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# Mono-T Bonneted **KNIFE GATE** Valve

**Bi-directional**  
**3" - 24"**

**AWWA C520-10, MSS-SP81**



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## **Mono-T Bonneted Knife Gate Valve AWWA C520-10 TAPPI MSS-SP81**

PMP-Weco bonneted Mono series are designed in compliance with the new AWWA C520-10 standard for knife gate valves. The Weco Armaturen design offers a unique O-ring stem seal design eliminating emissions and foul odours to the atmosphere.

Meeting the German standard TA-Luft VDI 2440 for stem sealing to atmosphere, the PMP-Weco series of bonneted knife gate valves offers low operating torques, and low maintenance even after thousands of operating cycles.

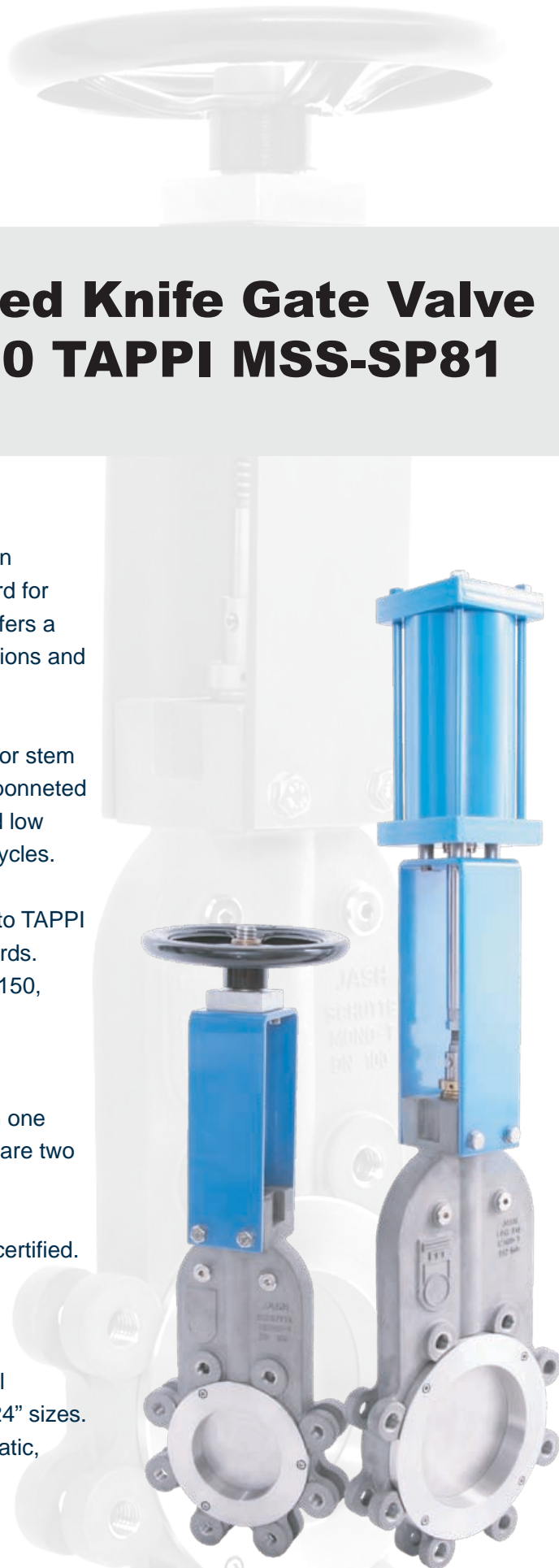
PMP-Weco Knife Gate Valves are manufactured to TAPPI MSS SP 81, TIS-405-8 & AWWA C520-10 standards. Flange dimensions conform to ANSI B16.5 class 150, 3" to 24", face to face dimensions conform to TAPPI MSS SP 81 standard.

PMP-Weco Mono-T series are manufactured with one piece investment cast body. Valve sizes 8" to 24" are two piece investment or sand cast body.

Resilient O-rings and seat materials are NSF 61 certified.

Rising and non-rising stem designs are available.

Due to low operating torques, manual hand wheel operators are supplied as standard on valves to 24" sizes. Optional manual gear, AWWA square nut, pneumatic, hydraulic & electric operators with accessories are available.



