



PMP PRECISION VALVE CO. LTD.

www.pmpvalve.com



PFZ Series Bi-Directional KNIFE GATE Valve

Bonnet Style

- **Power**
- **Cement**
- **Paper & Pulp**
- **Petrochemical**
- **Chemical**
- **Mining**
- **Pharmaceutical**
- **Food Processing**
- **Water, Waste Water & Sea Water**

“PFZ” Series Heavy Duty Knife Gate Valve Bonnet Style

PFZ series valves are bi-directional, full lug design ,manufactured to MSS SP-81 and TAPPI TIS 405-8 standards for Industrial service applications. The PFZ series design assures non-clogging shut-off of suspended solids.

The PFZ series Knife Gate Valve can be used for liquid, solid-liquid mixes / slurries, dry bulk solid applications. These valves are provided with full bore (100%) opening which does not restrict the flow of the media in pipeline.

Resilient seated valves offer a leak tight shutoff. Metal seated valves offer leakage within permissible limits as per MSS SP-81 standard to size 36” and to manufacturer’s standard with acceptance by customer for sizes above 36”.

PFZ Series Knife Gate Valve Features:

- A full lug type, MSS SP81 full bi-directional design available in ANSI B16.5 class 150 BCD.
- Cast body to 60” diameter; larger sizes, available on request.
- Sealing configurations: integral metal or resilient seat, secured in place with a stainless steel retainer ring with stainless steel fasteners.
- Zero leakage sealing achieved with independent resilient seats.
- Gate: Polished 316 / 316L Stainless Steel
- Stainless steel packing gland with combined PTFE packing with Viton O-rings
- Packing: Synthetic PTFE/Viton
- Rising stem as standard / Non rising stem is available on request.
- Operating options: Hand wheel / Hand Lever / Bevel Gear / Pneumatic Cylinder / Electric Actuator & Hydraulic Cylinder.

The PFZ Series Valves are available in the following Sealing Configurations:

- PFZ-M: Integral metal seat.
- PFZ-S: Resilient seat retained by stainless steel ring.



Standard Technical Specifications

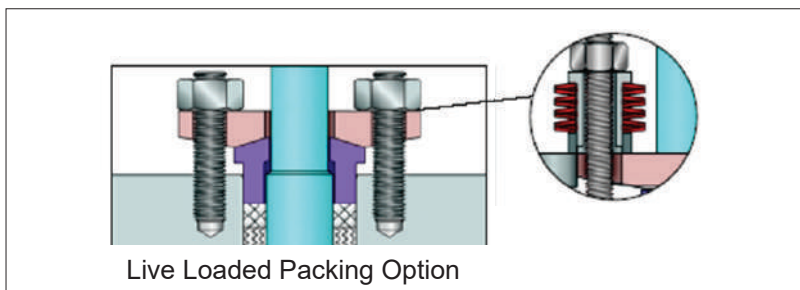
Materials of Construction

Standard Technical Specifications:

Manufacturing Standard	- MSS-SP 81 / TAPPI TIS 450-8 to 36" Manufacturer's standard for valves sizes above 36"
Lug / Flange	- Full Lug up to 36", Flanged for larger sizes
Bore Opening	- Full bore (100%)
Flange Drilling	- ANSI B16.5 Class 150lb to 36" & MSS SP 44 for larger sizes
Face To Face	- MSS SP-81 to 36", Manufacturer's standard for larger sizes
Sealing Configuration	- Integral metal seat in "PFZ-M" - Resilient seat retained by stainless steel retainer ring in "PFZ-S"
Pressure Rating	- 150 PSI rated from 2" to 24", 100 PSI rated from 26" to 60" Full rated ANSI pressures for all sizes available on request
Nominal Size	- 3" to 60" (larger diameters upon request)

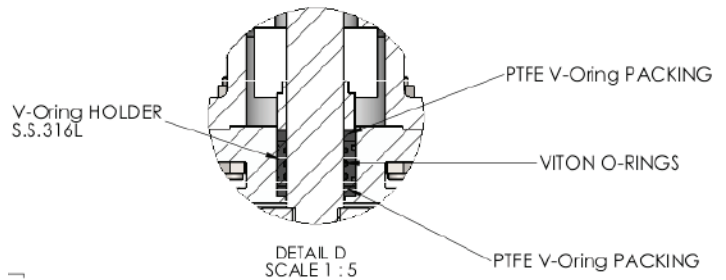
Materials of Construction:

