Fluid Valve

Valve Solutions & Automation Systems

Catalogue of Fluid Valve for PTFE seat and disc valves

Fluid Valve Company

Fluid Valve

Introduction of valve

The two pieces of body wafer type butterfly valve and a concentric disc seat configuration to with whole pack age PTFE sealed structure, takes whole package PTFE painting skills for the body. The painting thickness can reach up to 3~4mm, which effectively avoids the direct interaction between the body and the medium and the medium`s corrosion for the body. Different painting skills and materials of valve`s disc are taken according to the customer`s need, such as PTFE and nylon painting, stainless steel and bronze material for the body, etc.

Features

Absolutely tight sealing with flow in either direction

The valve body and disc are accurately machined which results in low operating torque and long service life and reliability

PTFE liner seated prevents corrosion and guarantees long service life Can he disassembled, material specific recycling possible

Can be installed at the end of pipe for lugged type butterfly valve

General Application

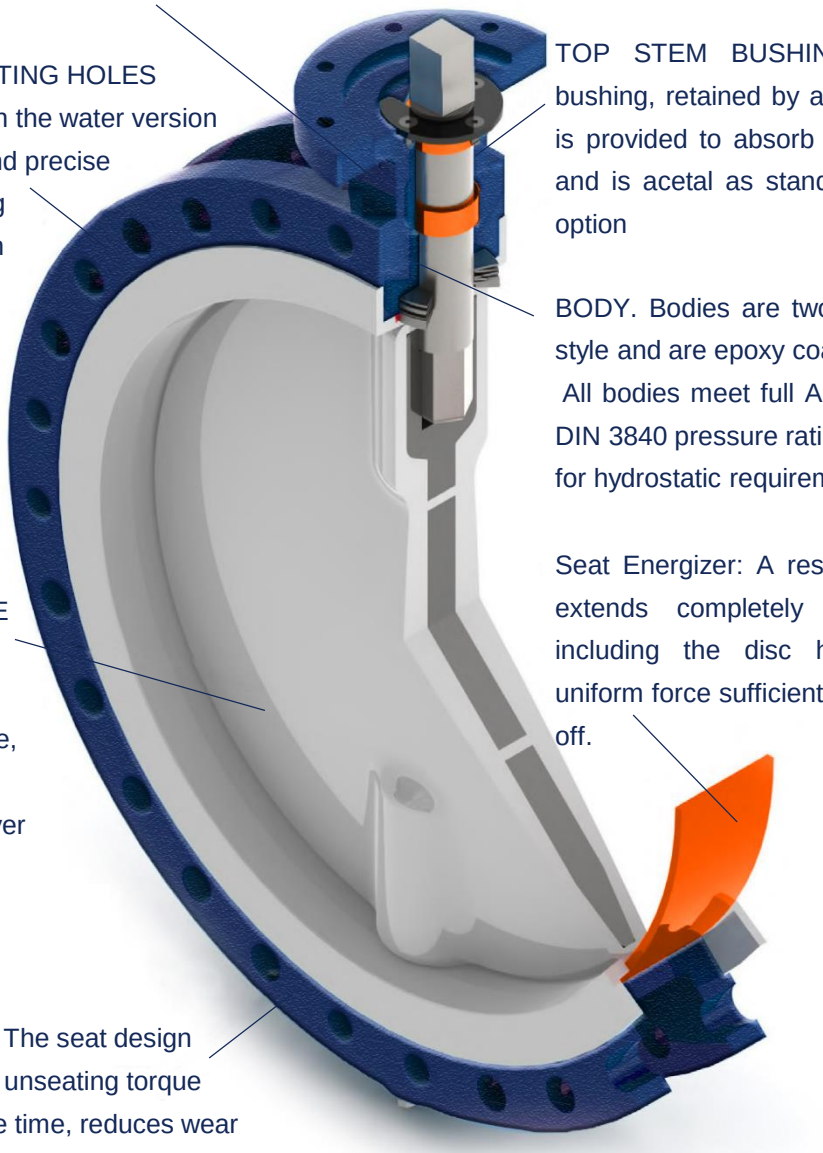
The products are used in a wide range of industries worldwide including:

- Chemical and petrochemical industries
- Water & Wastewater Treatment
- Pneumatic materials handling technology
- Shipbuilding
- Food Processing
- Petroleum Refining & Oilfield
- Power generation industry
- Mining
- Irrigation
- Textile
- Desalination
- Steel Production
- Sugar/Ethanol
- HVAC

Parts of name and purpose (DN700-DN900)

NECK. An extended neck design in all valve sizes allows for 2” of piping insulation and provides easy access for mounting actuators.

