



YOUR GLOBAL FLOW CONTROL PARTNER™



**BRAY/McCANNALOK**

Cryogenic & Low Temperature High Performance Butterfly Valves  
Featuring the Polar® Seat

### Bray/McCannalok Cryogenic Features

The advanced engineered **Polar® Seat** has been contoured to provide strength and flexibility at cryogenic temperatures delivering consistent tight shutoff.

- Industry leading shutoff with high cycle capability at cryogenic temperatures
- Advanced engineered Polar® Seat
- Certified compatibility with liquid and gaseous oxygen (material compatibility of critical components have been certified by third party testing laboratory)
- ASME Class 150 / 300:  
3" – 24" (80mm - 600mm)  
wafer, lug and double flanged body styles
- **Cryogenic Trim**  
-320°F to 250°F (-196°C to 121°C)
- **Low Temperature Trim**  
-60°F to 250°F (-51°C to 121°C)
- One-piece high-strength impact resistant stem
- Contoured disc to maximize flow
- Oxygen cleaning capabilities

### Bray's Polar® Seat Performance

Bray has raised the bar on cryogenic double offset butterfly valves by providing superior performance for cryogenic applications. Reliability tested and validated to perform 5,000 cycles at -320°F (-196°C) while maintaining strict leakage standards.



### Bray/McCannalok Has Met These Cryogenic Seat Leakage Standards

BS 6364	100 mm³/s x DN
MSS SP-134	75 cc/min/NPS
ISO 28921-1	50 mm³/s x DN
Major Oil & Gas Co.	33 mm³/s x DN
Major Air Separation Co.	15 mm³/s x DN

### Industries and Applications

- Aerospace
- Air Separation
- Beverage Processing
- Ethylene
- Food Processing
- Gas to Liquids
- Liquid Nitrogen
- Liquid Oxygen
- LNG Liquefaction
- LNG Receiving Terminals
- LPG Handling
- Petroleum
- Refrigeration
- Steel Production





## Materials of Construction

### Cryogenic Trim

-320°F to 250°F (-196°C to 121°C)

Extended bonnet per ISO 28921-1

Customized bonnet lengths available.

For liquid oxygen service Bray's LOX trim must be specified.

<b>Body:</b>	ASTM A351 Gr CF8M Stainless Steel
<b>Stem:</b>	Nitronic 50 (XM-19)
<b>Packing:</b>	PTFE
<b>Disc:</b>	ASTM A351 Gr CF8M Stainless Steel
<b>Seat:</b>	Polar® Seat
<b>Extended Bonnet:</b>	316 Stainless Steel



### Low Temperature

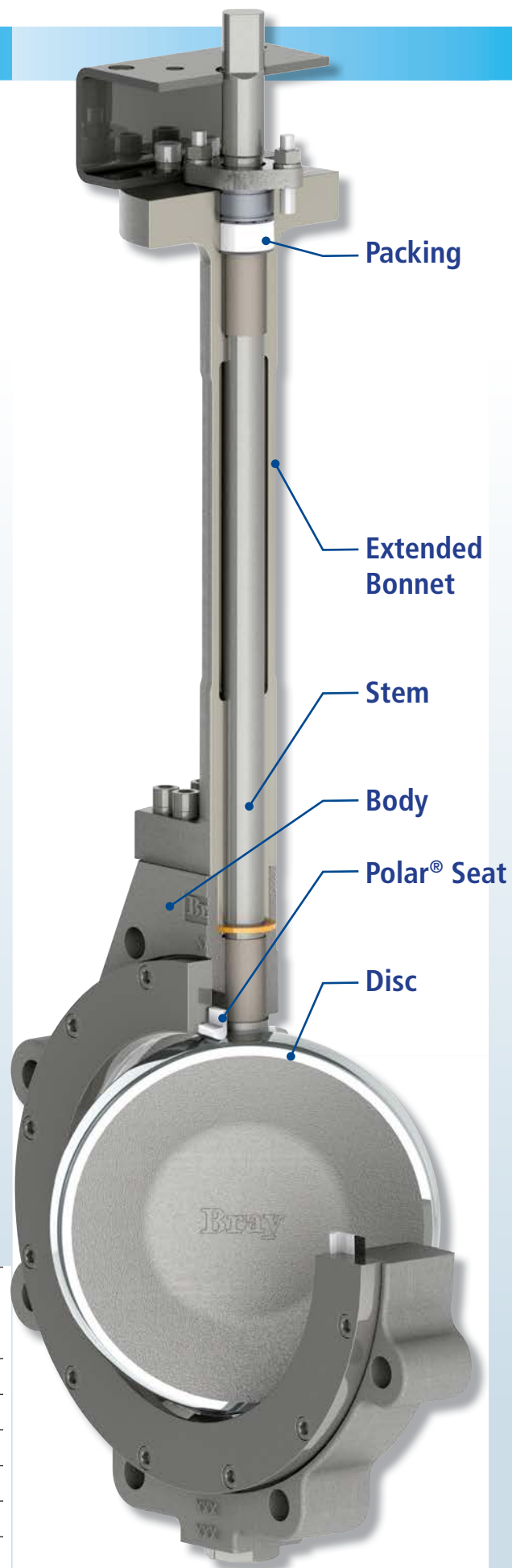
*Extended bonnet not required.*

### Low Temperature Trim

-60°F to 250°F (-51°C to 121°C)

*Extended bonnet not required.*

<b>Body:</b>	ASTM A352 Gr LCC impact tested at -60 °F (-51 °C) ASTM A351 Gr CF8M Stainless Steel
<b>Stem:</b>	17-4 PH Gr H1150D
<b>Packing:</b>	PTFE
<b>Disc:</b>	ASTM A351 Gr CF8M Stainless Steel
<b>Seat:</b>	Polar® Seat



## Cryogenic Testing Facilities:

Bray's Technical Center in Houston includes a dedicated area with cryogenic test bunker for validations and customer testing. Run by trained and experienced cryogenic valve specialists, our facilities include:

- 6,000 gallon liquid nitrogen tank
- Mass spectrometers
- Stainless steel test boxes
- Control panel with remote operation and monitoring

# Bray®



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## Bray Controls

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