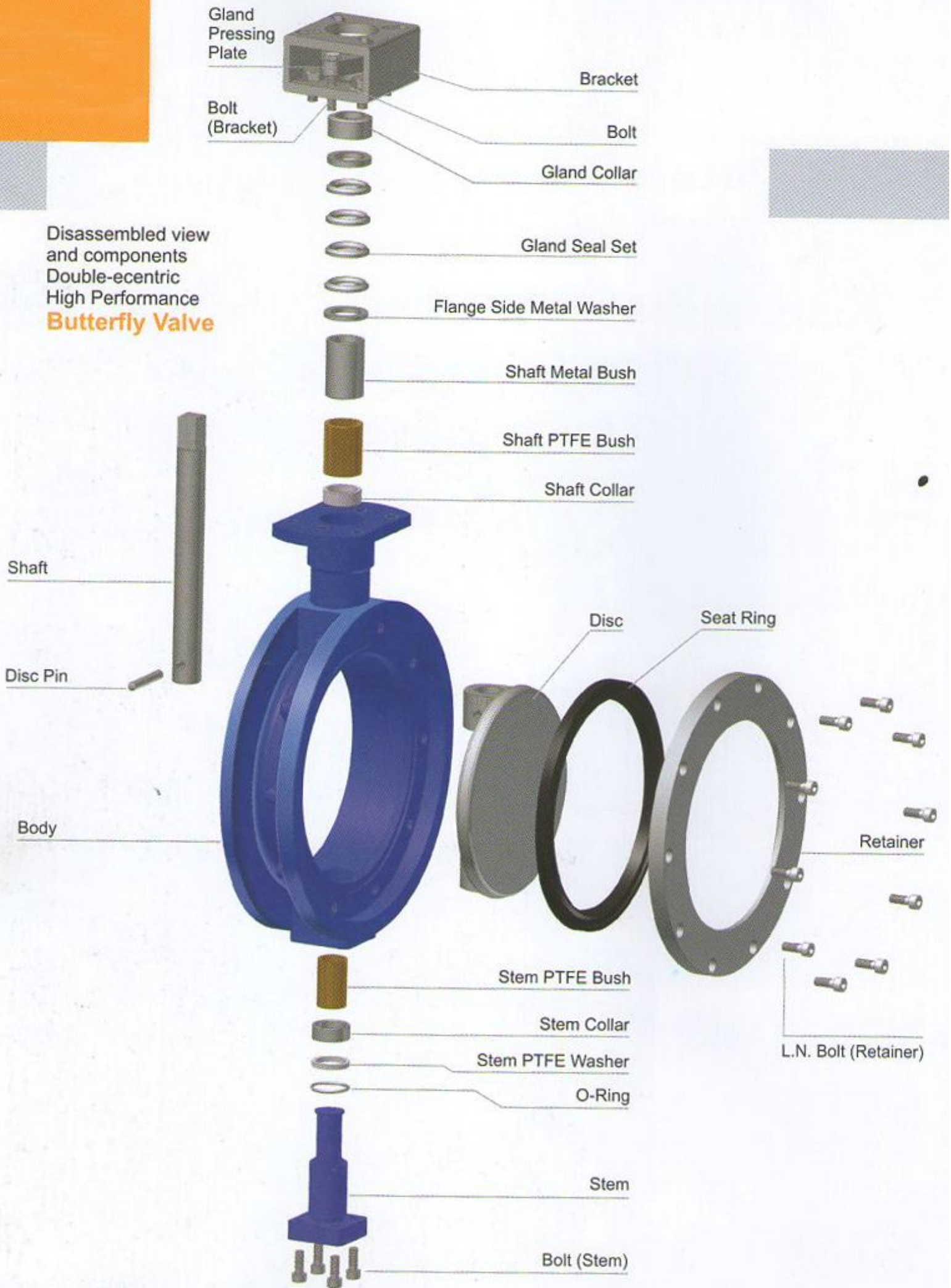
Your Solution Partner

in Industrial Valve Automation

Disassembled view
and components
Double-ecentric
High Performance
Butterfly Valve



Bill of Material

SR. NO.	DESCRIPTION	MATERIAL	SR. NO.	DESCRIPTION	MATERIAL
1.	Body	CS/CF8/CF8M/Etc...	10	Gland Collar	AISI 410/304/316
2.	Disc	CS/CF8/CF8M/Etc...	11	Disc Pin	AISI 304/316
3.	Retainer	CS/CF8/CF8M/Etc...	12	'O' Ring	VITON
4.	Stempin	CS/CF8/CF8M/Etc...	13	Stempin Washer	PTFE/GFT/CFT/GRAPHIT
5.	Gland	CS/CF8/CF8M/Etc...	14	Stempin Bush	PTFE/GFT/CFT/GRAPHIT
6.	Shaft	AISI 410/304/316	15	Shaft Bush	PTFE/GFT/CFT/GRAPHIT
7.	Shaft Collar	AISI 410/304/316	16	Gland Seal	PTFE/GFT/CFT/GRAPHIT
8.	Shaft Bush	AISI 410/304/316	17	Seat Ring	PTFE/GFT/GRAPHIT/I.M.P
					EPDM/VITON/NBR/METAL
9.	Flange Collar	AISI 410/304/316	18	Fastner	H.T. SS304/316

All Dimensions are in (mm)

Applicable Standards :

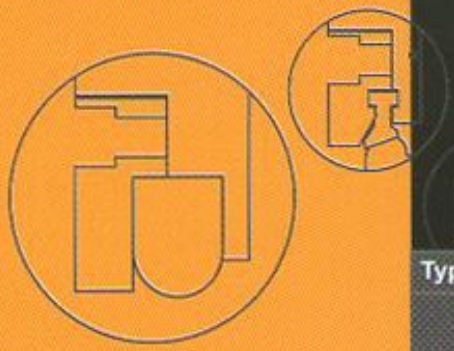
Design & Manufacturing	API 609 Category B/MSS-SP-68
Valve Face to Face Dimensions	API 609 Category B/ANSI B16.10
	ISO 5752 Series-20/MSS SP-68 (TYPE 2)
Flange Standard Conformity	ASME/ANSI B16.5/ASME/ANSI B16.47 (Series A)
Inspection & testing	API 598/BS 6755/ANSI FCI 70-2
Fire-Safe Testing	API-607
Pressure Temperature Rating	ANSI B16.34
Top Flange Dimensions	Bolt Hole ISO 5211
Stem Dimensions	Square Drive to ISO 5211
Leakage Class	Class IV & Class VI as per ANSI B16.104

Material of construction

Size Range	40 mm to 1200 mm
Construction Type	Double Eccentric Disc Design / Triple Eccentric (On Request)
Body	A-216 WCB / A-351 CF8 / A-351 CF8M / Etc...
Disc	A-216 WCB / A-351 CF8 / A-351 CF8M / Etc...
Seat	PTFE / RPTFE (GFT) Graphite / EPDM/VITON /
	NBR / Imported Plastic / Metal to Metal / fire safe
Shaft	AISI 410 / AISI 304 / AISI 316 / Etc...
Pressure Rating	150# / PN10 / PN16 /300# / PN25 / PN40
End Connection	Wafer Sandwiched, Lug Type & Double Flange
Operating Temp. Range	-25° C to 180° C (Soft Seating)
	-25° C to 600° C (Metal Seating)
Operation	Lever Operated, Manual Warm Gear, Pneumatic
	Actuator & Electrical Actuator.

Note :- If require some other technical specification please contact www.airaindia.com

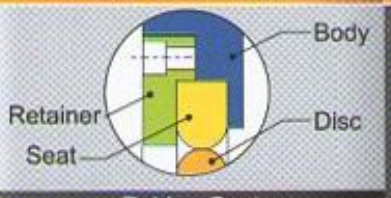
PRINCIPAL OF SEAT SEALING



1. Disc closed, medium enters from the upstream of seat. Under the force of medium, sealing ring will get close to the sealing face of disc, and the elasticity and deformation of sealing ring will function to guarantee the sealing ring will function to guarantee the sealing performance.