FLANGE LOCATING HOLES
Locating holes in the water version provide quick and precise alignment during valve installation eliminating disc interference With Adjacent pipe I.D.



TOP STEM BUSHING : A top stem bushing, retained by a stainless steel ring, is provided to absorb actuator site thrusts and is acetal as standard or PTFE as an option

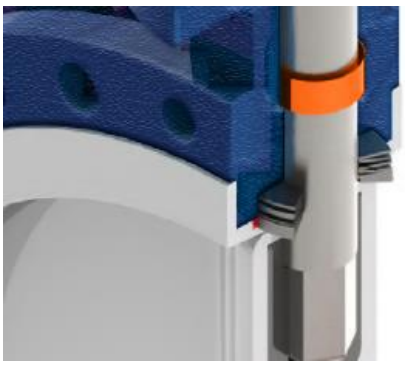
BODY. Bodies are two piece wafer or lug style and are epoxy coated.
All bodies meet full ASME Class 150 and DIN 3840 pressure ratings for hydrostatic requirements.

Seat Energizer: A resilient seat energizer extends completely around the seat, including the disc hub. This provides uniform force sufficient for bubble tight shut off.

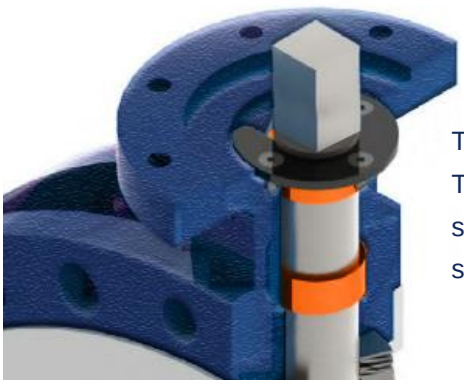
DISC: The PTFE disc has 1/8” (3 mm) minimum thickness of pure, virgin PTFE encapsulated over Stainless Stell.

SEAT DESIGN: The seat design reduces seating unseating torque and, at the same time, reduces wear on the contacting parts. Curvatures machined into the inner seat area minimize contact forces between the disc and seat as the disc approaches, or opens from, the closed position. This unique seat geometry permits lower torques and reduces seat wear.

Key Design

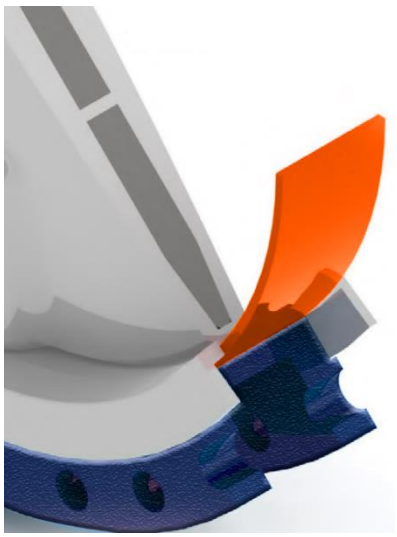


Disc sprig, two sets for a group, is a state of compressive deformation in the body. It will impose elastic force on the press sleeve, compact the O ring and seat, improve axial sealing, then provided the bearing stress for the seat and disc, to cover the shortage of elasticity about PTFE seat.



TOP STEM BUSHING

The bushing can assure the correct interaction between the upper shaft and the lower shaft, at the same time, it can make sure the smooth running of the shaft.



SEAT DESIGN: The seat design reduces seating unseating torque and, at the same time, reduces wear on the contacting parts. Curvaturesmachined into the inner seat area minimize contact forces between the disc and seat as the disc approaches, or opens from, the closed position. This unique seat geometry permits lower torques and reduces seat wear.

