seal with PTFE Anti Extrusion Ring

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

SERIES 942 UNIDIRECTIONAL VORTEX BREAKER KNIFE GATE VALVES

Size Range	NPS 4 to 12 | DN100 to 300
Pressure Rating	NPS 4 to 12 - 150psi DN100 to 300 - 10bar
Body Style	Single Piece - Lug
Design	MSS SP-81
Testing	MSS SP-151
Face-to-Face	MSS SP-81
Certification	CE/PED
Drilling	ASME B16.5 CL150
Actuator Options	Handwheel Pneumatic Electric Bevel Gear Hydraulic

Body Materials	CF8M (316)
Gate Materials	17-4PH H-1025
Seat Materials	Hard Faced
Gland Material	304
Packing Materials	High Performance Aramid Packing With Copper Wiper
Vortex Breaker	A36 with Tungsten Carbide Overlay

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

SERIES 943 UNIDIRECTIONAL KNIFE GATE VALVES

Size Range	NPS 2 to 24 | DN50 to 600
Pressure Rating	150psi | 10bar
Body Style	Single Piece Lug
Design	MSS SP-81
Testing	MSS SP-151
Face-to-Face	MSS SP-81
Drilling	ASME B16.5 CL150
Actuator Options	Handwheel Pneumatic Electric Bevel Gear Hydraulic

Body Materials	CF8, CF8M
Gate Materials	304, 316, 317 SS
Seat Materials	Metal, BUNA-N, EPDM, FKM, PTFE
Packing Materials	PTFE Impregnated Synthetic Fiber

Applications: Ore slurry pipeline, cyclones, tailings handling, crushing/screeening pipeline, leaching pipeline, coal mill pulverizer, pneumatic conveying

SERIES 950 UNIDIRECTIONAL KNIFE GATE VALVES

Size Range	NPS 2 to 24 | DN 50 to 600
Pressure Rating	NPS 2 to 12 - 150psi NPS 14 to 24 - 75 psi DN50 to 300 - 10bar DN350 to 600 - 5 bar
Body Style	Single Piece, Semi-Lug
Design	MSS SP-81
Testing	MSS SP-151
Face-to-Face	MSS SP-81
Certification	Canadian CRN, PED, ATEX, AWWA C520 2019
Drilling	ASME B16.5 CL150
Actuator Options	Handwheel Pneumatic Electric Bevel Gear Hydraulic

Body Material	DI
Gate Material	304
Seat Material	Integral
Stem Material	304
Gland Material	CS
Packing Materials	PTFE Impregnated Synthetic Fiber

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

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EZI-VAC AIR RELEASE - VACUUM BREAK VALVE

Sizes Range	NPS 1 to 16 | DN25 to 400
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 Range	NPS 2 to 30 | DN50 to 750
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 Range	NPS 3 to 24 | DN80 to 600
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

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

Sizes Range	NPS 2 to 30 | DN50 to 750
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	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

PENTA-WEDGE - SLURRY GATE VALVE (PW)

Size Range	NPS 4 to 24 | DN100 to 600 (Larger sizes on request)
Actuation	NPS 4 to 12 | DN100 to 300 Hand wheel NPS 12 to 28 | DN300 to 700 Gearbox 4:1 ratio, subject to pressure. Hydraulic, pneumatic or electric actuators are an option as required
Figure	PW100-PW600
Rating	From 150 psi to 2175 psi at 150°F | From 10bar to 150bar at 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 Range	NPS 4 to 24 | DN100 to 600
Figure	TC0100 – TC600
Rating	ANSI B16.5 Cass 150 @ 65°C nominal 10bar 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

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BRAY/RITE MODEL 210/212 WAFER CHECK VALVES

Size Range	NPS 1 to 60 | DN25 to 1500
Temp. Range	Cryogenic to high temperature (pending model selected)
Pressure Ratings	ASME 125, 150, 300 | PN 10/16/25/40
Body/Disc Materials	ASTM A126 CLB | ASTM A216 WCB | ASTM A351 CF8M ASTM A 395 DI | and exotics on request
Seat Materials	BUNA | EPDM | PTFE-Virgin | Teflon Encapsulated Silicone | Viton | A240-304 | A240-316 | A351-CF8
Spacer	ASTM A479-316 (PTFE optional)
Face to Face	Manufacturer Standard **Valve Design** ASME B16.34
Test Standard	API 598 | ASME B16.34
Optional Approvals	API 6FD | CE | CRN | FM | NSF-61 | PED | ULC

BRAY/RITE MODEL 205 WAFER CHECK VALVES

Size Range	NPS 2 to 60 | DN50 to 1500
Temp. Range	Cryogenic to high temperature (pending model selected)
Pressure Ratings	API 594 150, 300, 600, 900, 1500, 2500
Body/Disc Materials	ASTM A126 CLB | ASTM A216 WCB | ASTM A351 CF8M ASTM A 395 DI | and exotics on request
Seat Materials	BUNA | EPDM | PTFE-Virgin | Teflon Encapsulated Silicone | Viton | A240-304 | A240-316 | A351-CF8
Spacer	ASTM A479-316 (PTFE optional)
Face to Face	API 594 **Valve Design** ASME B16.34
Test Standard	API 598 | ASME B16.34
Optional Approvals	API 6FD | CE | CRN | NSF-61 | PED