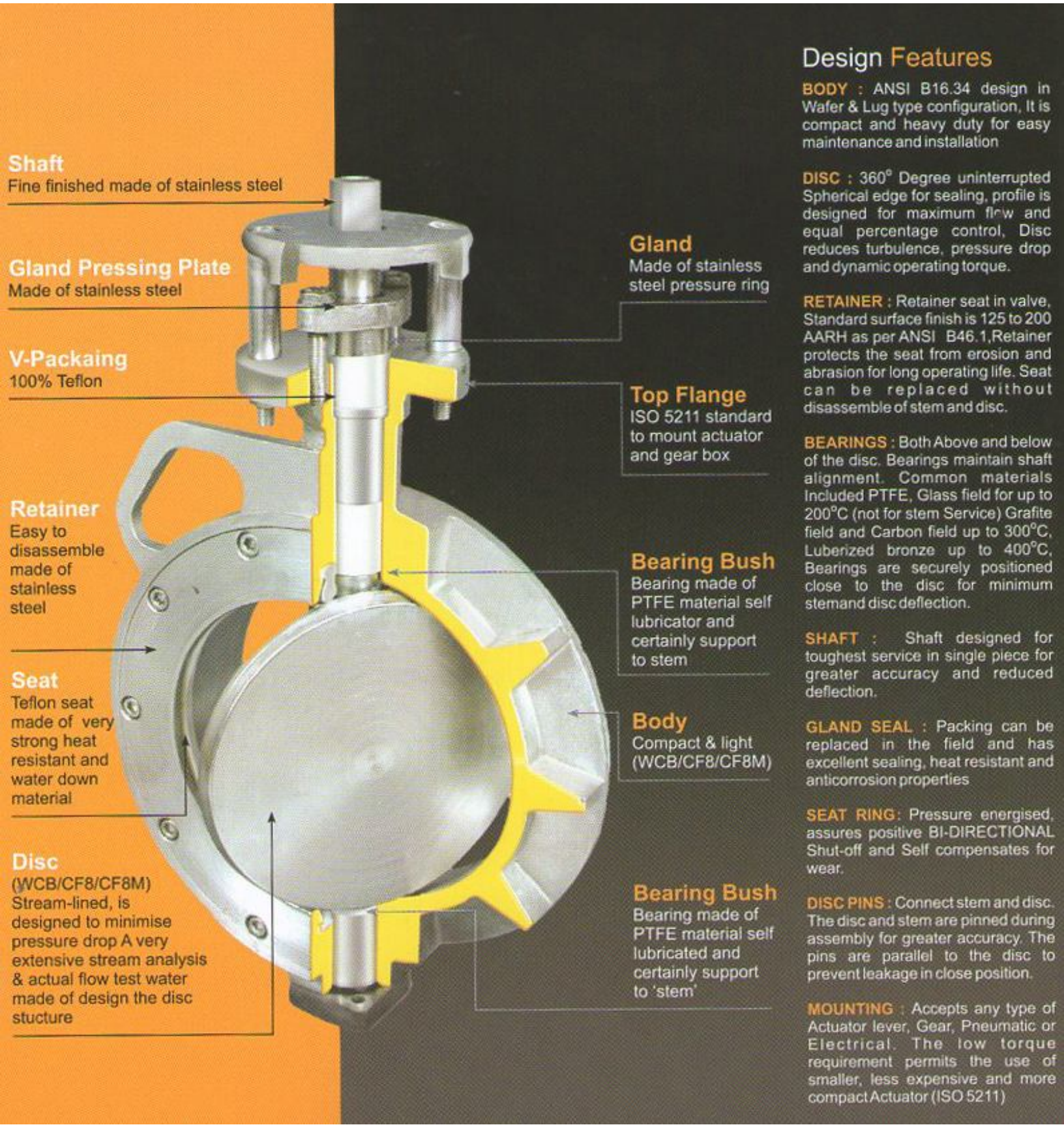
2. Disc closed, medium enters from the downstream of seat. Under the extrusion of press board ring. Sealing will overcome the acting force of medium and get close to the sealing face of disc, thus to guarantee the sealing performance.

Bi-Directional Pressure Energized Sealing System

Type	Features	Materials	Applications	Service Temp.
RS	 Rubber Seat	• NBR (RS:1) • EPDM (RS:2) • VITON (RS:3)	• Crude Oil • Sea Water • Water • Petroleum Products	• NBR : 0°c to 90°c • EPDM : -10°c to 120°c • VITOM : 0°c to 220°c
TS	 Teflon Seat	• P.T.F.E. (TS:1) • G.F.T. (TS:2) • Graphite (TS:3)	• Chemicals • Petroleum • Sea Water • Ethylene • LPG	- 25°c to 200°c
HM	 Helicoflex Metal Seat	• SS304 Type (HM:1) • SS316 Type (HM:2)	• Steam • Chemicals • LPG • Ethylene	- 25°c to 600°c
FM	 Flat Metal Seat	• SS304 Type (FM:1) • SS316 Type (FM:2)	• Water • Sea Water • Steam • Chemicals • Petroleum Products	- 25°c to 400°c
RF	 Fire Safe Rubber with Metal	• NBR • VITON • EPDM + Stainless Steel 316 Type, & S.S. 304 Type	• Crude Oil • Sea Water • Water • Petroleum Products	- 10°c to 150°c
TF	 Fire Safe Teflon with metal	• Teflon + Stainless Steel 316 Type, & S.S. 304 Type	• Chemicals • Petrochemical • Sea Water • Ethylene • LPG	- 25°c to 200°c

Performance and Advantages

- Fixed spherical surface seal structure. The more pressure on the disc, the better sealing effect.
- With 4 times of seal adjusting. The service life is times longer compared with standard Gate Valve, Stop Valve, Ball Valve, etc.
- Easy to open and close by means of the eccentric structure.
- V-type axial contact packing realises a Grade A corrosion resistant seal.
- In average, 75% smaller in volume, 70% lighter in weight and 50% lower in price than standard Gate Valves etc.



Design Features

BODY : ANSI B16.34 design in Wafer & Lug type configuration, It is compact and heavy duty for easy maintenance and installation

DISC : 360° Degree uninterrupted Spherical edge for sealing, profile is designed for maximum flow and equal percentage control, Disc reduces turbulence, pressure drop and dynamic operating torque.

RETAINER : Retainer seat in valve, Standard surface finish is 125 to 200 AARH as per ANSI B46.1,Retainer protects the seat from erosion and abrasion for long operating life. Seat can be replaced without disassemble of stem and disc.

BEARINGS : Both Above and below of the disc. Bearings maintain shaft alignment. Common materials Included PTFE, Glass field for up to 200°C (not for stem Service) Grafite field and Carbon field up to 300°C, Luberized bronze up to 400°C, Bearings are securely positioned close to the disc for minimum stemand disc deflection.

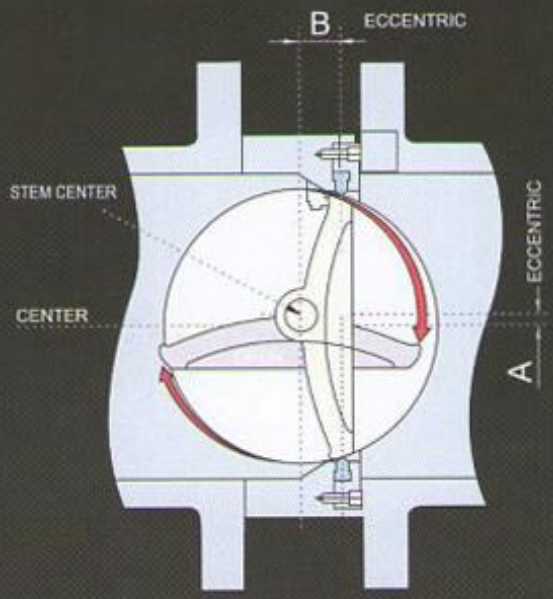
SHAFT : Shaft designed for toughest service in single piece for greater accuracy and reduced deflection.

GLAND SEAL : Packing can be replaced in the field and has excellent sealing, heat resistant and anticorrosion properties

SEAT RING: Pressure energised, assures positive BI-DIRECTIONAL Shut-off and Self compensates for wear.

DISC PINS : Connect stem and disc. The disc and stem are pinned during assembly for greater accuracy. The pins are parallel to the disc to prevent leakage in close position.

MOUNTING : Accepts any type of Actuator lever, Gear, Pneumatic or Electrical. The low torque requirement permits the use of smaller, less expensive and more compact Actuator (ISO 5211)



Double Eccentric Design
Spherical Disc Valve

(High Performance Design)

The stem for disc rotation is designed as "double eccentric structure" to the seat. Because the axis rotation stem of the valve disc, is shifted from the valve center by the distance of The width of A and B, this product can present" friction free contact" between disc & seat. generally, we can define this function "cam effect". With cam effect, the abrasion of seat surface can be protected, the durability of seat can be lengthened. As the rotation torque of stem will be decreased by this effect, it can lead to "easy operation" at the closing position, double eccentric structure can offer "complete sealing" because the sealing force between disc & seat can endure the piping pressure.

DESIGN FEATURES

Tangential Pinning :
Tangential pinning provides a proven secure attachment of the shaft and disc and avoids possible leak paths through the disc.

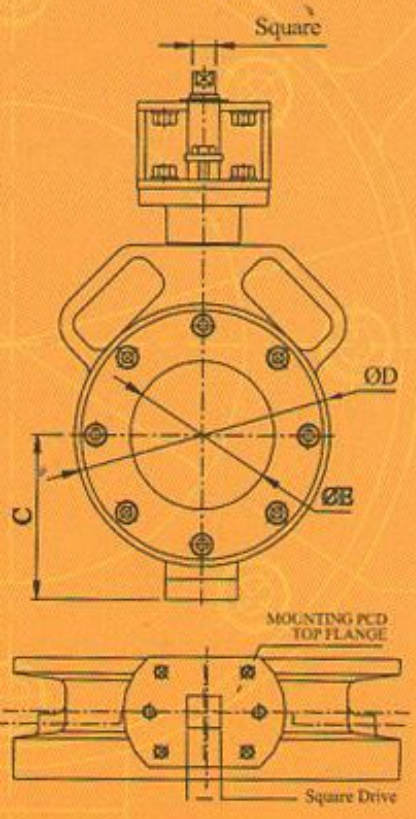
Replaceable Seat Design:
Seat are easily replaceable without dis assembly of the stem and disc, just remove retainer bolt and change the seat ring

Adjustable Packing :
Packing gland assembly allows for easy adjustment of packing. A chamfer fit-between the packing gland and follower allows for self centering during packing adjustment.