Seat Energizer:

A resilient seat energizer extends completely around the seal, including the disc hub. This provides uniform force sufficient for bubble-tight shut off.

Fluid Valve

CBF04-TA (L) 01

Extensive field research and engineering have developed this state of the art design which provides excellent shut off protection (bubbletight shut off) and high Cv values. The Series CBF04-TA01 is crafted in a variety of materials such as PTFE, Stainless Steel, UHMWPE and special alloys to fit a wide range of customer requirements. As with all WORLDS's products, precision manufacturing and exceptional quality remain the keys to a proven record of long service life.

Technical Date (DN50-DN900)

Design Standard

EN593 API609 BS5155 MSS SP-67

Face to Face

DIN558-1 API609 DIN3202 K1 ISO5752 BS5155

Testing Inspection

EN 12266-1 ISO5208 API598

Flange Accommodation

ASME B 16.1 125LB
ASME B 16.5 150LB
BS4504 PN10/16
DIN2501 PN10/16
ISO7005 PN10/16
E N 1092 PN10/16

Top Flange

ISO 5211 (accroding to the custumer need)

Temperature Range

-35 to +200 (depending on pressure, medium and material)

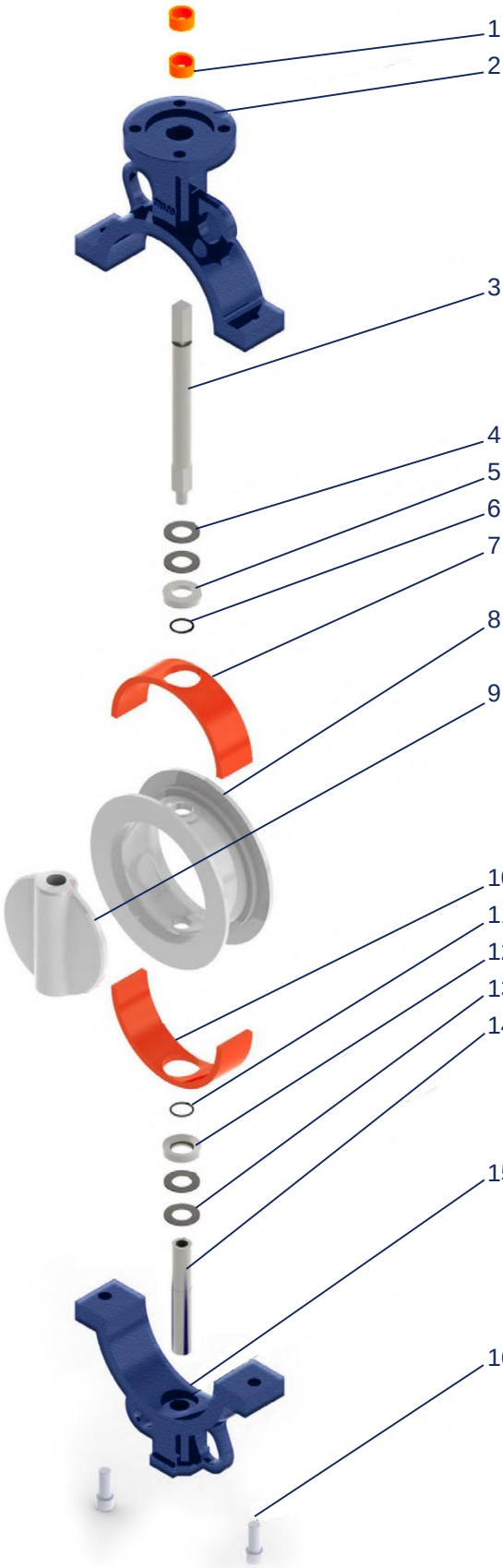
Suitable Medium

flesh water, waste water, sewage, seawater, air, vapor, food, oils, medicine
alkailis, salt, ect

