◎SPECS Slurry Knife Gate Valve general situation

The SPECS slurry knife gate valve is a bi-directional wafer valve equipped with two metal reinforced rubber sleeves. Twin rubber sleeves and push-through gate design facilitate self-cleaning and prevent media build up. The durable body is offered in a compact wafer style. When fully open, the valve bore offers no resistance to line media. It's designed for demanding slurry applications.

◎Performance Standard:

1. Design & Manufacture standard as to: ASME B16.34
2. Face to Face dimension standard as to: MFR-STD
3. Flange dimension conforms as to: ASME B16.5
4. Testing And Inspection as to: MSS SP-81
5. Pressure-temperature conforms as to: ASME B16.34

Technical Data:

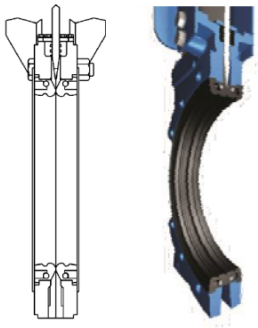
1. Size range: NPS 2"~24"
2. Pressure ratings: 150LB / PN10 / PN16
3. Working temperature: -29℃ ~ +100℃
4. Working pressure: ≤ 150 PSI
5. Suitable Medium: tough slurries, abrasives, and corrosive chemical applications.
6. Body Material: Cast Carbon Steel A216 WCB / Cast Ductile Iron ASTM A536
7. Sleeves Material: NR / EPDM

General applications

- Mining
- Power
- Pulp and paper
- Alumina
- Chemical
- Cement

◎How it Works:

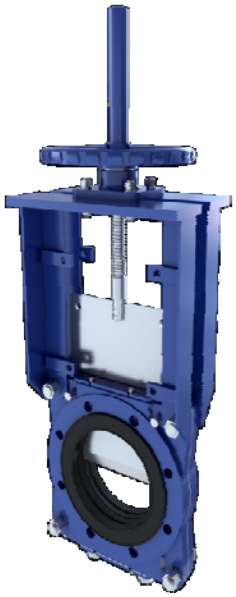
The SPECS slurry knife gate valves are a push through design which discharges a minimum amount of process media when cycling between open and closed. Matching sleeves are placed in the valve housing to seal against the gate when the valve is closed and seal against each other when the valve is open. This tight seal contains the internal line pressure, precluding direct pressure against the secondary seal. As the gate moves from open to closed position, it separates the facing sleeves. The unique sleeve assembly provides positive sealing action when the valve gate is closed and when the gate is open; the sleeves provide an unobstructed port and protect metal parts from the flowing slurry.



Open position

- Gate positioned above seals
- Tight fit between sleeves contains internal pressure
- Metal parts not in contact with slurry
- Unobstructed port area eliminates turbulence, minimizes pressure drop across valve
- No seat cavity where solids can collect and prevent full gate closure

Mid-stroke Position

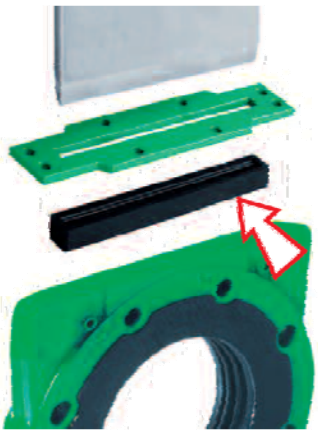


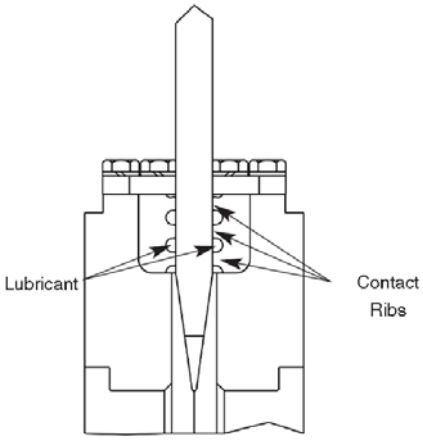
Closed Position

- Gate travels completely through sleeves to provide blind flange shutoff and expel solids
- 100% Isolation-bubble tight shut-off results in absolutely zero downstream leakage
- Double-seated design provides bi-directional flow and shut-off
- Tight fit between sleeves and gate contains internal pressure
- Controlled stroke prevents gate from penetrating too far, minimizing stress on sleeve