Housing	- Cast Stainless Steel ASTM A 351 Gr. CF:8 / CF:8M / CF:3M / (other alloy materials on request)
Gate	- Stainless Steel ASTM A 240 Gr. 304 / 316 / 310 / Alloy (other materials on request)
Seat for PFZ-M	- SS304 / SS316 / SS317 (other materials on request)
Seat for PFZ-S	- Standard Viton. EPDM & Buna on request
Stem	- Stainless Steel ASTM A 276 Gr. 304 / 316
Packing	- PTFE Impregnated Synthetic Fibre



Painting | Testing Temperature Suitability Chart

Packing Ring



Painting:

For non-stainless steel parts - Epoxy painted

Testing:

Body test pressure - As per MSS SP-81 Standard to 36" / As agreed mutually higher sizes

Seat leakage for PZ-M - 40 cc / min / inch at 2.8 bar as per MSS SP-81

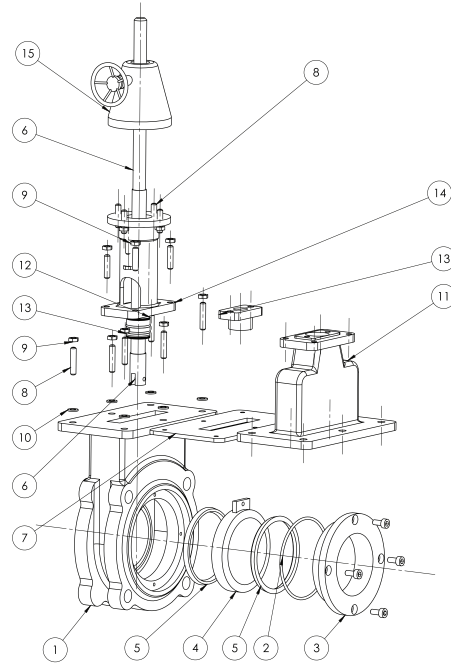
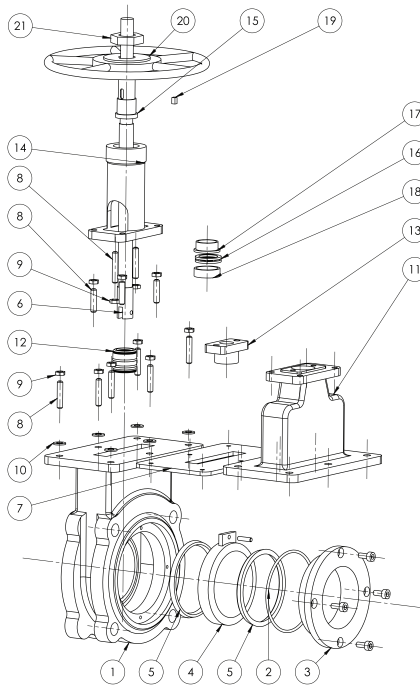
Seat leakage for PZ-S - Zero leakage at full working pressure

TEMPERATURE SUITABILITY CHART

Resilient Seat			
Sr. no.	Material	Temperature rating (max)	Application
1	EPDM	248 °F	Acids & non-mineral oils
2	Viton	392 °F	Different chemicals (High temperature)
3	Buna-N	248 °F	Petroleum products

Gland Packing			
Sr. no.	Material	Temperature rating (max)	pH
1	PTFE Impregnated Synthetic Fibre	482 °F	2-13