Max Working Pressure

DN50-DN250	16Bar
DN300-DN900	10Bar

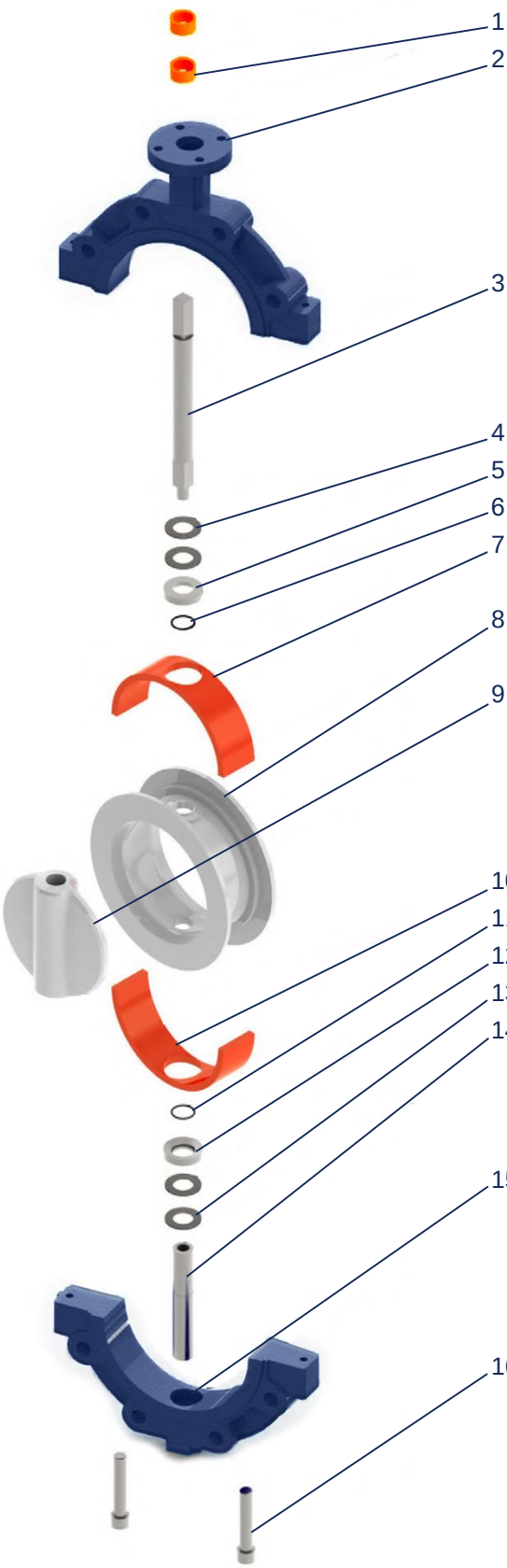
Main Spare Part Material Quality (DN50-DN300)



1	Bushing	PTFE
2	Up Body	GG20 GG25 GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95400
3	Up Shaft	SS410 SS304 SS431 SS316 MONEL K500 17-4PH C63000 C92200 2507 2205
4	Spring Planet	Spring Steel
5	Gland	Stainless Steel
6	“O”Ring	NBR /VITON
7	Seat Energizer	Silicone
8	Body seat	PTFE/PFA
9	Disc	GGG40 GGG45 GGG50+PTFE/PFA WCB WCC LCC LCB+PTFE/PFA CF8 CF8M CF3 CF3M+PTFE/PFA C95400 C95500 C95800+PTFE/PFA
10	Seat Energizer	Silicone
11	“O”Ring	NBR/ VITON
12	Gland	Stainless Steel
13	Spring Planet	Spring Steel
14	Down Shaft	SS410 SS304 SS431 SS316 MONEL K500 17-4PH C6300 C92200 2507 2205
15	Down Body	GG20 GG25 GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95500 C95400
16	Hex Bolts	Stainless Steel

Fluid Valve

Main Spare Part Material Quality (DN50-DN200)



