



Ma-Lakshmi Trading Concern

**KARAR<sup>®</sup>**



[www.kararvalves.com](http://www.kararvalves.com)

# MA-LAKSHMI TRADING CONCERN

ISO 9001:2008 certified company  
AN S.S.I & N.S.I.C REGISTERED UNIT  
INDIAN RAILWAY APPROVED SUPPLIER

## About us

Ma- Lakshmi Trading Concern is a sole proprietorship firm based in Howrah, West Bengal, India. We started our business in the year 1985 and since then we are into manufacturing and supplying of Reflux Valves, Sluice Valves, Door Valves, Non Return Valves, Metal Valves, Air Valves and Metal Butterfly Valves under "KARAR" Brand.

Our objective is working for safety, working for reliability, working for faith and working for trust or our customer. The key factor for success of KARAR product . timely delivery supported with after sales service and qualitative products.

The valves are manufactured by us are excellent in quality owing to premium quality of raw material and implementation of latest

techniques in the process. that our manufactured products meet complete requirements of clients and give them hassle free performance. Our products have huge demand in market owing to their excellent features like robust manufacturing, excellent finish, dimensionally accurate, abrasion resistant and many more. Our team manufacture these products strictly in accordance with industrial guidelines to ensure impeccable range of products.

All our products are of flawless quality owing to our sincere approach. We have given standing instruction to all our employees regarding zero tolerance toward breach or compromise on quality. Our research & development team gives vital feedbacks regarding our quality in the market,

All our business activities are directed in achieving client's satisfaction while following ethical business practices in all our actions. We are applauded for our timely delivery of products and also for offering clients, various modes of payment leading to hassle free financial transactions.





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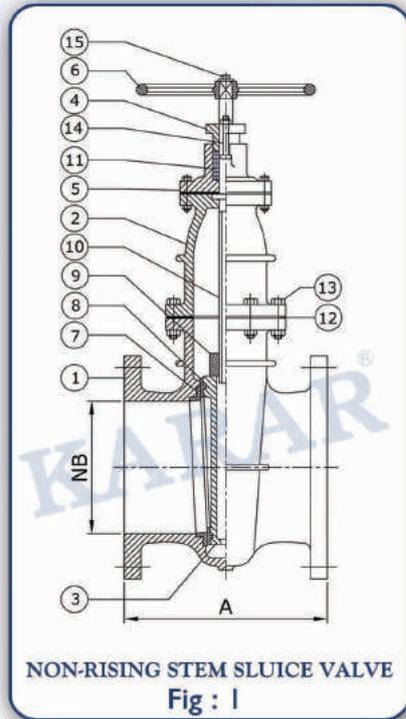
Service Temp.		Class 150					Class 300					Class 600				
°F	°C	WCB a)	WCI (b) (c)	WC6 (c)	WC9 (c)	C5 (c)	WCB (a)	WCI (b) (c)	WC6 (c)	WC9 (c)	C5 (c)	WCB (a)	WCI (b) (c)	WC6 (c)	WC9 (c)	C5 (c)
-20 to 100	-29 to 38	285	265	290	290	290	40	695	750	750	750	1480	1390	1500	1500	1500
200	93	260	260	260	260	260	675	680	750	750	745	1350	1360	1500	1500	1490
300	149	230	230	230	230	230	655	655	720	720	715	1315	1305	1445	1445	1430
400	204	200	200	200	200	200	635	640	695	705	750	1270	1280	1385	1410	1410
500	260	170	170	170	170	170	600	620	665	665	745	1200	1245	1330	1330	1330
600	316	140	140	140	140	140	550	605	605	605	715	1095	1210	1210	1210	1210
650	343	125	125	125	125	125	535	590	590	590	590	1075	1175	1175	1175	1175
700	371	110	110	110	110	110	535	570	570	570	570	1065	1135	1135	1135	1135
750	399	95	95	95	95	95	505	530	530	530	530	1010	1065	1065	1065	1055
800	427	80	80	80	80	80	410	510	510	510	510	825	1015	1015	1015	1075
850	454	65	65	65	65	65	270	485	485	485	485	535	975	975	975	965
900	482	50	50	50	50	50	170	450	450	450	450	345	900	900	900	740
950	510															
1000	538	35	35	35	35	35	105	280	320	375	275	205	560	640	755	50
1050	566	20	20	20*	20*	20*	506	165	215	260	200	105	330	430	520	400
				20*	20*	20*			145	175	145			290	350	290
1100	593			20*	20*	20*			95	110	100			190	220	200
1150	621					20*					60					125
1200	649					15*					35					70
Hydrostatic Shell Test pressure		450 31.5	425 29		450 31.5		1125 79	1075 75			1150 805		2250 157.5	2100 147		2275 154
Valve Closure Test Pressure	Fluid	315 22.00	300 21.00		320 22.5		825 58	770 54			830 58		1630 114	1535 107		1655 116
	AIR			100/7					100/7					100/7		

**NOTE :**

- (a) Permissible, but not recommended for prolonged usage above 800° F. Upon prolonged exposure to temperature above 800° F, the carbide phase of carbon steel may be converted to graphite.
- (b) Permissible, but not recommended for prolonged usage above 800° F.
- (c) Use normalized and tempered material only.
- (d) For welding end Valves only. Flanged end rating terminate at 1,000° F.

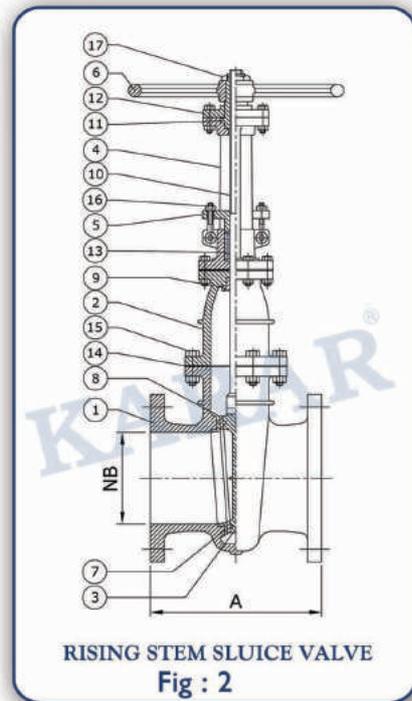
**CHEMICAL COMPOSITION OF GENERAL USED MATERIALS**

STANDARD		INDIAN		GEN NAME	CHEMICAL PROPERTIES (%)- MAXIMUM UNLESS SPECIFIED										PHYSICAL PROPERTIES	
AMERICAN	GRAD E			E	C	Mn	P	S	Si	Cr	Ni	Mo	Cu	V	T.S.Mpa	Y.S. Elon.
ASTM A126	CIB	IS-210	FG-200	CI	3.5	0.6-0.9	0.4	0.08	1.2-0.8	0.15	-	-	0.1	-	200	230
ASTM A536	60-40-80	IS-1865	SG-60	SG IRON	3.0	0.7-1.5	0.08	-	1.0-2.8	1.0-2.8	18-22	-	-	-	600	370
ASTM A216	WCB	IS-2856	GR 2	CS	0.3	1.0	0.04	0.045	0.6	0.5	0.5	0.2	0.3	0.3	485-655	205
ASTM A351	CF8	IS-7806	GR 3	SS-304	0.08	1.5	0.04	0.04	1.5	18-21	8-11	0.5	-	-	485	205
ASTM A351	CF8M	IS-7806	GR 3	SS-316	0.08	1.5	0.04	0.04	1.5	18-21	9-12	2-3	-	-	485	205
ASTM A217	WC6	IS-3038	GR 4	ALLOY STEEL	-	-	-	-	-	1.0	0.4	0.5	-	-	480	280



DESIGN FEATURES	
MFG. / DESIGN STANDARD	IS:14846
MANUFACTURING RANGE	50 MM TO 1200 MM & UP TO 1600MM AVAILABLE ON REQUEST.
SPECIAL ACCESSORIES	BEVEL / SPUR / WORM GEAR, ELEC. ACTUATOR, SHOE & CHANNEL, POSITION INDICATOR, EXTN. ROD WITH COUPLING AND BY-PASS ARRANGEMENTS ARE ALSO AVAILABLE.
PRESSURE RATING	PN-0.4, PN-0.6, PN-1.0, PN-1.6 & PN-2.0
FLANGE ENDS	IS / BS / ANSI / DIN / ISO

MATERIALS OF CONSTRUCTION		
SL. No.	DESCRIPTION	MATERIALS & SPECN.
1.	BODY	CI / CS / DI / SS
2.	BONNET	
3.	WEDGE	
4.	GLAND	
5.	COVER / STUFFING BOX	L.T.BRONZE / SS 304 / 316 NICKEL WELD OVERLAY
6.	HAND WHEEL	
7.	BODY SEAT RING	L.T.BRONZE
8.	WEDGE SEAT RING	S.S 410 / 304 / 316 / 431 / IS:6603
9.	WEDGE NUT	JUTE & HEMP
10.	STEM	RUBBER
11.	GLAND PACKING	CARBON STEEL
12.	BONNET GASKET	CARBON STEEL
13.	BOLTS & NUTS	CARBON STEEL
14.	T-BOLTS & NUTS	CARBON STEEL
15.	SET SCREW	CARBON STEEL



DESIGN FEATURES	
MFG. / DESIGN STANDARD	IS:14846
MANUFACTURING RANGE	50 MM TO 1200 MM & UP TO 1400MM AVAILABLE ON REQUEST.
SPECIAL ACCESSORIES	BEVEL / SPUR / WORM GEAR, ELEC. ACTUATOR, SHOE & CHANNEL, POSITION INDICATOR, EXTN. ROD WITH COUPLING AND BY-PASS ARRANGEMENTS ARE ALSO AVAILABLE.
PRESSURE RATING	PN-0.4, PN-0.6, PN-1.0, PN-1.6 & PN-2.0
FLANGE ENDS	IS / BS / ANSI / DIN / ISO

MATERIALS OF CONSTRUCTION		
SL. No.	DESCRIPTION	MATERIALS & SPECN.
1.	BODY	CI / CS / DI / CS
2.	BONNET	
3.	WEDGE	
4.	COVER WITH YOKE	
5.	GLAND	L.T.BRONZE / SS 304 / 316 NICKEL WELD OVERLAY
6.	HAND WHEEL	
7.	BODY SEAT RING	S.S 410 / 304 / 316 / 431 / IS:6603
8.	WEDGE SEAT RING	CARBON STEEL
9.	BACK SEAT BUSH	CARBON STEEL
10.	STEM	JUTE & HEMP
11.	YOKE SLEEVE	RUBBER
12.	YOKE SLEEVE COVER	CARBON STEEL
13.	GLAND PACKING	CARBON STEEL
14.	BONNET GASKET	CARBON STEEL
15.	BOLTS & NUTS	CARBON STEEL
16.	EYE-BOLTS & NUTS	CARBON STEEL
17.	H. WHEEL LOCK NUT	CARBON STEEL

**DIMENSIONS FOR FACE TO FACE (A)**

NB >	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	750	800	900	1000	1100	1200
A	178	190	203	229	254	267	292	330	356	381	406	432	457	508	610	610	660	711	811	811	811