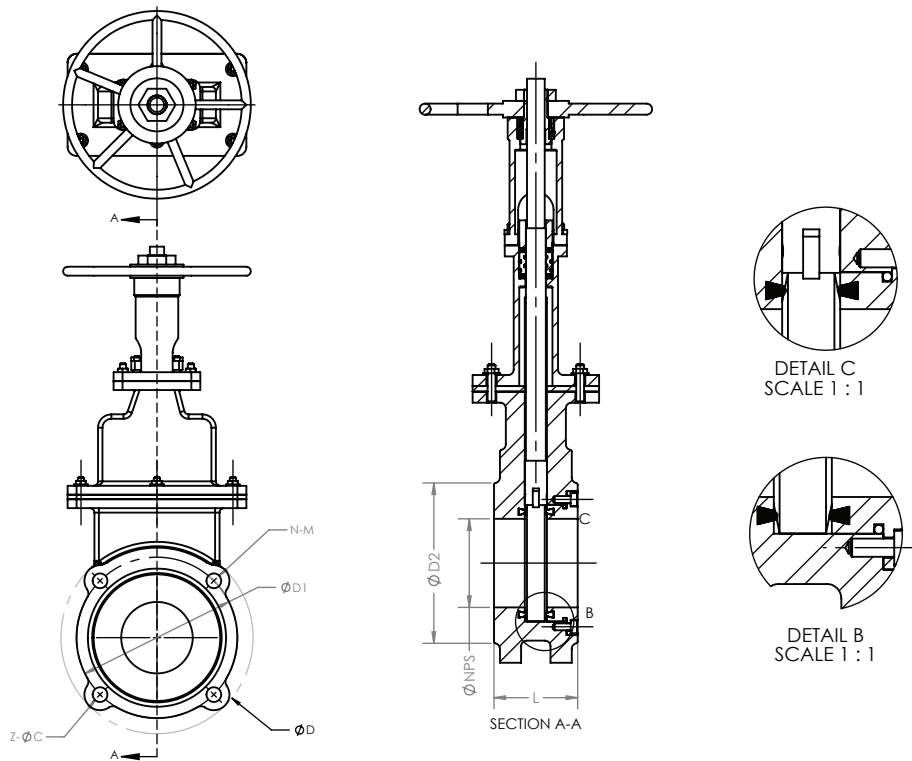
Exploded View Knife Gate Valve Type PFZ-S



PFZ-S		
Part no.	Part	Standard Construction
1	Body	CF8M
2	O-Ring	EPDM
3	Seat Retainer	SS:316
4	Disc	SS:316
5	Seat	EPDM
6	Stem	SS:316
7	Gasket	SS:316 + Graphite
8	Bolt	SS:304
9	Nut	SS:304
10	Washer	SS:304
11	Bonnet	CF8M
12	Packing	PTFE
13	Gland	CF8
14	Yoke	CF8
15	Yoke Nut	Copper Alloy
16	Bearing	
17	Bush	35
18	Gland	35
19	Key	45
20	Handwheel	KT400-18
21	Lock Nut	35
22		

PFZ-S		
Part no.	Part	Standard Construction
1	Body	CF8M
2	O-Ring	EPDM
3	Seat Retainer	SS:316
4	Disc	SS:316
5	Seat	EPDM
6	Stem	SS:316
7	Gasket	SS:316 + Graphite
8	Bolt	SS:304
9	Nut	SS:304
10	Washer	SS:304
11	Bonnet	CF8M
12	Packing	PTFE
13	Gland	CF8
14	Yoke	CF8
15	Bevel Gear Actuator	

Hand Wheel Operated | Rising Stem Dimensional Details 2" - 24" (50mm - 600mm)