1	Bushing	PTFE
2	Up Body	GG20 GG25 GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95400
3	Up Shaft	SS410 SS304 SS431 SS316 MONEL K500 17-4PH C63000 C92200 2507 2205
4	Spring Planet	Spring Steel
5	Gland	Stainless Steel
6	“O”Ring	NBR /VITON
7	Seat Energizer	Silicone
8	Body seat	PTFE/PFA
9	Disc	GGG40 GGG45 GGG50+PTFE/PFA WCB WCC LCC LCB+PTFE/PFA CF8 CF8M CF3 CF3M+PTFE/PFA C95400 C95500 C95800+PTFE/PFA
10	Seat Energizer	Silicone
11	“O”Ring	NBR/ VITON
12	Gland	Stainless Steel
13	Spring Planet	Spring Steel
14	Down Shaft	SS410 SS304 SS431 SS316 MONEL K500 17-4PH C6300 C92200 2507 2205
15	Down Body	GG20 GG25 GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95500 C95400
16	Hex Bolts	Stainless Steel

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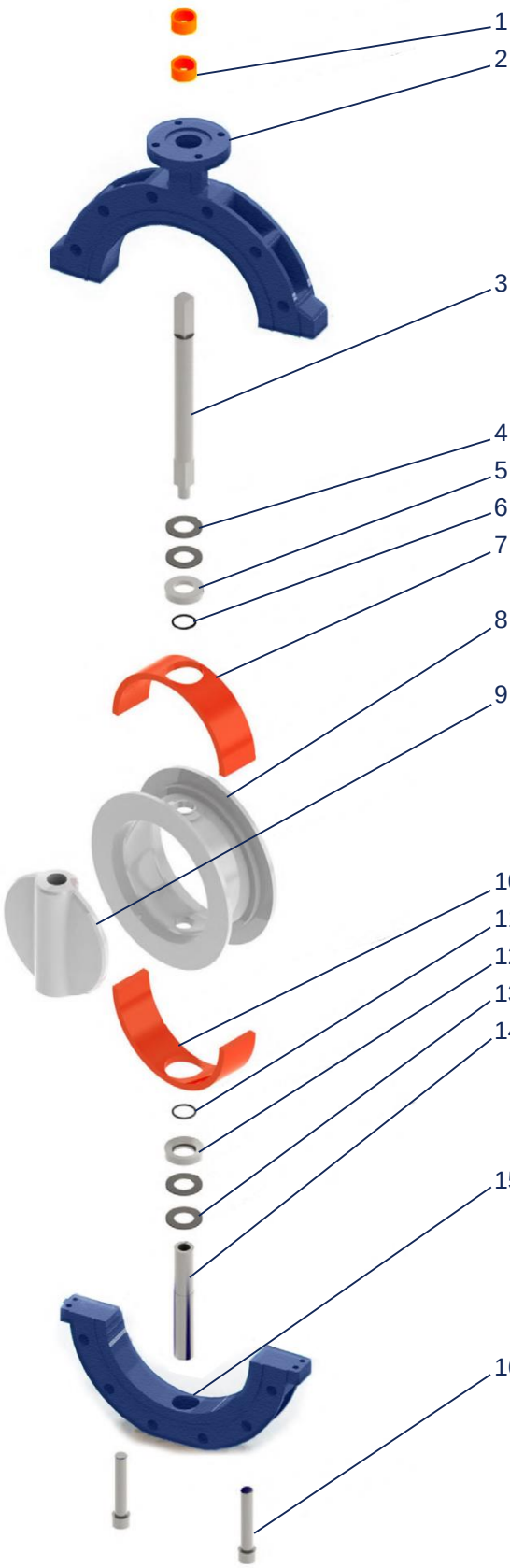
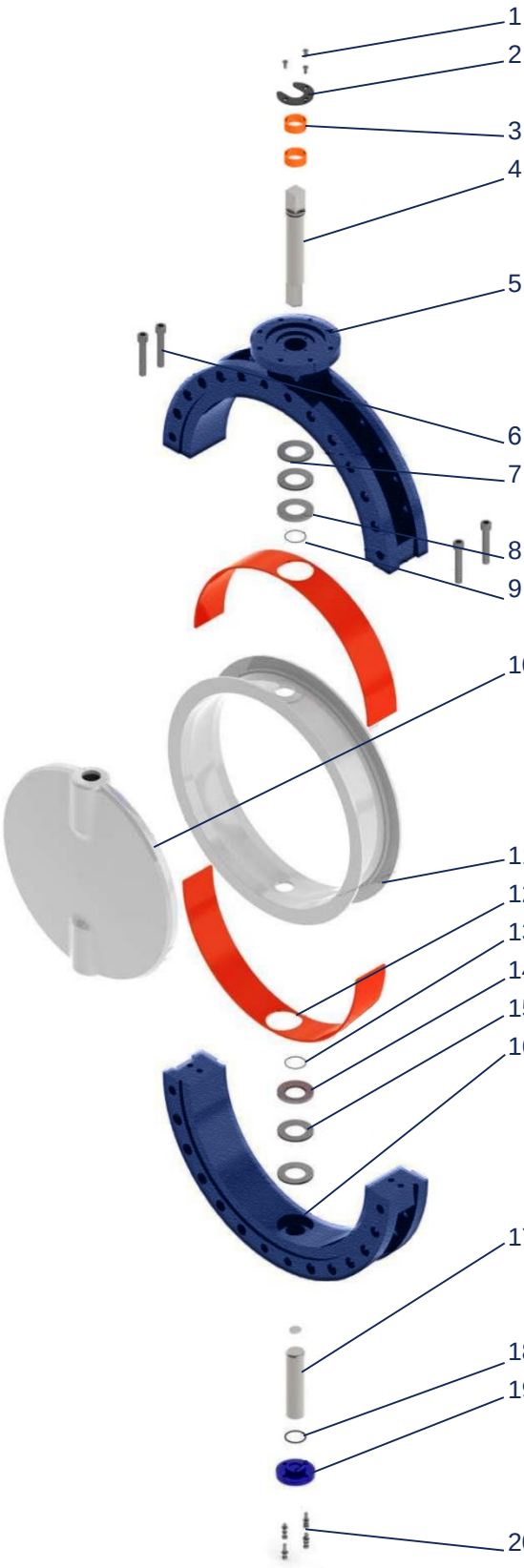
Main Spare Part Material Quality (DN250-DN600)



