

# INSAMCOR®

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World Class Performance  
in Abrasive, Scaling and  
Corrosive Slurries, Sludge,  
Liquids, and Bulk Solids



## **INSAMCOR® - MLB**

***Mono Flanged Large Bore Knife Gate Valves***



**DUCTILE IRON SRL- INSAMCOR®MLB**  
**SRL: Soft Rubber Lined**



**DUCTILE IRON FBE- INSAMCOR®MLB**  
**FBE: Fusion Bonded Epoxy**

**DFC'S purpose is to solve typical and perennial valve problems. We achieve this by providing quality valves that provide the lowest cost of ownership and operation, highest reliability and minimum lifetime maintenance.**

**DFC's Insamcor range of mono flanged large bore knife gate valves feature a unique extruded body seal including both transverse and stuffing box sealing to atmosphere. The extruded seal ensures no seat pockets or cavities providing trouble free operation in large bore applications.**

### **Design Features and Advantages**

- 28" - 48" (DN700 - DN1200)
- Mechanically retained extruded body seal
- Combination transverse seal and adjustable stuffing box and gland design ensures leak-proof sealing to atmosphere and allows maintenance and seal re-packing under full line pressure
- Gate guided through full length of the stroke
- Self-cleaning flush out corners prevent deposit build-up in sealing area
- Full bore unrestricted flow area - no seat pockets or cavities
- Bi-directional leak-proof sealing
- Built in PTFE scrapers keep the blade free from any foreign matter over the whole width of the blade during operation
- Robust Pillar/Angle design allows for easy mounting of proximity and limit switches.
- The mounting plate is designed to accept manual, pneumatic or electric actuation

# World Class Performance



**DUCTILE IRON FBE- INSAMCOR®MLB  
OPEN & CLOSED**



**DUCTILE IRON SRL- INSAMCOR®MLB  
OPEN & CLOSED**

## Sealing Principle

In the fully open position the valve is sealed to atmosphere through a combination transverse seal acting as the primary seal and an adjustable secondary stuffing box seal. The advantage of combination sealing to atmosphere is the ability to maintain and re-pack seals under full line pressure.

As the valve closes the gate remains in contact with the mechanically retained extruded body seal throughout the stroke and is guided by the valve body. When the gate approaches the fully closed position, the angle between

the blade and the flush-out corners create turbulent flow of the media over the seating area. The turbulent flow removes all the sediment from the seat which allows the gate to fully close on the seating area free from any slurry build-up.

When the valve opens the gate again remains in contact with the body seal and the gate is wiped clean by scraper blades that ensure trouble free operation during the next closing cycle.

## Specifications

	MLB-DUCTILE IRON FBE	MLB-DUCTILE IRON SRL
<b>Size Range</b>	28" - 48"(DN700-DN1200)	28" - 48"(DN700-DN1200)
<b>Pressure</b>	Varies - Size dependant	Varies - Size dependant
<b>Body</b>	Fusion Bonded Epoxy coated Ductile Iron	Black etch primed Ductile Iron with SRL faces and bore
<b>Seals</b>	Extruded Nitrile Body Seal	Extruded Nitrile Body Seal
<b>Pillars/Angles</b>	Fusion Bonded Epoxy Mild Steel	Fusion Bonded Epoxy Mild Steel
<b>Gate</b>	304L Stainless Steel	304L Stainless Steel
<b>Flange Drilling</b>	AS 2129 Table D & E PN 10 ANSI B16.5 CLASS150	AS 2129 Table D & E PN 10 ANSI B16.5 CLASS150