Heavy Duty Stem Bearings :
Heavy duty stem bearings are positioned close to the disc for minimum stem and disc deflection.

Single Piece Shaft (Above 200mm) :
Single piece shaft design provides greater accuracy and less disc deflection under high pressures.

Two Piece Shaft (Up to 200mm) :
Two piece shaft for maximum flow and minimum head loss.

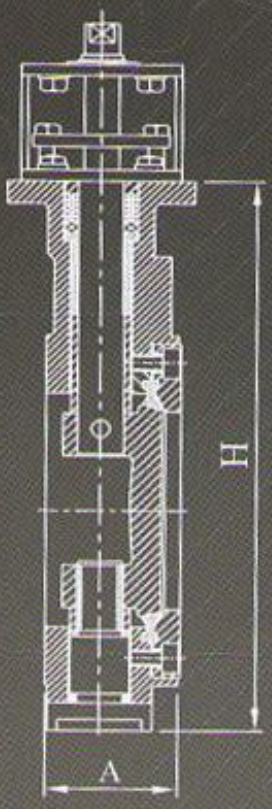


Torque & Dimension

High Performance Butterfly Valve

Series **5150** (150 # Wafer Type)

SIZE		TORQUE VALUES IN KGF.M			
INCH	MM	5 Kg/cm2	10 Kg/cm2	15 Kg/cm2	20 Kg/cm2
1.1/2"	40mm	0.8	1.0	1.2	1.5
2"	50mm	0.9	1.2	1.5	1.7
2.1/2"	65mm	1.6	2.2	2.4	3.0
3"	80mm	3.0	3.4	4.2	5.0
4"	100mm	4.0	4.6	5.4	6.4
5"	125mm	5.8	8.0	9.5	11.5
6"	150mm	9.0	11.5	12.5	14.5
8"	200mm	14.0	17.5	24.0	28.0
10"	250mm	23.5	26.5	28.0	30.0
12"	300mm	32.0	36.0	40.0	50.0
14"	350mm	50.0	65.0	83.5	108.5
16"	400mm	69.4	94.5	120.0	160.0
18"	450mm	95.5	128.0	157.2	205.0
20"	500mm	122.5	193.3	210.0	293.4
24"	600mm	213.3	293.4	366.7	440.1



Wafer Type Class 150 (Size 40mm To 600mm)

Class 150, PN10,PN16

DIMENSIONS: Series 5150 (150# WAFER TYPE)

Size		A	C	H	ØE	ØD	WEIGHT
1.1/2"	40	42	59.5	144.5	38	32	1.600
2"	50	45	68.5	163.5	50.8	95	2.200
2.1/2"	65	48	74.5	188	60.6	108	3.000
3"	80	48	80	200	72	127	3.800
4"	100	54	96	229	100	159	5.600
5"	125	57	117	268	123	186	7.700
6"	150	57	132	300	143	217	10.400
8"	200	64	157	356	192	270	15.000
10"	250	72	187	411	239	322	25.750
12"	300	82	218	483	290	382	36.000
14"	350	92	242	552	335	436	46.900
16"	400	102	270.5	612	387.5	495	66.850
18"	450	114	362	752	425	540	117.000
20"	500	127	400	820	475	595	146.500
24"	600	154	454	954	560	705	290.000

All Dimensions are in (mm)

Torque & Dimension

Series 6150 (150 # Wafer Type)

SIZE		TORQUE VALUES IN KGF.M			
INCH	MM	5 Kg/cm2	10 Kg/cm2	15 Kg/cm2	20 Kg/cm2
26"	650mm	265	350	400	510
28"	700mm	300	395	480	595
30"	750mm	321	420	519	617
32"	800mm	481	630	780	920
36"	900mm	518	663	850	992
40"	1000mm	641	850	1060	1300
48"	1200mm	850	1166	1485	1632

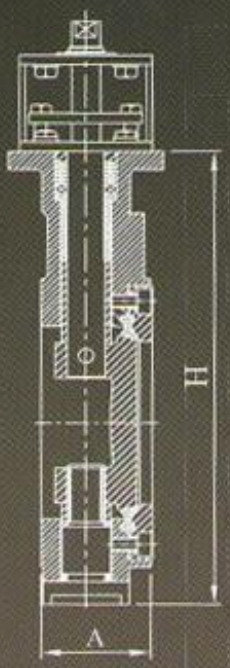
Wafer Type Class 150 (Size 650mm to 1200mm)

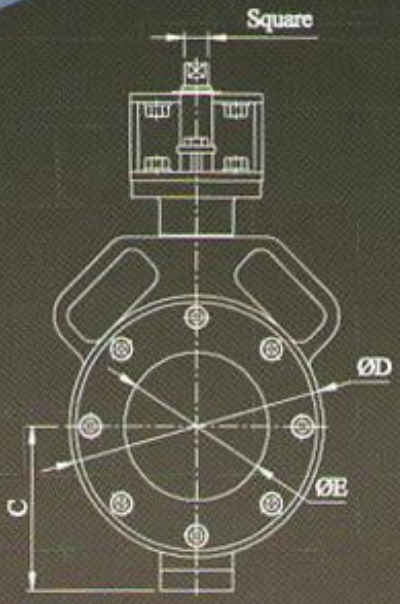
Class 150, PN10,PN16

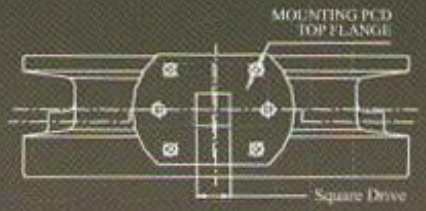
DIMENSIONS: Series 6150 (150# WAFER TYPE)

Size		A	C	H	ØE	ØD	WEIGHT
26"	650	165	478	961	608	755	360.000
28"	700	165	505	1013	661.5	810	390.000
30"	750	190	542	1077	696	855	475.000
32"	800	190	580	1156	755	913	524.000
36"	900	203	640	1290	864	1032	675.000
40"	1000	216	750	1400	955	1145	990.200
48"	1200	254	865	1690	1155	1350	1150.00

All Dimensions are in (mm)







TOP FLANGE & SQUARE DRIVE TO ISO 5211

SIZE	1.1/2"	2"	2.1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	30"	32"	36"	40"	48"
MOUNTING PCD	42	42	50	50	50	70	70	70	102	102	102	125	140	140	165 /254	165 /254	254	254	254	298	298
SQUARE	9	9	11	11	11	14	14	14	27	27	27	36	36	36	46	46	55	55	55	75	75

SERIES 5150 L LUG TYPE

Torque & Dimension

High Performance Butterfly Valve

Series 5150 L (150 # Lug Type)

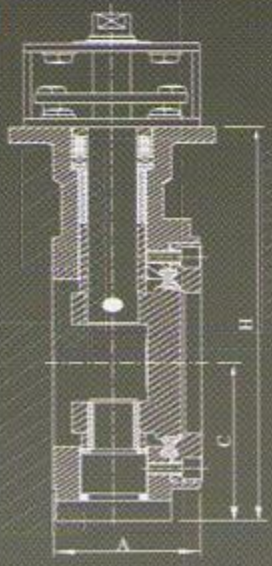
SIZE		TORQUE VALUES IN KGF.M			
INCH	MM	5 Kg/cm2	10 Kg/cm2	15 Kg/cm2	20 Kg/cm2
1.1/2"	40mm	0.8	1.0	1.2	1.5
2"	50mm	0.9	1.2	1.5	1.7
2.1/2"	65mm	1.6	2.2	2.4	3.0
3"	80mm	3.0	3.4	4.2	5.0
4"	100mm	4.0	4.6	5.4	6.4
5"	125mm	5.8	8.0	9.5	11.5
6"	150mm	9.0	11.5	12.5	14.5
8"	200mm	14.0	17.5	24.0	28.0
10"	250mm	23.5	26.5	28.0	30.0
12"	300mm	32.0	36.0	40.0	50.0
14"	350mm	50.0	65.0	83.5	108.5
16"	400mm	69.4	94.5	120.0	160.0
18"	450mm	95.5	128.0	157.2	205.0
20"	500mm	122.5	193.3	210.0	293.4
24"	600mm	213.3	293.4	366.7	440.1

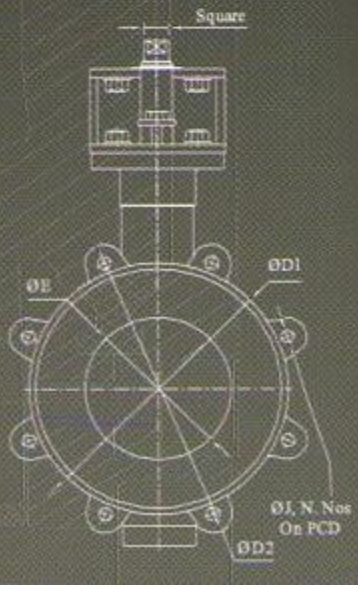
Lug Type Class 150 (Size 40mm to 600mm)

