Isogate® WS Series

Slurry Knife Gate Valve

Technical Specifications

Minerals

The Isogate® WS series slurry knife gate valve is specifically designed for a wide range of tough, abrasive and corrosive applications.

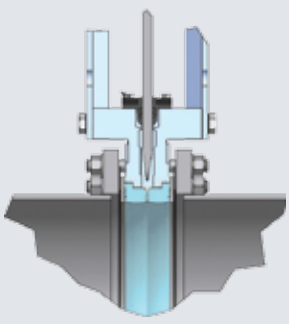
A wafer-style slurry knife gate valve designed for abrasive applications

Using materials proven by our extensive experience and installation base in the slurry transport industry, Weir Minerals has developed the Isogate® WS series wafer-style valve to deliver reliability and long term performance.

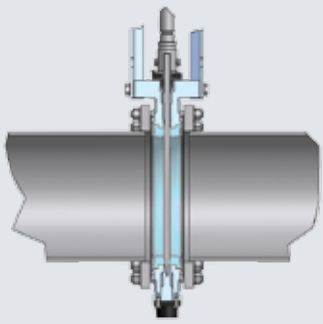
Its unique design provides ease of maintenance and low overall ownership costs, delivering outstanding results.

Continuous innovation in material, product design, engineering and manufacturing ensures that the Isogate® knife gate valve range remains at the forefront of valve design.

Bi-directional Double Elastomer Sleeve Design



Open Position
Only thick elastomer sleeves are in contact with slurry. No metal parts contact the fluid.



Closed Position
The gate is located in between thick elastomer sleeves, with full tight shut-off.

The elastomer sleeves are easily replaced in the field without disassembling the valve.

Applications

- Mining
- Pulp and paper
- Sand and gravel
- Phosphate
- Alumina
- Power utilities
- Cement
- Coal
- Soda ash
- Mineral sands

Size range

50mm (2") to 600mm (24")

Maximum working pressure

- 50mm (2") through 400mm (16") - 1034kPa (150psi)
- 450mm (18") through 600mm (24") - 700kPa (100psi)

Flanges

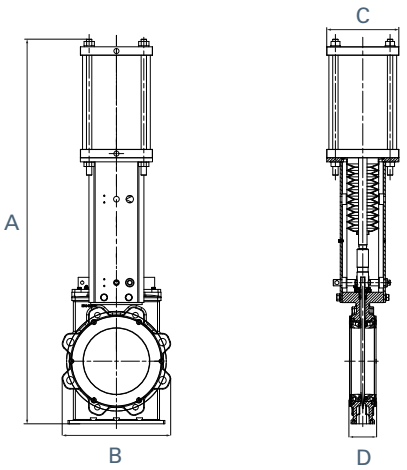
50mm (2") to 600mm (24") : ANSI B16.5 class150#. Other flange options available.

Materials

- **Body:** Cast ductile iron as standard.
- **Gate:** 316 stainless steel as standard.
- Other materials such as HASTELLOY C-276 alloy, alloy 2205 are also available.
- **Sleeves:** Natural rubber as standard. EPDM and other materials are also available.
- **Yoke:** Carbon steel.

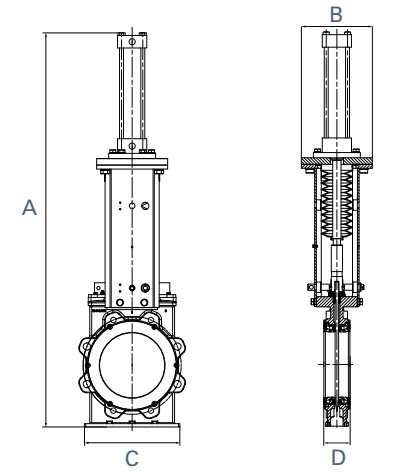
Actuator options

- Bevel gear
- Hydraulic cylinders
- Electric motor
- Pneumatic cylinders
- Handwheel



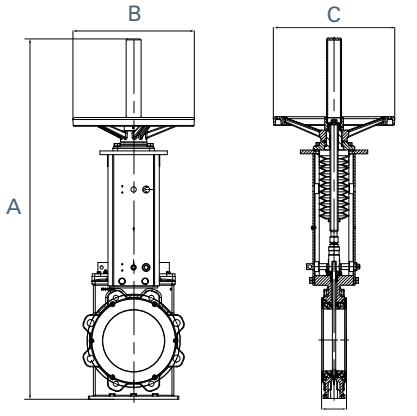
Pneumatic Cylinder Valve Dimensions

Size		A		B		C		D		MASS	
mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb
50	2	527	20.7	130	5.1	115	4.5	50	2.0	15	32
80	3	655	25.8	150	5.9	140	5.5	58	2.3	23	50
100	4	732	28.8	216	8.5	165	6.5	58	2.3	32	70
150	6	955	37.6	262	10.3	216	8.5	67	2.6	50	109
200	8	1157	45.6	324	12.8	216	8.5	80	3.1	66	144
250	10	1474	58.0	395	15.6	270	10.6	80	3.1	150	331
300	12	1621	63.8	471	18.5	324	12.8	89	3.5	203	448
350	14	1838	72.4	520	20.5	375	14.8	89	3.5	261	576
400	16	2011	79.2	600	23.6	375	14.8	102	4.0	350	772
450	18	2141	84.3	640	25.2	550	21.7	102	4.0	419	924
500	20	2355	92.7	688	27.1	625	24.6	130	5.1	504	1111
600	24	2808	110.6	813	32.0	600	23.6	130	5.1	912	2011