## Optional

### Gate

Different gate materials available on request

### Actuators

Manual, manual bevel gear, pneumatic, electromechanical, hydraulic and lever

### Deflector Cones

Replaceable Ni-hard wear cone with gasket  
Polyurethane deflector cones

### Seals

Various elastomers available

### Ports

Vee & pentagonal ports for flow control

### Lockouts

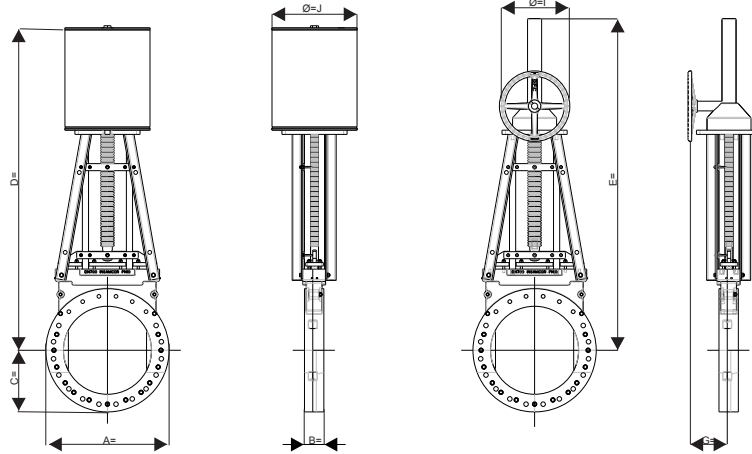
For both open and closed position



## Dimensions and Weights of the Ductile Iron FBE MLB

AC (AIR CYLINDER)

BG (BEVEL GEAR)



### Dimensions (mm) and Weights (kg)

Valve Size	A	B	C	D	E	F	G	I	J	Weight MH	Weight BG	Weight AC
700	900	150	450	1791	2306	1630	-	630	550	-	746	1011
750	985	150	493	1937	2585	1717	-	630	750	-	900	1175
800	1013	160	508	2110	2714	2398	-	630	750	-	1040	1315
900	1115	180	558	2335	2941	2115	-	630	750	-	1670	2155
1000	1250	200	625	2507	3213	2287	-	630	750	-	1870	2345
1200	1455	212	728	2890	3936	2670	-	630	750	-	3553	3805

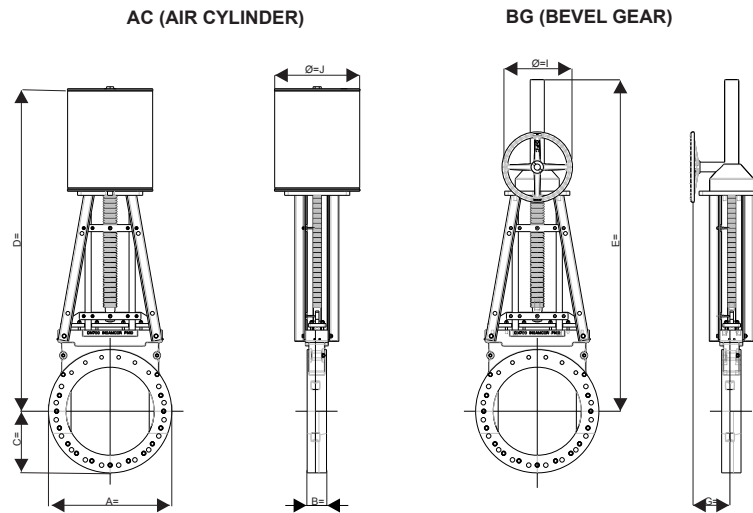
### Dimensions (inches) and Weights (lbs)

Valve Size	A	B	C	D	E	F	G	I	J	Weight MH	Weight BG	Weight AC
28"	35.43	5.90	17.71	70.51	90.78	64.17	-	24.80	21.65	-	1644	2228
30"	38.77	5.90	19.40	76.26	101.77	67.59	-	24.80	29.52	-	1984	2590
32"	39.88	6.29	20.00	83.07	106.85	94.40	-	24.80	29.52	-	2292	2899
36"	43.89	7.08	21.96	91.92	115.78	83.26	-	24.80	29.52	-	3681	4750
40"	49.21	7.87	24.60	98.70	126.49	90.03	-	24.80	29.52	-	4122	5169
48"	57.28	8.34	28.66	113.77	154.96	105.11	-	24.80	29.52	-	7832	8388