All dimensions are in mm

# GLOBE VALVE

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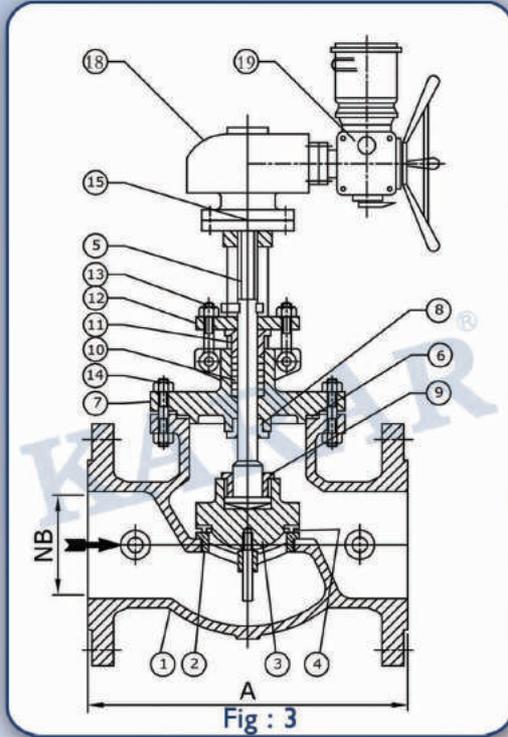
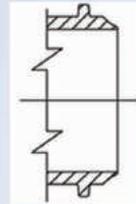


Fig : 3



BUTT-WELDED ENDS

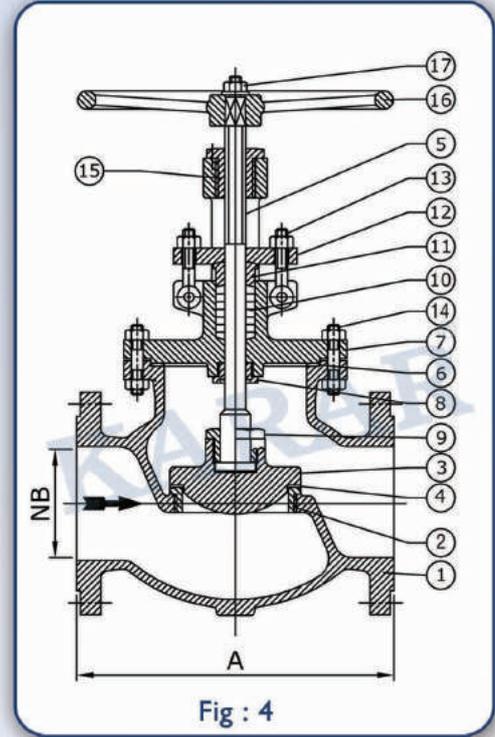


Fig : 4

DESIGN FEATURES	
DESIGN STANDARD	BS 1873
MFG. RANGE	50 MM TO 600 MM
FACE TO FACE	ASME B16.10
END CONNECTION	FLANGE END & DRILLED TO ASME- B16.5
TESTING STANDARD	API 598
OPERATION	MANUAL, GEARED, ELECTRICAL ACTUATOR, HYDRAULIC & PNEUMATIC.
APPLICATION	SUITABLE FOR HANDLING WATER, AIR, GAS & LIQUID WITH CORROSIVE PROPERTIES.
FEATURE	DOUBLE FLANGED OUTSIDE SCREW, RISING STEM, YOKE TYPE, TWO PIECES GLAND, RENEWABLE SCREWED BODY SEAT RING, BACK SEAT BUSH.

### HYDROSTATIC TEST PRESSURE IN Kg/Cm<sup>2</sup> g

CLASS	BODY	SEAT	AIR
150#	32	22	6
300#	79	57	6
600#	156	114	6
900#	237	174	6
1500#	395	290	6
2500#	653	479	6

### MATERIAL OF CONSTRUCTION FOR CL - 150# TO CL - 2500#

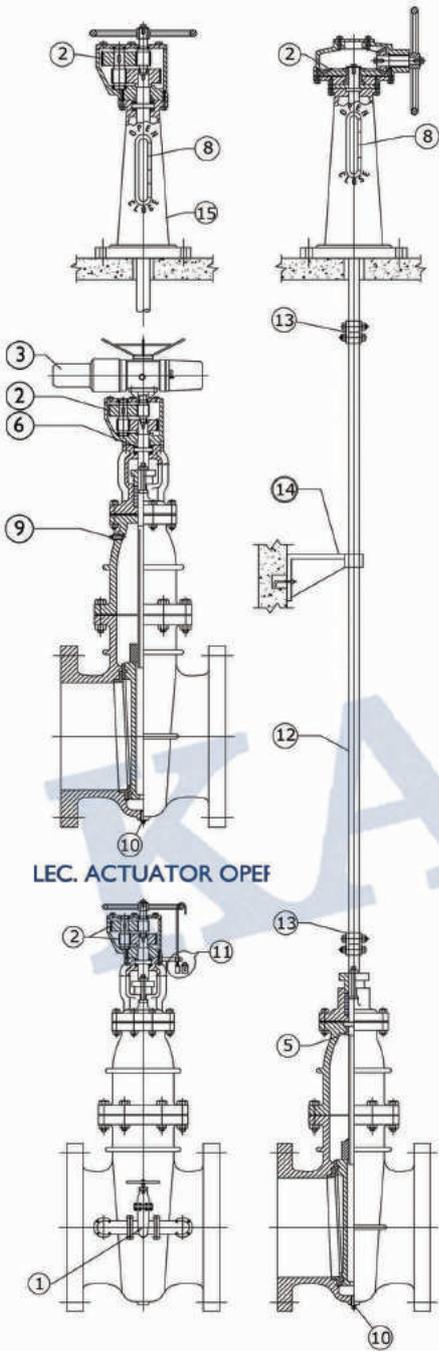
SL. No.	DESCRIPTION	MATERIALS & SPECN.
1.	BODY	WCB / LCB / CF8 / CF8M
2.	BODY SEAT	S.S 410 / 304 / 316
3.	DISC	WCB / LCB / CF8 / CF8M
4.	DISC SEAT FACING	13% Cr.OVERLAY ON WCB / CA-15 / CF8 / CF8M
5.	STEM	S.S 410 / 304 / 316 / 431
6.	GASKET	RUBBER / SP.WOUND-S.S-304-ASB / GRAPH.FILLER
7.	COVER WITH YOKE	WCB / LCB / CF8 / CF8M
8.	BACK SEAT	S.S 410 / 304 / 316
9.	DISC NUT	S.S 410 / 304
10.	GLAND PACKING	MACHINE BRAIDED METALLIC WIRE REINFORCEMENT ASB / GRAFOIL / PTFE
11.	GLAND	S.S 410 / 304 / 316
12.	GLAND FLANGE	WCB / LCB / CF8 / CF8M
13.	EYE BOLTS & NUTS	ASTM A193, Gr.B7 & A194, Gr.2H / S.S 304
14.	STUDS & NUTS	ASTM A193, Gr.B7 & A194, Gr.2H / S.S 304
15.	STEM NUT	CARBON STEEL / TB
16.	HAND WHEEL	M.S / D.I / WCB
17.	WHEEL LOCK NUT	CARBON STEEL / S.S 304
18.	BEVEL GEAR UNIT	MFR'S STD.
19.	ELECTRICAL ACTUATOR	'ROTORK' / 'LIMITORQUE' / 'AUMA' MAKE

### DIMENSIONS FOR FACE TO FACE (A)

CLASS	SIZE	50	65	80	100	125	150	200	250	300	350	400	450	500
150#	A	203	216	241	292	330	356	495	622	698	787	914	978	978
300#	A	267	292	317	356	400	444	533	622	711	----	----	----	----
600#	A	292	330	356	432	508	559	661	787	838	889	991	1092	1194
900#	A	368	419	381	457	559	610	737	838	965	1029	1130	1219	1321
1500#	A	368	419	470	546	673	705	832	991	1130	1257	1384	1537	1664
2500#	A	451	508	578	673	794	914	1022	1270	1422	----	----	----	----

All dimensions are in mm

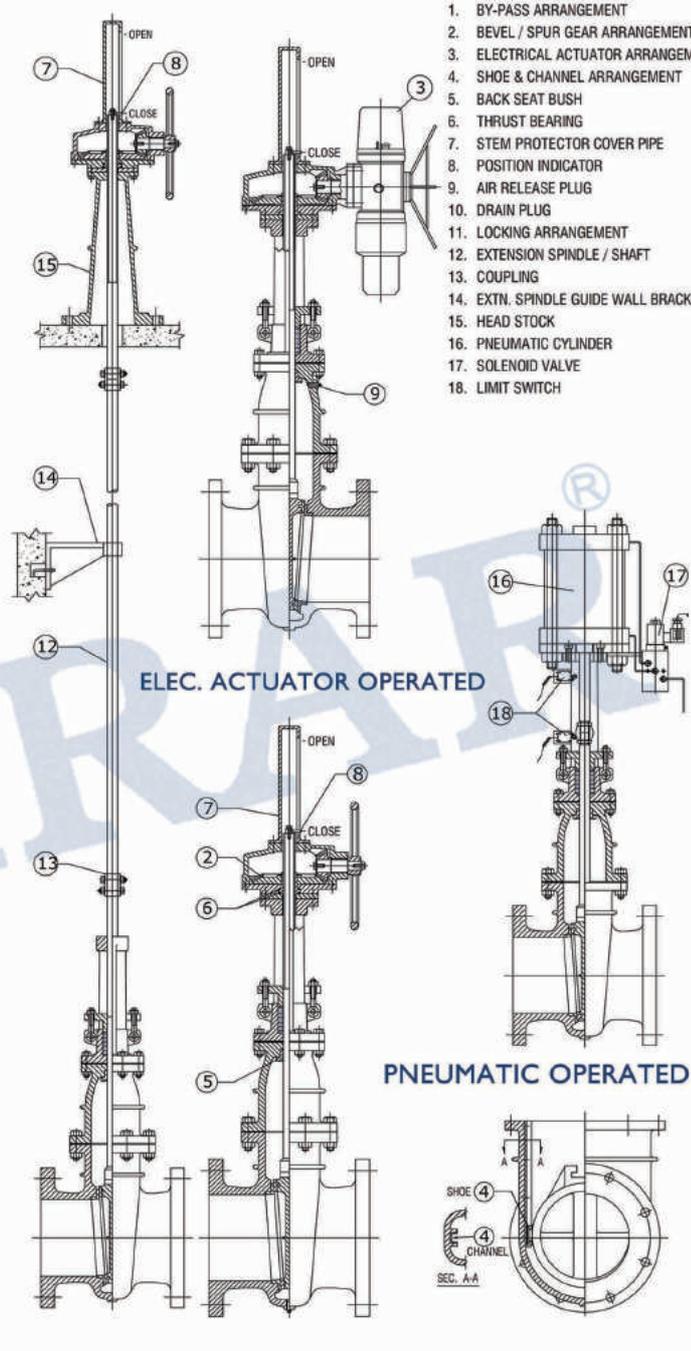
## NON-RISING STEM GATE VALVE



SPUR GEAR OPERATED

Fig : 5

## RISING STEM GATE VALVE



ELEC. ACTUATOR OPERATED

PNEUMATIC OPERATED

BEVEL GEAR OPERATED

Fig : 6

### ACCESSORIES:

1. BY-PASS ARRANGEMENT
2. BEVEL / SPUR GEAR ARRANGEMENT
3. ELECTRICAL ACTUATOR ARRANGEMENT
4. SHOE & CHANNEL ARRANGEMENT
5. BACK SEAT BUSH
6. THRUST BEARING
7. STEM PROTECTOR COVER PIPE
8. POSITION INDICATOR
9. AIR RELEASE PLUG
10. DRAIN PLUG
11. LOCKING ARRANGEMENT
12. EXTENSION SPINDLE / SHAFT
13. COUPLING
14. EXTN. SPINDLE GUIDE WALL BRACKET
15. HEAD STOCK
16. PNEUMATIC CYLINDER
17. SOLENOID VALVE
18. LIMIT SWITCH

