

CLARKSON URETHANE KNIFE GATE VALVES

FIGURE SU10R

The SU10R valve offers bi-directional isolation with a field replaceable snap-in liner that completely protects the wetted area from abrasion and corrosive slurries, increasing reliability and service life.



FEATURES

- True bi-directional flow and shut-off, allowing it to be installed in either direction.
- Unique one-piece, precision molded high strength polyurethane liner protects the wetted parts, from corrosion and abrasion. It is field replaceable in all sizes, no need to return to factory for repair.
- The liner has integral flange seals eliminating the need for flange gaskets in most cases*.
- The liner has integral sealing beads to support and wipe slurry from the gate, minimizing deflection and improving packing life.
- It can replace conventional and short pattern slurry knife gate valves. As a true pressure vessel valve the SU10R does not discharge to atmosphere when cycled.
- Compact two piece split body construction for easy maintenance.
- Testing as per MSS SP-81
- Fully rated 316 stainless steel gate, with optional 17-4 ph to provide improved abrasion resistance against the rigors of abrasive applications.
- Full round port and seat design offers low pressure drop across valve and longer service life in abrasive applications.
- Designed to be a repairable asset, lower the cost of ownership.
- Inverted self-aligning gland box allows for easier setup and longer packing life.
- Complies with MSS SP-81 face-to-face dimensions.
- All valves are factory pressure tested.
- A range of actuation options from manual hand wheel, bevel gear, chain wheel to pneumatic, hydraulic, and electric actuators.

NOTE:

Patent pending

* To ensure effective integral flange seal, pipeline flange internal diameter should not exceed schedule 40 pipe outside diameter. Slip-on flanges are suitable within this limitation.

GENERAL APPLICATION

The Clarkson SU10R valve is designed for a wide range of isolation applications in low to medium density slurry applications such as:

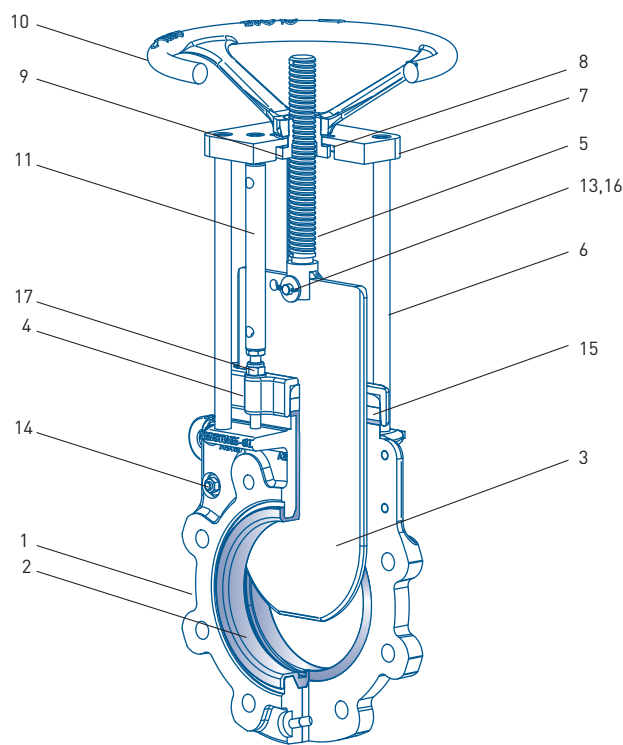
- Mining and mineral processing
- Coal preparation plants
- Chemical plants
- Corrosive environments
- Wastewater treatment plants

TECHNICAL DATA

Size range:	DN 50 - 600 NPS 2 - 24
Temperature rating:	50°C (120°F) on liquid service 80°C (175°F) on dry service
Pressure rating:	1000 kPa (150 psi) at cold working pressure (non-shock) Not suitable for vacuum service

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FIGURE SU10R



NOTE:
DN 150 (NPS 6) valve illustrated.