Class 150, PN10, PN16

DIMENSIONS : Series **5150 L** (150 # LUG TYPE)

SIZE		A	C	H	ØE	ØD1	ØD2	PCD	N-HOLE	ØJ	WIGHTE
1.1/2"	40	42	59.5	144.5	38	82	127	98.55	4	15.75	3.300
2"	50	45	68.5	163.5	50.8	95	152.4	120.65	4	19.05	4.500
2.1/2"	65	48	74.5	188	60.6	108	177.8	139.7	4	19.05	8.500
3"	80	48	80	200	72	127	190.5	152.4	4	19.05	10.600
4"	100	54	96	229	100	159	228.6	190.5	8	19.05	13.000
5"	125	57	117	268	123	186	254	215.9	8	22.35	18.500
6"	150	57	132	300	143	217	279.4	241.3	8	22.35	20.500
8"	200	64	157	356	192	270	342.9	298.45	8	22.35	28.100
10"	250	72	187	411	239	322	406.4	361.95	12	25.4	38.750
12"	300	82	218	483	290	382	482.6	431.8	12	25.4	60.000
14"	350	92	242	552	335	436	533.4	476.25	12	28.45	79.500
16"	400	102	270.5	612	387.5	495	597	539.75	16	28.45	90.400
18"	450	114	362	752	425	540	635	577.85	16	32	147.250
20"	500	127	400	820	475	595	698.5	635	20	32	206.500
24"	600	154	454	954	560	705	812.8	749.3	20	35	370.200

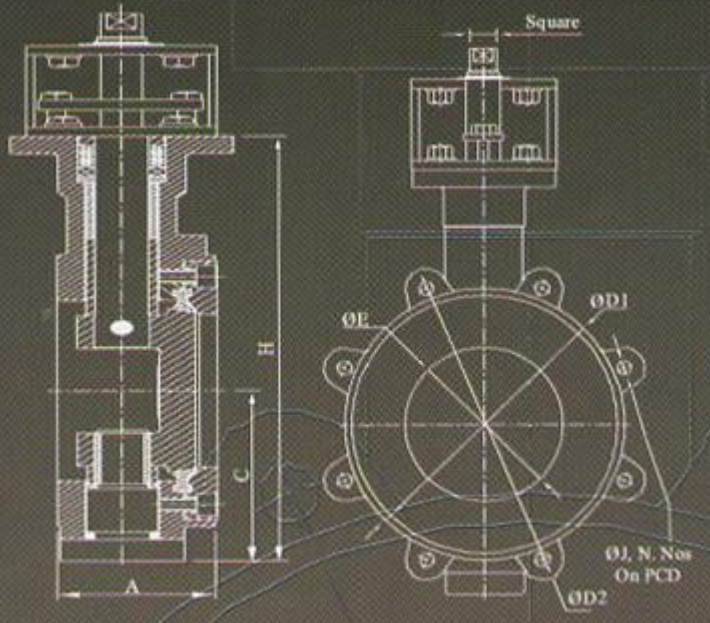




Torque & Dimension

Series **6150 L** (150 # Lug Type)

SIZE		TORQUE VALUES IN KGF.M			
INCH	MM	5 Kg/cm2	10 Kg/cm2	15 Kg/cm2	20 Kg/cm2
26"	650mm	265	350	400	510
28"	700mm	300	395	480	595
30"	750mm	321	420	519	617
32"	800mm	481	630	780	920
36"	900mm	518	663	850	992
40"	1000mm	641	850	1060	1300
48"	1200mm	850	1166	1485	1632



Lug type Class 150 (Size 650mm to 1200mm)

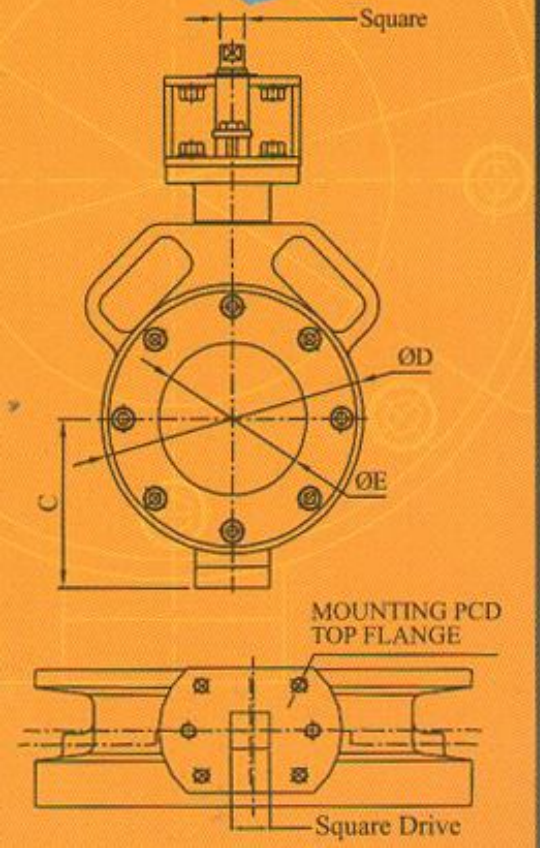
Class 150, PN10,PN16

DIMENSIONS : Series **6150 L** (150 # LUG TYPE)

SIZE		A	C	H	ØE	ØD1	ØD2	PCD	N-HOLE	ØJ	WEIGHT
26"	650	165	478	961	608	755	869	806.45	24	35	435.100
28"	700	165	505	1013	661.5	810	927	863.6	28	35	470.000
30"	750	190	542	1077	696	855	984	914.4	28	35	575.000
32"	800	190	580	1156	755	913	1060	977.9	28	41	635.000
36"	900	203	640	1290	864	1032	1168	1085.85	32	41	810.00
40"	1000	216	750	1400	955	1145	1289	1200.15	36	41	1210.00
48"	1200	254	865	1690	1155	1350	1511	1422.4	44	41	1330.000

All Dimensions are in (mm)

SERIES 5300 WAFER TYPE



Torque & Dimension

Series **5300** **(300 # Wafer Type)**

VALVE SIZE IN		TORQUE VALUES IN KGF.M					
inch	mm	10 kg/cm2	20 kg/cm2	25 kg/cm2	35 kg/cm2	40 kg/cm2	50 kg/cm2
1.1/2"	40 mm	4.2	4.7	5.2	5.5	5.8	6.2
2"	50mm	5.1	5.6	6.4	6.6	6.7	6.9
2 1/2"	65mm	5.2	5.7	6.5	6.9	7	7.2
3"	80mm	5.5	6.2	7	7.5	7.6	8
4"	100mm	7.2	8.9	10.4	11.1	11.4	12.5
5"	125mm	9.6	12.7	13.7	14.8	16	17.8
6"	150mm	12.6	13.8	17.8	19.4	20.5	22
8"	200mm	20.5	25.2	28.1	30.4	32.8	35.4
10"	250mm	32.5	46.8	50.3	56	59.4	66.3
12"	300mm	46.5	68.5	77.7	86.8	93.7	100.5
14"	350mm	74.7	112.6	146.1	177.6	183.6	202.1
16"	400mm	106.5	165.4	202	220.4	244.8	270
18"	450mm	134.6	214.3	245.8	293.8	318.3	342.8
20"	500mm	201.4	305.2	359.1	385.2	424.4	457
24"	600mm	305.2	457.8	522.3	587.6	646.4	692.1

Wafer type Class 300 (Size 40mm to 600mm)

Class 300, PN25, PN40

DIMENSIONS : Series **5300** (300 # WAFER TYPE)

Size		A	C	H	ØE	ØD	WEIGHT
1.1/2"	40	42	57	143	38	88	2.500
2"	50	45	60	156	50.8	101.5	3.400
2.1/2"	65	48	74.5	198	60.6	108.5	4.500
3"	80	48	88.5	223	72	127	5.750
4"	100	54	96	239	100	159	8.400
5"	125	59	116.5	277.5	123	187	11,550
6"	150	59	130	315	143.2	219	15.800
8"	200	64	157.5	383.5	192	270	22.500
10"	250	87	195	439	239.2	340	40.200
12"	300	92	218	502	290	394	61.500
14"	350	117	240	584	335	436	80.200
16"	400	133	245	615	387.5	500	115.250
18"	450	149	400	820	425	540	188.750
20"	500	159	435	905	475	595	235.300
24"	600	181	502	1052	560	705	415.200

