



## **TAIL GAS BUTTERFLY VALVES**

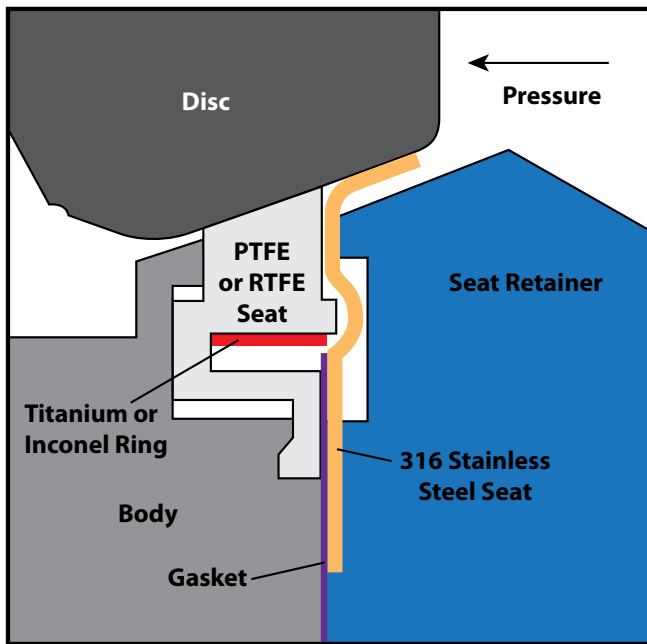


## Design and Construction

DeZURIK has specially designed the Tail Gas High Performance Butterfly Valve to meet the rigorous requirements of services where polymerization or solidification of media can prevent valve operation, including:

- Tail gas service in refinery sulfur recovery units
- Polymer processing
- Asphalt service
- Adhesive manufacturing

DeZURIK standard High Performance Butterfly Valves are available with standard steam jackets for less rigorous requirements, but Tail Gas Valves include unique features which keep the valve at process temperature and protect critical bearing and seat areas. In addition to steam jacketing the body, internal steam passage ports are located near the upper and lower body bearings. These features prevent hydrogen sulfide and other media from solidifying, freezing the bearings, damaging the seat and preventing tight shutoff. NACE trim is standard (NACE MR 01-75)



## Steam Jacketed Body

To prevent hydrogen sulfide from solidifying, carbon steel or 316L stainless steel steam jackets are welded to carbon steel or 316 stainless steel bodies. The jacket is supplied with through holes for installation between mating pipe flanges. In addition, internal steam passage ports are located near the upper and lower cover assembly. The horizontal shaft installation prevents hydrogen sulfide and other media from solidifying, especially in the bearing area.

## Special High Temperature Lubricant

A special high temperature lubricant is used between the packing and bearings and between the shaft and lower cover assembly. The lubricant fills any voids preventing media from solidifying in the bearing and shaft areas, reducing the possibility of increased operating torque from the build up.

## High Temperature Paint

As standard, 6 mils of Hi-Temp Aluminum paint are applied to the valve exterior.

## Bearing Seals

Fluorinated hydrocarbon (fluoro-elastomer) seals are provided on the inside and outside diameters of the solid nickel stainless steel bearings to protect the bearings from process media.

## Dual Seating Concept

Tail Gas Butterfly Valves incorporate the Frye-Block™ dual seat design. The dual seat design features a primary seat of PTFE with either a Titanium or Inconel hoop stressed memory device. Reinforced PTFE (RTFE) seats are available for higher temperatures and greater cycle life. Both the primary and the secondary 316 stainless steel seat contact the disc. If hydrogen sulfide or other media should start to solidify on the disc edge, the secondary metal seat wipes the disc edge, protecting the PTFE or RTFE seat

## Corrosion Resistant Disc

If any moisture is present in the pipeline, hydrogen sulfide can react to form sulfuric acid. Stainless alloy materials are used to protect the disc from the chemical attack of sulfuric acid, maintaining shutoff integrity.

## Actuator and Accessories Options

Actuator options include manual gears: PowerRac double-acting and spring-return actuators; spring diaphragm actuators, and G-Series cylinder actuators. A full complement of accessories including switches, positioners, solenoids and speed controls are also available.

# Ordering

<b>BTG,</b>	<b>3,</b>	<b>W1,</b>	<b>CS,</b>	<b>G1,</b>	<b>AA-</b>	<b>S5S-</b>	<b>NSV-</b>	<b>TTS2*</b>
Valve Style	Valve Size	End Style	Body Material	Packing Material	Disc	Shaft Trim Material	Bearings Combination	Seat

## Valve Style

### Give valve style code as follows:

BTG = Tail Gas Butterfly Valve

## Valve Size

### Give valve size code as follows:

3	=	3"	80mm	18	=	18"	450mm
4	=	4"	100mm	20	=	20"	500mm
6	=	6"	150mm	24	=	24"	600mm
8	=	8"	200mm	28	=	28"	700mm
10	=	10"	250mm	30	=	30"	750mm
12	=	12"	300mm	36	=	36"	900mm
14	=	14"	350mm	42	=	42"	1050mm
16	=	16"	400mm	48	=	48"	1200mm

## End Style

### Give end style code as follows:

W1 = Wafer ANSI Class 150

Other end styles are available on application

## Body Material

### Give body material code as follows:

CS = Carbon Steel

S2 = 316 Stainless Steel

## Packing

### Give packing code as follows:

G1 = Carbon Graphite (700°F [370°C] max. temperature)

G2 = Graphoil (1000°F [540°C] max. temperature)

**Note:** The limiting factor in valve selection is the lowest temperature of the packing or seat.

## Trim Combination

### Give disc, shaft, bearing and seat material code as follows:

#### Disc Material

AA = Alloy 20

S2 = 316 Stainless Steel

#### Shaft Material

S5S = 17-4 PH Stainless Steel Square Shaft (For use with Mastergear Manual Actuators, PowerRac and Diaphragm Actuators)

S5R = 17-4 PH Condition J1150 Stainless Steel Round Shaft (For use with the G-Series Cylinder Actuators or Other Actuators)

#### Bearing Material

NSV = Nickel Stainless Steel with Viton Seal\*

\*Note: All valve components, except NSV bearing, certified to NACE (MR-01-75).

S2V = 316 Stainless Steel, Nickel Plated/Heat Treated with Viton Seal (NACE).

#### Seat Material

TTS2 = PTFE/Titanium and 316 Stainless Steel, 450°F (230°C) max. Temperature

RTS2 = Reinforced PTFE and 316 Stainless Steel, 500°F (260°C) max. temperature

S2 = 316 Stainless Steel High temperature (4" and larger [100mm and larger]) 700° F (370°C) max. temperature

TIS2 = PTFE /Inconel and 316 Stainless Steel, 450°F (230°C) max. temperature

RIS2 = Reinforced PTFE/Inconel and 316 Stainless Steel, 500°F (260°C) max. temperature

## Options

S2L = 316L Stainless Steel Jacket (Carbon Steel is standard)

## **Sales and Service**

For information about our worldwide locations, approvals, certifications and local representative:

Web Site: [www.dezurik.com](http://www.dezurik.com) E-Mail: [info@dezurik.com](mailto:info@dezurik.com)



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