PARTS LIST

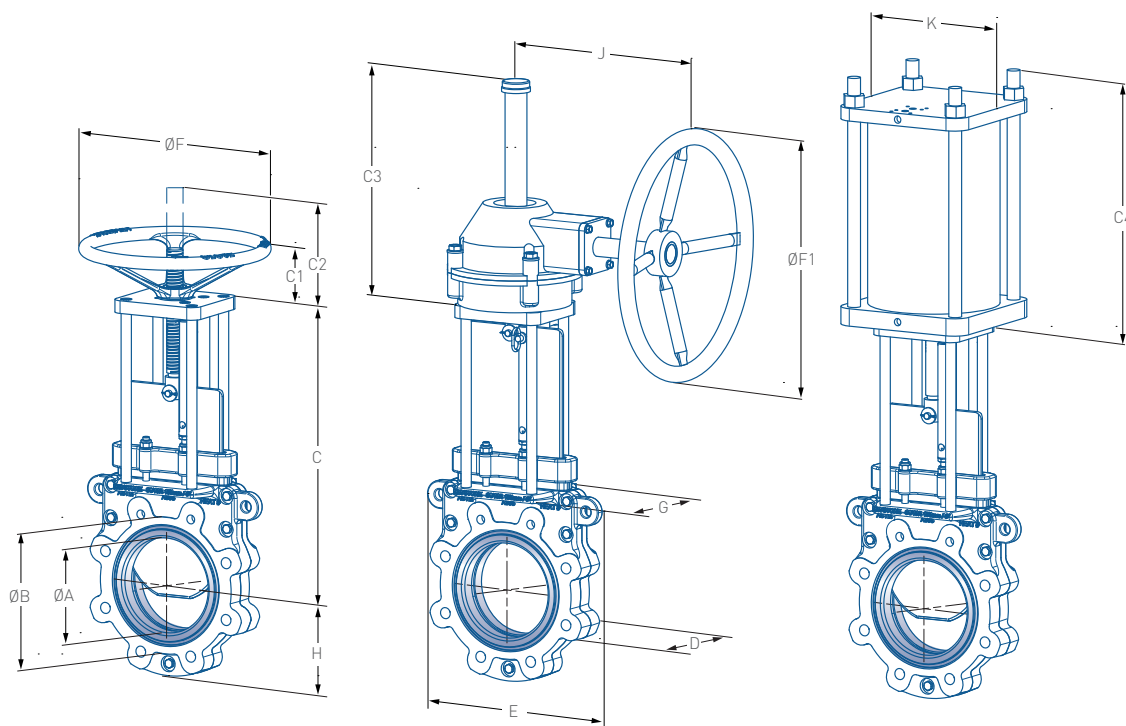
No.	Description	Material
1	Body	SG Iron ASTM A395-60
2	Liner	Polyurethane
3	Gate	316 S/S ASTM A240
4	Gland Box	SG Iron ASTM A395-60
5	Spindle	304 S/S ASTM A276
6	Pillar	Carbon Steel
7	Bridge	A36/A36M or AS/NZS 3678-250
8	Thrust washer	Nylon
9	Spindle nut	Leaded Gunmetal Bronze
10	Hand wheel	SG Iron
11	Locking post	Carbon Steel
12	Lockout pin (not shown)	Carbon Steel
13	Clevis pin	304 S/S ASTM A276
14	All fasteners	Plated alloy steel
15	Packing	K-LON, G-LON, H-LON
16	Split Pin	Plated alloy steel
17	Gland stud	Plated alloy steel

OPTIONS

- F738 Pneumatic actuators
- Electric actuators
- Bevel gear operators
- Solenoid valves
- Proximity switches
- F493 Pneumatic failsafe
- Safety guards and shrouds
- Safety lockouts

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FIGURE SU10R



DIMENSIONS (mm)

Valve Size																H/W mass (kg)	B/gear mass (kg)	Pneu act mass (kg)	Bevel gear model	Pneu Act model
DN	ØA	ØB	C	C1	C2	C3	C4	D	E	ØF	ØF1	G	H	J	K					
50	50	96	264	59	81	-	202	48	186	200	-	126	73	-	Ø89	11	-	11	-	P1
80	80	135	323	86	108	-	255	51	228	300	-	134	98	-	Ø110	19	-	20	-	P3
100	100	157	364	86	130	-	330	51	275	300	-	134	117	-	Ø150	24	-	29	-	P4
150	150	243	451	86	181	-	343	57	331	300	-	144	147	-	Ø210	33	-	43	-	P5
200	200	351	581	48	308	368	431	70	408	600	400	208	175	320	Ø210	75	97	81	B20	P6
250	250	411	687	48	308	458	508	70	483	600	400	220	207	320	330SQ	106	128	180	B20	P8
300	300	488	790	-	-	458	622	76	559	-	400	220	246	320	Ø448	144	166	279	B20	P11
350	333	538	861	-	-	508	622	76	596	-	400	224	271	320	Ø448	170	192	305	B20	P11
400	381	603	980	-	-	602	816	89	667	-	600	290	303	320	Ø505	-	306	479	B20	P14
450	429	647	1078	-	-	602	825	89	719	-	600	304	326	320	Ø560	-	371	627	B20	P15
500	478	722	1183	-	-	657	830	114	815	-	600	304	363	380	Ø626	-	500	834	B30	P16
600	575	832	1434	-	-	775	952	114	924	-	610	336	418	617	Ø718	-	728	1220	BG44GT	P18