Secondary seal

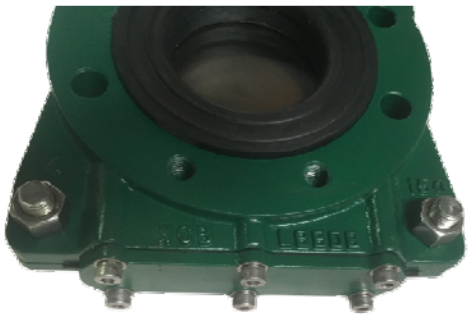
The one-piece, self-adjusting, molded elastomer secondary seal eliminates any leakage between the knife gate and top of the valve body in any orientation. The seal also prevents any outside contaminants from getting inside the valve. It is dynamically self-adjusting, eliminating the need for continual adjustment required with conventional style packing. The secondary seal is also used to lubricate the gate as it cycles through the seal, providing smoother gate movement and longer seal life, as well as reducing the force required to actuate the gate. Silicon-based lubricant is held inside a series of rib cavities built into the seal, each time the gate passes through the seal, a small amount of the long-lasting lubricant is released. The seal is replaceable and can be changed while the valve is in the line.





Splash containment

The valve incorporates a built-in clean-out area at the base of the valve body. The clean-out area may be enclosed by an optional, removable drain plate that is provided with ports to drain away any accumulated solids that may prevent full gate closure. Flush water can both enter and exit the clean-out area through the ports or enter through a flush port at the top of the valve body. With the drain plate in place, any solids, slurry, or flush water ejected from the valve can be handled in a controlled manner.



◎Feature

1. Field replaceable elastomer sleeves available in a wide range of elastomers to meet varied applications.
2. Dynamic self-adjusting secondary seal.
3. Long lasting lubrication.
4. No metal parts in contact with the flowing slurry.
5. Unobstructed flow eliminates turbulence, minimizes pressure drop across valve.
6. 100% Isolation; bubble-tight shut-off results in absolutely zero downstream leakage.
7. Double-seated design provides bi-directional flow and shut-off.
8. No seat cavity where solids can collect and prevent full gate closure.
9. No gate or stem packing is required, eliminating packing leakage and maintenance.
10. Adaptable frame (yoke) design featuring a top-removal stem nut, can be field modified to an air cylinder or bevel gear in the field without welding.
11. Open-Closed lockout brackets standard, ready for optional factory supplied or customer supplied lockout pins.

Heavy-duty frame (yoke) designed to accept top removal stem nut, bevel gear or cylinder actuator without welding.

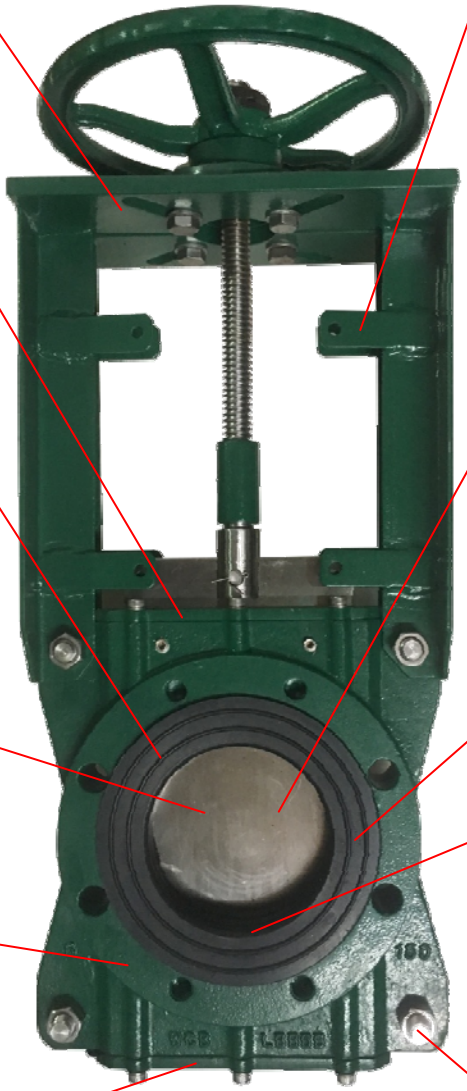
Dynamic self-adjusting secondary seal retains long lasting internal lubrication.