# World Class Performance



## Dimensions and Weights of the Ductile Iron - SRL MLB

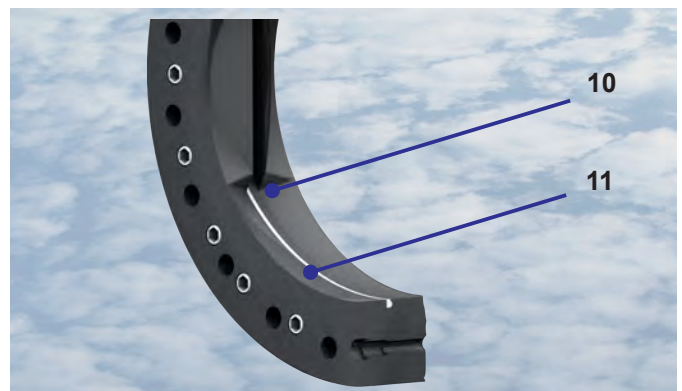
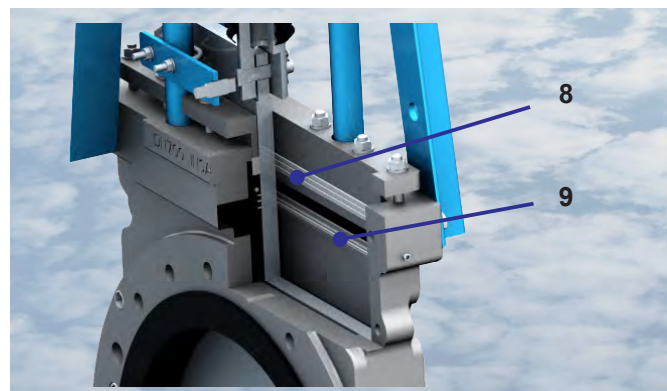
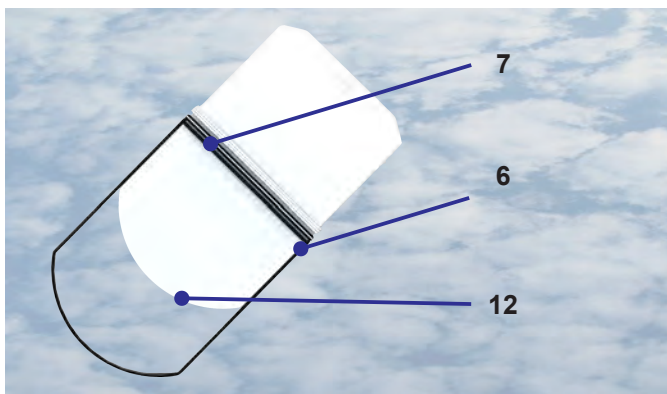
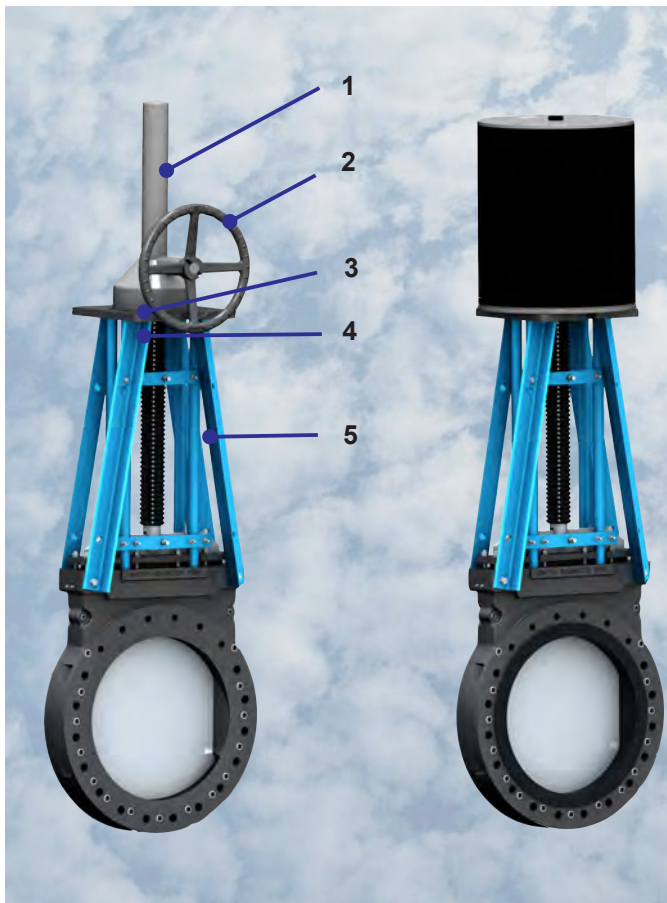