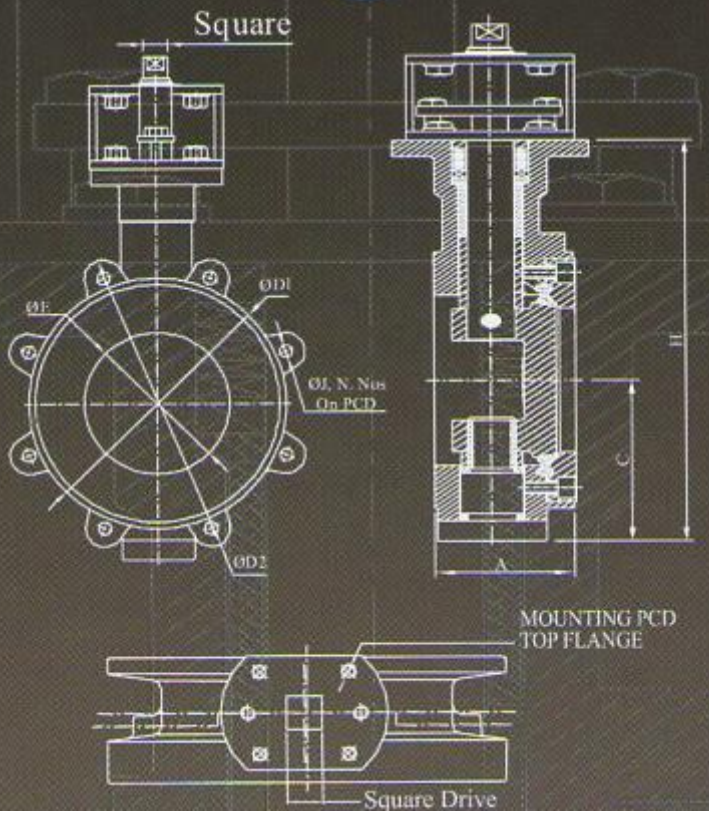
All Dimensions are in (mm

SERIES 5300 L LUG TYPE

Torque & Dimension

Series 5300 L (300 # Lug Type)

VALVE SIZE IN		TORQUE VALUES IN KGF.M					
inch	mm	10 kg/cm2	20 kg/cm2	25 kg/cm2	35 kg/cm2	40 kg/cm2	50 kg/cm2
1.1/2"	40 mm	4.2	4.7	5.2	5.5	5.8	6.2
2"	50mm	5.1	5.6	6.4	6.6	6.7	6.9
2 1/2"	65mm	5.2	5.7	6.5	6.9	7	7.2
3"	80mm	5.5	6.2	7	7.5	7.6	8
4"	100mm	7.2	8.9	10.4	11.1	11.4	12.5
5"	125mm	9.6	12.7	13.7	14.8	16	17.8
6"	150mm	12.6	13.8	17.8	19.4	20.5	22
8"	200mm	20.5	25.2	28.1	30.4	32.8	35.4
10"	250mm	32.5	46.8	50.3	56	59.4	66.3
12"	300mm	46.5	68.5	77.7	86.8	93.7	100.5
14"	350mm	74.7	112.6	146.1	177.6	183.6	202.1
16"	400mm	106.5	165.4	202	220.4	244.8	270
18"	450mm	134.6	214.3	245.8	293.8	318.3	342.8
20"	500mm	201.4	305.2	359.1	385.2	424.4	457
24"	600mm	305.2	457.8	522.3	587.6	646.4	692.1



Lug type Class 300 (Size 40mm to 600mm)

Class 300, PN25, PN40

DIMENSIONS : Series **5300 L** (300 # LUG TYPE)

SIZE		A	C	H	ØE	ØD1	ØD2	PCD	N-HOLE	ØJ	WIGHTE
1.1/2"	40	42	57	143	38	88	155	114.3	4	22.35	4.900
2"	50	45	60	156	50.8	101	165	127	8	19.05	6.750
2.1/2"	65	48	74.5	198	60.6	108.5	190.5	149.35	8	22.35	12.750
3"	80	48	88.5	223	72	127	209.5	168.14	8	22.35	15.900
4"	100	54	96	239	100	159	254	200.15	8	22.35	19.500
5"	125	59	116.5	277.5	123	187	279.5	234.95	8	22.35	27.750
6"	150	59	130	315	143.2	218	317.5	269.75	12	22.35	30.750
8"	200	64	157.5	383.5	192	270	381	330.2	12	25.4	42.150
10"	250	87	195	439	239.2	340	444.5	387.35	16	28.45	56.450
12"	300	92	218	502	290	394	520	450.85	16	31.75	90.100
14"	350	117	240	584	335	436	584	514.35	20	31.75	135.150
16"	400	133	245	615	387.5	495	647.5	571.5	20	35	145.350
18"	450	149	400	820	425	540	711	628.65	24	35	235.200
20"	500	159	435	905	475	595	774	685.8	24	35	329.600
24"	600	181	502	1052	560	705	914.5	812.8	24	41	520.250

All Dimensions are in (mm)

SERIES 7150 WAFER TYPE

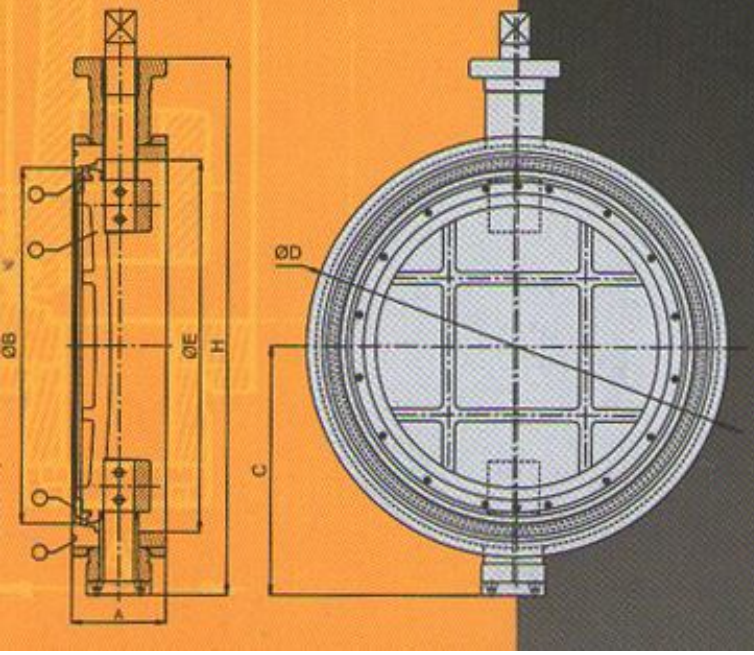
Torque & Dimension

Series 7150 (150 # Off - Set Disc Butterfly Valve Wafer Type)

SIZE		TORQUE VALUES IN KGF.M			
INCH	MM	5 Kg/cm2	10 Kg/cm2	15 Kg/cm2	20 Kg/cm2
4"	100mm	4.0	4.6	5.4	6.4
5"	125mm	5.8	8.0	9.5	11.5
6"	150mm	9.0	11.5	12.5	14.5
8"	200mm	14.0	17.5	24.0	28.0
10"	250mm	23.5	26.5	28.0	30.0
12"	300mm	32.0	36.0	40.0	50.0
14"	350mm	50.0	65.0	83.5	108.5
16"	400mm	69.4	94.5	120.0	160.0
18"	450mm	95.5	128.0	157.2	205.0
20"	500mm	122.5	193.3	210.0	293.4
24"	600mm	213.3	293.4	366.7	440.1

Standards :

Design and manufacturing	: API 609 Category B / MSS-SP 68
Valve face to face dimension	: API 609 Category B / ISO 5752
Flange standard conformity	: ANSI B 16.5 Class 150 ANSI B 16.47 Series 'A'
Inspection & Testing	: API 598 / BS 6755
Presser temperature rating	: ANSI B 16.34
Top flange dimension	: Bolt Hole ISO 5211
Stam dimension	: Square Drive to ISO 5211
Leakage class	: Class VI as per ANSI B 16.104



Off - Set Disc Butterfly Valve Wafer Type

Class 150, PN10, PN16

Dimension : Series **7150** (Wafer Type)

VALVE SIZE IN	A	ØB	C	ØD	ØE	H
4" (100 mm)	54	90	96	158	110	237
6" (150 mm)	57	128	115	216	152	285
8" (200 mm)	64	174	141	270	200	344.5
10" (250 mm)	72	220	179	325	250	416
12" (300 mm)	81	276	210	373	306	486
14" (350 mm)	92	325	234	412	350	541
16" (400 mm)	102	356	275	472	400	625
18" (450 mm)	114	401	327.5	532	445	698
20" (500 mm)	127	463	359	584	505	764.5
24" (600 mm)	154	585.5	409	692.1	612	882
26" (650) x 48" (1200mm)	On request					