# FABRICATED PARALLEL DISC GATE VALVE

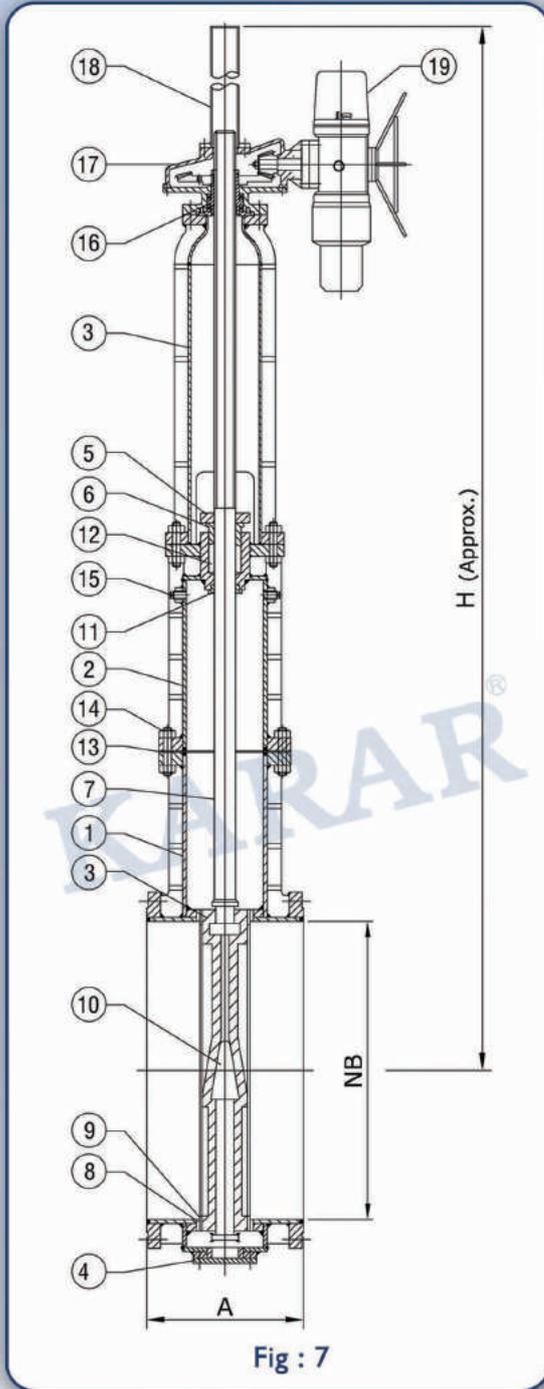


Fig : 7

### DIMENSIONS FOR FACE TO FACE (A)

SIZE $\triangleright$	400	450	500	600	700	750	800	900	1000	1100	1200	1300	1400	1500	1600	1800	2000
<b>A</b>	298	311	330	349	381	406	470	470	508	527	559	699	762	762	914	914	-
<b>H</b>	1880	2050	2260	2660	3180	3277	3626	3912	4370	4560	5160	5700	5850	6375	-	7565	-

### MATERIAL OF CONSTRUCTION

SL. No.	DESCRIPTION	MATERIALS & SPECN.
1.	BODY	M.S. IS:2062 Gr. A
2.	BONNET	
3.	YOKE	
4.	DRAIN COVER	
5.	GLAND FLANGE	
6.	GLAND	S.S 410 / 304 / 316
7.	STEM	S.S 410 / 304 / 316 / 431
8.	BODY SEAT	S.S 410 / 304 / 316
9.	WEDGE SEAT FACING	13% Cr.OVERLAY ON WCB / CA-15 / CF8 / CF8M
10.	SPRADER	S.S 410 / 304 / 316
11.	BACK SEAT	S.S 410 / 304 / 316
12.	GLAND PACKING	MACHINE BRAIDED METALLIC WIRE REINFORCEMENT ASB / GRAFOIL / PTFE
13.	GASKET	SP.WOUND-S.S-304-ASB / GRAPH.FILLER
14.	STUDS & NUTS	ASTM A193, Gr.B7 & A194, Gr.2H / S.S 304
15.	AIR RELEASE PLUG	S.S 304
16.	SLEEVE BUSH	CARBON STEEL / LTB
17.	BEVEL GEAR UNIT	MFR'S STD.
18.	STEM PROTECTING COVER	GI TUBE
19.	ELEC. ACTUATOR	'ROTORK' / 'LIMITORQUE' / 'AUMA' MAKE

### DESIGN FEATURE

DESIGN STANDARD	MFR'S STANDARD
MFG. RANGE	400 MM TO 1200 MM
FACE TO FACE	FACE TO FACE AS PER MFR'S STD. / 'DONKIN' FIG. 662. / ON REQUEST
END CONNECTION	FLANGE END & DRILLED TO IS:6392, TABLE-5 / CUSTOMER REQUIREMENT
TESTING STANDARD	API 598
OPERATION	MANUAL, GEARED & ELECTRICAL ACTUATOR
APPLICATION	SUITABLE FOR HANDLING WATER, AIR, GAS AND LIQUID WITH CORROSIVE PROPERTIES.
FEATURE	DOUBLE FLANGED OUTSIDE SCREW, RISING STEM, YOKE TYPE, BACK SEAT BUSH, DRAIN COVER, AIR RELEASE PLUG & LANTERN RING

### HYDROSTATIC TEST PRESSURE IN PSI (Kg/Cm<sup>2</sup>)

RATING	BODY	SEAT	AIR
PN-0.4 (Max)	85 (6)	57 (4)	45 (3)

NOTE:- ALL DIMENSIONS ARE IN MM. FOR ANY OTHER MOC AND HIGHER SIZE PLEASE REFER TO US. WE RESERVE THE RIGHT TO MAKE CHANGES IN DRAWING DUE TO TECHNICAL UP GRADATION.

# BUTTERFLY VALVES

## MOTORIZED BUTTERFLY VALVE

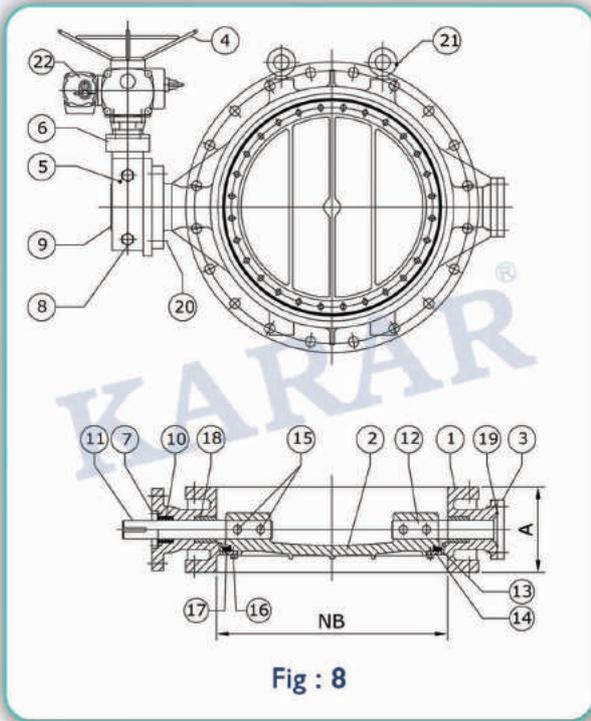


Fig : 8

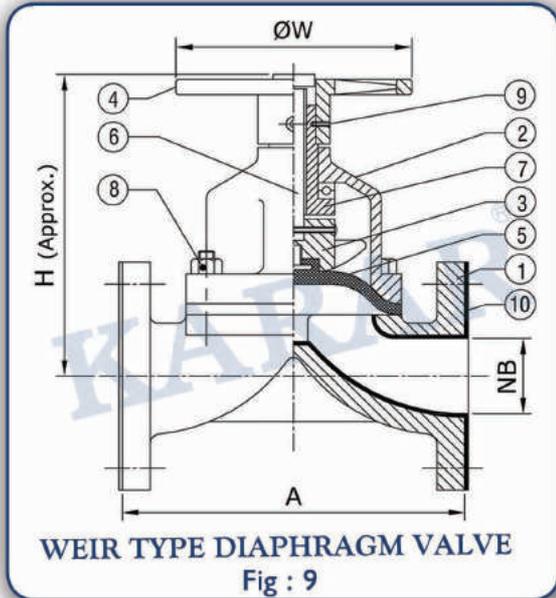
DESIGN FEATURES	
MFG. / DESIGN STD.	BS 5155, IS:13095, AWWA C-504
MFG. RANGE	300 mm TO 1200 mm UP TO 2000 mm AVAILABLE ON REQUEST
PRESSURE RATING	PN 1.0, PN 1.6, PN 2.0, PN 2.5, PN 4.0
FLANGE ENDS	BS / IS / ANSI / DIN
SPECIAL FEATURES	VALVES FULLY PROTECTED FROM CORROSION BY ELECTRO-STATICALLY APPLYING EPOXY POWDER / LIQUID COATING. HIGH PERFORMANCE GEAR BOX & ELECTRICAL ACTUATOR

MATERIAL OF CONSTRUCTION			
SL. No.	DESCRIPTION	MATERIAL	SPECIFICATION
1	BODY	C.I. / D.I. / C.S. / M.S. FAB.	BIS / DIN / BS / ASTM SPECIFICATION
2	DISC		
3	END COVER	STEEL	IS:2062 Gr.A
4	HAND WHEEL	ATTACHED WITH ACTUATOR	-
5	WORM GEAR BOX	MFR'S STD.	-
6	SPUR GEAR BOX		
7	GLAND PLATE	M.S.	IS:2062, Gr.A
8	LIMIT STOP SCREW	H.T. STEEL	-
9	INDICATOR	MFR'S STD.	-
10	PACKING (Rubber 'O' Ring)	NITRILE RUBBER (Shore Hardness 70±5)	
11	DRIVE SHAFT		
12	STUB SHAFT	STAINLESS STEEL	AISI-410
13	BODY SEAT RING	NICKEL WELD OVERLAY	
14	SEAL RETAINING RING	STAINLESS STEEL	AISI-304
15	DOWEL PIN		
16	INTERNAL FASTENERS	STAINLESS STEEL	AISI-304
17	DISC SEAL	NITRILE RUBBER (Shore Hardness 70±5)	
18	BEARING BUSHES	L.T. BRONZE	IS:318 Gr. LTB 2
19	PACKING (Rubber 'O' Ring)	NITRILE RUBBER (Shore Hardness 70±5)	
20	BOLTS & NUTS	CARBON STEEL	IS:1367 CL-4.6 & 4.0
21	LIFTING LUG	CARBON STEEL	FORGED QUALITY
22	ELECTRICAL ACTUATOR	'LIMITORQUE' / 'ROTORK' / 'AUMA' MAKE	