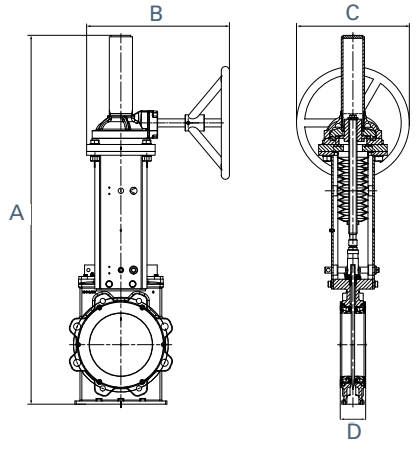
Hydraulic Cylinder Valve Dimensions

Size		A		B		C		D		MASS	
mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb
50	2	610	24.0	120	4.7	130	5.1	50	2.0	15	32
80	3	749	29.5	150	5.9	140	5.5	58	2.3	21	46
100	4	693	27.3	165	6.5	165	6.5	58	2.3	27	60
150	6	998	39.3	264	10.4	216	8.5	67	2.6	38	84
200	8	1199	47.2	324	12.8	216	8.5	80	3.1	68	150
250	10	1514	59.6	385	15.2	270	10.6	80	3.1	103	227
300	12	1678	66.1	472	18.6	324	12.8	89	3.5	180	397
350	14	1868	73.5	522	20.6	375	14.8	89	3.5	202	445
400	16	2055	80.9	590	23.2	375	14.8	102	4.0	300	662
450	18	2195	86.4	640	25.2	550	21.7	102	4.0	346	763
500	20	2394	94.3	692	27.2	625	24.6	130	5.1	423	933
600	24	2861	112.6	814	32.0	600	23.6	130	5.1	740	1632



Handwheel Valve Dimensions

Size		A		B		C		D		MASS	
mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb
50	2	509	20.0	200	7.9	200	7.9	50	2.0	12	26
80	3	638	25.1	270	10.6	270	10.6	58	2.3	17	37
100	4	736	29.0	270	10.6	270	10.6	58	2.3	22	49
150	6	925	36.4	270	10.6	270	10.6	67	2.6	33	73
200	8	1156	45.5	390	15.4	390	15.4	80	3.1	55	121
250	10	1440	56.7	390	15.4	390	15.4	80	3.1	72	159



