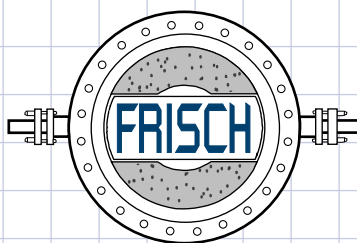


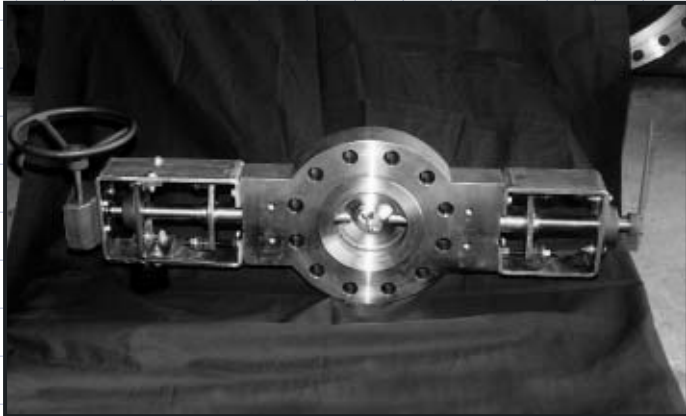
FRISCH
ENGINEERED PRODUCTS INC.

Butterfly Valves & Dampers

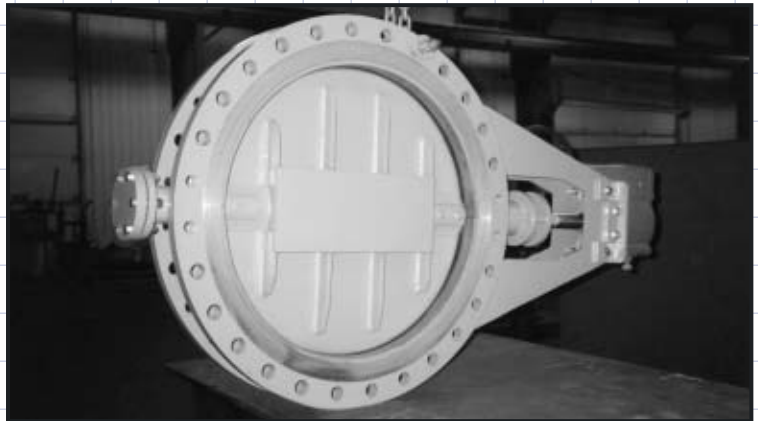


www.frischvalves.com

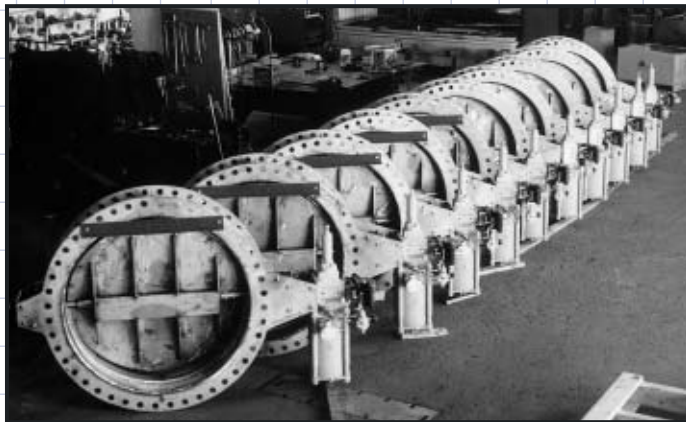
BUTTERFLY VALVES & DAMPERS



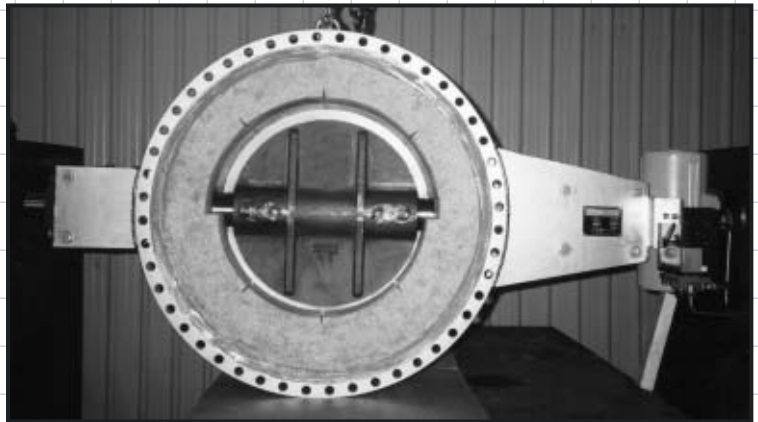
6" ANSI 900 Wafer Butterfly Valve
for 1800°F flue gases @ 140 PSIG



