RK ENGINEERING
FLOW SOLUTION

PRODUCTS

MODEL- KMB

Bi-Directional Elastomer Sleeve
Medium Duty Long Pattern

MODEL- KHB

Bi-Directional Elastomer Sleeve
Heavy Duty Long Pattern

Size	2” – 24”	2” – 24”
Design Standard	Manufacturer	Manufacturer
Testing Standard	Zero Leakage	Zero Leakage
End Connection	Flanged	Flanged
Drilling	ASME B16.5 up to 24”	ASME B16.5 up to 24”
Pressure Rating	Class 150	2” to 24” – 740 psi
Application	• To handle corrosive • Natural slurries with high solids • Mining Process • Pulp & Paper • Waste water treatment • Power plant	• To handle corrosive • Natural slurries with high solids • Mining Process • Pulp & Paper • Waste water treatment • Power plant

KMB & KHB

Bi-Directional high performance Medium Duty & Heavy 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

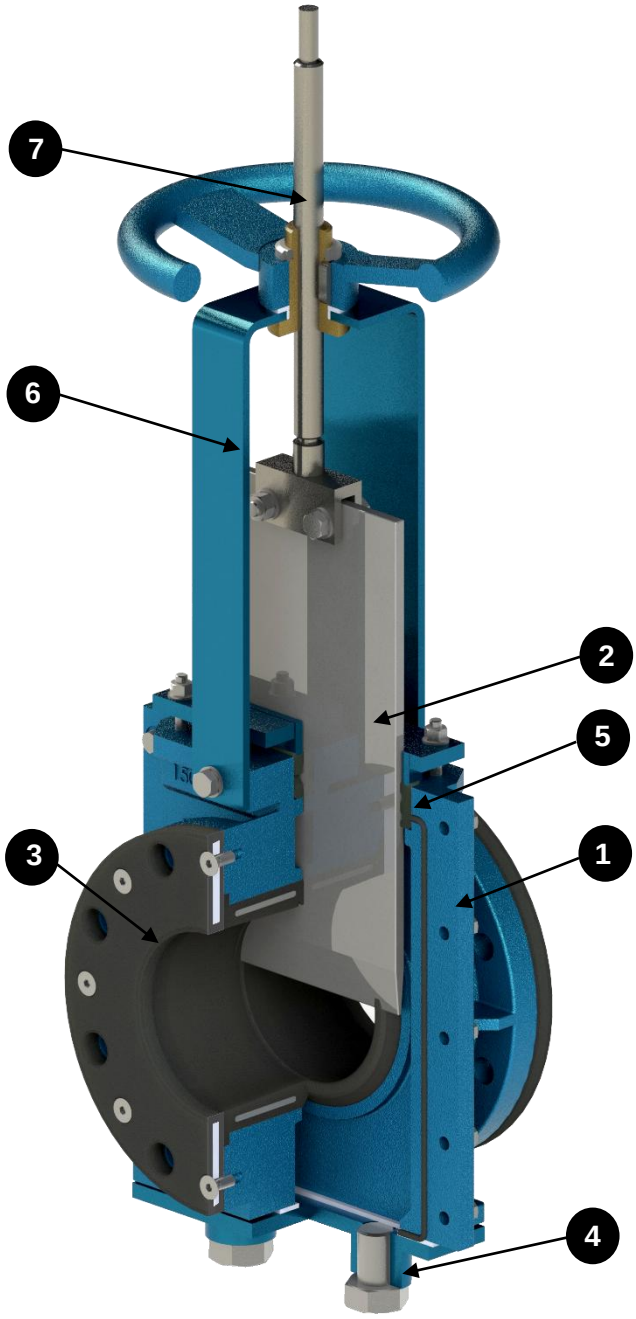
Technical specification

Size	2” to 24”	
Design Pressure	KMB	KHB
	300 psi (20 bar)	740 psi (50 bar)
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 disassemblv.

6) YOKE:

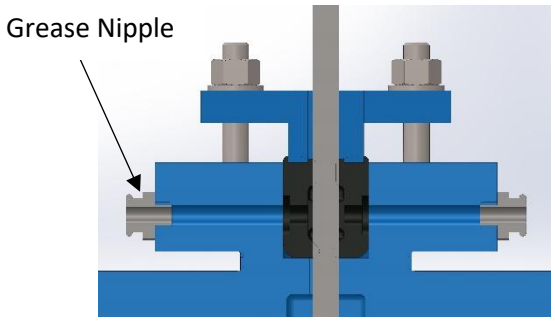
Made of steel (stainless steel available on request). Compact design makes it extremely robust even under the most severe conditions.

