



RK ENGINEERING
FLOW SOLUTION

KEB - BI-DIRECTIONAL ELASTOMER SLEEVE
LIGHT DUTY KNIFE GATE VALVE



RK Engineering

Model Name: KEB

Bi-Directional Elastomer Sleeve Light duty Knife Gate valve - KEB

Size Range : 2" – 24" / DN 50 – DN 600

Pressure Rating : PN 6 & PN 10

KEB-SHORT PATTERN

Bi-Directional Light duty



Features and benefits

- Simplified two-piece body design allows for easier rebuilds
- Dual embedded steel reinforced elastomer sleeve providing dynamically self-aligned sealing for zero leakage.
- Meets a wide range of abrasion, corrosion, temperature, and pressure requirements.
- Can handle dry and wet media with wide particle size.
- The sleeves are easily replaceable without disassembling the valve.
- Self-lubricating and lubricant is injected without dismantling the valve from the pipe line.
- Splash guard provided at bottom of the valve to clean the slurry periodically.
- Cavity free flow path offering minimum pressure drop

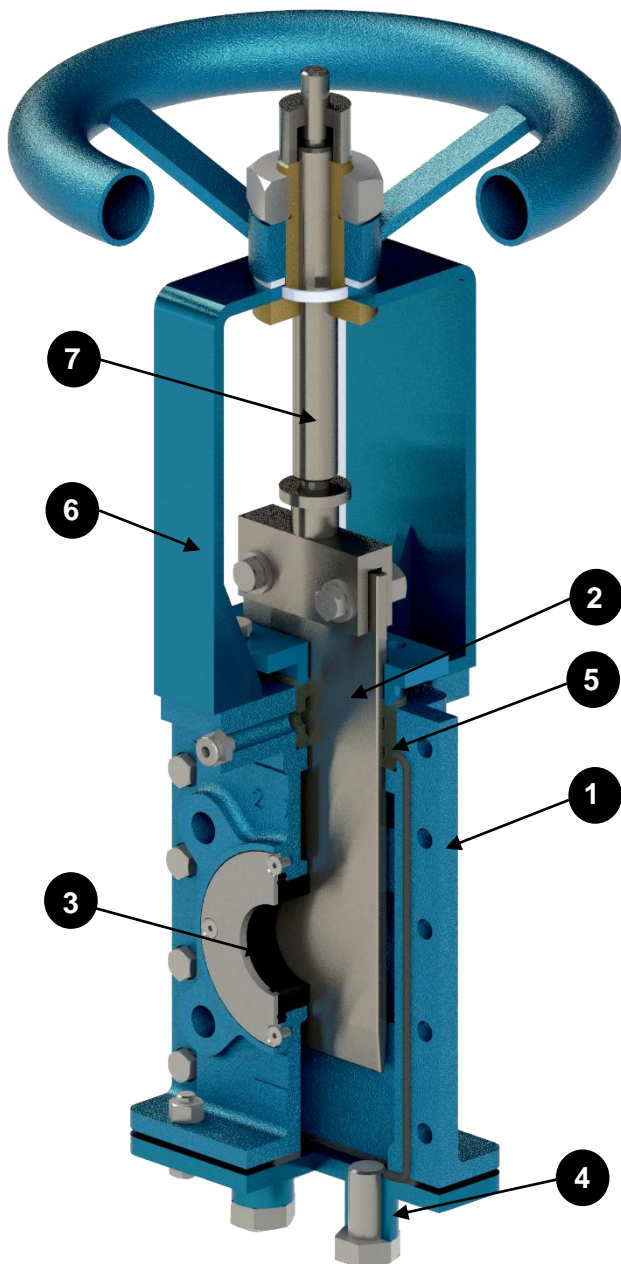
Technical specification

Size	2" to 24"
Design Pressure	2" – 24" : 150 psi
Seat	Soft Seat
Design standard	Manufacturer
Face to Face	Manufacturer
Flange Drilling	ASME B16.5, ASME B16.47
Valve @ fully Open	Zero leakage at 1.1 Times x Design pressure
Valve @ fully Close	Zero leakage at 1.1 Times x Design pressure

Seat Temperature Chart	
Material	Max. Temp. °C
EPDM	120
Nitrile	120
Viton	200

SPLASH CONTROL

The splash guard plate is provided with ports to flush and or drain away accumulated solids that may prevent full gate closure. Flush water can both enter and exit the clean-out area through the drain plate ports. These splash guard devices can be connected to a customer supplied piping system to provide a means of carrying the discharge away, to a permanent drain or other collection point. (Any additional piping system must not be capped or otherwise prevented to flow freely as this may cause eventual clogging of valve.)