30" Resilient Seat BFV for 200 PSI
Water Service



48" Butterfly Valves for 1100°F
flue gases @ 10 PSIG



32" Refractory Lined Butterfly Damper
for 10 PSI @ 2100°F



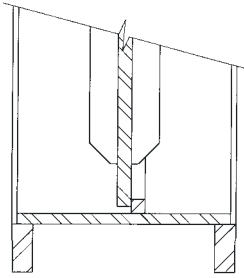
32" & 36" x 72" Butterfly Valves
for 100°F gases @ 2 PSIG



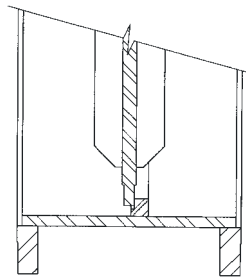
98" O-Ring Butterfly Valves
250°F Steam Service for Cooling Tower

DESIGN OPTIONS

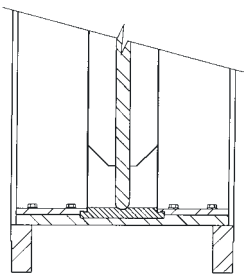
SEATS



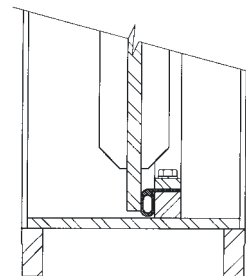
Step Seat for 99% Shutoff



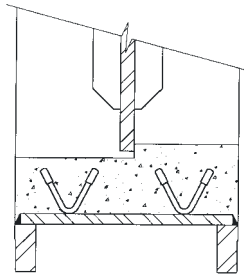
Machined Disc and Seat
Class II & III Shutoff



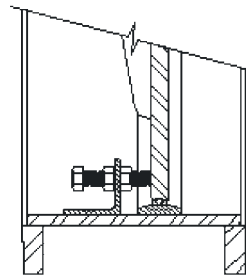
Resilient Seat
Bubble Tight Shutoff



Tadpole Seat
Class II & III Shutoff



Refractory Step Seat



O-Ring Disc Edge
Bubble Tight Shutoff

Materials of Construction:

Frisch has extensive metallurgical experience in a multitude of different severe service applications. We can manufacture all of our valves from any castable, forgable or weldable alloy. We are particularly well versed in high temperature (above 1,000°F) erosive corrosive gas flows.

Design Temperature

800°F - 1100°F
800°F - 1200°F
800°F - 1400°F
800°F - 1600°F
1000°F - 1800°F

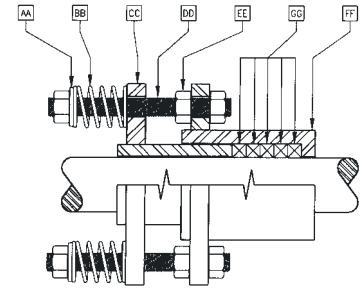
1000°F - 2000°F

1600°F - 2300°F
1600°F - 3000°F

Recommended Alloy

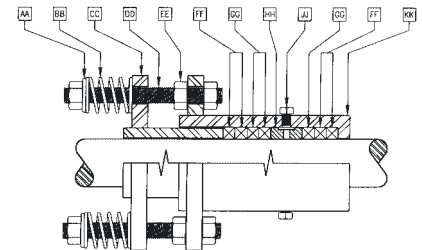
Corten A®, A515Gr70
A387GR11, GR22
304, 304H, 321, 347
316, 316H, 309, Inconels
RA85H, Incolloys, 310,
HR120
RA330, RA333, 556, 446,
HR160, A297Gr HE, HK,
Multimet®, Ultimet®
Supertherm®, Ceramics
Ceramics, Refractories

STUFFING BOXES



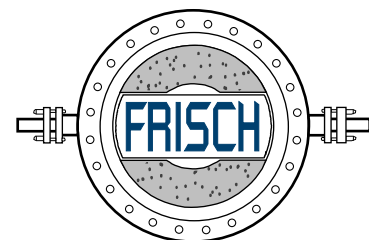
STANDARD - LIVE LOADED

NO.	QTY.	DESCRIPTION	MATERIAL
AA	2	FLAT WASHERS	GRADE 5 CAD
BB	2	SPRING LOAD	DANLY
CC	1	GLAND FOLLOWER	SA-36 CS
DD	2	1/2" NC STUD	SA-193-B7
EE	6	1/2" NC HEX NUT	SA-194-2H
GG	5	3/8" PACKING	EPDM
FF	1	STUFFING BOX HOUSING	SA-36 CS



