



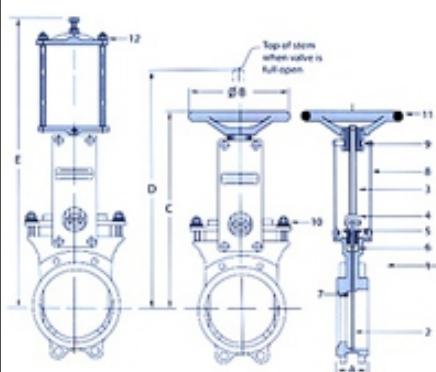
**UNIMAC**  
**CONTROL SYSTEMS**

# Knife Gate Valve

## SALIENT FEATURES

<b>BODY :</b>	Cast corrosion resistant steels or cast Iron body to provide resistivity against corrosion for all wetted parts.
<b>PORT DESIGN :</b>	Full round port design allows high flow capacity and minimum pressure drop.
<b>END STYLE :</b>	Wafer-Design - Flangeless, Full Lug or Two Lug Design of sleek construction for low headroom mountings.
<b>DRILLING :</b>	Options include ANSI, DIN and BS Standards.
<b>GATE :</b>	Stainless Steel and Special alloys. The gate is ground and buffed on both sides, to enhance packing life and ensure positive shut off, due to bevelled edge to cut through solid particles settled at the bottom.
<b>STEM :</b>	Stainless Steel or as desired, having double start thread rising spindle, for fast closing and opening. Threaded protection cap to prevent ingress of foreign material(optional).
<b>GATE GUIDE AND JAM :</b>	Gate guide provides support for moving gate. Gate jams provided at the bottom pushes the gate and holds it against the back seat ring to ensure positive shut off across the port.
<b>GLAND PACKING :</b>	Multilayer gland packing in a variety of materials to suit condition.
<b>SEAT :</b>	Metal seated for Leak Class IV across the port. Resilient seated for Leak Class IV. The resilient seat, in various elastomers is bonded with a stainless steel seat ring.
<b>OPTIONAL ACCESSORIES :</b>	Deflection Cone or Baffle provided in the front end of the top housing to ensure flow of materials towards the centre. This helps in avoiding possible entrapment of granular material between the seal and front end of gate during closing operation.
<b>CHOICE OF ACTUATORS :</b>	Hand wheel, Chain wheel, Bevel Gear, Pneumatic Cylinder or Electric Motor Actuators.

## Maximum Working Pressure



### Valve Working Pressure

50 mm - 300 mm - 150 psi  
400 mm - 450 mm - 75 psi  
500 mm - 600 mm - 50 psi

Working pressure will be 40 psi when supplied with ASBESTOS packing for valve up to 600 mm size.

Body Test Pressure(before assembly)		
Valve Body:	St.Steel	Cast Iron
50 mm- 35 mm:	221 psi	150 psi
400 mm - 600 mm:	100 psi	100 psi
Above 600 mm:	50 psi	50 psi
Body test pressure will be 40 psi for Hopper isolation valves.		

### Manufacturing And Testing Standard : MSS - SP - 81

Valve Size (mm)	Dimensions in mm				
	A	B	C	D	E
50	48	203	270	300	555
80	51	203	375	425	715
100	51	203	417	491	760
125	57	254	470	561	860
150	57	254	507	625	925
200	70	305	607	775	1097
250	70	406	707	905	1270
300	76	406	796	1045	1450
350	76	508	890	1220	1665
400	89	508	900	1275	1735
450	89	508	1020	1450	1880
500	114	508	1150	1630	2145
600	114	508	1330	1915	2420

	Part		Material Specification
1	Body		ASTM A351 GR CF8 / CF8M / CF3 / CF3M / CN7N ASTM A216 GR WCV / IS 210 - FG 260
2	Gate		ASTM A479 TY304 / 316 / 304L / 316L / A - 20
3	Stem / Piston Rod		ASTM A479 TY304 / 316 / 304L / 316L / A - 20
4	Gate Adapter		ASTM A479 TY 304 / 316 / 304L / 316L / A - 20
5	Gland		SG IRON
6	Gland Packing		PTFE IMPREGNATED ASBESTOS / APT
7	Seat	Metal	INTEGRAL WITH BODY MATERIAL
		Resilient	VITON RS-48
8	Yoke		CARBON STEEL
9	Yoke Sleeve		PHOSPHOR BRONZE
10	Bolts / Nuts		ASTM A193 GR B7 / A 1924 GR 2H
11	Hand Wheel		MALLEABLE IRON
12	Pneumatic Cylinder		ALUMINIUM

### Bi- Directional Knife Gate Valves

When situations require flow or pressure from either direction to be handled by valves, UNIMAC Series BD - 71 are uniquely designed gate valves for such applications



SALIENT FEATURES

Unlike our Uni-directional Series UD-70, the Bi-Directional series BD - 71 features a two piece bolt on body construction that allows replacementof peripheral seal when required. Seal replacement can be done even without full disassembly of the valve body halves by slightly loosening body bolting. Unlike our uni-directional series UD-70, which use a face sealing on the raised seat, as the series BD-71 has no raised seat and is a full port design offering unrestricted flow in either directions. This design uses an elastometer seal around the periphery of the gate to effect fluid sealing. As this is a symmetrical peripheral seal, the sealing remains identical from either directions of the valve and the special elastometer to metal peripheral sealing of gate ensures Bi-directional leakage prevention accross the gate.

Full closure achieved due to gate having bevelled knife edge at bottom to cut through solid particles settled at the bottom of the body. Glandless valves provided with unique cross sealing mechanism at the rear end for leakage prevention. This uniquely cross sealing arrangement facilitates re - packing in installed condition to eliminate leakage from accross the seal.

OPTIONS

Deflection Cone or Baffle provided in the front end of the top housing to ensure flow of material towards the centre. This facilitates in avoiding possible entrapment of granular amterial between the seal and the front end of the gate dring closing .

Valves available with or without rear encapsulation box to prevent leakage of material to the environment. Wide variety of material options to suit the application.

Rising Stem in the case of encapsulated design and non Rising stem in the case of non encapsulated design which is best suited for tight spaces and sfety requirements.

Size Range	-	40 mm - 300 mm
Leakage Test	-	Conforming to MSS - SP - 81
Leakage Rate	-	No Visible leakage during testing.
Rating	-	5 Bar for valves in cast iron body 10 bar for valves in Steel / Stainless Steel body Maximum service temperature of 80 <sup>o</sup> C with polyutherene seal.
Painting	-	Except for Stainless steel components, all exteriors will be painted with blue Eoxy Paint.

Size (mm)	A	B	C	D
50	48	203	341	443
65	51	203	378	470
80	51	203	412	540
100	51	203	457	609
125	57	254	519	705
150	57	254	571	793
200	70	305	673	967
250	70	406	772	1147
300	70	406	867	1320

