

NORRISEAL'S HIGH PERFORMANCE SERIES BUTTERFLY VALVES

Solutions through engineered products.

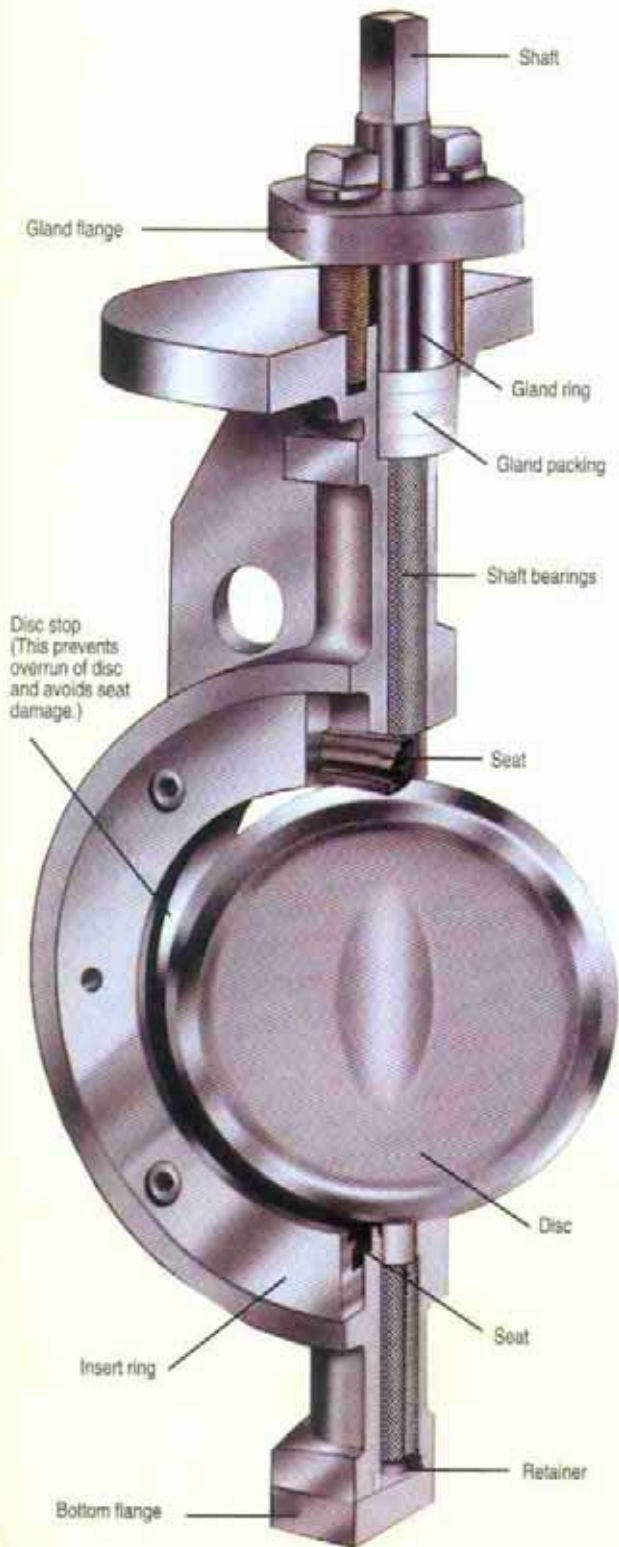
NORRISEAL[®]
A **DOVER** RESOURCES COMPANY

SIZES 2" - 24"

High Performance Butterfly Valves



Soft Seated High Performance Valve by Norriseal Series G Seat



Standard Production Range

Rating	ANSI Class 150	ANSI Class 300	ANSI Class 600
Rating	ISO PN 10, 16, 25	ISO PN 25, 40	ISO PN 64
Size - inch	2 - 60	2 - 30	3 - 24
Size - mm	50 - 1500	50 - 750	80 - 600
Face-to-face dimension	ISO 5752 / short (DIN3202 / K1), API 609, MSS SP - 68		
Top flange	ISO 5211 / 1		
Connection	Wafer design, Lugged design, Flanged design		
Actuator - Manual	Lock lever handle, Worm gear		
Actuator - Automatic	Pneumatic double acting, Pneumatic spring-return, Electric motor, Hydraulic cylinder		