BRAY/RITE MODEL 211 FLANGED CHECK VALVES

Size Range	NPS 2 to 42 | DN50 to 1050
Temp. Range	Cryogenic to high temperature (pending model selected)
Pressure Ratings	API 594 150, 300, 600, 900, 1500, 2500
Body/Disc Materials	ASTM A126 CLB | ASTM A216 WCB | ASTM A351 CF8M ASTM A 395 DI | and exotics on request.
Seat Materials	BUNA | EPDM | PTFE-Virgin | Teflon Encapsulated Silicone | Viton | A240-304 | A240-316 | A351-CF8
Spacer	ASTM A479-316 (PTFE optional)
Face to Face	API 594 **Valve Design** ASME B16.34
Test Standard	API 598 | ASME B16.34
Optional Approvals	API 6FD | CE | CRN | NSF-61 | PED

BRAY/RITE MODEL PVC FLANGED CHECK VALVES

Size Range	NPS 2 to 24 | DN50 to 600
Temp. Range	-240°F to 400°F | -151°C to 204°C pending model selected
Pressure Ratings	API 594 125, 150
Body Material	ASTM D 1784 PVC
Seat Materials	BUNA-N, EPDM, Viton
Spacer	ASTM A479 - 316
Face to Face	API 594 **Valve Design** B16.34
Test Standard	API 598 **Optional Approvals** CE | CRN | PED

BRAY/RITE MODEL DDCV WAFER DOUBLE DOOR CHECK VALVES

Size Range	NPS 2 to 12 | DN50 to 300
Temp. Range	BUNA: -40°F to 250°F | -40°C to 121°C EPDM: -50°F to 300°F | -46°C to 148°C
Pressure Ratings	API 594 150
Body Materials	ASTM A351 CF8M | ASTM A 356 Gr. 65-45-12
Disc Materials	ASTM A351 CF8M
Seat Materials	BUNA | EPDM **Spacer** PTFE
Valve Design	API 594 **Test Standard** API 598
Face to Face	API 594 **Optional Approvals** CE | CRN | NSF-61 | PED

Options Available For Valve Series 205 - 210 - 211 - 212 - PVC

H-100
External Spring, Weight & Hydraulic Damper

SA-6
Foot Valve

SA-01
External Lever & Spring

SA-7
Emergency Shut-off Fusible Link

SA-1
External Lever, Spring & Weight

SA-10
Dual Balanced Weights

SA-2
Limit Switch

SA-16
External Compression Spring

SA-3
Backflush Lever & External Spring

SA-40
External Weights

SA-4
External Position Indicator

SA-40A
External Compression Spring, Weight & Lever

SA-4A
Backflush Lever

SA-50
External Compression Spring, Weight & Hydraulic Damper

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SERIES 98 PNEUMATIC SCOTCH YOKE ACTUATOR

Media[1]	Dry Compressed Air | Inert Gas | Natural Gas	
Pressure Range	40 to 150 psi | 2.8 to 10.3 bar	
Temperature Range[1]	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.

SERIES 98 HYDRAULIC SCOTCH YOKE ACTUATOR

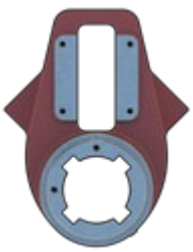
Media[1]	Hydraulic Fluid - Standard Trim ISO VG 32/46, ISO-L-HV, flash point>157°C	
Pressure Range	500 to 3000 psi | 35 to 207 bar	
Temperature Range[1]	Standard: -20°F to 212°F | -29°C to 100°C	
	Low Temperature: Down to -50°F | Down to -46°C	
	PED: -20°F to 176°F | -29°C to 80°C	
Torque Output	Double 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 & IP68 per IEC 60529	
Safety	ATEX | SIL 3 suitable | PED on request	

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

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

- Torque output curve is shifted.
- Torque demands are not the same at seat break and end positions.
- Applications for optimizing the torque output vs shaft angle curve.

SCOTCH YOKE COMMON FEATURES

- Compact design offers a high torque-to-weight ratio.
- Modular design offers multiple configurations, providing flexibility and efficiency at reduced cost.
- Module alignment ensured by precision machined centering rings.
- Symmetrical yoke or canted yoke options available to meet a broad range of application torque requirements.
- Optimized for ISO 5211 mounting bases, with fully configurable direct-mount accessories.
- Easy field configuration and simplified maintenance.
- Premium epoxy/polyurethane coating as standard.