### Dimensions (mm) and Weights (kg)

Valve Size	A	B	C	D	E	F	G	I	J	Weight MH	Weight BG	Weight AC
700	900	162	450	1791	2306	1630	-	630	550	-	746	1011
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32"	39.88	6.77	20.00	83.07	106.85	94.40	-	24.80	29.52	-	2292	2899
36"	43.89	7.55	21.96	91.92	115.78	83.26	-	24.80	29.52	-	3681	4750
40"	49.21	8.34	24.60	98.70	126.49	90.03	-	24.80	29.52	-	4122	5169
48"	57.28	8.81	28.66	113.77	154.96	105.11	-	24.80	29.52	-	7832	8388



## Features

1. **Spindle cover** - to protect the spindle against slurry splatter
2. **Drive Mechanisms** – pneumatic cylinder, electric, hydraulic cylinder, manual bevel gear and handwheel with rising stem
3. **Thrust assembly** - all sizes fitted standard with thrust bearings
4. **Mounting plate** - designed to accept manual, pneumatic or electric actuation without any modification
5. **Pillar/Angle** - design allows for easy mounting of proximity and limit switches
6. **Extruded seal** - mechanically retained resilient moulded seal guides the gate throughout its travel and ensures bi-directional leak proof sealing
7. **Transverse seal** - internal seal arrangement to atmosphere by means of a re-packable transverse seal under full line pressure
8. **Stuffing Box** - external seal arrangement to atmosphere by means of an adjustable external stuffing box design and gland packing
9. **Scrapers** - during operation PTFE scrapers keep the blade free from any foreign matter over the whole width of the gate
10. **Flushout corners** - self cleaning flushout corners prevent deposit build up in sealing area
11. **Seat pockets** - full bore, unrestricted flow area. No valve seat pocket or cavity
12. **Gate** - polished stainless steel gate with bevelled edge at the base to cut through dense media

## Ductile Iron - Soft Rubber Lined INSAMCOR® MLB Specification

The knife gate valve will be of wafer style and mono ring flanged with the bore and connecting faces soft rubber lined. The design will allow for bi-directional flow against maximum operating pressure. The body seal must be extruded and must be mechanically retained in the valve body. The gate's sides must remain in contact with the body seal during opening and closing of the valve and the gate must be guided by the valve body. The sealing to atmosphere must be achieved through a combination transverse seal acting as the primary seal and a secondary adjustable stuffing box seal. The transverse seal must be repackable under full line pressure in the open and closed position while the stuffing box seal must be replaceable, with the valve in the fully open position, under full line pressure. The internal bore will include self-cleaning flush out corners and there will be no seat pockets or cavities in the bore for media to settle in. The valve must incorporate PTFE scrapers to keep the blade free from any foreign matter over the whole width of the gate during operation.

## Applications

With a proven reputation of more than 25 years, Insamcor knife gate valves are well suited for a wide variety of industrial applications.

DFC has one of the largest installed bases of mineral processing valves in the world and manufacturing facilities in South Africa, Finland and the USA. With sales and support facilities in Australia, North and South America, Europe, Asia, the middle East and Africa, DFC's staff and agents are readily available and committed to solving your problems and providing you with the best possible service wherever your business is located.