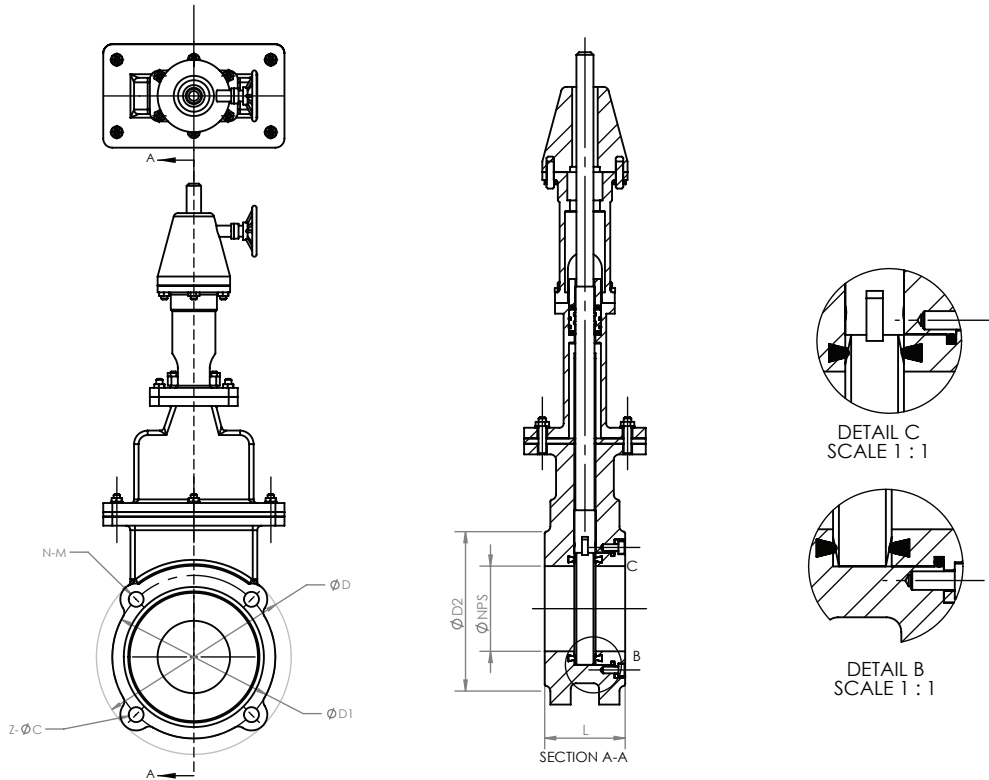


Valve size		L	D	D1	D2	N-M	Z-øC	TrXLH	Torque (N.m)
Inches	mm								
2	50	48	152	120.5	92	2-M16	2-ø19	17X4	9
2 1/2	65	48	178	139.5	105	2-M16	2-ø19	17X4	11
3	80	48	190	152.5	127	2-M16	2-ø19	19X4	13.5
4	100	52	229	190.5	157	2-M16	6-ø19	19X4	17
5	125	56	254	216	186	2-M20	6-ø22	21X5	27
6	150	60	279	241.5	216	2-M20	6-ø22	21X5	40
8	200	60	343	298.5	270	2-M20	6-ø22	24X5	61
10	250	68	406	362	324	4-M22	8-ø25	27X5	98
12	300	78	483	432	381	4-M22	8-ø25	27X5	127
14	350	78	533	476	413	4-M27	8-ø29	31X6	189
16	400	102	597	540	470	6-M27	10-ø29	36X6	245
18	450	114	635	578	533	6-M30	10-ø32	38X6	270
20	500	127	699	635	584	8-M30	12-ø32	38X6	300
24	600	154	813	749.5	692	8-M33	12-ø35	43X6	405

Note:

(1) Hand wheel operated valves can be provided with options of chain wheel, non-rising stem and stem extension.

Gear Operated | Rising Stem Dimension Details 2" - 24" (50mm - 600mm)



Valve size		L	D	D1	D2	N-M	Z-øC	TrXLH	Torque (N.m)
Inches	mm								
2	50	48	152	120.5	92	2-M16	2-ø19	17X4	9
2 1/2	65	48	178	139.5	105	2-M16	2-ø19	17X4	11
3	80	48	190	152.5	127	2-M16	2-ø19	19X4	13.5
4	100	52	229	190.5	157	2-M16	6-ø19	19X4	17
5	125	56	254	216	186	2-M20	6-ø22	21X5	27
6	150	60	279	241.5	216	2-M20	6-ø22	21X5	40
8	200	60	343	298.5	270	2-M20	6-ø22	24X5	61
10	250	68	406	362	324	4-M22	8-ø25	27X5	98
12	300	78	483	432	381	4-M22	8-ø25	27X5	127
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16	400	102	597	540	470	6-M27	10-ø29	36X6	245
18	450	114	635	578	533	6-M30	10-ø32	38X6	270
20	500	127	699	635	584	8-M30	12-ø32	38X6	300
24	600	154	813	749.5	692	8-M33	12-ø35	43X6	405

Note:

- (1) Gear box shall have 4:1 gear ratio.
- (2) Gear box operated valves can be provided with options of chain wheel, non-rising stem and stem extension.



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Distributor



Pictures shown are general, unless specific job names are listed.
Manufacturer reserves the right to depart from the catalogue specifications and illustrations.

PFZ-0521E