Patented, field replaceable elastomer sleeves.
Double sleeved design provides a "blind flange" shut-off when the gate is closed. Tight fit between sleeves contains internal pressure

Unobstructed flow area, fully lined with elastomer sleeves, no metal to metal contact, no guides or wedges.

Universal cast full-flanged body housing to suit ANSI B16.5/150, PN10 or PN16 as required.

Clean-out area.



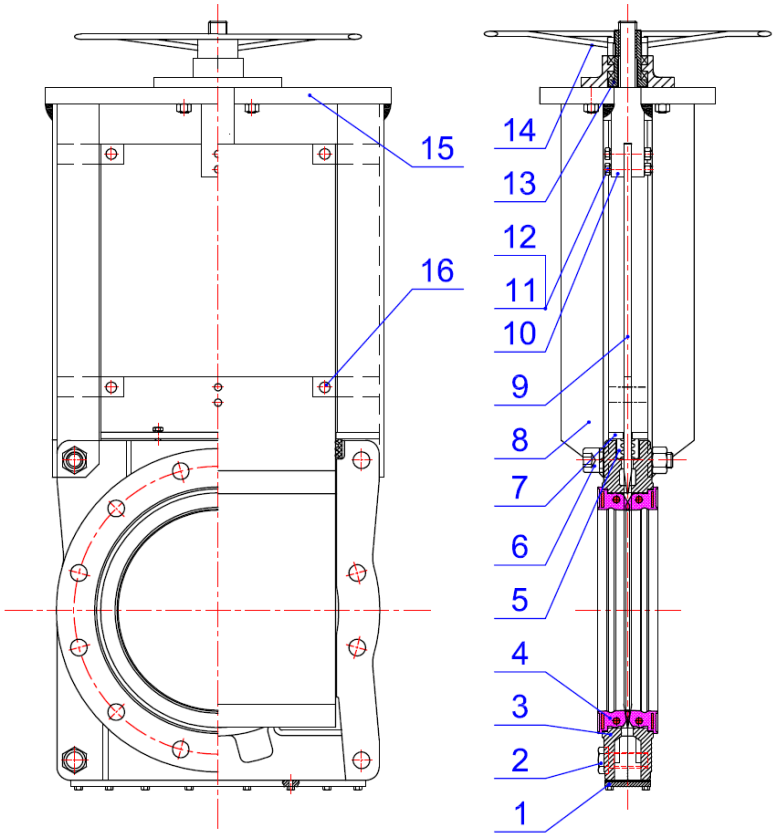
Standard open and closed lockout/tagout positions.

316 stainless steel gate is standard
The stainless steel gate is completely withdrawn from the process flow in the open position and can be inspected or replaced without taking the valve out of service.