Bevel Gear Valve Dimensions

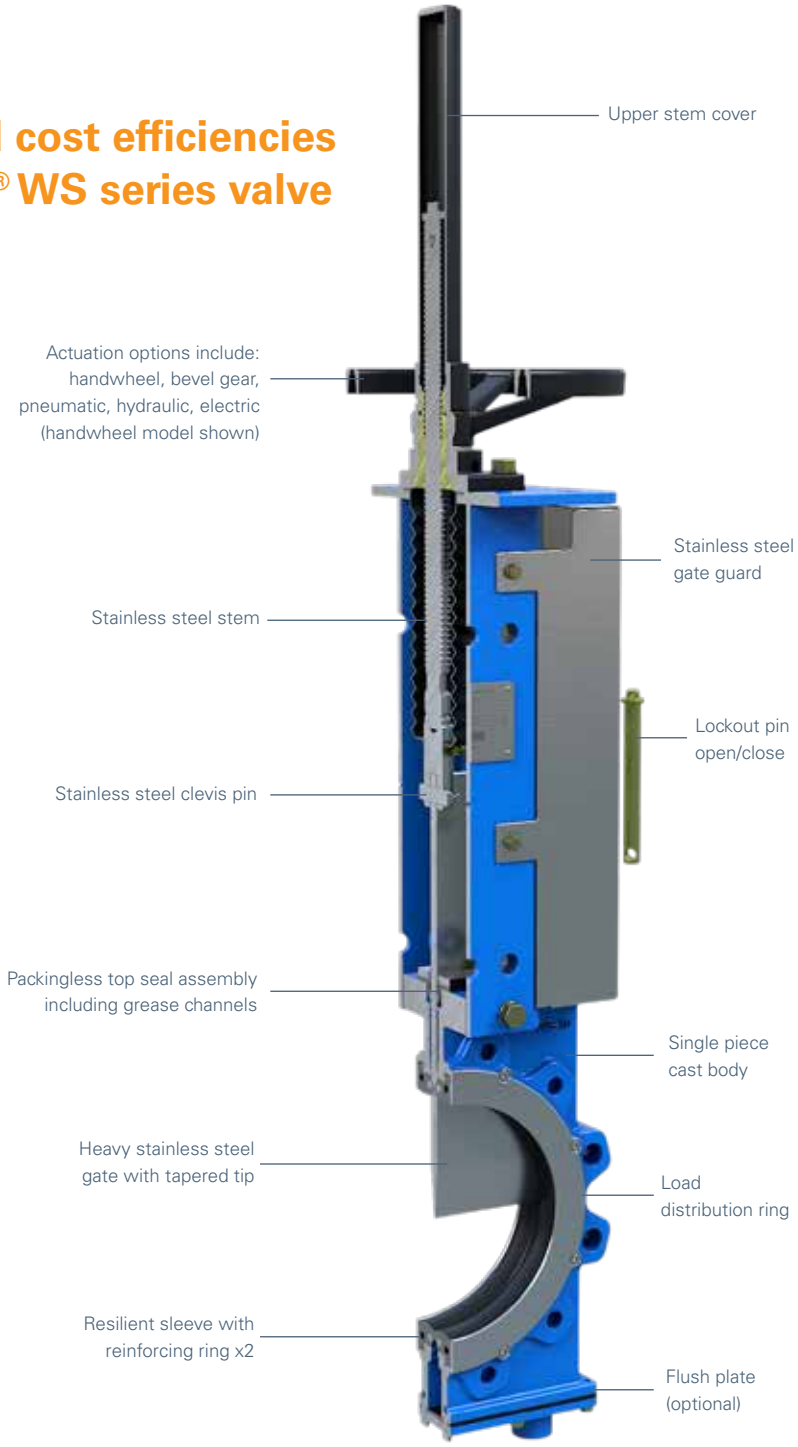
Size		A		B		C		D		MASS	
mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb
150	6	1062	41.8	410	16.1	500	19.7	67	2.6	57	126
200	8	1326	52.2	438	17.2	500	19.7	80	3.1	73	161
250	10	1571	61.9	475	18.7	500	19.7	80	3.1	114	251
300	12	1766	69.5	530	20.9	500	19.7	89	3.5	190	419
350	14	1938	76.3	554	21.8	500	19.7	89	3.5	210	463
400	16	2145	84.4	584	23.0	600	23.6	102	4.0	303	668
450	18	2286	90.0	695	27.4	600	23.6	102	4.0	379	836
500	20	2433	95.8	800	31.5	625	24.6	130	5.1	457	1008
600	24	2914	114.7	852	33.5	1000	39.4	130	5.1	725	1599

Note 1: Dimensions provided are for information only. Certified drawings are recommended prior to construction.
Note 2: Flanges are drilled and tapped to match ANSI B16.5 class 150#. Other flange options are available upon request.

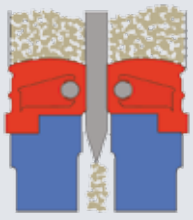
Maximise safety, reliability and cost efficiencies with the purpose-built Isogate® WS series valve

Design features

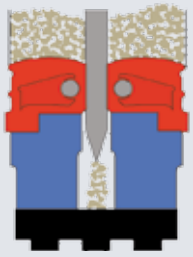
- Robust construction ensures long service life
- Two-piece elastomer sleeve design protects flow areas against corrosion
- Wafer body, narrow pattern minimises space requirement
- Field replaceable thick elastomer sleeves are easily replaced without disassembling the valve
- Sleeves incorporate Linatex® rubber technology, plus a wide range of elastomer compounds are also available
- Bi-directional 100% bubble tight shut-off
- Packingless design - no gate or stem packing
- Full port design reduces pressure drop and turbulence, minimising wear
- Suitable for use in abrasive slurry services with high percentages of solids
- Open bottom allows for the purging of large solids, and solids in high concentration
- No seat cavities where solids can collect and cause gate interference
- Yoke design allows fitting for all designed actuators
- Flush control option allows for periodic cleaning of the lower discharge vent and allows flushing as needed



Body Options



Open Bottom
Open bottom allows for the purging of large solids, and solids in higher concentration. The purging of solids stops when the gate is in the full open or closed position.

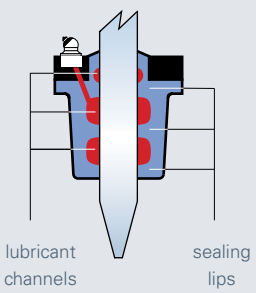


Flushing Plate
Flushing plate option adds flexibilty to the standard open bottom.

This option also allows for periodic cleaning of the lower discharge vent and can allow flushing as needed.

Note: The diagram above features the Linatex® premium rubber sleeve option.

Adjustment Free Packingless Upper Seal*



The Isogate® WS series heavy duty knife gate valve features an adjustment free packingless upper seal which eliminates the need to constantly tighten the packing to eliminate leakage. The upper seal design also features a set of lubrication channels that contain a gate lubricant. A thin layer of the lubricant is placed on the gate on each and every cycle. This provides for smoother gate actuation and increased sleeve life. Fittings are accessible to recharge upper seal while in service.

* sizes 50mm (2") through 400mm (16")

Minerals

www.minerals.weir
isogate@mail.weir