1) BODY:

Full flanged body housing to suit ASME B16.5/150 through 24", sizes 26" and larger suit ASME B16.47/150.

2) GATE:

Standard stainless steel rectangular gate machined and plated for a greater sealing between the gate and sleeve. The gate edge machined and plated for smooth operation and to reduce the friction to avoid damaging the seals.

3) SLEEVE:

The seat is made of rubber and is reinforced with steel as a standard. Its solid sleeve design allows for maximum flexibility during gate travel, minimizing the effort necessary for operation. In the open position, the two sleeves are in permanent contact with each other, assuring full flow.

4) SPLASH GUARD:

Splash Guard are permit either periodic or continuous removal of solids that may accumulate during operation of the valve. They shall always be connected to a drain line.

5) PACKING:

It eliminates possible leaks to the environment as well as minimizing the Maintenance. It comes with grease nipple to allows lubrication without disassembly.

6) YOKE:

Made of steel (stainless steel available on request). Compact design makes it extremely robust even under the most severe conditions.

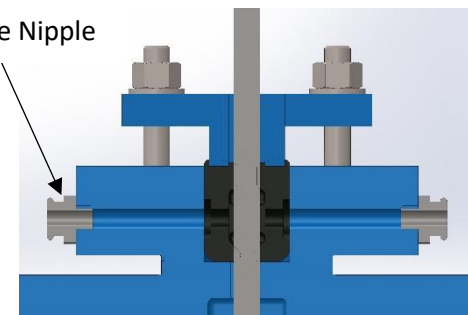
7) STEM:

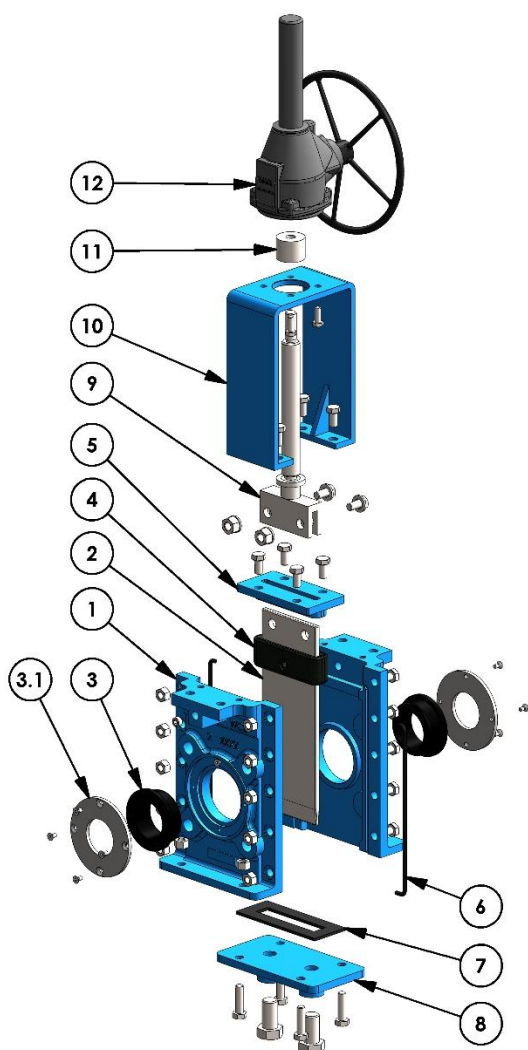
The standard stainless steel stem offers a long corrosion resistant life. For rising stem design is standard. A stem protector is provided for additional protection from dust and debris.

