

 **Bray** CONTROLS

(800) 792-7427



Contact Your Bray Distributor TODAY:



INDUSTRIAL EQUIPMENT INCORPORATED
Concrete, Aggregate, and Material Handling Equipment

Concrete Solutions with Rock Solid Results

800-792-7427

www.GulfAtlanticEquipment.com

Info@GulfAtlanticEquipment.com

RESILIENT SEATED
Butterfly Valves



(800) 792-7427

PRODUCT QUALITY & PRECISION

Bray manufacturing facilities are certified to ISO 9001 Quality standards, assuring product quality, precision Manufacturing and internal process integrity. The basis For Bray Controls high level of quality assurance are the Quality control guidelines and procedures submitted, Reviewed and approved in accordance with criteria Established within ISO 9001:2000 and EU Directives.

*"Bray Controls is focused on
And committed to meeting the
Expectations and needs of our
Customers while continually
Improving the effectiveness of
Our quality management."*

- All Bray valves are pressure tested to 110% of rated pressure to assure bubble tight shutoff.
- All Actuators are calibrated and cycle tested before shipment. Pneumatic actuators are also pressure tested to assure no leakage.
- Material Traceability—Certification is provided for all valves upon request for all pressure retaining components.
- Positive Material Identification—All materials are subjected to PMI testing to verify material traceability certificate.

Bray products are used in a wide range of industries worldwide including:

- **Chemical**
- **Beverage**
- **Brewing/Wine Making**
- **Pharmaceutical**
- **Food Processing**
- **Petroleum Refining & Oilfield**
- **Transportation**
- **Ultrapure Water**
- **Marine**
- **Pulp & Paper**
- **Mining**
- **Power/FGD**
- **Nuclear Power**
- **Irrigation**
- **Water & Wastewater Treatment**
- **Textile**
- **Desalination**
- **Steel Production**
- **Sugar/Ethanol**
- **HVAC**
- **Concrete Production**



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DESIGN BENEFITS

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1 ISOLATION FROM LINE MEDIA

achieved in two fundamental design concepts:

A. INTERNAL DISC/STEM CONNECTION Bray offers three disc-to-stem connections: Double 'D', Splined, and Double Key. These internal, non-wetted connections eliminate exposed external disc-to-stem connections such as screws or taper pins.



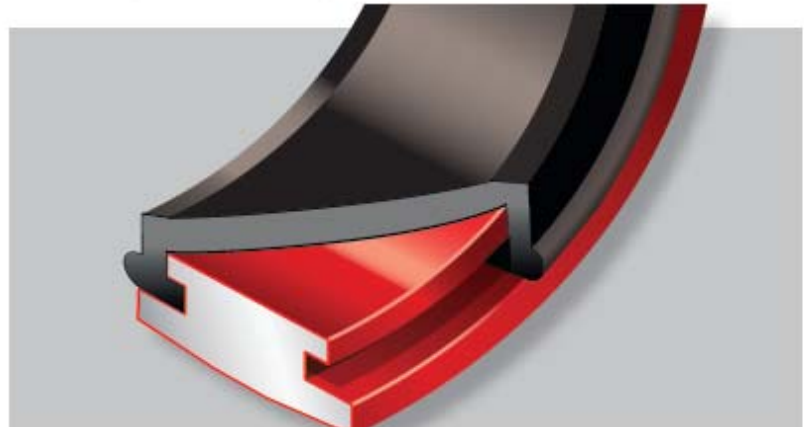
1. Double D: precision machined flats on the stem and in the disc.
Sizes 2" – 20" (50mm–500mm)

2. Spline: male splines in the stem and female in the disc.
Standard Sizes 22" – 48" (550mm–1200mm)
Selected Sizes 54" – 120" (1400mm–3000mm)

3. Double Keyed: keyways machined into disc matching keys in the stem
Selected Sizes 54" – 120" (1400mm–3000mm)

Disassembly of Bray's internal connection is performed by simply pulling the stem out of the disc. Bray's precision machining of the disc and the stem connection minimizes hysteresis and produces maximum strength engagements. All stem designs incorporate a blow-out proof feature.

B. SEAT DESIGN Bray's seat design provides complete isolation of flowing media from the body and stem by a totally encasing design. Designed to seal with slip-on or weld-neck flanges.



Tongue-and-groove

2 INTERNATIONAL COMPATIBILITY

Valve mounting top flanges meet ISO 5211 standards for direct mounting of manual operators and power actuators. All Bray valves have extended necks which allow for at least 2" piping insulation.



3 ACTUATOR MOUNTING

Due to a modular concept of design, all Bray actuators including Handles, Gear Operators, Pneumatic and Electric Actuators mount directly to Bray resilient seated valves. No brackets are required. This allows for simple installation in the field, minimizes possible misalignment and reduces overall height.