Main Materials

Rating	ANSI Class 150	ANSI Class 300	ANSI Class 600
Body	Carbon steel (A216 - WCB) 304 Stainless steel (A351 - CF8) 316 Stainless steel (A351 - CF8M)		
Disc	A216 - WCB / ENP (electroless nickel plate), A351 - CF8, A351 - CF8M		
Shaft	304SS, 316SS, 17 - 4PH (630SS)		17 - 4PH (630SS)
Seat	PTFE	R - PTFE	R - PTFE
Shaft bearing	R - PTFE / 304SS / 316SS		
Gland packing	PTFE		
Seal	PTFE		

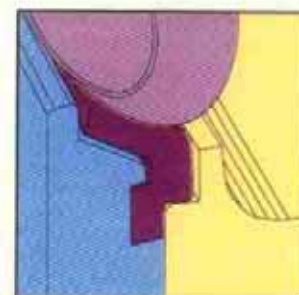
R-PTFE = Reinforced PTFE

Seat Material and Working Temperature

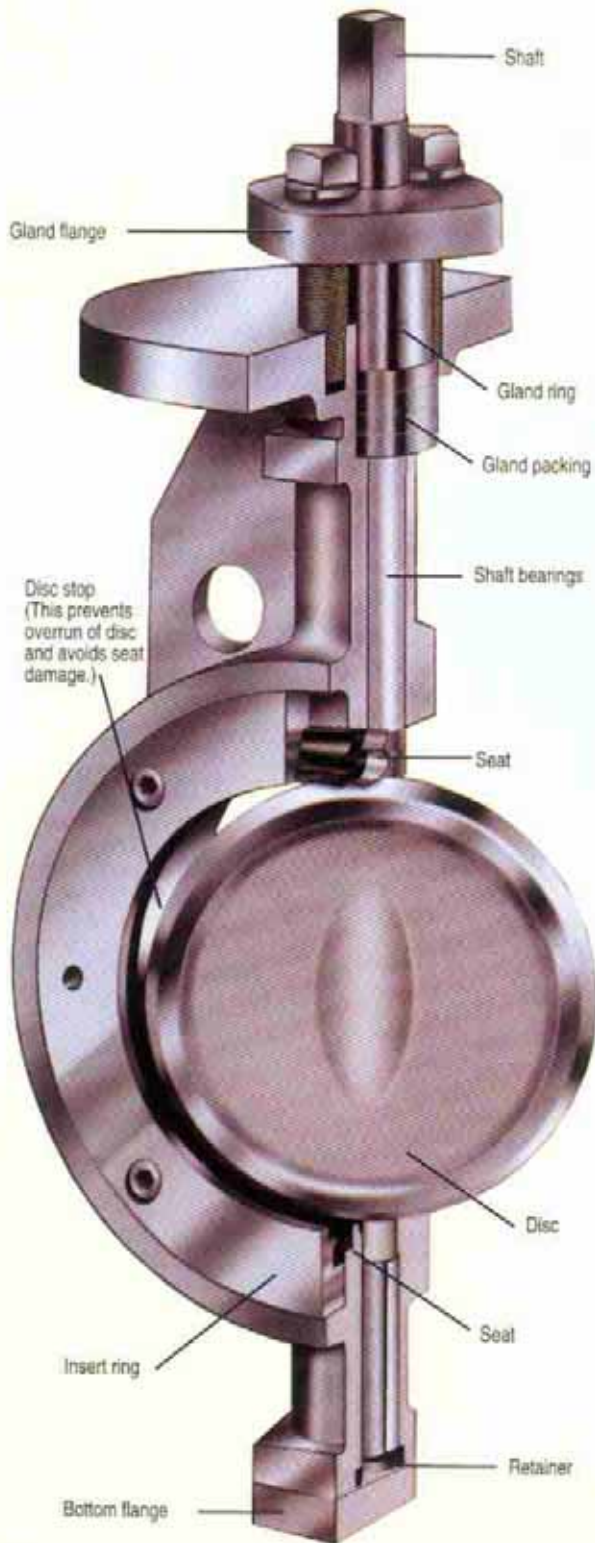
Seat Materials	Maximum working temperature °C (°F)
PTFE	200 (392)
R-PTFE	250 (482)