No need for flange gaskets

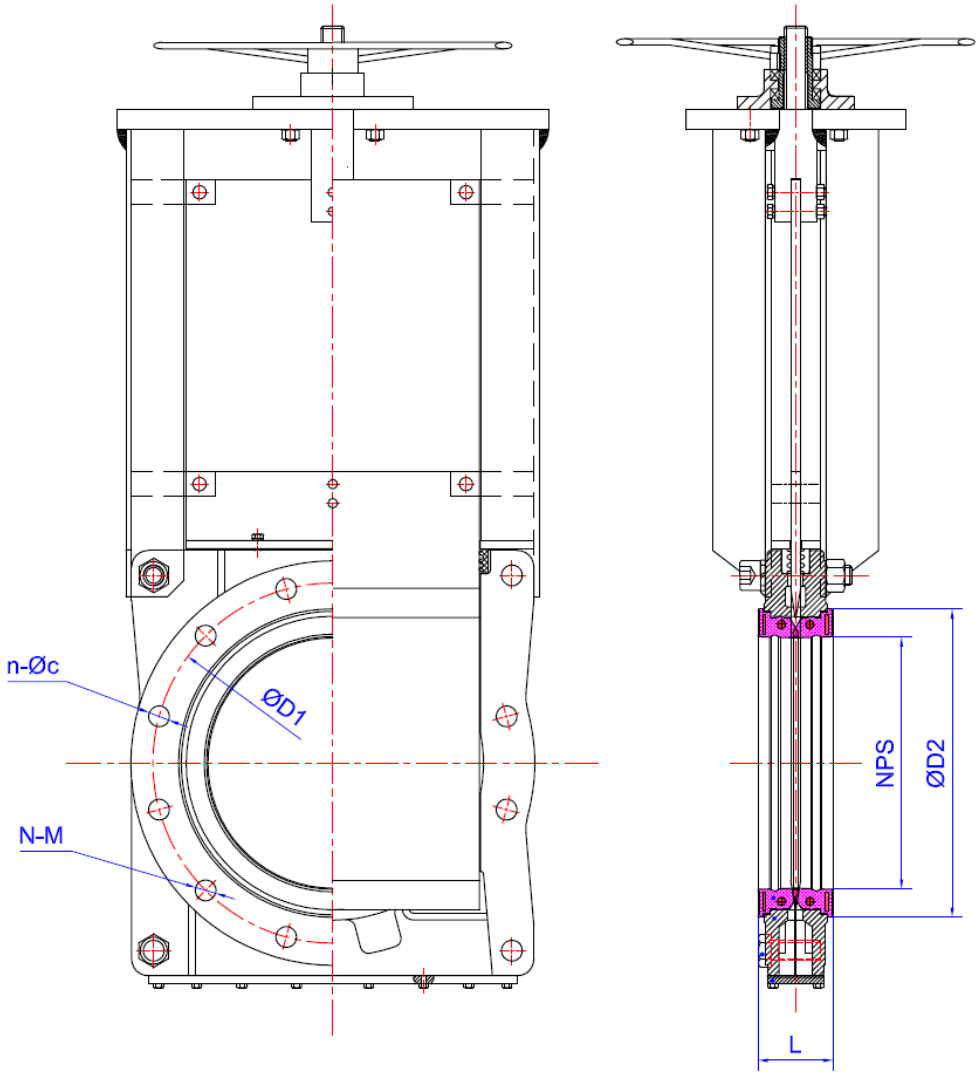
Controlled stroke prevents gate from penetrating too far into the sleevs in the closed position. This minimizes stress on sleeve, reduces chances of tearing.

Lockwashers used on all bolting



Part List of SPECS Slurry Knife Gate Valve

No.	Name	Material	Standard
1.	Bottom Cover	Ductile Iron	ASTM A536
		Carbon Steel	ASTM A216 WCB
2.	Bolt	B8	ASTM A193
3.	Body	Ductile Iron	ASTM A536
		Carbon Steel	ASTM A216 WCB
4.	Seat Sleeves	NR / EPDM	MFR-STD
5.	Packing	PTFE	MFR-STD
6.	Body Bolt	B8	ASTM A193
7.	Gland	Carbon Steel	ASTM A105
8.	Yoke	Carbon Steel	ASTM A105
9.	Knife Gate	Stainless Steel	ASTM A240 SS316
10.	Stem	Stainless Steel	ASTM A182 F6a
11.	Bolt	B8	ASTM A193
12.	Nut	8	ASTM A194
13.	Stem Nut	Copper Alloy	ASME B283
14.	Handwheel	Carbon Steel	ASTM A216 WCB
15.	Actuator Mounting Pad	Carbon Steel	ASTM A105
16.	Pin	Stainless Steel	ASTM 276 SS410



Main Dimension of SPECS Slurry Knife Gate Valve

ASME B16.5 150LB

NPS	L	D1	D2	N-M (UNC)	n-øc	Weight (Kg)
2"	57	ø120.7	ø99	4 – 5/8"		13.5
3"	62	ø152.4	ø132	4 – 5/8"		23.5
4"	62	ø190.5	ø158	4 – 5/8"	4 - ø19	27
6"	68	ø241.3	ø216	4 – 3/4"	4 - ø22	59
8"	76	ø298.5	ø270	4 – 3/4"	4 - ø22	107

◎SPECS Engineering Data

Flow chart characteristics for SBM PTV Slurry Knife Gate Valve