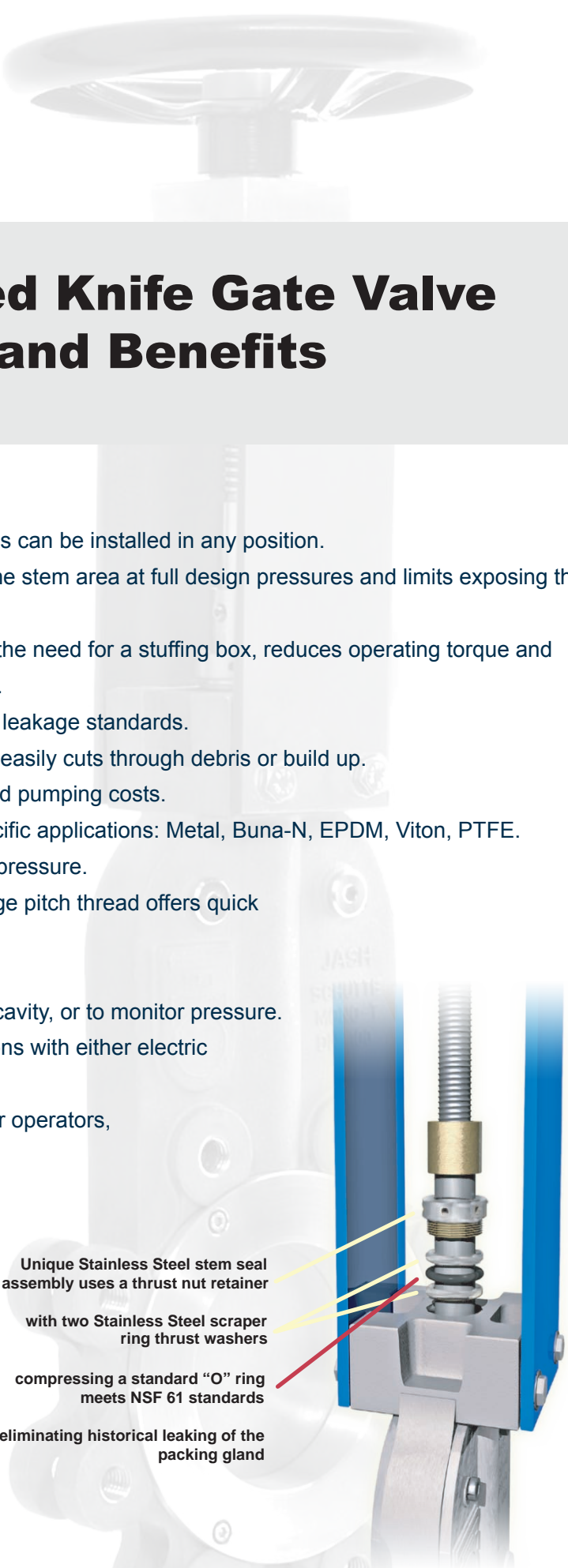


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## **Mono-T Bonneted Knife Gate Valve Features and Benefits**

- Cast body eliminates potential leak paths. Valves can be installed in any position.
- Bonnet style body eliminates leakage through the stem area at full design pressures and limits exposing the gate to the atmosphere, odours are contained.
- Unique “O” ring stem seal assembly eliminates the need for a stuffing box, reduces operating torque and maintenance requirements with higher cycle life.
- In addition, it is compliant with TA-Luft emission leakage standards.
- Precision water jet cut beveled 360° gate edge, easily cuts through debris or build up.
- Full port design offers high flow rates for reduced pumping costs.
- Variety of seat materials offers flexibility for specific applications: Metal, Buna-N, EPDM, Viton, PTFE.
- Retained seat will not pull out under full design pressure.
- Corrosion resistant stainless steel stem with large pitch thread offers quick opening and closing of the valve.
- Rising and non-rising stems are available.
- Purge ports offer flexibility to purge body chest cavity, or to monitor pressure.
- V-Port inserts are available for control applications with either electric or pneumatic actuation.
- Optional accessories: AWWA manual bevel gear operators, shaft extensions, floor stands, wall brackets, deflector cones for slurry and abrasive applications, actuation for on-off or modulating services, solenoid valves, limit switches, speed controls, actuators and chain wheel operators.



