

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



INSAMCOR - RF
Ring Flanged Knife Gate Valves



DUCTILE IRON SRL- INSAMCOR® RF
SRL: Soft Rubber Lined



DUCTILE IRON FBE- INSAMCOR® RF
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 ductile iron ring flanged knife gate valves feature a unique moulded body seal including both transverse and stuffing box sealing to atmosphere. The moulded seal ensures no seat pockets or cavities providing trouble free operation.

Design Features and Advantages

- 150psi CWP (10 bar) pressure rating for all sizes
- Mechanically retained moulded 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
- Pillar design allows for easy mounting of proximity and limit switches.
- The mounting plate is designed to accept manual, pneumatic or electric actuation



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



**DUCTILE IRON SRL- INSAMCOR® RF
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 moulded 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

	RF-DUCTILE IRON FBE	RF-DUCTILE IRON SRL
Size Range	2" - 24" (DN50 - DN600)	2" - 24" (DN50-DN600)
Pressure	150psi CWP (10 bar)	150psi CWP (10 bar)
Body	Fusion Bonded Epoxy Ductile Iron	Black etch primed Ductile Iron with SRL faces and bore
Seals	Moulded Nitrile Body Seal	Moulded Nitrile Body Seal
Pillars	Fusion Bonded Epoxy Mild Steel	Fusion Bonded Epoxy Mild Steel
Gate	304L Stainless Steel (Dn50 - DN600)	304L Stainless Steel (Dn50 - DN600)
Flange Drilling	ANSI B16.5 Class 150 AS 2129 Table D & E PN 10 & PN 16	ANSI B16.5 Class 150 AS 2129 Table D & E PN 10 & PN 16

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

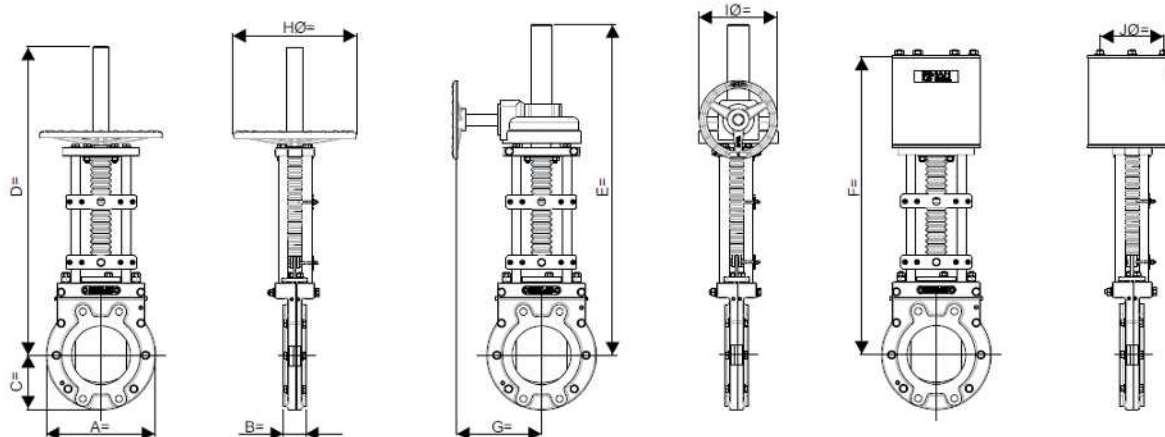


Dimensions and Weights of the Ductile Iron FBE RF

RF (MANUAL HANDWHEEL)

BG (BEVEL GEAR)

AC (AIR CYLINDER)



Dimensions (mm) and Weights (kg)

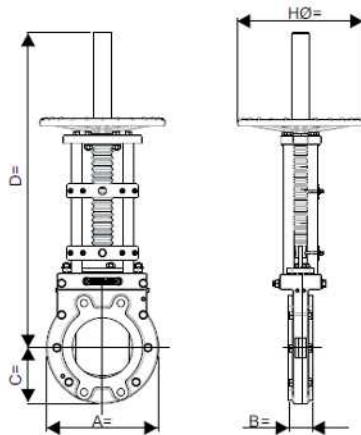
Valve Size	A	B	C	D	E	F	G	H	I	J	Weight RF	Weight BG	Weight AC
50	165	43	83	531	466	465	303	315	200	80	15	29	21
65	185	46	93	572	516	505	303	315	200	80	20	33	26.5
80	200	46	100	607	566	559	303	315	200	100	19	30	29.5
100	235	52	118	725	641	652	303	315	200	100	25	37	34
125	270	56	135	798	727	720	303	315	300	160	30	41	41
150	279	60	140	787	750	747	303	400	300	160	36	43	51
200	360	72	180	1085	990	995	328	400	300	200	78	81	104
250	425	76	213	1222	1185	1117	328	400	300	250	104	107	148
300	484	80	242	1360	1305	1241	328	500	400	300	128	127	182
350	555	78	278	1627	1537	1468	328	500	400	300	164	168	243
400	620	100	310	1667	1665	1596	328	500	400	400	228	228	328
450	644	100	322	1683	1703	1619	328	695	600	450	260	277	420
500	700	110	350	1868	1888	1761	328	695	600	450	336	353	496
600	798	130	396	2160	2180	2145	328	695	600	550	47	493	647