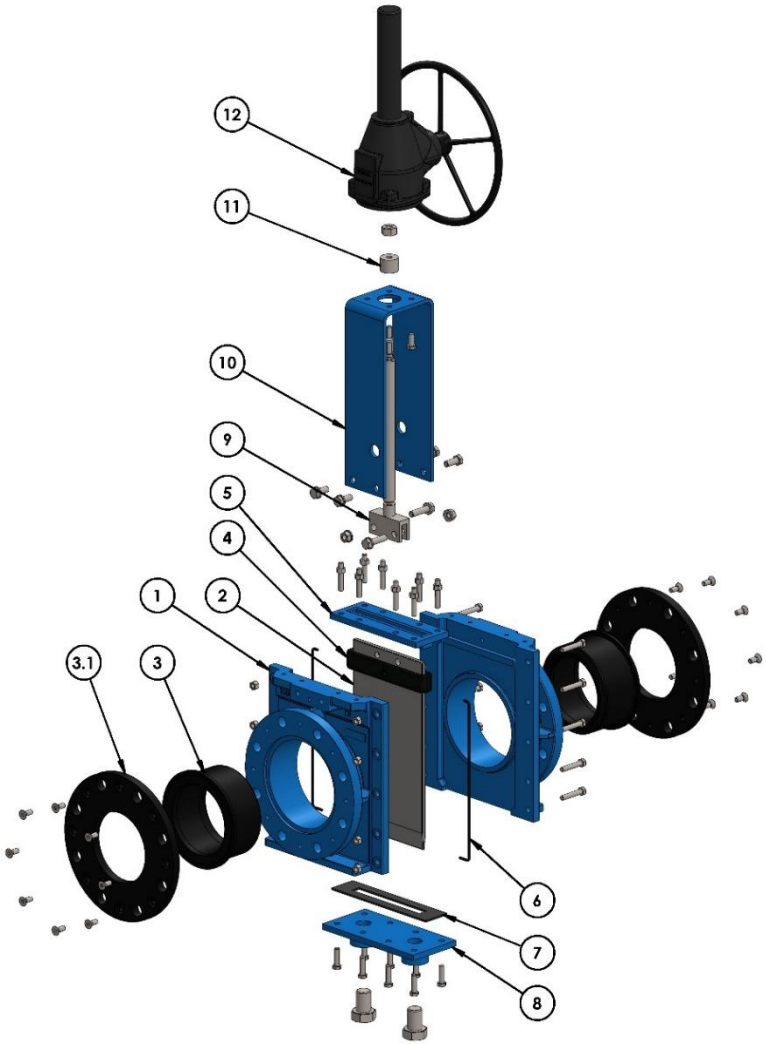
7) STEM:

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

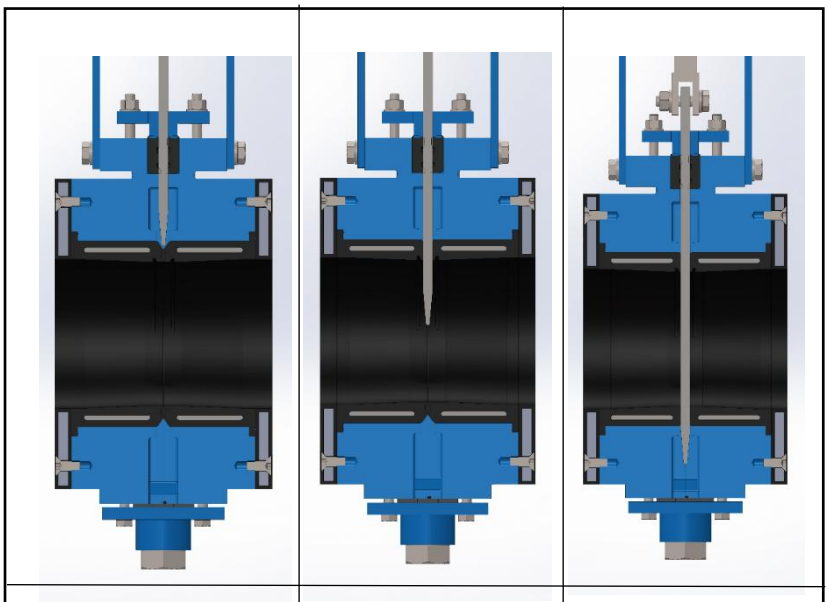
The rubber packing is ability to lubricate the gate without need to disassemble the valve. Silicon-based lubricant to be used into the seal, all the way to the gate, through Grease nipple. The lubrication is held inside a series of rib cavities built into the seal, each time the gate passes through the 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.





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.