Unique Stainless Steel stem seal assembly uses a thrust nut retainer

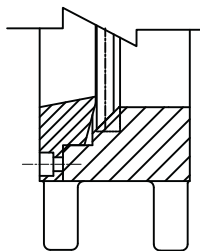
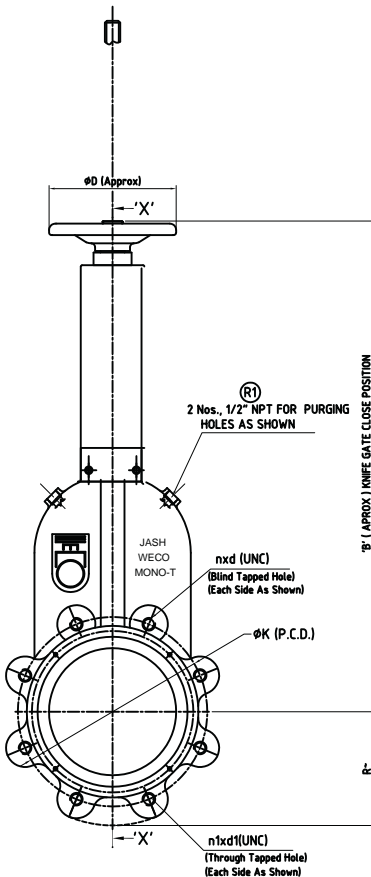
with two Stainless Steel scraper ring thrust washers

compressing a standard “O” ring meets NSF 61 standards

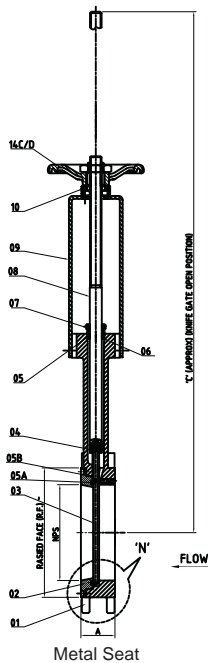
eliminating historical leaking of the packing gland

# Mono-T Bonneted Knife Gate Valve Manual Operated Rising Stem

Resilient Seated & Metal Seated  
 Flange Standard ANSI B16.5 Class 150  
 Valve Design: B16.34, AWWA C520-10, MSS-SP81  
 CRN CSA-OC 15663.567890



DETAIL VIEW 'N'



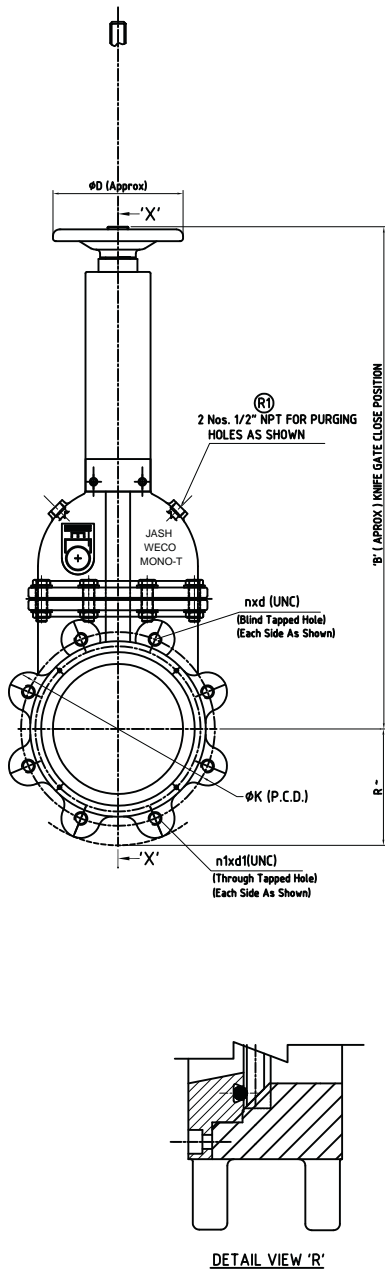
Metal Seat

NPS	A	n x d x Deep (Min.)	n1 x d1	K	B	C	D	R	R.F
3	2.00	2Nos. x 5/8" x 0.38"	2Nos. x 5/8"	6.00	19.00	23.00	8.00	3.75	5.00
4	2.00	2Nos. x 5/8" x 0.5"	6Nos. x 5/8"	7.50	21.00	26.00	8.00	4.50	6.20
6	2.25	2Nos. x 3/4" x 0.6"	6Nos. x 3/4"	9.50	26.00	32.50	8.00	5.50	8.45