DIMENSIONS (inches)

Valve Size																H/W mass (lbs)	B/gear mass (lbs)	Pneu act mass (lbs)	Bevel gear model	Pneu Act model
NPS	ØA	ØB	C	C1	C2	C3	C4	D	E	ØF	ØF1	G	H	J	K					
2	2.00	3.78	10.39	2.32	3.19	-	7.95	1.89	7.32	8	-	4.96	2.87	-	Ø3.5	24	-	24	-	P1
3	3.00	5.31	12.72	3.39	4.25	-	10.04	2.00	8.98	12	-	5.28	3.86	-	Ø4.4	42	-	44	-	P3
4	4.00	6.18	14.33	3.39	5.12	-	13.00	2.00	10.83	12	-	5.28	4.61	-	Ø5.9	53	-	64	-	P4
6	6.00	9.57	17.76	3.39	7.13	-	13.50	2.25	13.03	12	-	5.67	5.79	-	Ø8.3	73	-	95	-	P5
8	8.00	13.82	22.87	1.89	12.13	14.50	16.97	2.75	16.06	24	12	8.19	6.89	13.59	Ø8.3	165	213	179	BG3	P6
10	10.00	16.18	27.05	1.89	12.13	18.10	22.50	2.75	19.02	24	12	8.66	8.15	13.59	12.8SQ	233	282	415	BG3	P8
12	12.00	19.21	31.10	-	-	18.10	26.00	3.00	22.01	-	12	8.66	9.69	13.59	14.8SQ	-	365	614	BG3	P11
14	13.11	21.18	34.00	-	-	20.00	26.00	3.00	23.46	-	24	8.82	10.67	16.72	14.8SQ	-	422	671	BG3	P11
16	15.00	23.74	38.58	-	-	23.70	33.80	3.50	26.26	-	24	11.42	11.93	19.36	17.0SQ	-	680	1054	BG4	P14
18	16.89	25.47	42.44	-	-	23.70	34.00	3.50	28.31	-	24	11.97	12.83	19.46	19.0SQ	-	823	1316	BG42	P15
20	18.82	28.43	46.57	-	-	25.90	34.30	4.50	32.09	-	24	11.97	14.29	19.46	21.0SQ	-	1070	1713	BG42	P16
24	22.64	32.76	56.46	-	-	30.50	37.48	4.50	36.38	-	24	13.23	16.46	24.30	Ø28.3	-	1602	2684	BG44GT	P18

NOTES:

D = The face to face dimension.

E = The maximum valve or upstand clearance dimension for installation.

G = The maximum valve width clearance dimension for installation.

P = Pneumatic actuator based on air supply pressure of 550 kPa (80 psi) and clean water service.

CLARKSON URETHANE KNIFE GATE VALVES

FIGURE SU10R

SELECTION GUIDE

Example:	150 (6)	SU10R	880	AS 2129 E
Valve size	DN 50-600 (NPS 2-24)			
Figure number				
SU10R	Bi-directional resilient seated rising spindle valve			
Trim	See table			
End connections - Thru bolting (to suit)				
AS 2129	Table C, D, E metric threads			
ASME B16.5	Class 125 & 150 UNC threads			
BS 4504	PN 10 and 16			
JIS B2210	Table 10			
DIN 2501	Table 10, 16			
ASME B16.5 Metric	Class 125 and 150 metric threads			

NOTE:

To minimize risk to personnel, Emerson recommends the use of purpose built guards and shrouds. Please consult your local Emerson sales representative for more details.

Trim code	Body	Gate	Seat	Gland box	Bridge	Spindle	Packing
880	S.G. Iron	316 S/S	Polyurethane	S.G. Iron	Carbon steel	304 S/S	K-LON
884	S.G. Iron	17-4PH	Polyurethane	S.G. Iron	Carbon steel	304 S/S	K-LON