### DIMENSIONS(MM)

SIZE >	150	200	250	300	350	400	450	500	600	700	750	800	900	1000	1100	1200	1300	1400	1500	1600	1800	2000
A >	140	152	165	178	190	216	222	229	267	292	305	318	330	410	440	470	500	530	560	600	670	760

## DIAPHRAM VALVES & FLOAT VALVES



WEIR TYPE DIAPHRAM VALVE

Fig : 9

TECHNICAL DATA	
MFG. / DESIGN STD.	BS-5156
MFG. RANGE	20 MM TO 300 MM
PRESSURE RATING	PN 1.0 / PN-1.6
FOR FLANGE END	FLANGE END- IS / BS / ANSI / DIN STANDARD

MATERIALS OF CONSTRUCTION		
SL. No.	DESCRIPTION	MATERIALS & SPECN.
1	BODY	CI / DI / CS
2	BONNET	
3	COMPRESSOR	
4	HAND WHEEL	
5	DIAPHRAGM	NEOPRINE RUBBER
6	SPINDLE	S.S 410 / 304 / 316 / 431
7	SPINDLE NUT	BRONZE
8	STUDS / BOLTS & NUTS	CARBON STEEL
9	GRUB SCREWS	CARBON STEEL
10	LINING (3mm THIK.)	NBR/BUTYLE/PTFE/GLASS/EBONITE

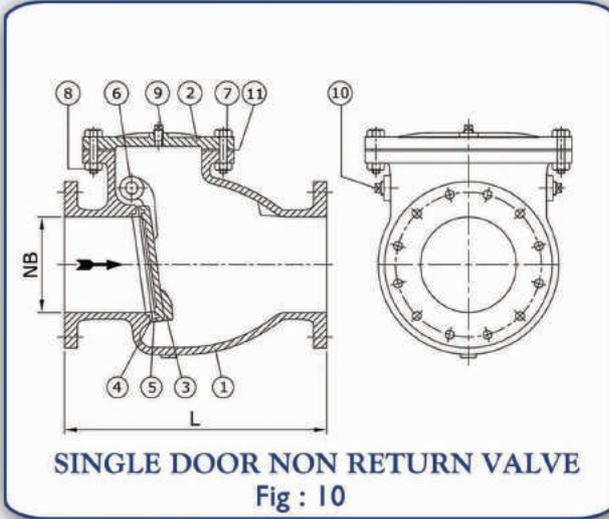
### DIMENSIONS FOR FACE TO FACE (A)

SIZE	20	25	40	50	65	80	100	150	200	250	300
A	117	127	159	191	216	254	305	406	521	635	749
H	90	110	130	145	185	200	220	330	430	660	660
ØW	75	90	110	130	155	175	220	310	440	505	670

All dimensions are in mm

# KARAR<sup>®</sup>





**SINGLE DOOR NON RETURN VALVE**  
Fig : 10

DESIGN FEATURES	
MFG. / DESIGN STD.	IS:5312 PART-1 / BS 5153
MFG. RANGE	50 mm TO 600 mm
PRESSURE RATING	PN 1.0, PN 1.6, PN 2.0
FLANGE ENDS	BS / IS / ANSI / DIN

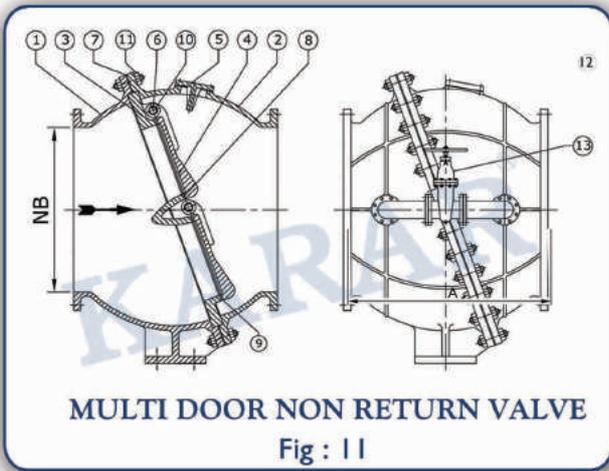
MATERIALS OF CONSTRUCTION		
SL. No.	DESCRIPTION	MATERIALS & SPECN.
1	BODY	CI TO IS: 210 FG. 200 / 220 / 260 DI TO IS: 1865 Gr. 500/7
2	COVER	
3	DISC WITH HINGE	CS TO ASTM A216 Gr.WCB / IS:1030
4	BODY SEAT RING	L.T.BRONZE / RUBBER / SS 304 / 316 NICKEL WELD OVERLAY
5	DISC FACING RING	
6	HINGE PIN	S.S. 410 / 304 / 316 / 431 / IS:6603
7	COVER BOLTS/STUDS	CARBON STEEL
8	COVER NUTS	
9	AIR RELEASE PLUG	CARBON STEEL
10	SIDE PLUG	
11	GASKET	RUBBER

NOTE : BY-PASS ARRANGEMENT AVAILABLE ON REQUEST

**DIMENSIONS FOR FACE TO FACE (L)**

NB >	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	750	800	900	1000	1100	1200	
A	203	216	241	292	330	356	495	622	698	787	914	978	978	1295	-	-	-	-	-	-	-	-

All dimensions are in mm



**MULTI DOOR NON RETURN VALVE**  
Fig : 11

DESIGN FEATURES	
MFG. / DESIGN STD.	IS:5312 PART-2
MFG. RANGE	500 mm TO 1200 mm
PRESSURE RATING	PN 1.0, PN 1.6, PN 2.0
FLANGE ENDS	BS / IS / ANSI / DIN

MATERIALS OF CONSTRUCTION		
SL. No.	DESCRIPTION	MATERIALS & SPECN.
1.	BODY (INLET)	CI / DI / CS
2.	BODY (OUTLET)	
3.	DIAPHRAGM	
4.	DOOR (04 Nos.)	
5.	STOPPER	
6.	HINGE PIN / DOOR PIN	S.S. 410 / 304 / 316 / 431 / IS:6603
7.	GASKET	RUBBER
8.	BODY / DIAPHRAGM SEAT	L.T.BRONZE / SS / RUBBER NICKEL WELD OVERLAY
9.	DOOR FACE SEAT	
10.	BUSHES	L.T. BRONZE
11.	BOLTS/STUDS & NUTS	CARBON STEEL
12.	BY-PASS ARRANGEMENT	SUITABLE SIZE OF SLUICE VALVE (IS:14846)

**DIMENSIONS FOR FACE TO FACE (A)**

NB >	500	600	700	750	800	900	1000	1100	1200
A	815	914	1000	1045	1118	1250	1250	1396	1500

All dimensions are in mm

# SWING TYPE CHECK VALVES

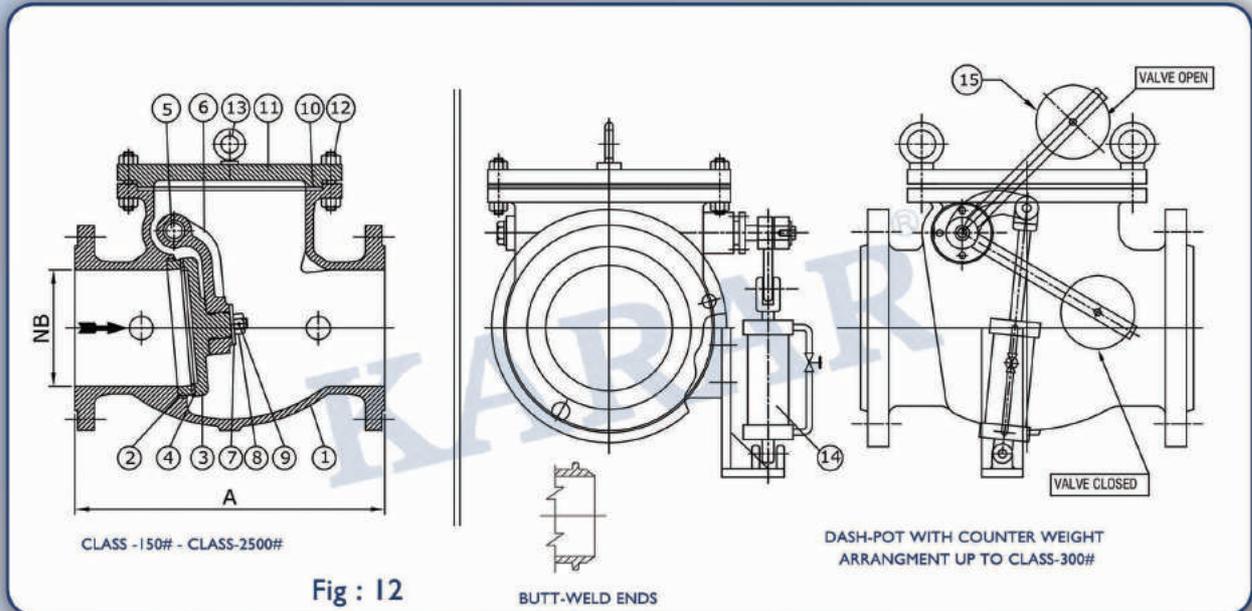


Fig : 12

### MATERIAL OF CONSTRUCTION FOR CL - 150# TO CL. - 2500#

SL. No.	DESCRIPTION	MATERIALS & SPECN.
1.	BODY	WCB / LCB / CF8 / CF8M
2.	BODY SEAT	S.S 410 / 304 / 316
3.	DISC	WCB / LCB / CF8 / CF8M
4.	DISC SEAT FACING	13% Cr.OVERLAY ON WCB / CA-15 / CF8 / CF8M
5.	HINGE PIN	S.S 410 / 304 / 316 / 431
6.	HINGE	WCB / LCB / CF8 / CF8M
7.	WASHER	S.S 410 / 304
8.	DISC LOCK NUT	S.S 410 / 304 / 316
9.	LOCKING PIN / SPLIT PIN	S.S 410 / 304
10.	GASKET	RUBBER / SP.WOUND-S.S-304-ASB / GRAF FILLER
11.	COVER	WCB / LCB / CF8 / CF8M
12.	STUDS & NUTS	ASTM A193, Gr.B7 & A194, Gr.2H / S.S 304
13.	LIFTING EYE BOLTS	ASTM A105 / S.S 304
14.	DASH-POT ARRANGEMENT	STEEL
15.	COUNTER WEIGHT & LEVER	MILD STEEL

### DESIGN FEATURES

DESIGN STANDARD	BS 1868
MFG. RANGE	50 MM TO 600 MM
FACE TO FACE	ASME B16.10
END CONNECTION	FLANGE END & DRILLED TO ASME- B16.5
TESTING STANDARD	API 598
OPERATION	SELF OPERATED
APPLICATION	SUITABLE FOR HANDLING WATER, AIR, GAS & LIQUID WITH CORROSIVE PROPERTIES.
FEATURE	SCOUR PLATE AND ROBUST ONE PIECE DESIGN TO WITHSTAND SEVERE SHOCK OF CHECK VALVE SERVICE. DIFFERENT ARRANGEMENT LIKE DASHPOT COUNTER WEIGHT, DRAIN PLUG AND BY-PASS ARE AVAILABLE.