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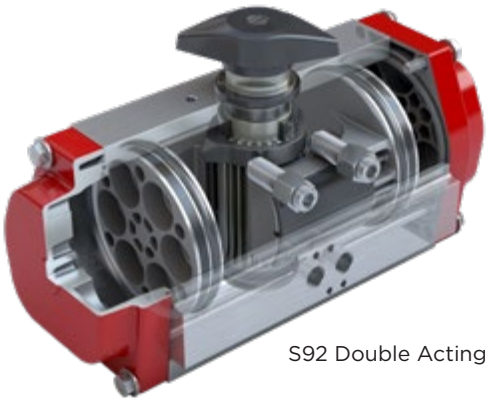
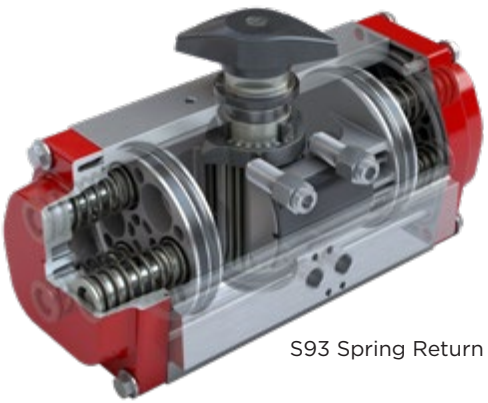


S92 Double Acting



S93 Spring Return

Extreme High Temperature Actuator

Stainless Steel Actuator

SERIES 92/93 PNEUMATIC ACTUATORS

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 Range[1]	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.

CERTIFICATIONS & APPROVALS

ABS | ATEX | Bureau Veritas | PED | SIL 3

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

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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	IS05211	
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 tp 6 total)	
	Optional torque switches available	
Duty Rating	Continious 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 & 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 & Torque Rating	1-phase | 3 phase | DC power Torque up to 78,000 lb-in | 8,800 N m
Enclosure Ratings	Weatherproof IP66 | P67 | IP68 Nema 4 | Nema 4X | Nema 6
Main Housing	High grade aluminum alloy, anodized interior and exterior or nodular cast iron, polyester powder top coated
Mounting	ISO 5211
Ambient Temperature	-4°F to 140°F | -20°C to 60°C
Stall Protection	Embed thermal protection
Certifications	CSA ,CE, UKCA Flameproof, Ex db IIB T4 Dust, Ex tb IIIC T135°C
Conduit Entries	Imperial: 2 x ¾" NPT and 1 x 1" NPT on larger size Metric: 2 x M20 and 1 x M25 on larger size
Lubrication	Grease moly EP
Duty Cycle	S2 (On-Off) Per EN15714-2 Class A S4 (Modulating) Per EN15714-2 Class C
Control Options	Potentiometer (1k ohm) Current source (output: 4-20mA dc) Input Signal: 4-20mA, 0-5V, 1-5V, 0-10V, 2-10V, & 0-20V Local Control Stations
Motor	Squirrel Caged Induction Motor DC Brushed Motor
Drive Bushing	Removable Lug Drive
Manual Override	Declutch mechanism, which can be padlocked
Position Indicator	Top mount dome position indicator
Travel	90 degrees

CERTIFICATIONS & APPROVALS

NEMA 4, 4X & 6
IP66, IP67
IP68 certified for submersible applications (32ft, 72 hours)
CSA, CE

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Series 98 EH Actuators

SERIES 98 EH

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.

Series 92/93 EH Actuators

SERIES 92/93 EH

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 12 or 24 VDC or 48 VDC 120 - 220 VAC Network Protocols

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

Custom Built Linear Actuators

Custom Built Rotary Actuators

KEY FEATURES

- Completely self-contained
- Electric on/off failsafe
- Continuous modulating duty
- Precise controllability and repeatable accuracy
- Adjustable opening and closing speeds
- Weather-proof or explosion-proof construction
- Fail freeze, fail last, fail open or fail close using spring or stored accumulator energy
- ESD and PST capable
- SIL capable
- UL, FM, ATEX, CSA certifications
- Manual hydraulic override
- Custom built options available

APPLICATIONS

- Power Generation
- Mining and Minerals
- Refining
- LNG Facilities
- Gas Pipelines
- Liquid Pipelines
- Water/Wastewater
- Oil and Gas Exploration and Production
- Pulp and Paper Plants

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SERIES 6A ELECTRO-PNEUMATIC POSITIONER

> Smart digital positioner for precise control of valve in various applications
> Low air consumptions thanks to zero bleed design
> Compatible with rotary or linear actuators for single and double acting applications
> Various enclosure options available to withstand challenging environmental conditions
> Equipped with on-board diagnostics checks to support preventative and efficient maintenance
> Local user interface for quick and easy positioner configuration
> Modular design capable of field upgradeable options
> Integral volume booster available for fast operation of large valves
> Fail safe, Fail in Place, Fail to Open options available
> Advanced communications via PROFIBUS PA, Foundation Fieldbus and HART

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
> All Models: NEMA 4, 4X and IP66 and IP67 ingress protection
> Model 5A/B Resin and 5C Aluminum:
NEMA 4, 4X and IP66, IP67 and IP68 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

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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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