PACKING

The rubber packing is ability to lubricate the gate without need to disassemble the valve. Silicon-based lubricant to be used into the seal, all the way to the gate, through Grease nipple. The lubrication 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, providing low friction on gate stroke and longer seal life, as well as reducing the force required to actuate the gate. It eliminates any leakage on top of the valve body in any orientation and prevents any outside contaminants from getting inside the valve. The seal is replaceable and can be changed while the gate is in the fully open position.

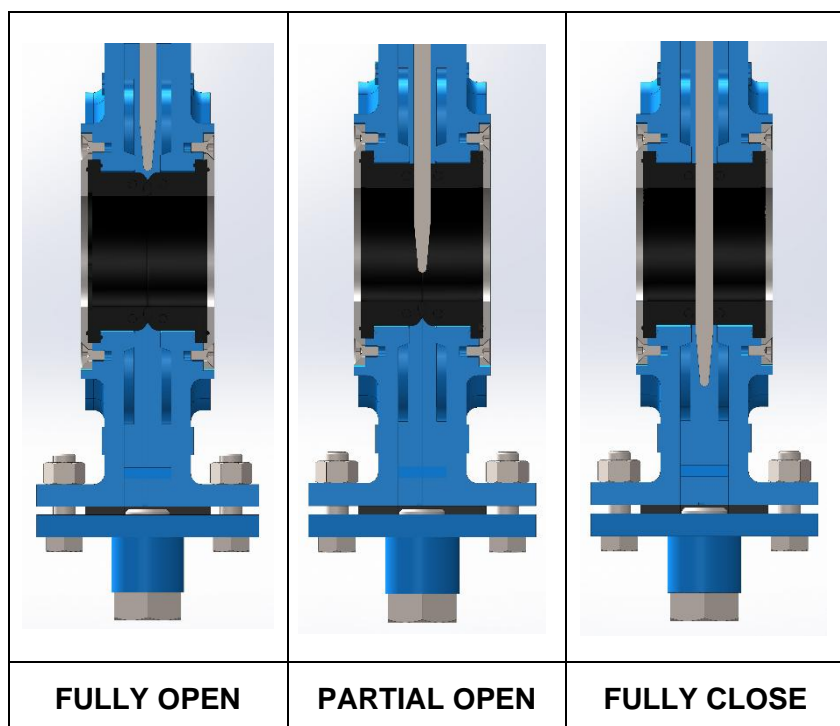
Grease Nipple





ITEM	PART	MATERIAL
1	Body	CF8 / CF8M / WCB / DI
2	Gate	SS 304 / SS 316 / 17.4PH
3*	Sleeve	EPDM / Viton / Nitrile
3.1*	Retainer Ring	EPDM / Viton / Nitrile + MS
4	Packing	EPDM / Viton / Nitrile
5	Gland	CS
6	O-Ring	EPDM / Viton / Nitrile
7	Gasket	EPDM / Viton / Nitrile
8	Splash Guard	CS
9	Stem	SS 304 / SS 410
10	Yoke	CS / SS 304
11	Stopper	SS 304 / SS 410
12	Gear Actuator	

Note: * marked items are recommended spare parts.