1	Bushing	PTFE
2	Up Body	GG20 GG25 GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95400
3	Up Shaft	SS410 SS304 SS431 SS316 MONEL K500 17-4PH C63000 C92200 2507 2205
4	Spring Planet	Spring Steel
5	Gland	Stainless Steel
6	“O”Ring	NBR /VITON
7	Seat Energizer	Silicone
8	Body seat	PTFE/PFA
9	Disc	GGG40 GGG45 GGG50+PTFE/PFA WCB WCC LCC LCB+PTFE/PFA CF8 CF8M CF3 CF3M+PTFE/PFA C95400 C95500 C95800+PTFE/PFA
10	Seat Energizer	Silicone
11	“O”Ring	NBR/ VITON
12	Gland	Stainless Steel
13	Spring Planet	Spring Steel
14	Down Shaft	SS410 SS304 SS431 SS316 MONEL K500 17-4PH C6300 C92200 2507 2205
15	Down Body	GG20 GG25 GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95500 C95400
16	Hex Bolts	Stainless Steel

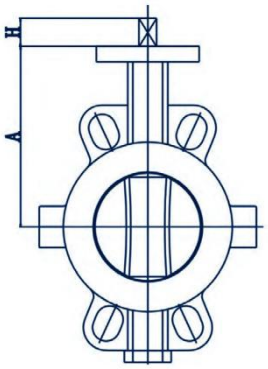
Main Spare Part Material Quality (DN350-DN900)