Seat Leakage

Leakage of soft-seated versions (PTFE, R-PTFE) is ZERO.



Fire-Safe Seated High Performance Valve by Norriseal Series F Seat



Standard Production Range

Rating	ANSI Class 150	ANSI Class 300	ANSI Class 600
Rating	ISO PN 10, 16, 25	ISO PN 25, 40	ISO PN 64
Size - inch	2 - 60	2 - 30	3 - 24
Size - mm	50 - 1500	50 - 750	80 - 600
Face-to-face dimension	ISO 5752 / short (DIN3202 / K1), API 609, MSS SP - 68		
Top flange	ISO 5211 / 1		
Connection	Wafer design, Lugged design, Flanged design		
Actuator - Manual	Lock lever handle, Worm gear		
Actuator - Automatic	Pneumatic double acting, Pneumatic spring-return, Electric motor, Hydraulic cylinder		

Main Materials

Rating	ANSI Class 150	ANSI Class 300	ANSI Class 600
Body	Carbon steel (A216 - WCB) 304 Stainless steel (A351 - CF8) 316 Stainless steel (A351 - CF8M)		
Disc	A216 - WCB / ENP (electroless nickel plate), A351 - CF8, A351 - CF8M		
Shaft	304SS, 316SS, 17 - 4PH (630SS)		17 - 4PH (630SS)
Seat	R - PTFE with 304SS / 316SS		
Shaft bearing	304SS / 316SS		
Gland packing	Graphite		
Seal	Graphite		

R-PTFE = Reinforced PTFE

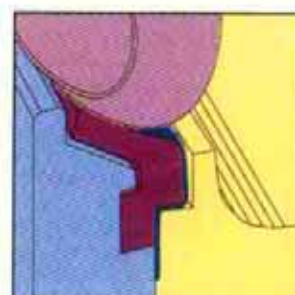
Seat Material and Working Temperature

Seat Materials	Maximum working temperature °C (°F)
R-PTFE / 316SS	260 (500)