GAS PURGE OR LUBRICATED - LIVE LOADED

NO.	QTY.	DESCRIPTION	MATERIAL
AA	2	FLAT WASHERS	GRADE 5 CAD
BB	2	SPRING LOAD	DANLY
CC	1	GLAND FOLLOWER	SA-36 CS/C1018
DD	2	1/2" NC STUD	SA-193-B7
EE	6	1/2" NC HEX NUT	SA-194-2H
FF	3	3/8" PACKING	D.F. GRAFOIL
GG	4	3/8" PACKING	ANCHOR #1342
HH	1	LANTERN RING	CAST IRON
JJ	2	1/8" NPT INLET	SA-105
KK	1	STUFFING BOX HOUSING	SA-36 CS/C1018



CORPORATE PROFILE

Frisch Engineered Products' Corporate Mission is to provide every customer with **reliable valves** for the **best price without compromising quality**. Our **corporate commitment** is to maintain a worldwide reputation of **distinction in the fabricated valve market**. Our **seasoned personnel, insightful and innovative management** systems, and a **tightly controlled quality assurance** program ensure timely delivery of the technologically advanced valves our customers can depend on.

Frisch's team is comprised of leaders in engineering, marketing, finance, and manufacturing. Since 1988 our products for **severe service applications** have been meeting the **most rigorous requirements** of world leaders in industry and government.

Frisch manufactures a complete range of valves for low pressure, high temperature, erosive and corrosive services. We also provide comprehensive packages for actuation and control. Each package is custom engineered to specific customer requirements. We are capable of supplying valves for

PRODUCTS

Frisch valves and dampers include a wide variety of types and sizes of **butterfly, angle, diverter, guillotine, gate, and refractory lined** designs. Valve seats and seals of creative design configurations progress from swing-through for **precise low pressure flow** control to machined hard faced seats for **very tight shutoff** to FCI 70.2 Class V.

Sizes: 2' to 144" for the products listed to the right.

Pressure Classes to ANSI 1500

Services temperatures from -400°F to 3000°F.

services to **50 psi @ 3,000°F**. The Frisch Team has serviced the following industries:

- Coal Gasification
- Carbon Black
- Cement Plants
- Metals Refining and Smelting
- Oil Refining
- Petro Chemical
- Power Generation
- Pulp and Paper
- Steel Mills
- Sulphuric Acid Plants
- Waste Incineration and Management
- Waste Water Treatment

The plants above use our products in the following areas:

- Bag Houses
- Catalytic Cracking Units
- CO Boilers
- Control or Isolation of Flue Gases
- Control and Isolation of Process or Kiln Gases
- Dust Collection Systems
- Fume Collection & Incineration
- Reactor Inlet and Outlet
- Sulphur Burning Furnaces
- Sulphur Recovery
- Turbo Expander Isolation and Control
- Waste Gas Recovery Systems
- Waste Heat Boilers

Contact Frisch for assistance to **solve all your severe service** fluid control and shutoff problems.

We manufacture the following products:

Butterfly Valves

- Rubber Seated, Metal Seated, Swing Through

Guillotine Dampers

- Round, Rectangular, Zero Leak, Refractory Lined

Gate Valves

- Rolling, Slide, Knife, Refractory Lined

Multi Blade Dampers

- Parallel or Opposed Blade, Refractory Lined

Angle Valves

- Metal Seated, Refractory Lined

Diverter & Mixing Valves

- Y or T Configurations, 2, 3, or 4 Way

FRISCH FIGURE NUMBER SYSTEM

Eg.: 20:010:RF:AA:AE



Butterfly Valve, designed for 10 PSI @ 800°F, with Raised Face Flanged Ends, Body is Carbon Steel, and Trim is 304 Stainless Steel

FRISCH VALVE TYPE

- 20 - Butterfly
- 25 - Refractory Lined Butterfly
- 30 - Plug/Jug
- 35 - Refractory Lined Plug/Jug
- 40 - Guillotine
- 45 - Refractory Lined Guillotine
- 50 - Louvered
- 55 - Refractory Lined Louver
- 60 - Gate
- 62 - O-Port Gate
- 65 - Refractory Lined Gate
- 70 - Check
- 75 - Refractory Lined Check
- 80 - Diverter-T
- 85 - Refractory Lined Diverter-T
- 90 - Diverter-Y
- 95 - Refractory Lined Diverter-Y

DESIGN PRESSURE

- 001 - 1 PSI to 999 - 999 PSI

BODY END STYLE

- BW - Butt Weld
- FF - Flat Face Flange
- RF - Raised Face Flange
- RT - Ring Type Joint Flange
- WF - Wafer Flange

BODY MATERIAL

- AA - A36/44W Carbon Steel
- AB - A516GR70 Carbon Steel
- AC - A387GR11 Chrome Moly
- AD - A387GR22 Chrome Moly
- AE - A240T304 Stainless
- AF - A240T304 H Stainless
- AG - A240T316 Stainless
- AH - A240T316 L Stainless
- ZZ - Other - Specify

TRIM MATERIAL

- Same Code as Body Material

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Battleford, SK S0M 0E0
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