

#### **OVERVIEW**

Featuring Bray's patented, award-winning design, this double offset high performance butterfly valve is precision engineered to deliver quality, value, and reliability in high temperature, high pressure, high cycle, and critical service applications.

#### **APPLICATIONS**

- Caustic
- Chilled Water
- Pressure Swing Adsorption (PSA)
- Seawater
- Sour Gas (NACE) Steam
- Vacuum

#### **MEDIA**

- > Acids
- Alkalis
- > Corrosive Chemicals
- > Dry Chlorine (Gas or Liquid)
- > Gases
- > Hydrogen
- > Oxygen
- > Water

#### **SPECIFICATIONS**

Size Range	NPS 2 to 66 (DN 50 to 1500)	
Body Style	Wafer   Lug   Double Flanged	
Temperature Range	Resilient Seated	-62 to 500°F (-52 to 260°C)
	Firesafe	-62 to 500°F (-52 to 260°C)
	Metal Seated	up to 900°F (up to 482°C)
Pressure Ratings	ASME Class 150	300   600
	PN 10   16   25   4	10   63   100
Leakage Rate	Resilient Seated	Zero Leakage
	Metal Seated	FCI 70-2 Class IV

#### NOTE

> Firesafe or metal seated control options available; not in all sizes and pressure classes.

#### **FEATURES AND BENEFITS**

#### 1 DOUBLE OFFSET STEM AND DISC DESIGN

Reduced seat wear | lower torque | extended service life

# 2 BLOWOUT-PROOF STEM

Does not rely on actuation to prevent stem blowout

# 3 ADJUSTABLE STEM PACKING

Easy access | field serviceable | low fugitive emissions

# 4 ENERGIZED RESILIENT SEAT DESIGN

Zero leakage | self-adjusting | isolated from line media

#### BIDIRECTIONAL PRESSURE ASSISTED SEALING

Optimal sealing performance for low and high pressures

# **6 FULL-FACED SEAT RETAINER**

Secured outside sealing area | easy seat replacement

#### **STEM BEARINGS**

Stem support | minimizes deflection | corrosion resistant

#### 8 INTERNAL OVER-TRAVEL STOP

Minimizes possible seat damage | extends service life

# DEAD END SERVICE

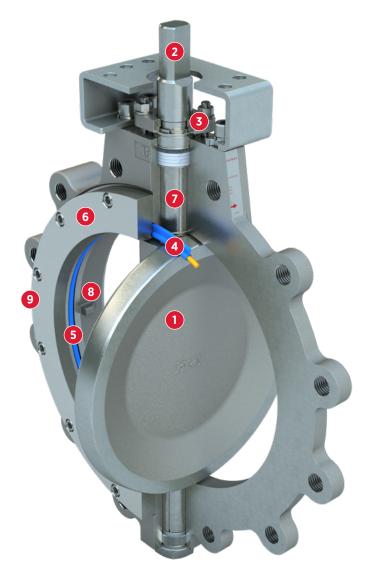
Bidirectional full rating for lug and double-flanged bodies

#### **FIRESAFE DESIGN OPTION (API 607)**

Inconel® metal seat | graphite packing | bidirectional

#### METAL SEATED CONTROL VALVE AVAILABLE

> Inconel® metal seat



# **DESIGN STANDARDS**

Valve Design	ASME B16.34  MSS SP 68  ASME VIII  API 609 Category B			
				EN 593
				EN 12516
			Top Flange	ISO 5211
Flange Drilling <sup>1</sup>	ASME B16.5			
	ASME B16.47			
	EN 1092-1			
Seat Tightness Test	API 598			
	MSS SP 61			
	EN 12266			
	ISO 5208			
Face-to-Face	ASME B16.10			
	API 609 Category B			
	EN 558			
	ISO 5752			

#### NOTE

# **CERTIFICATIONS & APPROVALS**

Certifications	CE: PED 2014/68/EU   ANSI/NSF 61   SIL
Fire Test	API 607   ISO 10497
Fugitive Emissions	API 641   ISO 15848-1   TA-Luft VDI 2440
Approvals	ABS Type   ATEX 2014/34/EU   Bureau Veritas Type   China Classification Society (CCS) Type   CRN   DNV   EC1935   TR CU (GOST)

#### NOTE

# **MATERIAL OPTIONS**

Body Materials	Carbon Steel	
	Stainless Steel	
	Nickel Aluminum Bronze	
	Hastelloy® C	
	Titanium	
Disc Materials	Stainless Steel	
	Nickel Aluminum Bronze	
	Monel®	
Stem Materials	Stainless Steel	
	Monel® K500	
	Inconel® 718	
Seat Materials	RPTFE with Resilient Energizer	
	PTFE with Resilient Energizer	
	UHMWPE with Resilient Energizer	
	TFM with Low Temperature Resilient Energizer	
	(Firesafe) Inconel® & RPTFE with Resilient Energizer	

# NOTE

**SERIES 40/41 SERIES 42/43 SERIES 44/45 SERIES 4A SERIES 4B** ASME Class 150 ASME Class 300 ASME Class 600 ASME Class 150 ASME Class 300 NPS 2 to 66 NPS 2 to 54 NPS 3 to 36 NPS 2 to 54 NPS 3 to 42 DN 50 to 1650 DN 50 to 1350 DN 80 to 900 DN 50 to 1350 DN 80 to 1050

#### NOTE

<sup>1</sup> Additional flange drilling options available.

<sup>&</sup>gt; A complete listing of certifications and approvals can be found at BRAY.COM.

<sup>&</sup>gt; Other materials are available on request.

<sup>&</sup>gt; Firesafe, high cycle, or metal seated control options available; not in all sizes and pressure classes.