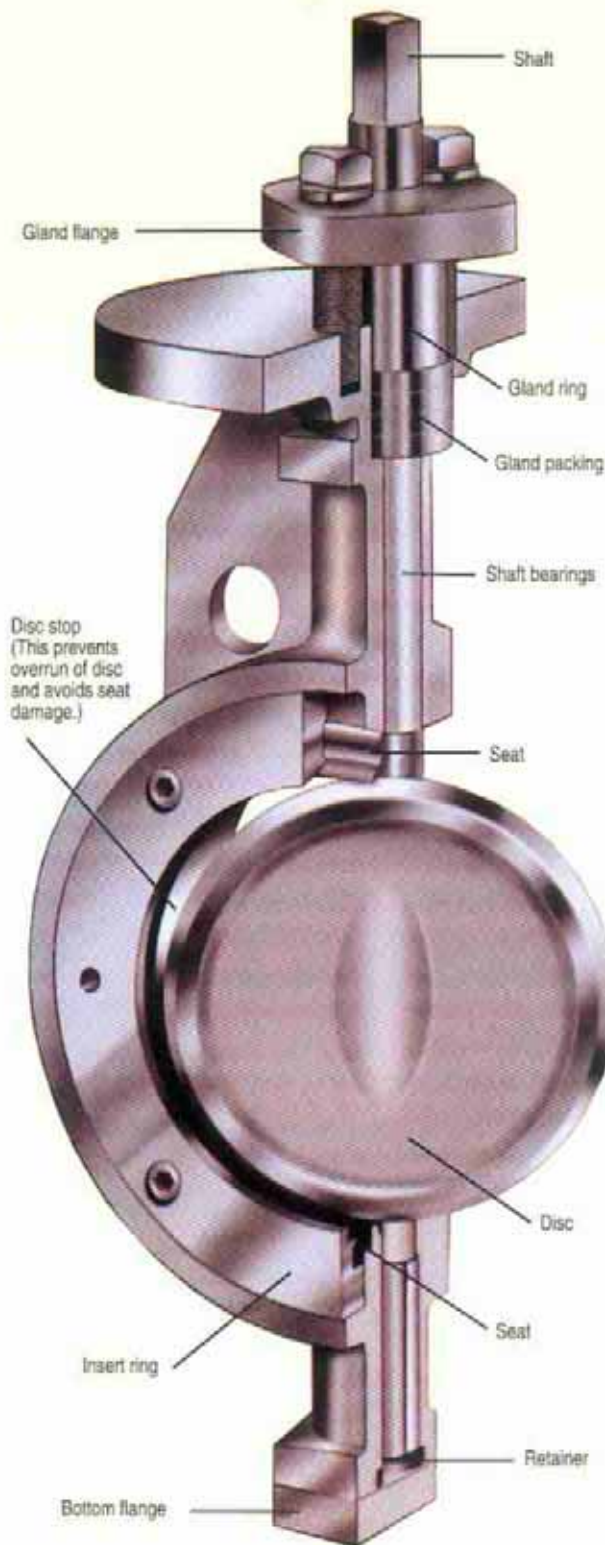
Seat Leakage

Leakage of fire - safe seated versions is ZERO.

Fire-Safe per API 607



Metal Seated High Performance Valve by Norriseal Series M Seat



Standard Production Range

Rating	ANSI Class 150	ANSI Class 300	ANSI Class 600
Rating	ISO PN 10, 16, 25	ISO PN 25, 40	ISO PN 64
Size - inch	2 - 54	2 - 30	3 - 24
Size - mm	50 - 1350	50 - 750	80 - 600
Face-to-face dimension	ISO 5752 / short (DIN3202 / K1), API 609, MSS SP - 68		
Top flange	ISO 5211 / 1		
Connection	Wafer design, Lugged design, Flanged design, Buttweld design		
Actuator - Manual	Lock lever handle, Worm gear		
Actuator - Automatic	Pneumatic double acting, Pneumatic spring-return, Electric motor, Hydraulic cylinder		

Main Materials

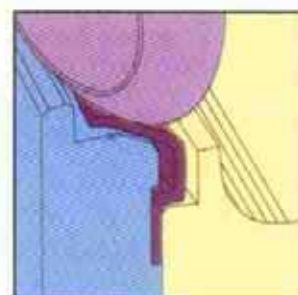
Rating	ANSI Class 150	ANSI Class 300	ANSI Class 600
Body	Carbon steel (A216 - WCB) 304 Stainless steel (A351 - CF8) 316 Stainless steel (A351 - CF8M)		
Disc	A216 - WCB / ENP (electroless nickel plate) or Stellite, A351 - CF8 / ENP (electroless nickel plate) or Stellite, A351 - CF8M / ENP (electroless nickel plate) or Stellite.		
Shaft	304SS, 316SS, 17 - 4PH (630SS)		17 - 4PH (630SS)
Seat	304SS, 316SS, Inconel		
Shaft bearing	316SS		
Gland packing	Graphite and Nonasbestos		
Seal	Graphite		

Seat Material and Working Temperature

Seat Materials	Treatment on disc surface	Maximum working temperature °C (°F)
316SS	ENP (electroless nickel plate)	Below 300 (572)
Inconel	ENP (electroless nickel plate)	Below 350 (662)
Inconel	Stellite	Below 650 (1202)

Seat Leakage

Leakage of MTD type version is in accordance with the Class V of ANSI B16.104 for permissible leakage rate.