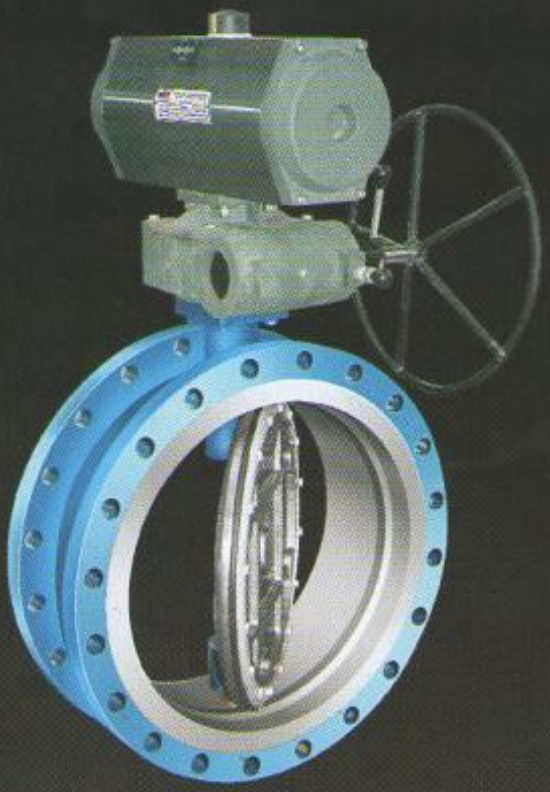
Double Flange design

TIME TESTED DESIGNS WITH SUPERIOR PERFORMANCE

SERIES **7150 D** DOUBLE FLANGE TYPE

Torque & Dimension

www.airaindia.com



Series **7150 D** (150 # Off - Set Disc Butterfly Valve Double Flange Type)

SIZE		TORQUE VALUES IN KGF.M			
INCH	MM	5 Kg/cm2	10 Kg/cm2	15 Kg/cm2	20 Kg/cm2
4"	100mm	4.0	4.6	5.4	6.4
5"	125mm	5.8	8.0	9.5	11.5
6"	150mm	9.0	11.5	12.5	14.5
8"	200mm	14.0	17.5	24.0	28.0
10"	250mm	23.5	26.5	28.0	30.0
12"	300mm	32.0	36.0	40.0	50.0
14"	350mm	50.0	65.0	83.5	108.5
16"	400mm	69.4	94.5	120.0	160.0
18"	450mm	95.5	128.0	157.2	205.0
20"	500mm	122.5	193.3	210.0	293.4
24"	600mm	213.3	293.4	366.7	440.1

Standards :

Design and manufacturing : API 609 / AWWA C-504

Valve face to face dimension : API 609 Short Pattern / ISO 5752

Flange standard conformity : ANSI B 16.5 Class 150
BS - 10 Table 'D'
ANSI B 16.47 Series 'A'
BS - 4504 / IS 1538 / AWWA C-207

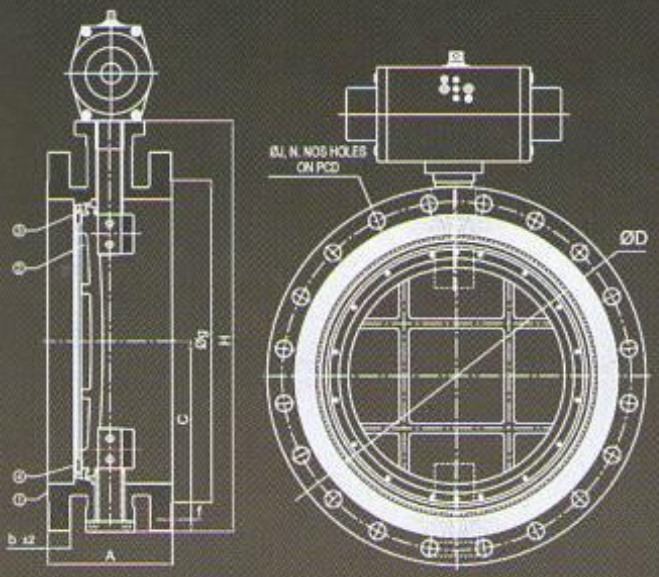
Inspection & Testing : API 598 / BS 6755 / ANSI FCI - 70-2

Presser temperature rating : ANSI B 16.34

Top flange dimension : Bolt Hole ISO 5211

Stam dimension : Square Drive to ISO 5211

Leakage class : Class VI as per ANSI B 16.104



Off - Set Disc Butterfly Valve Double Flange Type

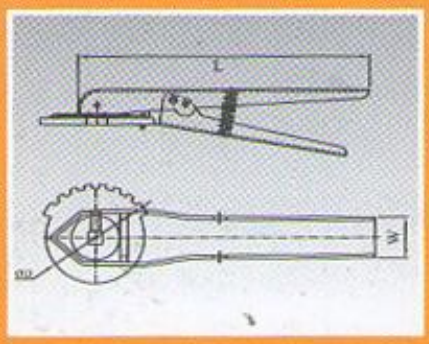
Class 150, PN10, PN16

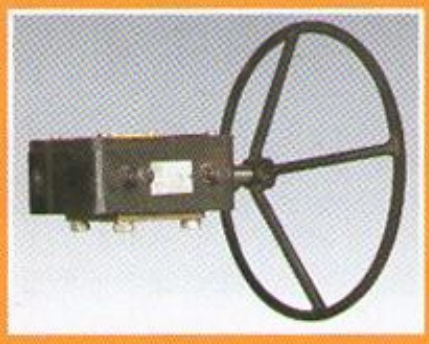
Dimension : Series **7150D** (Double Flange Type)

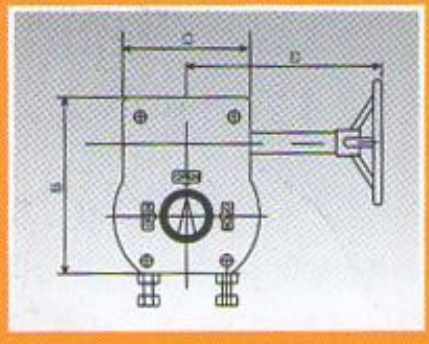
VALVE SIZE IN	A	b	C	ØD	f	Øg	H	ØJ	N	PCD
4" (100 mm)	127	23.88	96	228.6	1.6	157.23	237	19.05	08	190.5
6" (150 mm)	140	25.4	115	279.4	1.6	216	285	22.35	08	241.3
8" (200 mm)	152	28.45	141	343	1.6	269.75	344.5	22.35	08	298.45
10" (250 mm)	165	30.23	179	406.4	1.6	323.85	416	25.4	12	361.95
12" (300 mm)	178	31.75	210	482.6	1.6	381.6	486	25.4	12	431.8
14" (350 mm)	190	35.05	234	533.4	1.6	412.75	541	28.45	12	476.25
16" (400 mm)	216	36.58	275	596.9	1.6	469.9	625	28.45	16	539.75
18" (450 mm)	222	39.6	327.5	635	1.6	533.4	698	31.75	16	577.85
20" (500 mm)	229	42.9	359	698.5	1.6	584.2	764.5	31.75	20	635
24" (600 mm)	267	47.7	409	812.8	1.6	692.15	882	35.05	20	749.3
26" (650) x 48" (1200mm)	On request									

All Dimensions are in (mm)

OPERATING SYSTEM







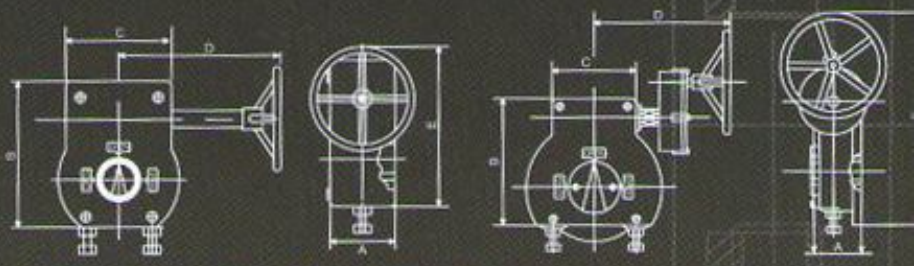
Hand Lever Operated :

SIZE in	SIZE mm	ASME CLASS	HANDLE	L	W	ØD	WEIGHT
1.1/2"	40	150/300	SH-9	210	27	75	0.500 KG
2"	50	150/300	SH-9	210	27	75	0.500 KG
2.1/2"	65	150/300	MH-11	245	28	75	0.550 KG
3"	80	150/300	MH-11	245	28	75	0.5[illegible]0 KG
4"	100	150/300	MH-11	245	28	75	0.550 KG
5"	125	150/300	BH-14	290	27	100	0.650 KG
6"	150	150/300	BH-14	290	27	100	0.650 KG

Handle should only be used up to the following differential pressures

40 mm valves to 30 kg	80 mm valves to 25 kg.	150mm valves to 20 kg.
50 mm valves to 30 kg	100mm valves to 20 kg.	
65 mm valves to 30 kg	125mm valves to 20 kg.	

Hand lever operated valves, size 40mm through 150mm, Can be Converted in the field to worm Gear operation. No modification is required to accommodate the addition o the worm gear Unit, Just add the Bracket between valve flange and gear box unit.



WORM GEAR ACTUATOR OPERATED :

Worm Gear Actuators are available as optional equipment, for "aira" Spherical Disc Valves Sizes 40mm through 150 mm. All larger size valves require Worm Gea Actuators or power Actuation.