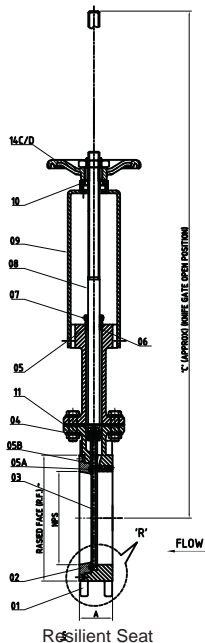
SR.No.	Description	Material
01	Body	ASTM A 351 Gr. - CF:8M/CF8
02	Seal Retainer Ring	ASTM A 351 Gr. - CF:8M/CF8
03	Knife Gate	ASTM A 240 Gr.: 304/316
04	Slotted Head Grub Screw	Stainless Steel Gr. 316/304
05	'O' Ring for Stuffing Box	EPDM / Viton (NSF Certified)
05A	'O' Ring for (S.R. Ring & Gate)	EPDM / Viton (NSF Certified)
05B	'O' Ring for (S.R. Ring & Housing)	EPDM / Viton (NSF Certified)
06	Spacer (Lower & Upper)	Stainless Steel Gr. 304
07	Sealing Nut	ASTM A 276 Gr.: 304
08	Stem (Rising)	ASTM A 276 Gr.: 304/316
09	Supporting Bracket	Carbon Steel Painted / Stainless Steel
10	Adapter Plate	Carbon Steel Painted / Stainless Steel
14C/D	Hand Wheel	Ductile Iron / Carbon Steel

# Mono-T Bonneted Knife Gate Valve Manual Operated Rising Stem

Resilient Seated & Metal Seated  
 Flange Standard ANSI B16.5 Class 150  
 Valve Design: B16.34, AWWA C520-10, MSS-SP81  
 CRN CSA-OC 15663.567890



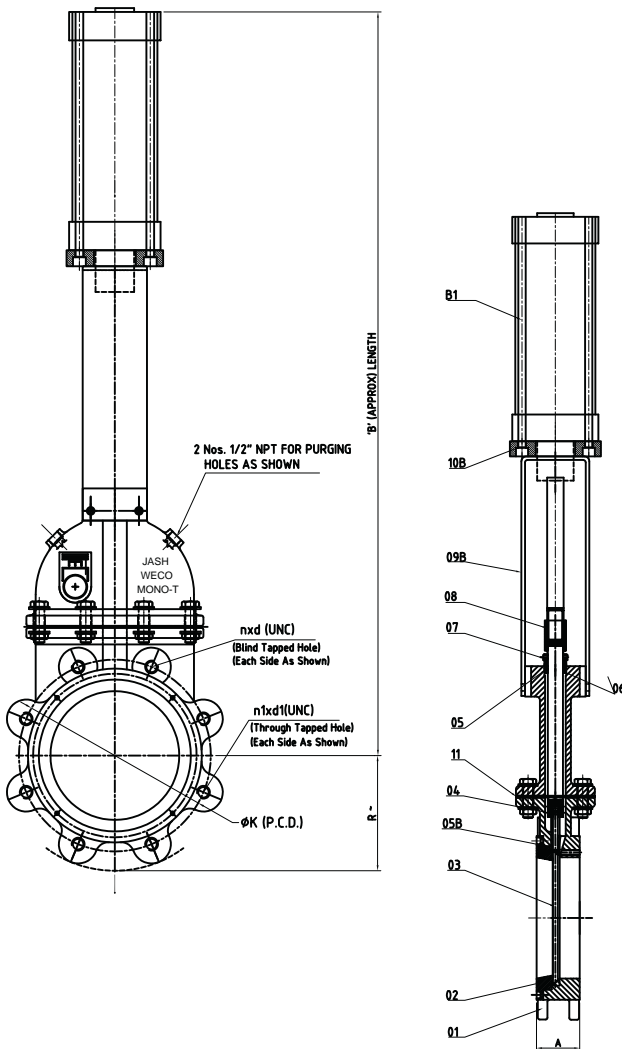
NPS	A	n x d x Deep (Min.)	n1 x d1	K	B	C	D	R	R.F
8	2.75	2Nos. x 3/4" x 0.6"	6Nos. x 3/4"	11.75	30.50	39.00	8.00	6.75	10.60
10	2.75	4Nos. x 7/8" x 0.6"	8Nos. x 7/8"	14.25	36.50	47.00	12.40	8.00	12.76
12	3.00	4Nos. x 7/8" x 0.6"	8Nos. x 7/8"	17.00	42.00	54.50	12.40	9.50	15.00
14	3.00	4Nos. x 1.0" x 0.78"	8Nos. x 1.0"	18.75	48.00	62.50	12.40	10.50	16.25
16	3.50	6Nos. x 1.0" x 0.78"	10Nos. x 1.0"	21.25	52.95	69.29	12.40	12.00	18.50
18	3.50	6Nos. x 1-1/8" x 0.86"	10Nos. x 1-1/8"	22.75	59.00	79.00	12.40	12.50	21.00
20	4.50	8Nos. x 1-1/8" x 0.86"	12Nos. x 1-1/8"	25.00	63.50	83.50	15.75	13.80	23.00
24	4.50	8Nos. x 1-1/4" x 1.0"	12Nos. x 1-1/4"	29.50	77.00	100.98	15.75	16.00	27.20