The Norriseal High Performance Advantage

High Performance Butterfly valves are the result of years of experience in the design and manufacture of products for a variety of applications. Our valves are designed and tested to meet or exceed the most exacting standard of our industries. If you have pressure and need a valve to hold it, you can find it on our valve.

Features:

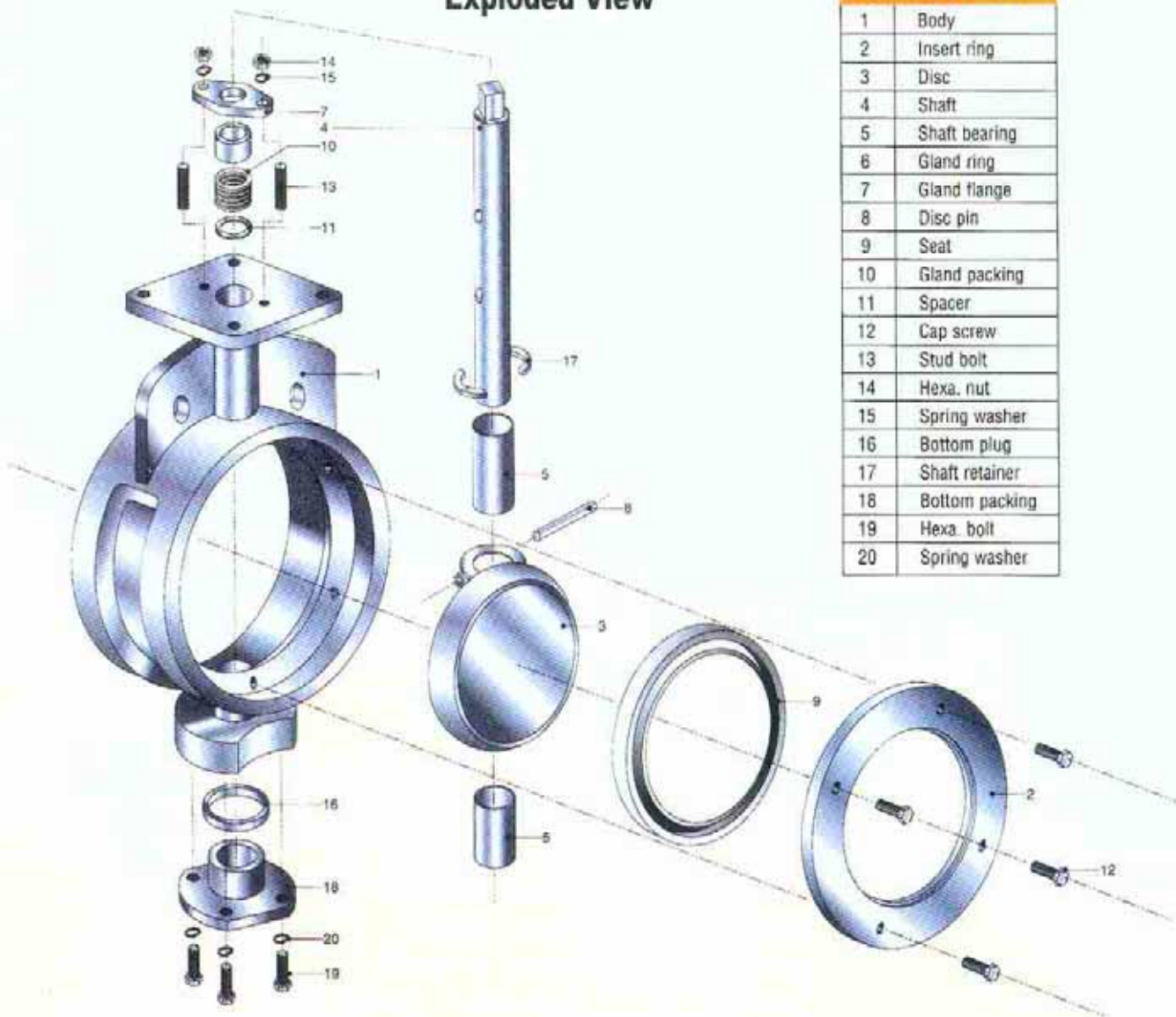
- A wide range of applications from vacuum to very high pressure service and from low to very high temperature service. Suitable for any severe process lines.
- Excellent control characteristics that allow throttle control of flows.
- Bubble-tight shut-off capability.