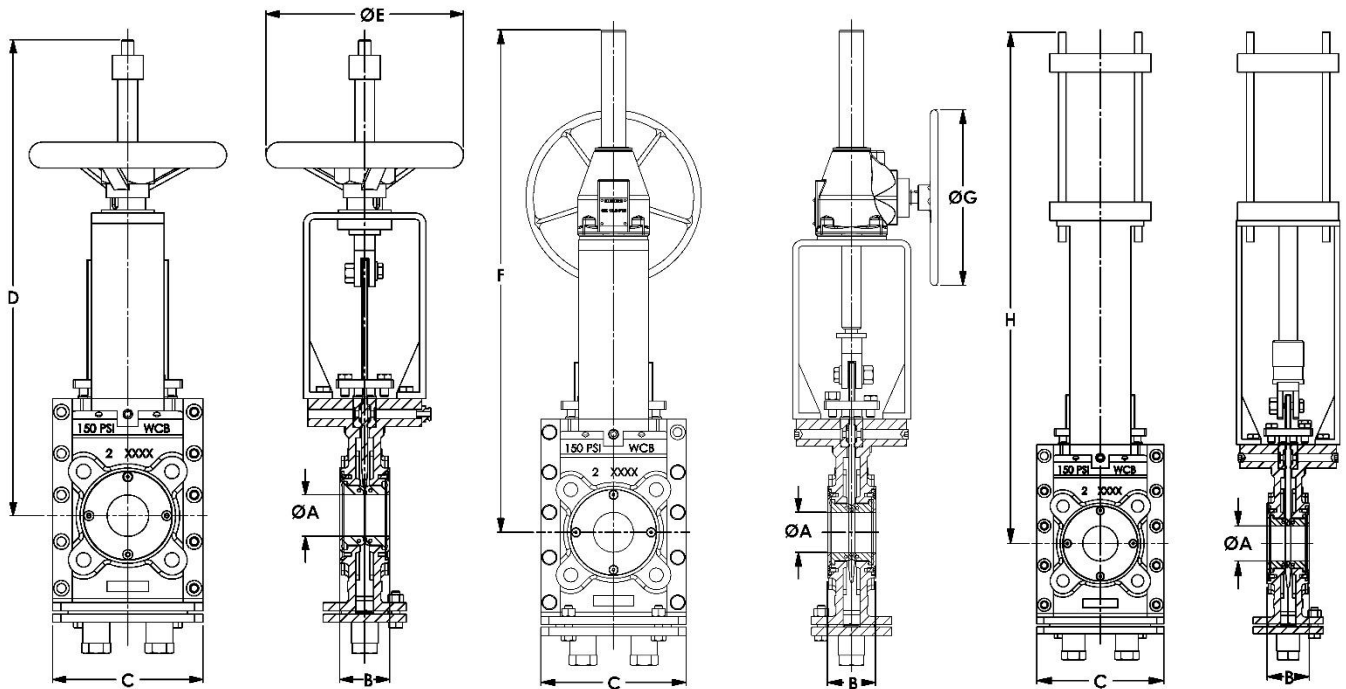


WORKING OF KEB

When the gate is fully opened, The elastomer sleeves seal against each other under a high compression load, creating the valve pressure vessel and provide an unobstructed port, protecting metal parts from the flowing slurry.

As the gate strokes to close, the gate tip creates a gap between the facing sleeves, allowing any media that could potentially clog or jam the valve to be purged out from between the sleeves, and potentially expelled outside the valve housing to atmosphere. When closed, the sleeves seal against the gate face, isolating upstream from downstream providing positive sealing action. The sleeve has an integrally molded encapsulated internal stiffener ring designed to maintain the roundness of the sleeves, resisting the heavy shearing forces during actuation while retaining the internal line pressure.

DIMENSIONS TABLE FOR 2" – 24"



Common					HW		GE		CYL	Weight (Kg)		
VALVE SIZE		ØA	B	C	D	ØE	F	ØG	H	HW	GE	CYL
NPS	DN											
2	50	48	48	210	551	254	564	356	650	18	42	34
2.5	65	70	51	226	655	254	660	356	681	22	50	34
3	80	70	51	226	676	254	699	356	701	24	54	36
4	100	99	51	279	795	254	305	356	800	29	64	64
6	150	148	57	330	945	300	343	406	953	46	76	82
8	200	187	70	387	970	550	1100	406	1100	61	101	98
10	250	249	70	421	1072	550	1280	508	1300	91	125	143
12	300	292	76	533	-	-	1549	508	1450	-	195	308
14	350	337	76	578	-	-	1679	508	1699	-	218	354
16	400	375	89	616	-	-	1834	508	1849	-	286	522
18	450	425	89	673	-	-	2116	508	2370	-	422	635
20	500	470	114	721	-	-	2426	508	2756	-	522	794
24	600	584	114	859	-	-	2807	508	3048	-	658	1066

Abbreviations: HW – Handwheel operator, GE – Bevel Gear Operator, CYL – Pneumatic Cylinder Operator.

Note: For other Material options, Sizes, Class & Actuation Please consult RK ENGINEERING Technical Team.