MODEL NO.	TORQUE	RATIO	VALVE SIZE	Max Stem Height A	B	C	D	E	Wheel Dia	Weight
NGB-20	250 Nm	33:1	1.1/2" to 8"	48	110	78	180	181	200	4 kg.
NGB-25	500 Nm	40:1	10" to 12"	62	136	98	240	233	250	5 kg.
NGB-30	700 Nm	40:1	14" to 16"	68	180	119	285	318	350	7 kg.
NGB-50	1500 Nm	48:1	18"	75	202	140	305	409	500	11 kg.
NGB-60	2200 Nm	60:1	20"	84	214	180	320	425	500	14 kg.
NGB-70	3500 Nm	73:1	24" & 26"	115	294	240	370	478	600	23 kg.
NGB-80	5000 Nm	264:1	28" & 30"	123	294	240	395	568	500	30 kg.
NGB-90	7000 Nm	292:1	32" & 36"	112	331	208	381	647	600	48 kg.
NGB-100	10000 Nm	300:1	40"	151	413	266	410	716	600	68 kg.
NGB-250	22.500 Nm	456:1	48"	155	498	337	479	847	600	110 kg.

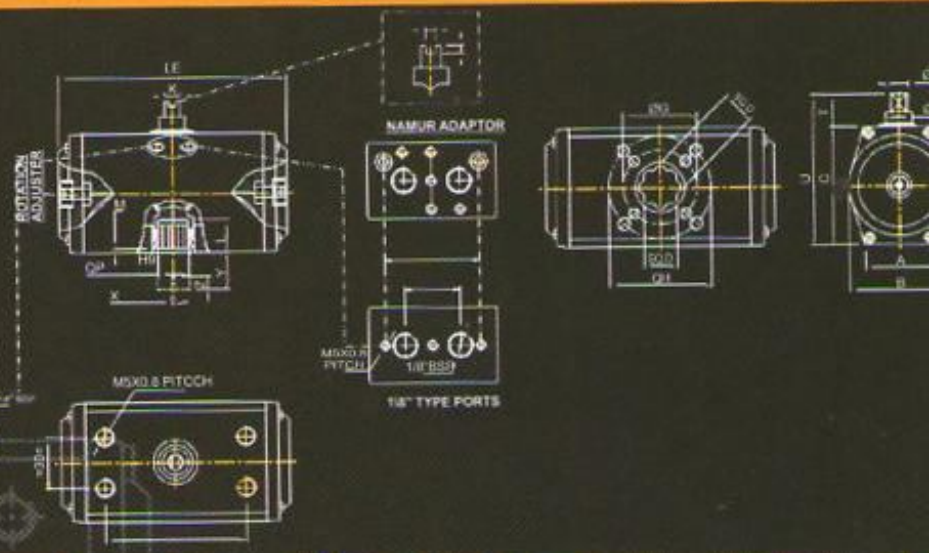
All Dimensions are in (mm)

TIME TESTED DESIGNS WITH SUPERIOR PERFORMANCE

OPERATING SYSTEM

Pneumatic Actuator Operated :-

"aira" Offers ISO 5211 Standard Pneumatic Actuator for all your 90° & 180° Degree valves & Dampers Automation Requirements.



'aira' MODEL	Torque on 5 bar double acting	Air consumption -ltrs double acting	Valve Size	Weight in Kg.
7710-D/A	8	0.1	********	0.55
7711-D/A	19	0.24	40 & 50mm	1.2
7712-D/A	48	0.63	65 / 80 / 100mm	2
7713-D/A	98	1.08	125 & 150mm	3.3
7714-D/A	210	2.5	200 & 250mm	6.55
7715-D/A	358	3.84	300 & 350mm	10.4
7780-D/A	450	On Request	********	13.3
7781-D/A	542	6.8	********	16.25
7716-D/A	685	On Request	400mm	20.35
7717-D/A	1185	14.28	450 & 500mm	29.5
7718-D/A	1778	On Request	********	58.3
3718-D/A	3909	On Request	600 & 650mm	151

'aira' MODEL	Torque on 5 bar single acting	Air consumption -ltrs single acting	Valve Size	Weight in Kg.
7710-S/A	2.9	0.07	********	0.65
7711-S/A	11	0.12	40 & 50mm	1.45
7712-S/A	27.6	0.26	65 / 80 / 100mm	3
7713-S/A	38.2	0.45	125 & 150mm	5
7714-S/A	98	1.1	200mm	9.75
7715-S/A	133	1.54	250 & 300mm	14.5
7780-S/A	323	On Request	350mm	20.85
7781-S/A	275	On Request	********	29.4
7716-S/A	528	2.9	400mm	31.35
7717-S/A	700	5.9	450mm	44.5
7718-S/A	1028	On Request	500mm	79.85
3718-S/A	2540	On Request	600 & 650mm	237.5

Dimensions :

MODEL	K	M	ØP	L	LE	ØNE	ØFT	T	A	B	C	U	ØG	ØH	SQ.D	N	X	Y	Z
7710-5510	10	1	22.80	12	111	11.85	15	20	34	47.5	54	74.5	-	36	9	50	5.50	20	10
7711-5511	10	1.7	23.90	26	127	11.85	12	19.70	50	59	74	94	36	50	14	80	7.40	19	18
7712-5512	10	0.40	29.35	14	162	14	17.70	19.40	65	83	100	120	50	70	17	80	8	23.20	21
7713-5513	14	2.20	37.3	19	211	19.5	24.70	21	70	102	117	137	50	70	17	80	7.40	22.70	18
7714-5514	14	3.60	40.35	24	264	27.5	39.90	19.50	90	120	140	180	70	102	22	80	10	32.50	30
7715-5515	21.75	1.20	53.35	29	325	28	40	26	103	139	160	190	102	125	27	80	10	43.50	30
7780-5580	22	2	-	32	357	28	40	23	107	151	171	194	103	125	27	130	-	-	-
7781-5581	28	3.50	66.35	29	375	36	44.80	30	110	172	198	228	102	125	36	130	15	47.00	40
7716-5516	28	3	89	38	435	36	44.80	30	110	172	198	228	-	125	36	130	16	57.00	50
7717-5517	32	4	79.35	40	460	40	59.70	30	135	225	255	285	-	140	36	130	15	56.00	50
7718-5518	32	3	101.85	50	625	40	59.70	30	135	225	255	285	-	140	46	130	36	62.00	50

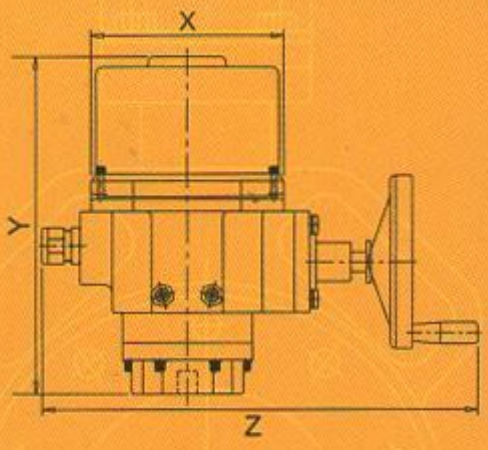
OPERATING SYSTEM

Electrical Actuator Operated

Single Phase / Three Phase

Electrical Actuator Details :

Characteristic	: On-Off Type/Modulating
Travel	: 90° - Quarter Turn
Indicator	: Continuous Position Indic
Phase	: Single Phase / Three Pha
Power Supply	: 230VAC / 380VAC / 415V
Body Material	: Aluminum Alloy
Ambient Temperature	: 20° C ~ 80° C
Moisture	: 10% to 95% (25°)C
Motor Insulation	: Class F
Protection Class	: IP67 - Weather Proof
Limit Switch	: 1 No + 1 NC out put
Poition on power failuer	: Stay Put
Manuel Override	: Provided



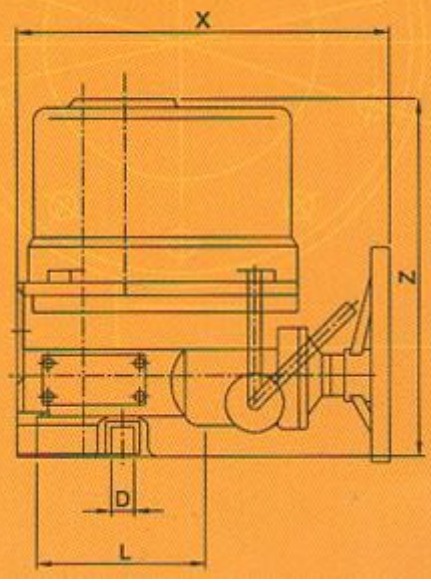
Dimensions

MODEL NO	Y	X	Z
MOD-S	48	107	----
MOD-1	152	106	----
MOD-2	160	170	----
MOD-2-1	195	106	170
MOD-3	165	151	----
MOD-3-1	264	179	364
MOD-4	336	220	399
MOD-5	336	220	399
MOD-6	336	220	399
MOD-8	299	255	395
MOD-10	299	255	395
MOD-11	342	—	490
MOD-12	541	—	506
MOD-13	541	—	506

All Dimensions are in (mm)

Technical Specification Table

MODEL NO	POWER (WATT)	TORQUE (NM)	Rotation Time (Sec/ 90°)
MOD-S	3 / 4	15	23
MOD-1	10	36	10 / 11
MOD-2	10 / 15	49	20 / 15
MOD-2-1	10 / 15	49	20 / 15
MOD-3	25	153	8
MOD-3-1	25 / 40	153 / 180	8 / 29
MOD-4	90 / 25	400 / 325	36 / 30
MOD-5	40 / 90	478	30 / 37
MOD-6	60 / 90	596	30
MOD-8	100	911	37
MOD-10	220 / 100	1500/1323	45 / 52
MOD-11	300	2000	45
MOD-12	220	3000	95
MOD-13	300	4000	95