SR.No.	Description	Material
01	Body (Split Type)	ASTM A 351 Gr. - CF:8M/CF8
02	Seal Retainer Ring	ASTM A 351 Gr. - CF:8M/CF8
03	Knife Gate	LDX 2101
04	Slotted Head Grub Screw	Stainless Steel Gr. 316/304
05	'O' Ring for Stuffing Box	EPDM / Viton (NSF Certified)
05A	'O' Ring for (S.R. Ring & Gate)	EPDM / Viton (NSF Certified)
05B	'O' Ring for (S.R. Ring & Housing)	EPDM / Viton (NSF Certified)
06	Spacer (Lower & Upper)	Stainless Steel Gr. 304
07	Sealing Nut	ASTM A 276 Gr.: 304
08	Stem (Rising)	ASTM A 276 Gr.: 304/316
09	Supporting Bracket	Carbon Steel Painted / Stainless Steel
10	Adapter Plate	Carbon Steel Painted / Stainless Steel
11	Gasket for Bonnet	EPDM (NSF Certified)
14C/D	Hand Wheel	Ductile Iron / Carbon Steel

# Mono-T Bonneted Knife Gate Valve Pneumatic Operated

Flange Standard ANSI B16.5 Class 150  
 Valve Design: B16.34, AWWA C520-10, MSS-SP81  
 CRN CSA-OC 15663.567890



NPS				Tap Size	B.C.		Actuator
	Inches	A	Bolt Hole		No.	UNC	
2	1.88	0.75	4	5/8"x11	4.75	21.25	2.00
3	2.00	0.75	4	5/8"x11	6.00	24.60	2.50
4	2.00	0.75	8	5/8"x11	7.50	28.00	3.00
6	2.25	0.88	8	3/4"x10	9.50	35.65	4.00
8	2.75	0.88	8	3/4"x10	11.75	47.10	5.00
10	2.75	1.00	12	7/8"x9	14.25	54.50	5.00
12	3.00	1.00	12	7/8"x9	17.00	63.80	6.00
14	3.00	1.12	12	1"x8	18.75	72.50	8.00
16	3.50	1.12	16	1"x8	21.25	80.50	8.00
18	3.50	1.25	16	1-1/8"x7	22.75		
20	4.50	1.25	20	1-1/8"x7	25.00		
24	4.50	1.38	20	1-1/4"x7	29.50		

SR.No.	Description	Material
B1	Pneumatic cylinder	"Schrader" / "Equi." make
11	Gasket for bonnet	EPDM (NSF Certified)
10B	Adapter plate	Carbon Steel painted / Stainless Steel
09B	Supporting bracket	Carbon Steel painted / Stainless Steel
08	Connecting rod	ASTM A 276 Gr. : 304/316
07	Sealing nut	ASTM A 276 Gr. : 304
06	Spacer (lower & upper)	Stainless Steel Gr.: 304
05B	'O' Ring for (S.R. Ring & Housing)	EPDM (NSF Certified)
05	'O' Ring for stuffing box	EPDM (NSF Certified)
04	Slotted head grub screw	Stainless Steel Gr.: 316/304
03	Knife gate	LDX 2101
02	Seal retainer ring	ASTM A 351 Gr. - CF:8M/CF8
01	Housing / Body (Split type)	ASTM A 351 Gr. - CF:8M/CF8

# Mono Bonneted Knife Gate Valve Design and Maximum Working Pressures

Design Pressure: psig, CWP	VALVE SIZE		
	3" - 12"	14" - 18"	20" - 24"
Body & Bonnet / Shell	225	175	135
Packing	225	175	135
Seat (preferred direction)	150	120	90

Working Pressure: psig, CWP	VALVE SIZE		
	3" - 12"	14" - 18"	20" - 24"
Body & Bonnet / Shell	150	135	90
Packing	150	135	90
Seat (preferred direction)	150	80	60

Maximum admissible working pressure on seat in non preferred direction: In this case the pressure in the line is pushing the gate away from seat.

VALVE SIZE	ADMISSIBLE WORKING PRESSURE PSI / BAR
3" - 4" / 50-100 mm	150 / 10
5" - 6" / 125-150 mm	120 / 8
8" / 200 mm	90 / 6
10" / 250 mm	60 / 4
12" / 300 mm	45 / 3
14" - 18" / 350 - 450 mm	30 / 2
20" - 24" / 500 - 600 mm	22.5 / 1.5

Note: Pressures stated above are cold working pressure (CWP)

\* For bi-directional full working pressure at 150 psi, see model MONO-BD



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