### HYDROSTATIC TEST PRESSURE IN Kg/Cm<sup>2</sup> g

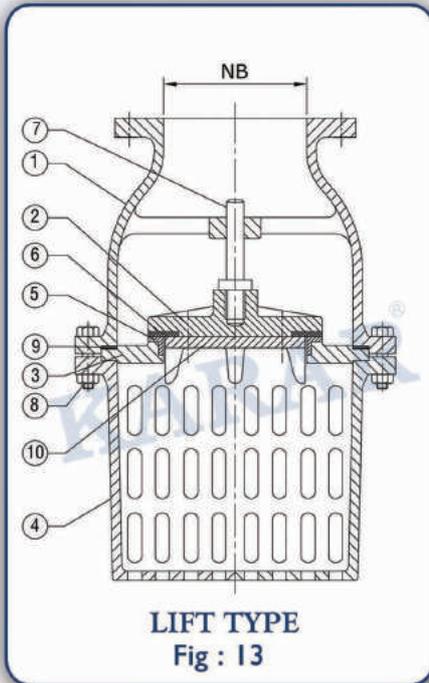
CLASS	BODY	SEAT	AIR
150#	32	22	6
300#	79	57	6
600#	156	114	6
900#	237	174	6
1500#	395	290	6
2500#	653	479	6

### DIMENSIONS FOR FACE TO FACE (A)

CLASS	SIZE >	50	65	80	100	125	150	200	250	300	350	400	450	500
150#	A	203	216	241	292	330	356	495	622	698	787	914	978	978
300#	A	267	292	317	356	400	444	533	622	711	----	----	----	----
600#	A	292	330	356	432	508	559	661	787	838	889	991	1092	1194
900#	A	368	419	381	457	559	610	737	838	965	1029	1130	1219	1321
1500#	A	368	419	470	546	673	705	832	991	1130	1257	1384	1537	1664
2500#	A	451	508	578	673	794	914	1022	1270	1422	----	----	----	----

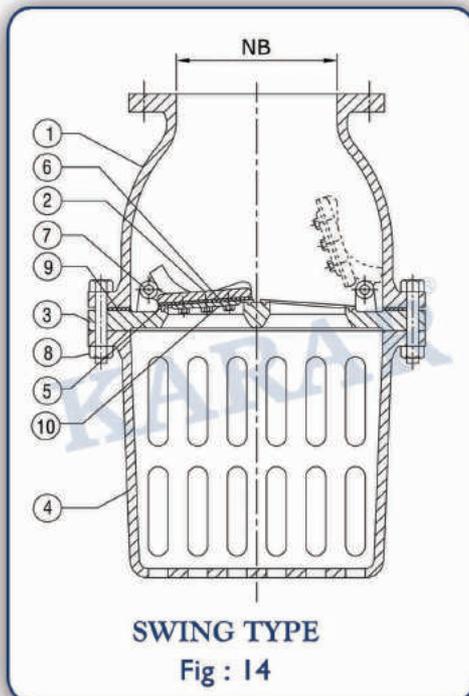
All dimensions are in mm

flange details page No : 18 &amp; 19



TECHNICAL DATA	
MFG. / DESIGN STD.	AS PER IS:4038
MFG. RANGE	50 MM TO 500 MM
HYD. TESTING	HOUSING- 6Kg/Cm <sup>2</sup> (g) & SEAT-2Kg/Cm <sup>2</sup> (g)
FLANGE END	IS / BS / ANSI / DIN STANDARD
WORKING TEMP.	UPTO 80°C
OPERATION	SELF OPERATION
APPLICATION	WATER SUPPLY SYSTEM / IRRIGATION SYSTEM

MATERIALS OF CONSTRUCTION		
SL. No.	DESCRIPTION	MATERIALS & SPECN.
1	BODY	CI / DI
2	DISC	
3	DIAPHRAGM	
4	STRAINER	
5	FACE SEAT	L.T. BRONZE
6	DISC SEAT / SEAL	NATURAL / SYNTHETIC RUBBER
7	GUIDE PIN	S.S.
8	BOLTS & NUTS	IS:1367 CL-4.6 & 4
9	GASKET	RUBBER
10	DISC SEAT HOLDER	CI / DI / GI



TECHNICAL DATA	
MFG. / DESIGN STD.	AS PER IS:4038
MFG. RANGE	350 MM TO 600 MM
HYD. TESTING	HOUSING- 6Kg/Cm <sup>2</sup> (g) & SEAT-2Kg/Cm <sup>2</sup> (g)
END CONNECTION	FLANGE END - IS / BS / ANSI / DIN STANDARD
WORKING TEMP.	UPTO 80°C
OPERATION	SELF OPERATION
APPLICATION	WATER SUPPLY SYSTEM / IRRIGATION SYSTEM

MATERIALS OF CONSTRUCTION		
SL. No.	DESCRIPTION	MATERIALS & SPECN.
1	BODY	CI / DI
2	DISC	
3	DIAPHRAGM	
4	STRAINER	
5	FACE SEAT	L.T. BRONZE
6	DISC SEAT / SEAL	NATURAL / SYNTHETIC RUBBER
7	HINGE PIN	S.S.
8	BOLTS & NUTS	IS:1367 CL-4.6 & 4
9	GASKET	RUBBER
10	DISC SEAT HOLDER	CI / DI / GI

# SINGLE / DUAL PLATE CHECK VALVES

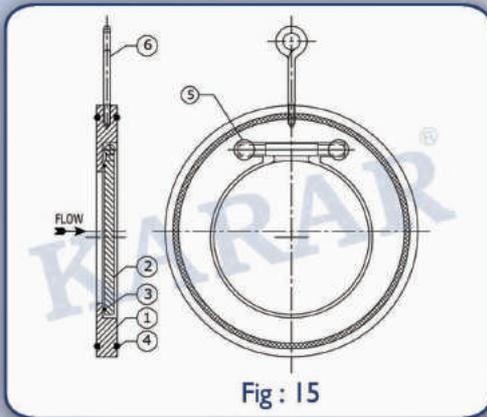


Fig : 15

SINGLE PLATE CHECK VALVE (50 NB TO 600 NB)

MATERIAL OF CONSTRUCTION		
SL. No.	DESCRIPTION	MATERIALS & SPECN.
1	BODY	CS / MS / SS
2	DISC	
3	SEAL 'O' RING	NITRILE RUBBER/PTFE
4	GASKET 'O' RING	
5	CAP	STAINLESS STEEL
6	LIFTING EYE BOLT	CARBON STEEL
DESIGN STANDARD : AS PER API-6D WAFER END		

★ RANGE 25 MM TO 1200 MM

MATERIAL OF CONSTRUCTION OF CL-150# & CL-300#

SL. No.	DESCRIPTION	MATERIALS & SPECN.
1.	BODY	WCB / LCB / CF8 / CF8M
2.	BODY SEAT	S.S CF8 / CF8M
3.	DISC	WCB / LCB / CF8 / CF8M
4.	DISC SEAT RING	NITRILE RUBBER / CF8 / CF8M
5.	HINGE PIN	S.S 410 / 304 / 316 / 431
6.	STOP PIN	S.S 410 / 304 / 316 / 431
7.	SPRING	S.S 304 / 316
8.	BODY LUG BEARING	S.S 304 / 316
9.	DISC LUG BEARING	S.S 304 / 316
10.	RETAINER RING	CARBON STEEL / S.S-304 / 316
11.	INTERNAL FASTENERS	S.S 304
12.	O - RING / GASKET	RUBBER / CAF / PTFE
13.	END COVER PLATE /PLUG	CARBON STEEL / S.S-304 / 316
14.	EXTERNAL FASTENERS	ASTM A193, Gr.B7 & A194, Gr.2H / S.S 304
15.	LIFTING EYE BOLTS	ASTM A105 / S.S 304

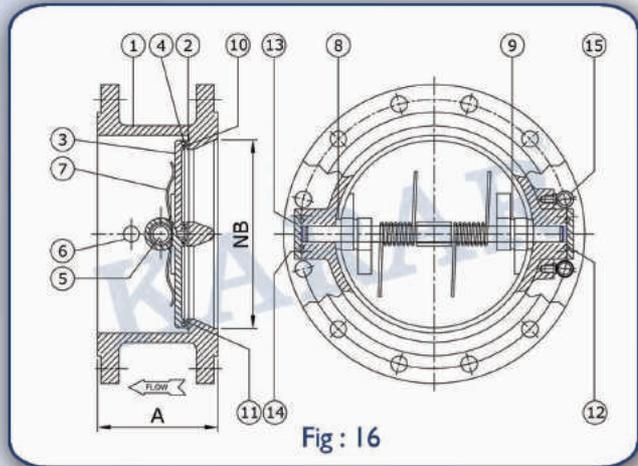


Fig : 16

## DUAL PLATE CHECK VALVE

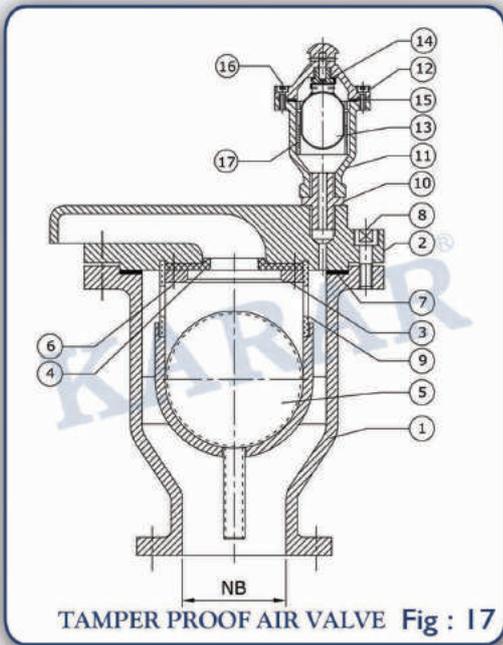
DESIGN FEATURES	
DESIGN STANDARD	API 594
MFG. RANGE	500 MM TO 1600 MM
FACE TO FACE	API 594
END CONNECTION	WAFER / FLANGE END & DRILLED TO ASME- B16.5
TESTING STANDARD	API 598
OPERATION	SELF OPERATED
APPLICATION	SUITABLE FOR HANDLING WATER, AIR, GAS & LIQUID WITH CORROSIVE PROPERTIES.
FEATURE	DOUBLE SPRING ACTION ENSURE TIGHT SHUT OFF, POSITION INSTALLATION VERTICAL OR HORIZONTAL. NO HAMMER EFFECT DURING CLOSING, BOTH METAL TO METAL AND RESILIENT SEALING IS AVAILABLE.
CAUTION	FOR HORIZONTAL FLOW APPLICATION, VALVE MUST BE INSTALLED WITH DISC HINGE PIN IN THE VERTICAL POSITION TO ENSURE PROPER OPERATION.