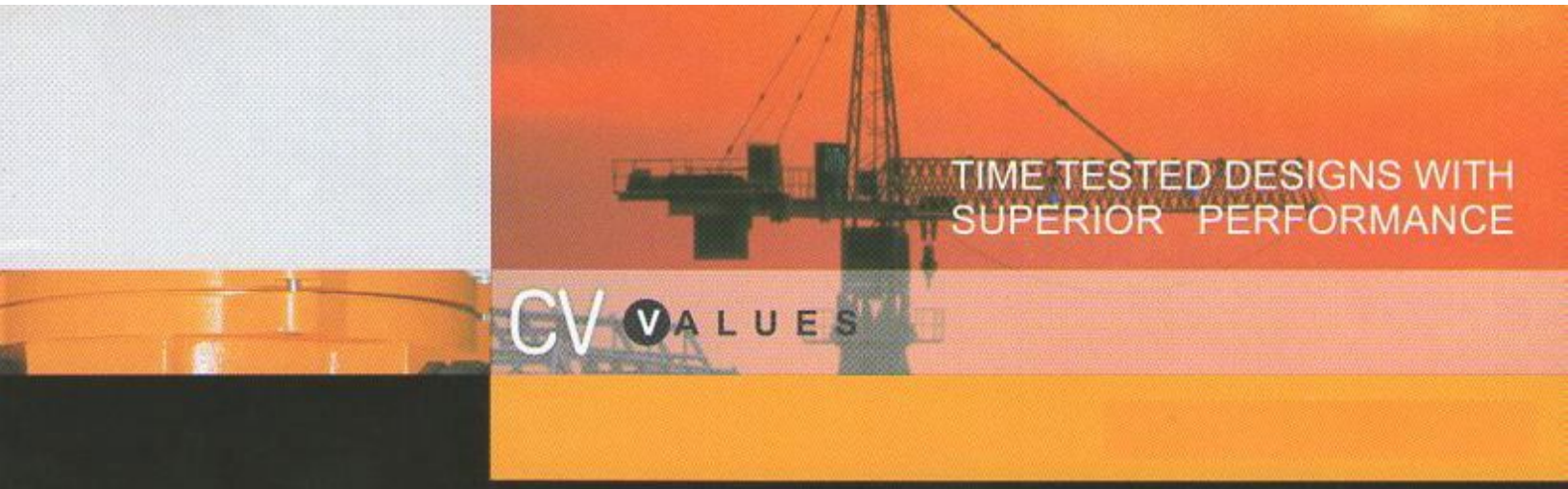
Dimensions

MODEL NO	D	L	X	Z
ATQ - 5	14	102	241	256
ATQ - 10	22	102	241	265
ATQ - 20	22	125	272	263
ATQ - 60	42	175	331	342
ATQ - 100	42	175	331	342
ATQ - 150	50	210	257	505
ATQ - 200	50	210	375	505
ATQ - 250	50	210	357	505
ATQ - 400	On Request			
ATQ - 600				
ATQ - 800				
ATQ - 1200				

All Dimensions are in (mm)

Technical Specification Table

MODEL NO	POWER (WATT)	TORQUE (NM)	Rotation Time (Sec/ 90°)
ATQ - 5	10	50	14 / 17
ATQ - 10	25	100	14 / 17
ATQ - 20	40	200	17 / 20
ATQ - 60	120	600	24 / 29
ATQ - 100	200	1000	24 / 29
ATQ - 150	180	1500	75 / 90
ATQ - 200	200	2000	75 / 90
ATQ - 250	200	2500	75 / 90
ATQ - 400	370	4000	60
ATQ - 600	550	6000	60
ATQ - 800	1010	8000	60
ATQ - 1200	2200	12000	60



Flow of Coefficients (CV Values)

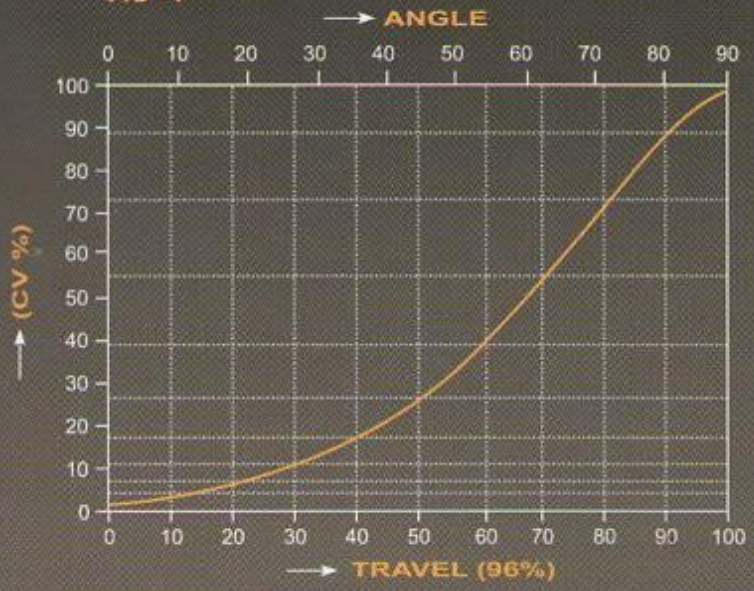
Flow coefficient is and index to measure the flow capacity of valve. The more the flow coefficient is, the less the pressure loss upon fluid flowing through the valve. The values of flow coefficient differ from the sizes, types and structures of valves. Valves of different types and specifications should be separately tested to make certain of its value of flow coefficient. For valves of the same structure, the value of flow coefficient differs according to the directions of fluid through the valves. This difference is usually caused by the difference in pressure recovery.

The table is the flow coefficient of double eccentric butterfly valve, used for reference to choose valve flow coefficient. Cv means the American gallons of + 60° F(+16°C) water flowing through the valve per minute under 1 pound/inch2(0.006894757 Mpa) pressure drop.

Flow Characteristics (CV)

CV values equal the flow of water in U.S. gallons per minute per 1 psi pressure drop.

FIG - 1



5150 / 5150L Class 150

VALVE SIZE IN		DISC ANGLE, DEGREES OPEN							
INCH.	MM	20°	30°	40°	50°	60°	70°	80°	90°
1.1/2"	40	5	11	19	29	42	50	62	70
2"	50	7	13	21	31	46	64	84	92
2.1/2"	65	12	21	35	51	75	105	137	150
3"	80	20	36	60	88	132	182	238	260
4"	100	36	64	106	162	235	326	414	460
5"	125	60	105	175	260	390	540	670	760
6"	150	100	165	265	400	600	805	1025	1350
8"	200	170	290	485	735	1080	1490	1850	2200
10"	250	260	445	735	1120	1680	2270	2850	3200
12"	300	385	660	1080	1645	2520	3385	4185	4700
14"	350	470	810	1335	1950	2850	4060	5105	5800
16"	400	650	1110	1820	2720	3900	5670	7100	8000
18"	450	850	1460	2265	3520	5300	7400	9280	10500
20"	500	1100	1940	3200	4800	7000	9900	12390	14000
24"	600	1700	2940	4830	7300	10700	14900	18500	21000

6150 / 6150L Class 150

VALVE SIZE IN		DISC ANGLE, DEGREES OPEN							
INCH.	MM	20°	30°	40°	50°	60°	70°	80°	90°
26"	650	1900	3250	5060	7512	11100	15400	19900	23400
28"	700	2300	3520	5370	7832	14500	20300	24200	27000
30"	750	2752	5848	10320	15480	22016	27520	32336	33300
32"	800	3540	6580	17000	23200	28500	32200	38200	40200
36"	900	3963	8421	14861	22291	31703	39629	46564	56500
40"	1000	5300	9850	19200	32500	43200	53700	62400	70000
48"	1200	7300	11,300	25000	37200	52000	68500	74400	90000

5300 / 5300L Class 300

VALVE SIZE IN		DISC ANGLE, DEGREES OPEN							
INCH.	MM	20°	30°	40°	50°	60°	70°	80°	90°
1.1/2"	40	5	11	19	29	42	50	62	70
2"	50	7	13	21	31	46	64	84	92
2.1/2"	65	12	21	35	51	75	105	137	150
3"	80	20	36	60	88	132	182	238	260
4"	100	36	64	106	162	235	326	414	460
5"	125	60	105	175	260	390	540	670	760
6"	150	76	125	200	305	460	615	785	880
8"	200	155	265	440	665	980	1350	1675	1900
10"	250	230	390	645	980	1470	1985	2495	2800
12"	300	335	575	945	1435	2200	2955	3650	4100
14"	350	445	770	1265	1850	2705	3850	4840	5500
16"	400	615	1055	1730	2585	3705	5385	4745	7600
18"	450	800	1375	2170	3320	5000	6980	8750	9900
20"	500	1020	1800	2970	4460	6500	9190	11500	13000
24"	600	1580	2730	4485	6780	9940	13840	17180	19500