Our High Performance valve has a wide range of applications in many industries such as:

- Oil refining
- Chemical and petrochemical processing
- Pulp and paper manufacturing processing
- Sugar refining
- Coal and mining industries
- Chemical machinery industries
- Power generating plants
- Desalination
- Steelmaking

Valve Construction

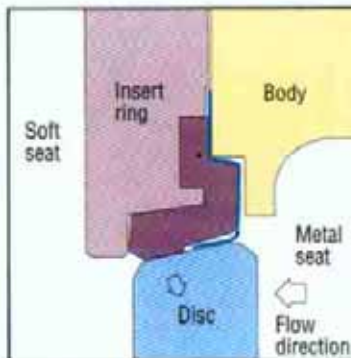
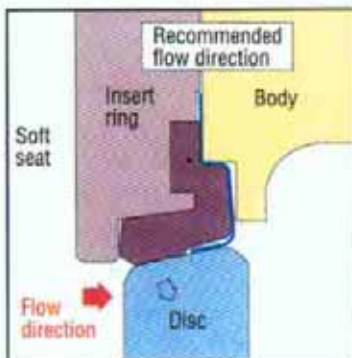
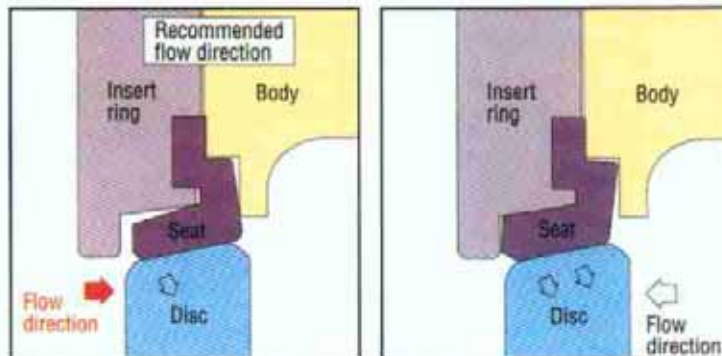
Exploded View



Structural Characteristics of the High Performance Valve by Norriseal

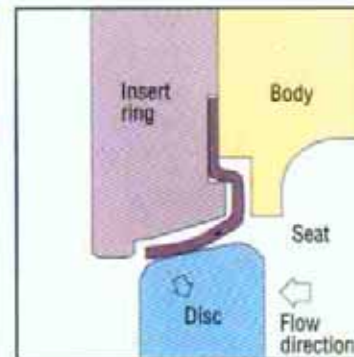
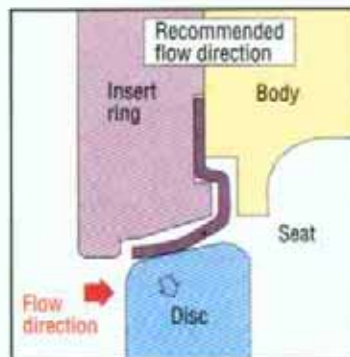
Soft seat / G Series

Elasticity of the seat and fluid pressure assures perfect "bubble-tight" sealing.



Fire - safe seat / F Series

After a fire when the R - PTFE seat has burned away, the supplementary metal sealing seat activates automatically and prevents excessive flow.



Metal seat / M Series

This version offers very high seating capability with an unusually low leakage rate.

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Solutions through engineered products.
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