### HYDROSTATIC TEST PRESSURE IN (Kg/Cm<sup>2</sup>)

CLASS	BODY	SEAT	AIR
150#	32	22	6
300#	79	57	6
600#	156	114	6
900#	237	174	6
1500#	395	290	6
2500#	653	479	6

### DIMENSIONS FOR FACE TO FACE OF DPCV (A)

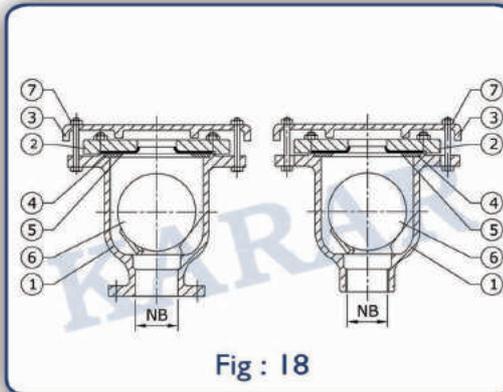
VALVE SIZE	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	750	800	900	1050	1100	1200	
CLASS	150#	60	67	73	73	*83	98	127	146	181	184	191	203	219	222	*305	305	*356	368	432	*440	524
	300#	60	67	73	73	*83	98	127	146	181	222	232	264	292	318	-	-	-	-	-	-	-
	600#	60	67	73	79	-	137	165	213	229	273	305	362	368	438	-	-	-	-	-	-	-
	900#	70	83	83	102	-	159	206	241	292	356	384	451	451	495	-	-	-	-	-	-	-



DESIGN FEATURES	
MFG. / DESIGN STD.	COMBINATION TYPE (AWWWA C-512)
MFG. RANGE	50 mm TO 200 mm
PRESSURE RATING	PN 1.0, PN 1.6, PN 2.5
FLANGE END	BS / IS / ANSI / DIN

MATERIALS OF CONSTRUCTION		
SL. No.	DESCRIPTION	MATERIALS & SPECN.
1	BODY (L.P. Chamber)	CI / DI / SS
2	COVER (L.P. Chamber)	
3	JOINT SUPPORT RING	
4	L.P. SEAT RING	NATURAL RUBBER
5	L.P. FLOAT	STAINLESS STEEL
6	SOCKET HEAD BOLTS	CARBON STEEL
7	GASKET	RUBBER
8	SOCKET HEAD BOLTS	CARBON STEEL
9	L.P. FLOAT GUIDE	PVC
10	NIPPLE	STAINLESS STEEL
11	BODY (H.P. Chamber)	CI / DI / SS
12	COVER (H.P. Chamber)	
13	H.P. FLOAT	STAINLESS STEEL
14	SMALL ORIFICE & SEAT	LTB, IS:318 Gr. 2 & EPDM RUBBER
15	GASKET	RUBBER
16	SOCKET HEAD BOLTS	CARBON STEEL
17	H.P. FLOAT GUIDE	LTB / PVC

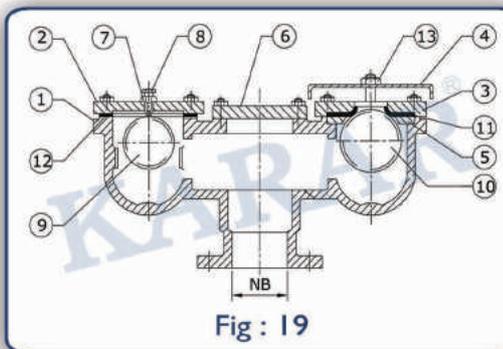
## FLANGE & SCREWED END SINGLE ACTING AIR REALISE (LARGE ORIFICE) VALVE (S2 / H-4)



DESIGN FEATURES	
MFG. / DESIGN STD.	IS:14845 (S2) / G&K (H-4)
MFG. RANGE	25 mm TO 50 mm
PRESSURE RATING	PN 1.0, PN 1.6
FLANGE END	BS / IS / ANSI / DIN   SCREWED END

MATERIALS OF CONSTRUCTION		
SL. No.	DESCRIPTION	MATERIALS & SPECN.
1	BODY	CI / DI / SS
2	LOW PRESSURE COVER	
3	COWL	
4	JOINT SUPPORT RING	
5	L.P. SEAT RING	NITRILE RUBBER
6	L.P. BALL	STAINLESS STEEL
7	BOLTS & NUTS	CARBON STEEL

## FLANGE END DOUBLE ACTING AIR VALVE ( DS 2 / H-7)



DESIGN FEATURES	
MFG. / DESIGN STD.	IS:14845 (DS 2) / G&K (H-7)
MFG. RANGE	40 mm TO 200 mm
PRESSURE RATING	PN 1.0, PN 1.6
FLANGE END	BS / IS / ANSI / DIN

MATERIALS OF CONSTRUCTION		
SL. No.	DESCRIPTION	MATERIALS & SPECN.
1	BODY	CI / DI / SS
2	HIGH PRESSURE COVER	
3	LOW PRESSURE COVER	
4	COWL	
5	JOINT SUPPORT RING	
6	COVER	L.T. BRONZE / SS
7	H.P. ORIFICE COVER	
8	H.P. ORIFICE PLUG	
9	BALL FOR H.P. CHAMBER	HARD VULCANITE COATED
10	BALL FOR L.P. CHAMBER	SEASONED TIMBER / SS
11	L.P. SEAT RING	NATURAL RUBBER
12	GASKET	RUBBER
13	BOLTS & NUTS	CARBON STEEL / SS

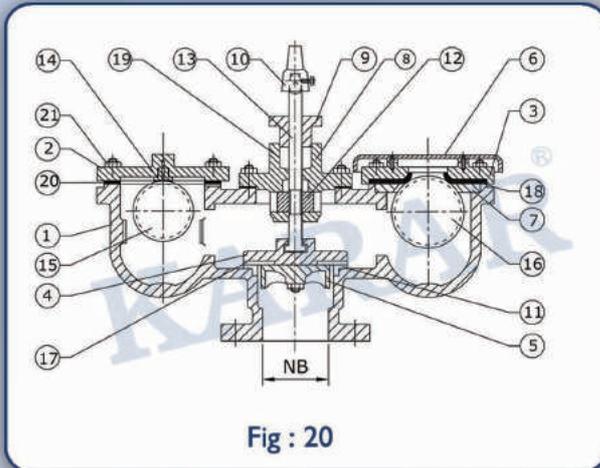


Fig : 20

### DOUBLE AIR VALVE WITH IN-BUILT ISOLATING VALVE (DS-I / H-40)

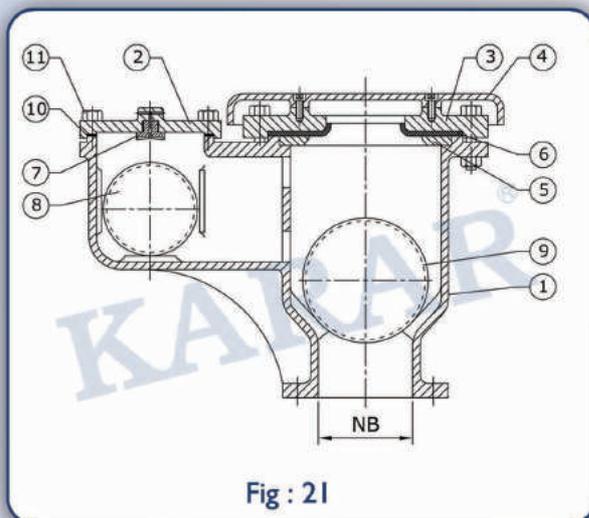


Fig : 21

### KINETIC DOUBLE AIR VALVE (DK / H-42K)

#### DESIGN FEATURES

MFG. / DESIGN STD.	IS:14845 (DS-1) / G&K (H-40)
MFG. RANGE	40 mm TO 200 mm
PRESSURE RATING	PN 1.0, PN 1.6
FLANGE END	BS / IS / ANSI / DIN

#### MATERIALS OF CONSTRUCTION

SL. No.	DESCRIPTION	MATERIALS & SPECN.
1	BODY	CI / DI / SS
2	HIGH PRESSURE COVER	
3	LOW PRESSURE COVER	
4	VALVE	
5	VALVE HOLDER	
6	COWL	
7	JOINT SUPPORT RING	
8	COVER	
9	GLAND	
10	CAP	
11	SEAT RING	
12	SPINDLE NUT	L.T. BRONZE / SS
13	SPINDLE	STAINLESS STEEL
14	H.P. ORIFICE	L.T. BRONZE / SS
15	BALL FOR H.P. CHAMBER	SOFT RUBBER COATED SEASONED TIMBER / SS
16	BALL FOR L.P. CHAMBER	HARD VULCANITE COATED SEASONED TIMBER / SS
17	VALVE SEAT	L.T. BRONZE / SS
18	L.P. SEAT RING	RUBBER
19	PACKING	JUTE & HEMP
20	GASKET	RUBBER
21	BOLTS & NUTS	CARBON STEEL / SS

#### DESIGN FEATURES

MFG. / DESIGN STD.	IS:14845 (DK) / G&K (H-42 K)
MFG. RANGE	40 mm TO 200 mm
PRESSURE RATING	PN 1.0, PN 1.6
FLANGE END	BS / IS / ANSI / DIN

#### MATERIALS OF CONSTRUCTION

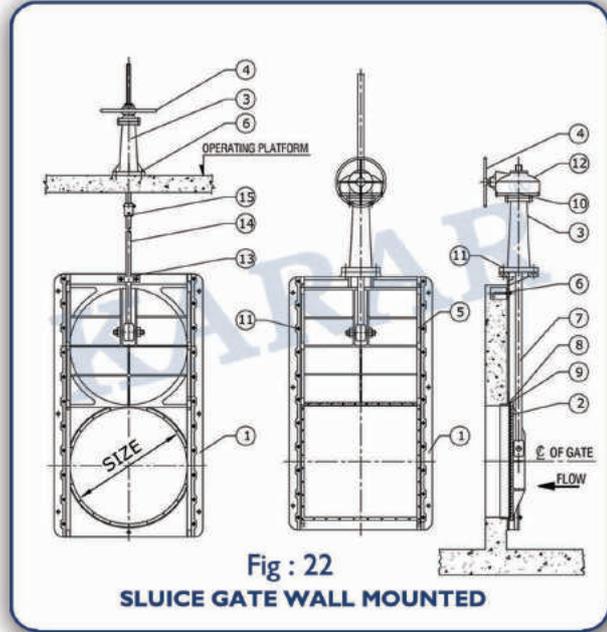
SL. No.	DESCRIPTION	MATERIALS & SPECN.
1	BODY	CI / DI / SS
2	HIGH PRESSURE COVER	
3	LOW PRESSURE COVER	
4	COWL	
5	JOINT SUPPORT RING	
6	L.P. SEAT RING	NATURAL RUBBER
7	H.P. ORIFICE PLUG	L.T. BRONZE / SS
8	BALL FOR H.P. CHAMBER	SOFT RUBBER COATED SEASONED TIMBER / SS
9	BALL FOR L.P. CHAMBER	HARD VULCANITE COATED SEASONED TIMBER / SS
10	H.P. COVER GASKET	NATURAL RUBBER
11	BOLTS & NUTS	CARBON STEEL / SS