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EXTERNAL COATING OPTIONS

1 POLYESTER BODY COATING

Bray's standard product offers valve bodies with a polyester coating, providing excellent corrosion and wear resistance to the valve's surface. The Bray polyester coating is a hard, gloss red finish.

Chemical Resistant

Resists a broad range of chemicals including dilute acids and alkalis, petroleum solvents, alcohols, greases and oils. Also offers outstanding resistance to humidity and water.

Weatherability

Resistant to ultra-violet radiation.

Abrasion Resistant

Excellent resistance to abrasion.

Impact Resistant

Withstands impact without chipping or cracking.

2 NYLON 11 COATING:

Nylon 11 also has superior corrosion resistance and has been used successfully in many applications such as water, cement, food and seawater.

Weatherability

Bray's Nylon 11 coating has been salt spray tested in excess of 2000 hours and used in seawater immersion service for over 25 years without any deterioration of the coating resulting in no corrosion to the coated metal components.

Abrasion Resistant

Excellent resistance to abrasion.

Impact Resistant

Excellent - no chipping or cracking.

*Other customer specified coating materials are available.
Please consult your local Bray representative
for your specific application.*

3 SEACORR COATING:

FDA Epoxy pigmented with 316L Stainless Steel Flake available for corrosive environments as tested per ASTM B-117 salt spray test for 2000 hours.



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SEAT MATERIALS

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Seat Temperature Ranges

EPDM -20°F (-29°C) 250°F (121°C)
BUNA-N 0°F (-18°C) 212°F (100°C)

FKM 0°F (-18°C) 400°F (204°C)
Polyurethane -20°F (-29°C) 176°F (80°C)

EPDM (Peroxide Cured)

EPDM is the abbreviated name for Ethylene Propylene Diene Monomer. In general industry, one may see other abbreviations or trade names used in lieu of EPDM such as EPT, Nordel, ECD, or EPR. Typically these are the same materials as EPDM.

EPDM is a standard seat material offered in Bray resilient-seated butterfly valves. It is the most universal and economical of seat materials offered by Bray; that is, it may be used in a wider range of applications than BUNA-N. Of important significance also is the fact all EPDM seat materials sold by Bray are Food Grade. Bray's EPDM Food Grade seats are perfectly suitable for sanitary applications as well as standard industrial uses. EPDM is also available as a covering for Series 20 discs.

BUNA-N (Black & White)

BUNA-N is the commonly used name for Nitrile synthetic rubber. Nitrile is a copolymer of acrylonitrile and butadiene. BUNA-N is sometimes referred to as NBR, Nitrite, or Hycar. BUNA-N is an excellent general purpose seat material which is particularly suitable for hydrocarbon service. BUNA-N is a standard Bray seat material and is Food Grade; thus suitable for sanitary applications. Note, BUNA-N is also available as a covering for Series 20 disc stems.

FKM

FKM is the ASTM D1418 designation for Fluorinated Hydrocarbon Elastomers (Fluoroelastomers) such as Viton® (DuPont). FKM has some outstanding characteristics such as improved acid, oil, and temperature resistance over standard seat materials.

POLYURETHANE

Urethane seats are primarily used for their ability to resist abrasive wear. Urethane can be used on a reasonably broad range of services. Urethane will withstand severe impact, recover its original shape after distortion and resist abrasion better than other elastomers such as EPDM and BUNA-N.

*Seat material availability depends on valve size & series.
Please consult your local Bray representative
for your specific application.*



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SEAT MATERIALS

Seat Temperature Ranges

PTFE-Lined EPDM (Standard)	-20°F (-29°C)	250°F (121°C)
PTFE-Lined EPDM (High-Temp)	-20°F (-29°C)	302°F (150°C)

Virgin PTFE & Conductive PTFE	0°F (-18°C)	392°F (200°C)
UHMWPE	0°F (-18°C)	185°F (85°C)



PTFE LINED EPDM (Standard or High-temp)

PTFE lined EPDM seat consists of a PTFE liner which forms the faces and the flow way of the seat, and is molded on to an EPDM elastomer backing. Only the inert non-stick PTFE liner surface is exposed to the line media. The EPDM backing acts as a resilient support to the relatively rigid PTFE. These seats are generally used where BUNA-N and EPDM seats are not chemically suitable, especially in corrosive services.

VIRGIN PTFE

All Bray PTFE seats and encapsulated discs are molded from pure, virgin PTFE material to the following specifications: thickness 3 mm, specific gravity 2.16, crystallinity 68%. PTFE's inherent molecular bonding strength gives an excellent chemical, high temperature and tear resistance. Sintered processed PTFE offers lower permeability than melt processed materials such as PFA. These properties combined with Bray's stringent material specifications provide optimum protection against permeation of the line media.

CONDUCTIVE PTFE

Bray Conductive PTFE seats and discs are available for installation in areas of the plant where explosion protection is important. This material was designed to prevent harmful electrostatic discharge. For the ultimate in safety and reliability, Bray has combined electrostatic discharge protection and the excellent chemical resistance properties of PTFE. The conductive PTFE seat and the disc has a minimum thickness of 1/8" (3 mm), providing optimum protection against permeation of the line media.