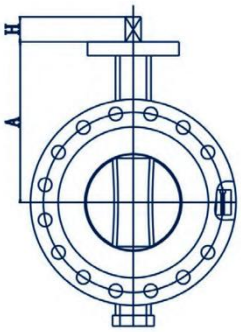
1	Screw	Stainless Steel
2	Retainer Ring	Q235
3	Bushing	PTFE
4	Up Shaft	SS410 SS304 SS431 SS316 MONEL K500 17-4PH C63000 C92200 2507 2205
5	Up Body	GG20 GG25 GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95500 C95400
6	Pin	Stainless Steel
7	Spring Planet	Spring Steel
8	Gland	Stainless Steel
9	“O”Ring	NBR /VITON
10	Disc	GGG40 GGG45 GGG50+PTFE/PFA WCB WCC LCC LCB+PTFE/PFA CF8 CF8M CF3 CF3M+PTFE/PFA C95400 C95500 C95800+PTFE/PFA
11	Body seat	PTFE/PFA
12	Seat Energizer	Silicone
13	“O”Ring	NBR/ VITON
14	Gland	Stainless Steel
15	Spring Planet	Spring Steel
16	Down Body	GG20 GG25 GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95500 C95400
17	Down Shaft	SS410 SS304 SS431 SS316 MONEL K500 17-4PH C6300 C92200 2507 2205
18	“O”Ring	NBR/VITON
19	End Cover	GG20 GG25 GGG40 GGG45 GGG50 WCB WCC LCC LCB CF8 CF8M CF3 CF3M C95800 C95500 C95400
20	Spring Washer	Stainless Steel
	Screw	Stainless Steel

Fluid Valve

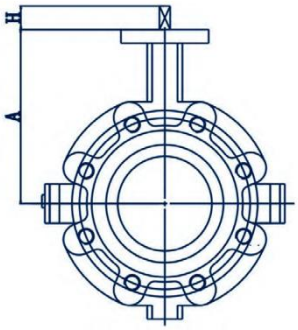
Drawing (50-600)



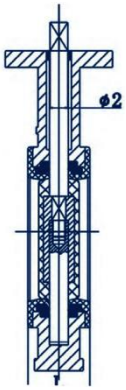
Wafer: DN50-DN300



Wafer: DN350-DN600
Lug : DN250-DN600



Lug: DN50-DN200



Outline Dimensions

SIZE	L	A	H	CxC	IDO5211	D2	D3	K	n-Ø	Ø2
DN50	43	140	14	9x9	F07/F05	90/65	55/35	70/50	4-10/7	12.6
DN65	46	150	14	9x9	F07/F05	90/65	55/35	70/50	4-10/7	12.6
DN80	46	160	14	9x9	F07/F05	90/65	55/35	70/50	4-10/7	12.6
DN100	52	178	14	11x11	F07	90	55	70	4-10	15.77
DN125	56	190	17	14x14	F07	90	55	70	4-10	18.92
DN150	56	200	17	14x14	F07	90	55	70	4-10	18.92
DN200	60	240	22	17x17	F10	125	70	102	4-12	22.10
DN250	68	273	22	22x22	F10	125	70	102	4-12	28.45
DN300	78	310	22	22x22	F10	125	70	102	4-12	31.60
DN350	78	346	22	22x22	F10	125	70	102	4-12	31.60
DN400	102	375	36	27x27	F14	175	100	140	4-18	33.15
DN450	114	406	36	27x27	F14	175	100	140	4-18	37.95
DN500	127	438	36	36x36	F14	175	100	140	4-18	41.12
DN600	154	495	46	36x36	F16	210	130	165	4-22	50.65