## DESIGN FEATURES

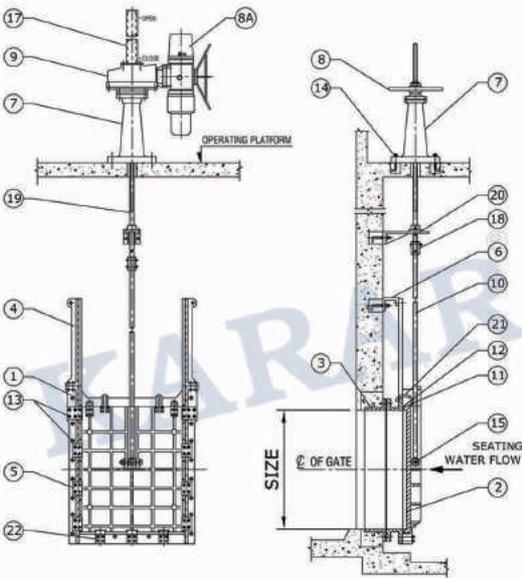
MFG. RANGE	CIRCULAR : 200 mm TO 1200 mm, OTHER ANY SIZE ON REQUEST
	SQUARE : 200 mm TO 1200 mm, OTHER ANY SIZE ON REQUEST
	RECTANGULAR : 300 mm x 375 mm TO 1200 mm x 1050 mm, OTHER ANY SIZE ON REQUEST
MFG. / DESIGN STD.	IS: 3042
TYPE	RISING / NON - RISING
CLASS	CL.-1, CL.-2, CL-3.
OPERATION	MANUAL / GEAR / ELEC. ACTUATOR / PNEUMATIC / CHAIN PULLY

## MATERIALS OF CONSTRUCTION

SL. No.	DESCRIPTION	MATERIALS & SPECN.
1.	GATE FRAME	C I
2.	DOOR	
3.	HEADSTOCK	
4.	HANDWHEEL	
5.	GUIDE STRIP	
6.	ANCHOR BOLTS	CARBON STEEL
7.	SPINDLE	STAINLESS STEEL
8.	FRAME FACE SEAT	L.T.BRONZE / SS
9.	DOOR FACE SEAT	
10.	OPERATING LIFT NUT	CARBON STEEL / SS
11.	FASTENERS	
12.	BEVEL GEAR UNIT	MFR'S STD.
13.	SPINDLE GUIDE	CI / M.S
14.	EXTN. ROD	M.S / SS
15.	COUPLING	M.S / SS



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SLUICE GATE THIMBLE MOUNTED

Fig : 23

## DESIGN FEATURES

MFG. RANGE	CIRCULAR : 300 mm TO 2500 mm, OTHER ANY SIZE ON REQUEST
	SQUARE : 300 mm TO 2500 mm, OTHER ANY SIZE ON REQUEST
	RECTANGULAR : 300 mm x 400 mm TO 2500 mm x 2000 mm, OTHER ANY SIZE ON REQUEST
MFG. / DESIGN STD.	IS: 13349 / AWWA
TYPE	RISING / NON - RISING
CLASS	CL.-1, CL.-2, CL-3.
OPERATION	MANUAL / GEAR / ELEC. ACTUATOR / PNEUMATIC / CHAIN PULLY

## MATERIALS OF CONSTRUCTION

SL. No.	DESCRIPTION	MATERIALS & SPECN.
1	GATE FRAME	C I
2	DOOR / SLIDE	
3	WALL THIMBLE	
4	EXTENSION GUIDE	
5	WEDGING DEVICE (As Reqd.)	
6	FRAME SUPPORT BRACKET	CARBON STEEL / SS
7	HEADSTOCK	
8	HAND WHEEL	ROTORK / ALUMA MAKE
8 A	ELEC. ACTUATOR	
9	BEVEL GEAR UNIT	MFR'S STD.
10	SPINDLE	STAINLESS STEEL
11	FRAME FACE SEAT	L.T.BRONZE / SS
12	SLIDE FACE SEAT	
13	FASTENERS FOR GATE ASSY.(As Reqd.)	CARBON STEEL / SS
14	ANCHOR BOLTS	
15	DOOR PIN	STAINLESS STEEL
16	GASKET	RUBBER
17	STEM PROTECTING COVER	G.I./ POLYCARBONATE TUBE
18	COUPLING (As Reqd.)	STAINLESS STEEL
19	EXTN. SPINDLE (As Reqd.)	
20	SPINDLE GUIDE BRACKET (As Reqd.)	MILD STEEL
21	DOOR SUPPORTING GUIDE CLAMP	FABRICATED MILD STEEL
22	BOTTOM WEDGING DEVICE(As Reqd.)	CAST IRON

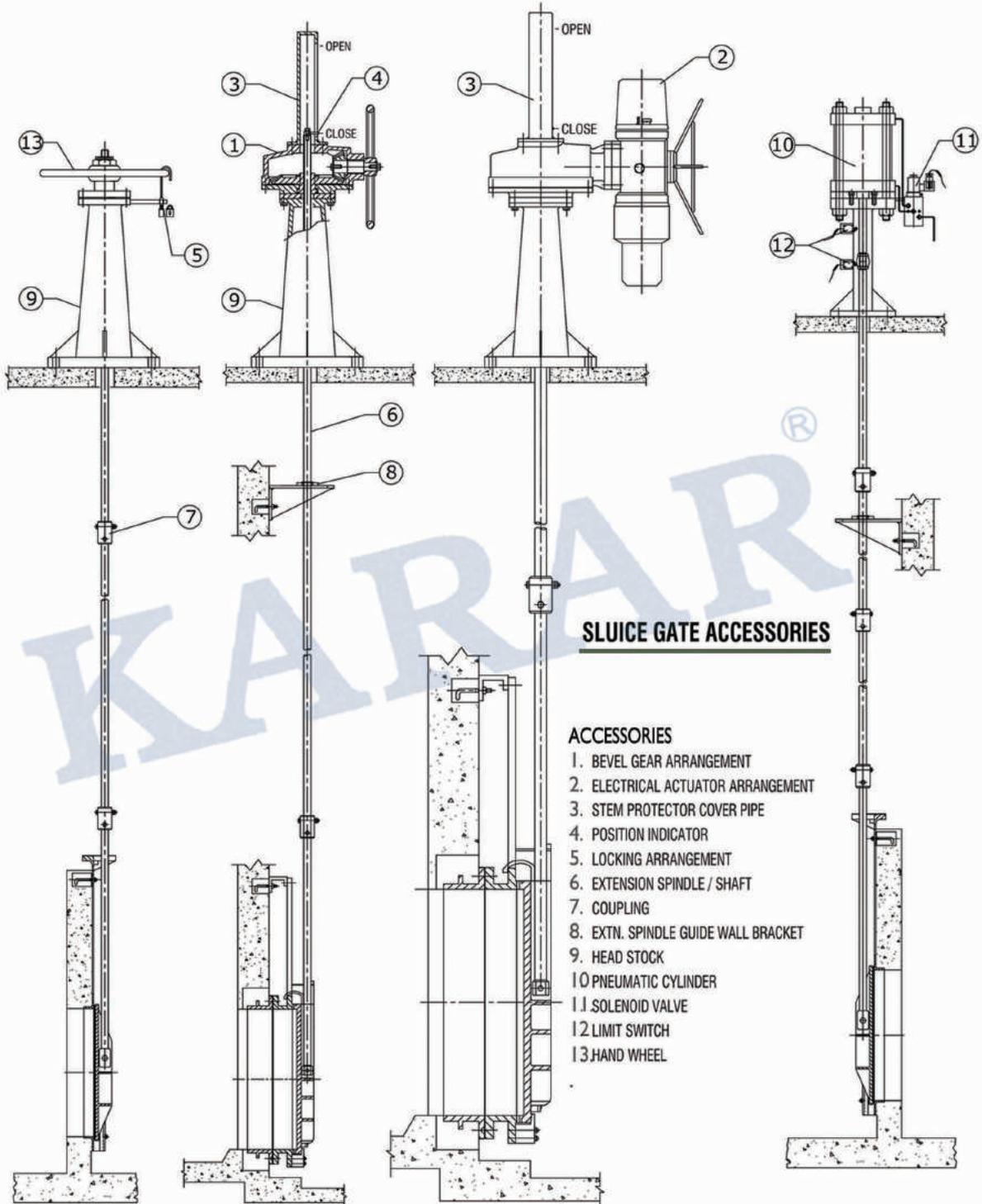


Fig : 25

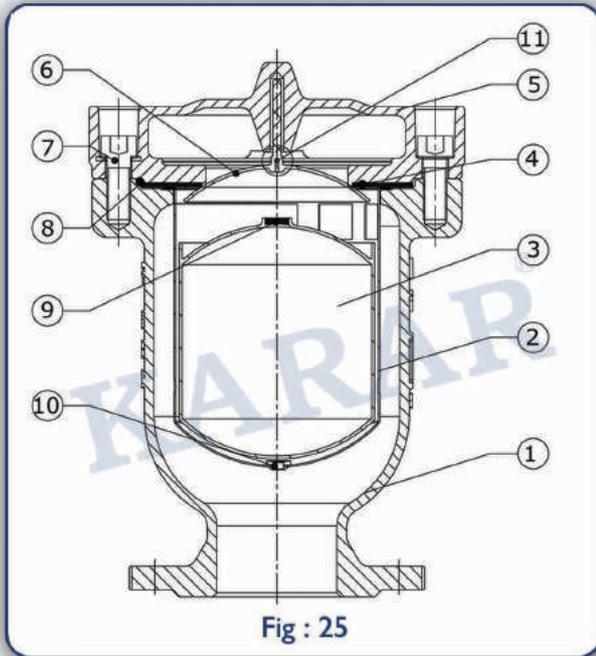


Fig : 25

### DESIGN FEATURES

MFG. / DESIGN STD.	AWWA C-512
MFG. RANGE	50 mm TO 300 mm
PRESSURE RATING	PN 1.0, PN 1.6, PN 2.0, PN 2.5
FLANGE END	BS / IS / ANSI / DIN
SPECIAL FEATURES	VALVES FULLY PROTECTED FROM CORROSION BY ELECTRO-STATICALLY APPLYING EPOXY POWDER COATING. POCKET LESS BODY PASSAGE.

### MATERIALS OF CONSTRUCTION

SL. No.	DESCRIPTION	MATERIAL	SPECIFICATION
1	BODY	DUCTILE IRON	DIN 1693 Gr. GGG-50
2	GUIDE BARREL	STAINLESS STEEL	AISI 304
3	FLOAT	STAINLESS STEEL	AISI 304
4	SEAT	NITRILE RUBBER	-
5	BONNET	DUCTILE IRON	DIN 1693 Gr. GGG-50
6	SEALING ARC	STAINLESS STEEL	AISI 304
7	BOLT	STAINLESS STEEL	AISI 304
8	O-RING	RUBBER	NBR/EPDM
9	NOZZLE	RUBBER	EPDM
10	BUFFER	RUBBER	EPDM
11	SMALL NOZZLE	STAINLESS STEEL	AISI 304

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## FLANGE DRILLING AS PER ASME B16.5 - 2009