Dimensions (inches) and Weights (lbs)

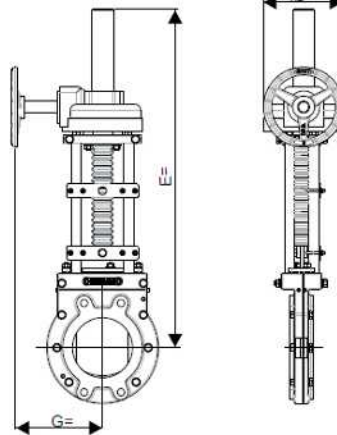
Valve Size	A	B	C	D	E	F	G	H	I	J	Weight RF	Weight BG	Weight AC
2"	6.49	1.69	3.26	20.90	18.35	18.30	11.92	12.40	7.87	3.14	33	64	46
2.5"	7.28	1.81	3.66	22.52	20.31	19.88	11.92	12.40	7.87	3.14	44	73	58
3"	7.87	1.81	3.93	23.89	22.28	22.00	11.92	12.40	7.87	3.93	42	66	65
4"	9.25	2.04	4.64	28.54	25.23	25.66	11.92	12.40	7.87	3.93	55	81	75
5"	10.62	2.20	5.31	31.41	28.62	28.34	11.92	12.40	11.81	6.29	66	90	90
6"	10.98	2.36	5.51	30.98	29.52	29.40	11.92	15.74	11.81	6.32	79	94	112
8"	14.17	2.83	7.08	42.72	38.97	39.17	12.91	15.74	11.81	7.87	172	178	229
10"	16.73	2.99	8.38	48.11	46.65	43.97	12.91	15.74	11.81	9.84	229	235	326
12"	19.05	3.14	9.52	53.54	51.37	48.85	12.91	19.68	11.81	11.81	282	280	401
14"	21.85	3.07	10.94	64.05	60.51	57.79	12.91	19.68	15.74	11.81	361	370	535
16"	24.40	3.93	12.20	65.62	65.55	62.83	12.91	19.68	15.74	15.74	502	502	723
18"	25.35	3.93	12.67	66.25	67.04	63.74	12.91	27.36	23.62	17.71	573	610	925
20"	27.55	4.33	13.77	73.54	74.33	69.33	12.91	27.36	23.62	17.71	740	778	1093
24"	31.41	5.11	15.59	85.03	85.82	84.44	12.91	27.36	23.62	21.65	976	1086	1426

Dimensions and Weights of the Ductile Iron - SRL RF

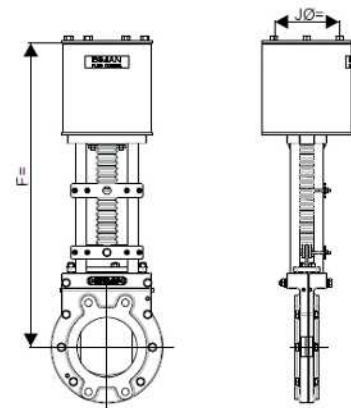
RF (MANUAL HANDWHEEL)



BG (BEVEL GEAR)



AC (AIR CYLINDER)