## Ductile Iron - Fusion Bonded Epoxy INSAMCOR® MLB Specification

The knife gate valve will be of wafer style and mono ring flanged with a fusion bonded epoxy coated ductile iron body. The design will allow for bi-directional flow against maximum operating pressure. The body seal must be extruded and must be mechanically retained in the valve body. The gate's sides must remain in contact with the body seal during opening and closing of the valve and the gate must be guided by the valve body. The sealing to atmosphere must be achieved through a combination transverse seal acting as the primary seal and a secondary adjustable stuffing box seal. The transverse seal must be repackable under full line pressure in the open and closed position while the stuffing box seal must be replaceable, with the valve in the fully open position, under full line pressure. The internal bore will include self-cleaning flush out corners and there will be no seat pockets or cavities in the bore for media to settle in. The valve must incorporate PTFE scrapers to keep the blade free from any foreign matter over the whole width of the gate during operation.

Insamcor valves are used in a wide array of industries and applications. Examples include:

### Main Supply Line

- Isolating valves
- Dredging ponds

### Water

- Reservoir isolating valves
- Desalination
- Agriculture

### Effluent

- Sewage
- Pump station isolating - suction & discharge
- Clarifiers
- Effluent disposal lines

### Pulp & Paper

- Brown stock
- Filtrate
- Reject
- Paper stock

# World Class Performance Slurry Valves

## RF Valve® and aiRFlex® pinch valves

The world's most complete line of pinch valves in standard ASME/ANSI B16, DIN and ISO face-to-face dimensions from 1" to 60" (DN25 to DN1500)

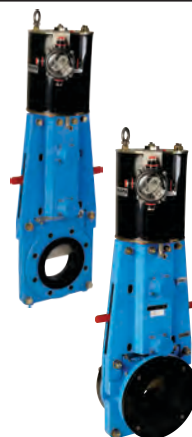
- Patented non-stretch, anti-stress folds in all elastomer tubes
- In-line elastomer tube change capability without removing the valve from the pipeline
- Most advanced wear sensing technology for preventative maintenance alert



## Insamcor® SKG F & W slurry valves

Heavy duty bi-directional knife gate valve designed for slurry applications

- Flanged & Wafer design available
- Packingless design
- Full port formed by two heavy duty elastomer sleeves
- No seat cavity for unwanted solids to build and prevent gate closure
- No metal parts in contact with flowing media



## Saunders® A Type and KB Type diaphragm valves

Simplicity in design coupled with more than 75 years of cutting edge innovation has resulted in the Saunders diaphragm's ability to handle a wider range of fluids than any other valve type

- Available in weir and straight through type
- Available in either flanged or screwed ends
- Various lining and diaphragm material options



DFC manufactures this range under license from CPFT Ltd and is only available in selected African countries.

## Insamcor LW semi-lugged slurry valves

Bi-directional wafer semi-lugged knife gate valve designed for slurry applications.

- Adjustable stuffing box to atmosphere
- Mechanically retained moulded seal with no seat pockets
- Self-cleaning flush out corners prevent slurry build-up in sealing area
- Easy mounting of proximity or limit switches
- Sizes 2" to 24" (DN50 to DN600)



## Insamcor® MH slurry valves

Bi-directional high pressure wafer mono-flange knife gate valves suitable for end-of-line installation

- Sizes 2" to 24" (DN50 - DN600)
- Available in 230 psi CWP (16 bar) pressure rating on all sizes
- Combination re-packable primary transverse seal and secondary adjustable stuffing box seal for severe applications
- Mechanically retained moulded seal with no seat pockets
- Gate guided through full length of the stroke



## Insamcor® PB ported blade slurry valves

Bi-directional ported blade valve suitable for slurries containing large particles

- Two heavy duty elastomer sleeves are compressed against a ported blade through its entire travel
- The ported blade allows granular slurries of size similar to the blade thickness to be drawn through the seals and flushed out of the valve
- Sizes 2" to 24" (DN50 - DN600)