UHMWPE

UHMWPE seats and discs feature exceptional chemical resistance and are the ideal choice for highly abrasive chemical applications. The natural ability of the UHMWPE's high molecular weight to repel solids prevents in-line particles from damaging the valve's seat surfaces. An economical and high performance choice for abrasive chemical services.

*Seat material availability depends on valve size & series.
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Butterfly Valves

Series 20 wafer	1"-20" (25mm-500mm)	150 psi (10.3 Bar)
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Series 21 lug	1"-20" (25mm-500mm)	150 psi (10.3 Bar)
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Series 22 wafer	2"-20" (50mm-500mm)	150 psi (10.3 Bar)
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Series 23 lug	2"-24" (50mm-600mm)	150 psi (10.3 Bar)
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Series 30 wafer	2"-12" (50mm-300mm)	175 psi (12 Bar)
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14"-20" (350mm-500mm)	150 psi (10.3 Bar)
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Series 31 lug	2"-12" (50mm-300mm)	175 psi (12 Bar)
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14"-20" (350mm-500mm)	150 psi (10.3 Bar)
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Series 31H lug	2"-20" (50mm-500mm)	250 psi (17.2 Bar)
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Series 31U lug	2"-20" (50mm-500mm)	285 psi (20 Bar)
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Series 3A	2"-12" (50mm-300mm)	175 psi (12 Bar)
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double flanged	14"-20" (350mm-500mm)	150 psi (10.3 Bar)
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Series 3AH	2"-20" (50mm-500mm)	250 psi (17.2 Bar)
double flanged		

Series 32 wafer	22"-36" (550mm-900mm)	75 psi (5.2 Bar)
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Series 33 wafer	22"-36" (550mm-900mm)	150 psi (10.3 Bar)
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Series 35	22"-120" (550mm-3000mm)	75 psi (5.2 Bar)
double flanged		

Series 36	22"-120" (550mm-3000mm)	150 psi (10.3 Bar)
double flanged		

Series 36H	22"-60" (550mm-1400mm)	232 psi (16 Bar)
double flanged		

Series 35F	32"-60" (800mm-1500mm)	75 psi (5.2 Bar)
double flanged		

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ACTUATORS & ACCESSORIES (800) 792-7427



SERIES 70 *ELECTRIC*

Torque 300 to 18,000 lb-ins (34-2030 Nm)

Voltage VAC: 24, 120, 220
VDC: 12, 24

Standard Enclosure NEMA 4, 4X

Explosion Proof: NEMA 4, 4X, 7 and 9

The Series 70 is a low profile, compact and powerful actuator with customer-friendly features.

- Manual declutchable handwheel
- Local high visibility position indicator
- Digital interface available
- Optional microprocessor based modulating control



SERIES 73 *ELECTRIC*

Torque 100 to 600 lb-ins (11-70 Nm)

Voltage VAC: 120, 220
VDC: 12, 24

Standard Enclosure NEMA 4, 4X, IP65

The Series 73 is a low cost electric actuator for rotary valves.

- Powered by permanent split-capacitor, reversible induction motor
- All AC motors provided with an internal motor brake
- Heavy duty spur gear system
- Heater available to prevent damage to components due to condensation
- LED position indication



SERIES 92/93 *PNEUMATIC*

Bray pneumatic actuators are rack and pinion, opposed-piston actuators available in two versions: double acting and spring return.

- Maximum pressure rating of 140 psi (9.7 bar) and a temperature range of -20°F (-29°C) to +200°F (+95°C)
- 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.
- Special coatings and materials available for corrosive environments
- NAMUR accessory compatible



SS ACTUATOR



TRAVEL STOP



SPRING RETURN

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ACTUATORS & ACCESSORIES



SERIES 50 - Valve Status Monitors

- 10 amps at 125 or 250 volts AC
- Internal travel switches that are prewired to a terminal block



SERIES 52 - Valve Status Monitors

- ProxSensor provides 2 proximity sensors in one fully sealed, compact enclosure.
- AC, DC, Intrinsically Safe and BUS Network versions are offered.



SERIES 63 - 3 & 4 way solenoids

- Waterproof (NEMA 4,4X) and explosion proof (NEMA 7,9) housings are standard
- NPT and IP65 DIN connections are offered with both single and dual coils



SERIES 6A

Electro-Pneumatic Positioners

- Precise, microprocessor driven flow control and advanced communication
- For use with either double or single acting actuators



Serial Bus

Communication

- Bray offers several products featuring serial bus communication.
- Multiple protocols available. Consult your local Bray representative.

Manual Operators



SERIES 1 - Handle & Notch Plate



SERIES 4 - Gear Operator



SERIES 5 - Declutchable Gear Operator

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