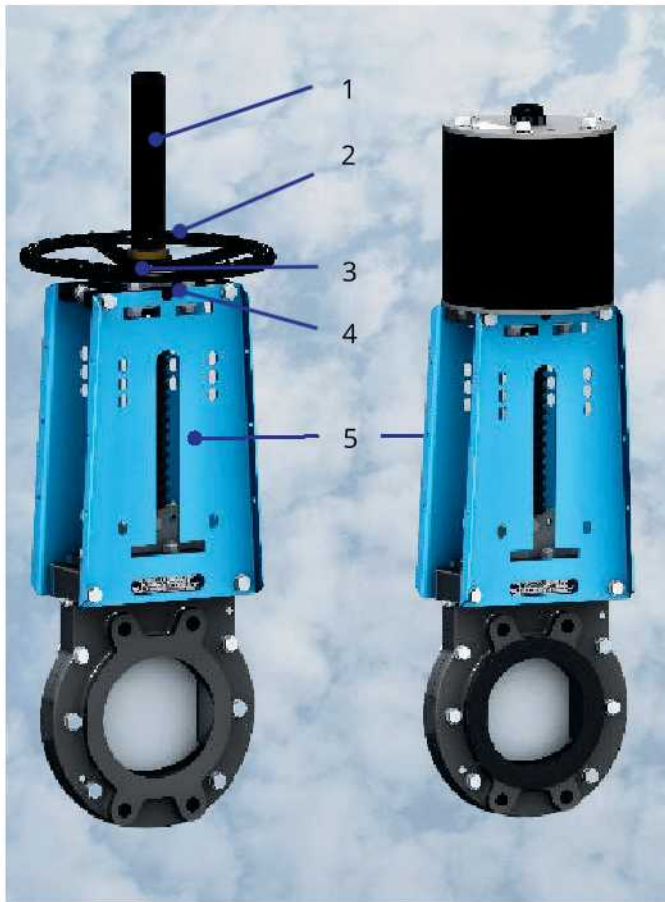


Dimensions (mm) and Weights (kg)

Valve Size	A	B	C	D	E	F	G	H	I	J	Weight RF	Weight BG	Weight AC
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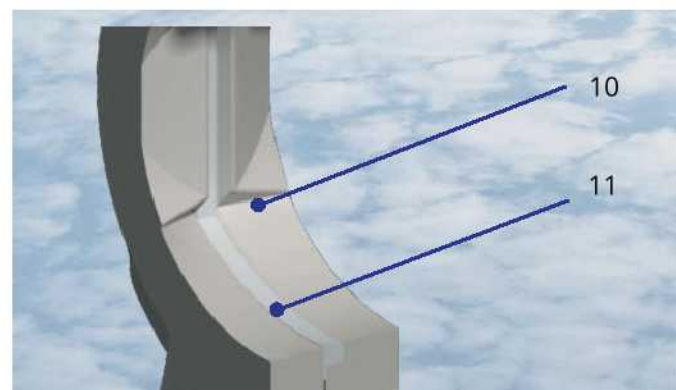
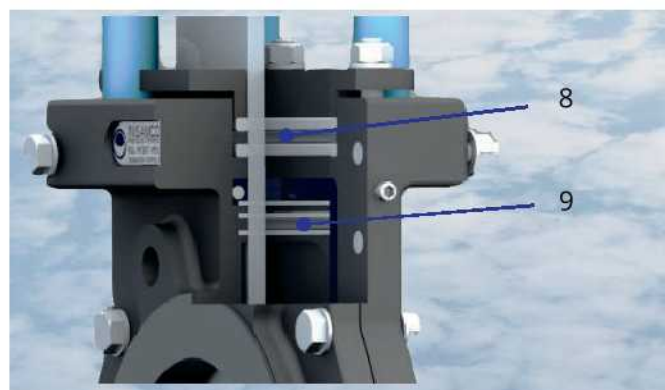
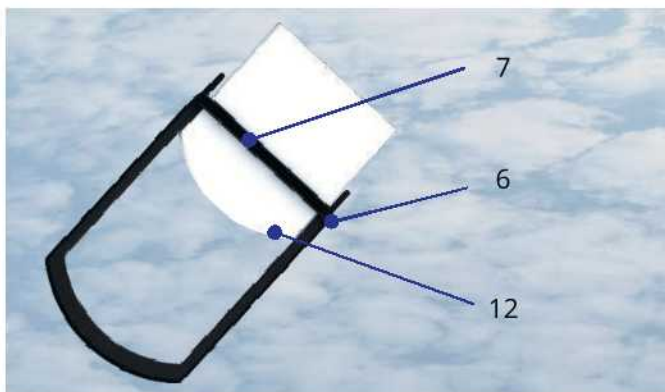
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Features

1. **Spindle cover** - for protection 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 with thrust bearings as standard
4. **Mounting plate** - designed to accept manual, pneumatic or electric actuation without any modification
5. **A-Plate** - design allows for easy mounting of proximity and limit switches
6. **Moulded 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 with bevelled edge at the base to cut through dense media



Ductile Iron - Soft Rubber Lined INSAMCOR® RF 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 fully moulded with a lip seal 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. 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® RF 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 fully moulded with a lip seal 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. 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 have been proven in a wide array of industries and applications. Examples include:

Mining

- Tailings
- Pump isolation
- Line isolation
- Dredging ponds
- Clarifiers

Power Stations

- Ash treatment
- Pump stations
- Cooling systems

Water

- Pump stations
- Clarifiers

Other

- Coal washing
- Power generation

Other DFC World Class Performance Related 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)

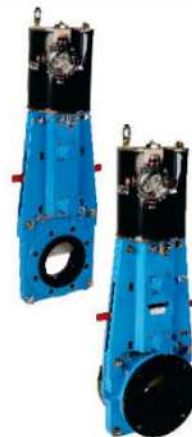
- Patented non-stretch, anti-stress folds in all elastomer tubes
- In-line elastomer tube change capability without removing the valve from the pipeline
- Most advanced wear sensing technology for preventative maintenance alert



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)



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