CLASS	SIZE $\triangleright$	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
CLASS-150#	O.D.	110	115	127	150	180	190	230	255	280	345	405	485	535	595	635	700	815
	THIK.	14.7	16.3	17.9	19.5	21.7	24.3	24.3	24.3	25.9	29	30.6	32.2	35.4	37	40.1	43.3	48.1
	RF. DIA.	51	64	73	92	105	127	157	186	216	270	324	381	413	470	533	584	692
	RF. THIK.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	P.C.D.	79.4	88.9	98.4	120.7	139.7	152.4	190.5	215.9	241.3	298.5	362	431.8	476	539.8	577.9	635	749.3
	No. OF HOLES	4	4	4	4	4	4	8	8	8	8	12	12	12	16	16	20	20
	HOLE DIA.	15.8	15.8	15.8	19	19	19	19	22.2	22.2	22.2	25.4	25.4	28.6	28.6	31.8	31.8	35
CLASS-300#	O.D.	125	135	155	165	190	210	255	280	320	380	445	520	585	650	710	775	915
	THIK.	17.9	19.5	21.1	22.7	25.9	29	32.2	35.4	37	41.7	48.1	51.3	54.4	57.6	60.8	64	70.3
	RF. DIA.	51	64	73	92	105	127	157	186	216	270	324	381	413	470	533	584	692
	RF. THIK.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	P.C.D.	88.9	98.4	114.3	127	149.2	168.3	200	235	269.9	330.2	387.4	450.8	514.4	571.5	628.6	685.8	812.8
	No. OF HOLES	4	4	4	8	8	8	8	8	12	12	16	16	20	20	24	24	24
	HOLE DIA.	19	19	22.2	19	22.2	22.2	22.2	22.2	22.2	25.4	28.6	31.8	31.8	35	35	35	41.3
CLASS-600#	O.D.	125	135	155	165	190	210	275	330	355	420	510	560	605	685	445	815	940
	THIK.	24.5	27.7	29.3	32.4	35.6	38.8	42	51.5	54.7	62.6	70.5	73.7	76.9	83.2	89.6	95.9	108.6
	RF. DIA.	51	64	73	92	105	127	157	186	216	270	324	381	413	470	533	584	692
	RF. THIK.	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	P.C.D.	88.9	98.4	114.3	127	149.2	168.3	215.9	266.7	292.1	349.2	431.8	489	527	603.2	654	723.9	838.2
	No. OF HOLES	4	4	4	8	8	8	8	8	12	12	16	20	20	20	20	24	24
	HOLE DIA.	19	19	22.2	19	22.2	22.2	25.4	28.6	28.6	31.8	35	35	38.1	41.3	44.5	44.5	50.8
CLASS-900#	O.D.				215	245	240	290	350	380	470	545	610	640	705	785	855	1040
	THIK.				38.1	41.3	38.1	44.5	50.8	55.6	63.5	69.9	79.4	85.8	88.9	101.6	108.0	139.7
	RF. DIA.				92	105	127	157	186	216	270	324	381	413	470	533	584	692
	RF. THIK.				7	7	7	7	7	7	7	7	7	7	7	7	7	7
	P.C.D.				165.0	190.5	190.5	235.0	279.5	317.5	393.5	470.0	533.5	559.0	616.0	686.0	749.5	901.5
	No. OF HOLES				8	8	8	8	8	12	12	16	20	20	20	20	20	20
	HOLE DIA.				25.4	28.6	25.4	31.8	35	31.8	38.1	38.1	38.1	42	45	51	54	67
CLASS-900#	O.D.				215	245	265	310	375	395	485	585	675	750	825	915	985	1170
	THIK.				38.1	41.3	47.7	54.0	73.1	82.6	92.1	108.0	123.9	133.4	146.1	162.0	177.8	203.2
	RF. DIA.				92	105	127	157	186	216	270	324	381	413	470	533	584	692
	RF. THIK.				7	7	7	7	7	7	7	7	7	7	7	7	7	7
	P.C.D.				165.0	190.5	203.5	241.5	292.0	317.5	394.0	482.5	571.5	635.0	705.0	775.0	832.0	990.5
	No. OF HOLES				8	8	8	8	8	12	12	12	16	16	16	16	16	16
	HOLE DIA.				25	29	32	35	41	38	44	51	54	60	67	73	79	92
CLASS-2500#	O.D.				235	265	305	355	420	485	550	675	760					
	THIK.				50.9	57.2	66.7	76.2	92.1	108.0	127.0	165.1	184.2					
	RF. DIA.				92	105	127	157	186	216	270	324	381					
	RF. THIK.				7	7	7	7	7	7	7	7	7					
	P.C.D.				171.5	197.0	228.5	273.0	324.0	368.5	438.0	540.0	619.0					
	No. OF HOLES				4	4	4	8	8	8	12	12	12					
	HOLE DIA.				29	32	35	41	48	54	54	67	73					
CLASS	SIZE $\triangleright$	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600

All dimensions are in mm

END FLANGE DETAILS

for detail technical specification log on to : [www.kararvalves.com](http://www.kararvalves.com)

**AS PER IS : 1538, TABLE - 4,5 & 6**

SIZE (mm)	FL DIA.	*FL THICK.	RF DIA.	RF THICK.	PCD	No OF HOLES	HOLE DIA
50	165	16	-	-	125	4	19
65	185	16	-	-	145	4	19
80	200	21	133	-	160	4	19
100	220	22	153	-	180	8	19
125	250	22.5	183	-	210	8	19
150	285	23	209	-	240	8	23
200	340	24.5	264	-	295	8	23
250	395	26	319	-	350	12	23
300	445	27.5	367	-	400	12	23
350	505	29	427	-	460	16	23
400	565	30	477	-	515	16	28
450	615	31.5	527	-	565	20	28
500	670	33	582	-	620	20	28
600	780	36	682	-	725	20	31
700	895	38.5	797	-	840	24	31
750	960	40	857	-	900	24	31
800	1015	41.5	904	-	950	24	34
900	1115	44	1004	-	1050	28	34
1000	1230	47	1111	-	1160	28	37
1050	1258	48.5	1145	5	1160	28	37
1100	1340	50	1221	-	1270	32	37
1200	1455	53	1328	-	1380	32	40
1500	1800	61	1745	-	1710	40	43

**AS PER IS : 6392, TABLE - 17**

SIZE (mm)	FL DIA.	**FL THICK.	RF DIA.	RF THICK.	PCD	No OF HOLES	HOLE DIA	PIPE O.D.
10	90	14	40	2	60	4	14	17.2
15	95	14	45	2	65	4	14	21.3
20	105	16	58	2	75	4	14	26.9
25	115	16	68	2	85	4	14	33.7
32	140	16	78	2	100	4	18	42.4
40	150	16	88	3	110	4	18	48.3
50	165	18	102	3	125	4	18	60.3
65	185	18	122	3	145	4	18	76.1
80	200	20	138	3	160	8	18	88.9
100	220	20	158	3	180	8	18	114.1
125	250	22	188	3	210	8	18	139.1
150	285	22	212	3	240	8	22	168.1
175	315	24	242	3	270	8	22	193.1
200	340	24	268	3	295	12	22	219.1
250	405	26	320	3	355	12	26	273
300	460	28	378	4	410	12	26	323.1
350	520	32	438	4	470	16	26	355.1
400	580	36	490	4	525	16	30	406.1
500	715	44	610	4	650	20	33	508
600	840	52	725	5	770	20	36	609.1
700	910	58	795	5	840	24	36	711.1
800	1025	64	900	5	950	24	39	812.1
900	1125	72	1000	5	1050	28	39	914.1
1000	1255	78	1115	5	1170	28	42	1016
1200	1485	94	1330	5	1390	32	48	1220

Note:-  
For Flat Face: Table - 4 & 6  
For Raised Face: Table - 5  
\* Flange Thickness as per 'Without Raised Face Thickness'.

Note:- \*\* Flange Thickness as per 'With Raised Face Thickness'.

**AS PER BS : 4504 PN - 40**

SIZE (mm)	FL DIA.	FL *THIK.	RF DIA.	RF THIK.	PCD	No OF HOLES	HOLE DIA
10	90	16	40	2	60	4	14
15	95	16	45	2	65	4	14
20	105	18	58	2	75	4	14
25	115	18	68	2	85	4	14
32	140	18	78	2	100	4	18
40	150	18	88	3	110	4	18
50	165	20	102	3	125	4	18
65	185	22	122	3	145	8	18
80	200	24	138	3	160	8	18
100	235	24	162	3	190	8	22
125	270	26	188	3	220	8	26
150	300	28	218	3	250	8	26
175	350	32	260	3	295	12	30
200	375	34	285	3	320	12	30
250	450	38	345	3	385	12	33
300	515	42	410	4	450	16	33
350	580	46	465	4	510	16	36
400	660	50	535	4	585	16	39
500	755	52	615	4	670	20	42
600	890	60	735	5	795	20	48
700	995	64	840	5	900	24	48
800	1140	72	960	5	1030	24	56
900	1250	76	1070	5	1140	28	56
1000	1360	80	1180	5	1250	28	56
1200	1575	88	1380	5	1460	32	62
1400	1795	98	1600	5	1680	36	62
1600	2025	108	1815	5	1900	40	70

All dimensions are in mm

**AS PER BS : 10 TABLE - D**

SIZE (mm)	FLANGE OUT DIA. (Inches)	FL THICKNESS		PCD	No OF HOLES	HOL DIA
		C.S. / F.S.	C.I.			
15	1/2	9.5	12.7	66.7	4	14
20	3/4	10.2	12.7	73	4	14
25	1	11.4	12.7	82.55	4	14
32	1-1/4	12.1	12.7	87.31	4	14
40	1-1/2	13.3	12.7	98.42	4	14
50	2	152.4	14.3	114.3	4	19
65	2-1/2	16.5	14.3	127	4	19
80	3	18.4	14.3	146	4	19
100	4	21.6	17.5	177.8	4	19
125	5	25.4	17.5	209.5	8	19
150	6	279.4	17.5	235	8	19
175	7	30.5	19	260.35	8	19
200	8	33.7	19	292.1	8	19
225	9	36.8	19	323.85	8	19
250	10	406.4	19	355.6	8	22
300	12	45.7	22.2	406.4	12	22
325	13	48.9	22.2	438.15	12	22
350	14	52.7	25.4	470	12	25.
375	15	55.5	25.4	495.3	12	25.
400	16	57.8	25.4	520.7	12	25.
425	17	61.0	28.6	552.45	12	25.
450	18	64.1	28.6	584.2	12	25.
475	19	67.3	28.6	610	12	25.
500	20	70.5	31.75	641.35	16	25.
525	21	73.7	31.75	673.1	16	25.
550	22	76.2	31.75	698.5	16	29
575	23	78.4	35	724	16	29
600	24	82.5	35	755.65	16	29
675	27	90.8	38.1	844.55	20	29
725	29	97.2	38.1	901.7	20	32
750	30	99.7	41.3	927.1	20	32
825	33	109.2	41.3	1016	20	36
875	35	114.3	44.45	1066.8	24	36
900	36	117.5	44.45	1092.2	24	36
975	39	125.7	44.45	1174.75	24	36
1050	42	133.5	47.6	1250.95	28	36
1125	45	141.6	50.8	1333.5	28	36
1200	48	149.2	50.8	1409.7	32	36
1350	54	160.5	57.2	1530.35	36	36
1500	60	178.4	60.3	1701.8	40	39
1650	66	194.3	63.5	1860.55	40	39

**PRESSURE CONVERSION TABLE**

1 Kg/cm <sup>2</sup>	Bar	MBar	Pa	KPa	MPa	Mm hg	MMWC	PSI	1"WC
	0.0981	980.7	980.666	98.066	0.098	735.56	10.000	14.2233	393.7008

END FLANGE DETAILS





# Notes



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# KARAR

## contact us



Ma-Lakshmi Trading Concern

41/5, 'Q', Road, Belgachia, Howrah - 711108, West Bengal, India.



Contact Person : Tanmoy Karar



+91 9051511548 / +91 9874776013



033-26513985



lakshmivalves@gmail.com