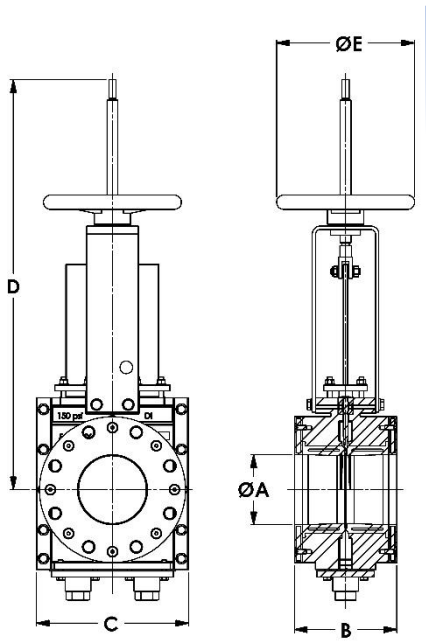
FULLY OPEN	PARTIAL OPEN	FULLY CLOSE

WORKING OF KEB

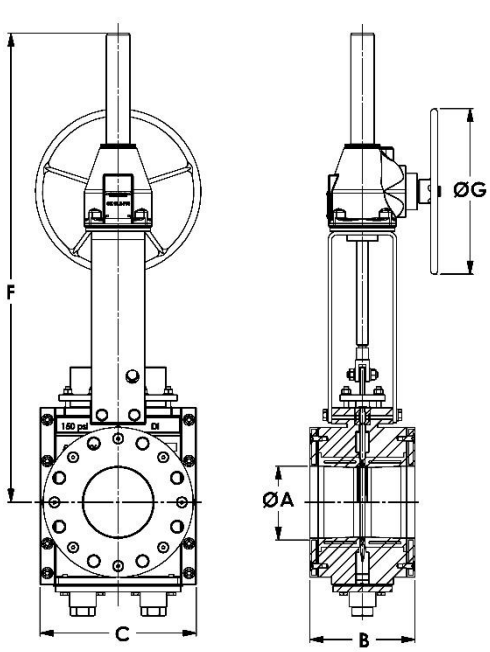
When the gate is fully opened, The elastomer sleeves seal against each under a high compression load, creating the valve pressure vessel and provide an unobstructed port, protecting metal parts from the flowing slurry.

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.

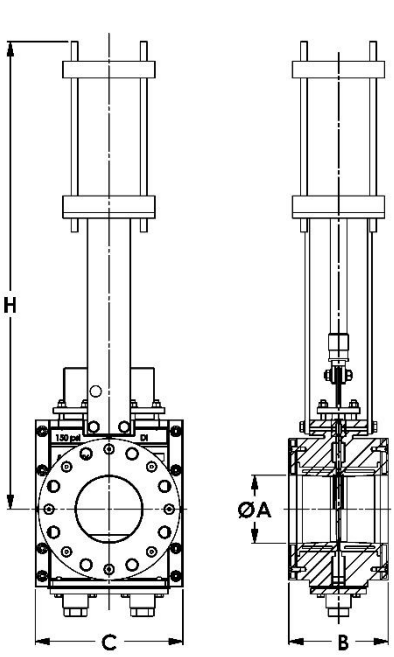
DIMENSIONS TABLE FOR 2” – 24”



HW



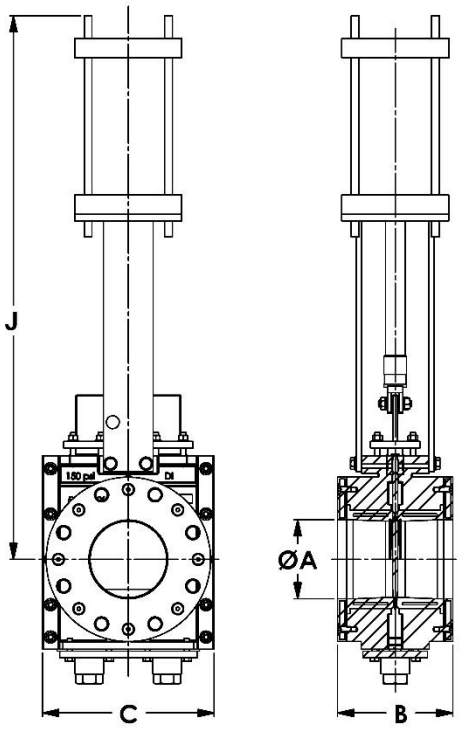
GE



CYL

Common					HW		GE		CYL	Weight (Kg)		
VALVE SIZE		ØA	B	C	D	ØE	F	ØG	H	HW	GE	CYL
NPS	DN											
2	50	48	175	210	551	250	564	356	650	24	45	36
2.5	65	70	175	226	655	250	660	356	681	25	54	36
3	80	70	175	226	676	250	699	356	701	27	61	41
4	100	99	175	279	795	300	305	356	800	34	68	68
6	150	148	178	330	945	300	343	406	953	50	84	86
8	200	187	184	387	970	550	1100	406	1100	68	104	104
10	250	249	226	421	1072	550	1280	508	1300	102	136	152
12	300	292	257	533	-	-	1549	508	1450	-	209	318
14	350	337	257	578	-	-	1679	508	1699	-	227	363
16	400	375	279	616	-	-	1834	508	1849	-	295	544
18	450	425	311	673	-	-	2116	508	2370	-	435	680
20	500	470	359	721	-	-	2426	508	2756	-	544	839
24	600	584	372	859	-	-	2807	508	3048	-	680	1089

DIMENSIONS TABLE FOR 26” – 48”



H.CYL

Common					H.CYL	Weight (lbs)
VALVE SIZE		ØA	B	C	H	H.CYL
NPS	DN					
26	650	648	378	940	3112	862
28	700	699	378	940	3112	907
30	750	749	395	1067	3429	1247
32	800	749	411	1067	3429	1315
36	900	902	470	1245	3810	1950
42	1050	1054	537	1448	4191	2812
48	1200	1181	537	1549	4699	3402

Dimensions are given in mm.

Abbreviations: H. CYL – Hydraulic Cylinder Operator.

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