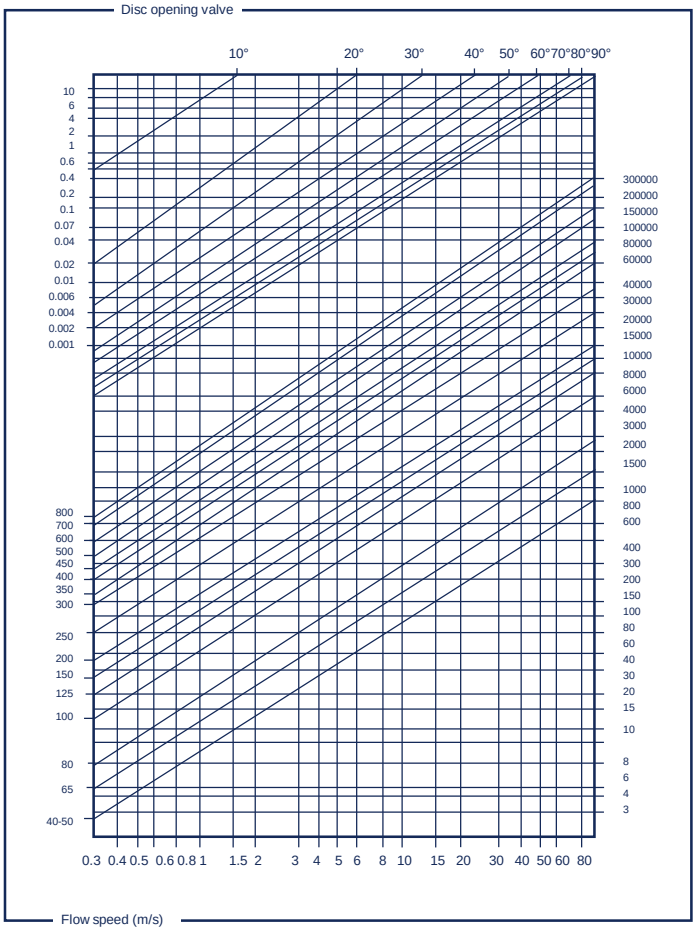
Connection Dimensis

	Outer Diameter Of Flange				Diameter Of Center Circle				Number And Diameter Of Bolt Holes			
DN	150LB	PN10	PN16	JIS10K	150LB	PN10	PN16	JIS10K	150LB	PN10	PN16	JIS10K
50	150	165	165	155	120.7	125	120	120	4-19	4-19	4-19	4-19
65	180	185	185	175	139.7	145	145	140	4-19	4-19	4-19	4-19
80	190	200	200	185	152.7	160	160	150	4-19	8-19	8-19	8-19
100	230	220	220	210	190.5	180	180	175	8-19	8-19	8-19	8-19
125	255	250	250	250	215.9	210	210	210	8-22	8-19	8-19	8-23
150	280	285	285	280	241.3	240	240	240	8-22	8-23	8-23	8-23
200	345	340	340	330	298.5	295	295	290	8-22	8-23	12-23	12-23
250	405	395	405	400	362	350	355	355	12-26	12-23	12-28	12-25
300	485	445	460	445	431.8	400	410	400	12-26	12-23	12-28	16-25
350	535	505	520	490	476.3	460	470	445	12-29	16-23	16-28	16-25
400	595	565	580	560	539.8	515	525	510	16-29	16-28	16-31	16-27
450	635	615	460	620	577.9	565	585	565	16-32	20-28	20-31	20-27
500	700	670	715	675	635	620	650	620	20-32	20-28	20-34	20-27
600	815	780	840	795	749.3	725	770	730	20-35	20-31	20-37	24-33

Fluid Valve

Head losses

Notes: Values indicated in this page is only for information



Liquids: $Q = \frac{KV}{\sqrt{\frac{PS}{\Delta P}}}$

Q rate of flow (m3/h)
PS specific gravity (water=1)
ΔP pressure drop (bar)

Gas: $Q = 28.5 \frac{KV}{\sqrt{\frac{PS}{P_2 . \Delta P}}}$

Q rate of flow (m3/h)
PS specific gravity (air=1)
ΔP pressure drop (bar)
(less than 1/2 inlet pressure)
P2 outlet pressure

Steam: $Q = 22.5 . KV . \sqrt{P_2 . \Delta P}$

Q rate of flow (Kg/h)
ΔP pressure drop (bar)
(less than 1/2 inlet pressure)
P2 outlet pressure

Calculation of the rate of flow equivalent to H2O:
For different liquid, gas or steam head lasses are determined by equivalent water of flow, as follows:

Qe equivalent water flow (mc/l o l/s)
Q fluid flaw (mc/l o l/s)
d fluid specific gravity (Kg/mc}

Connection Dimensis

Size	Flow in Gpm@1 PSI P@ Various Disc Angles								
(mm)	10°	20°	30°	40°	50°	60°	70°	80°	90°
50	0.1	5	12	24	45	64	90	125	135
65	0.2	8	20	37	65	98	144	204	220
80	0.3	12	22	39	70	116	183	275	302
100	0.5	17	36	78	139	230	364	546	600
125	0.8	29	61	133	237	392	620	930	1022
150	2	45	95	205	366	605	958	1437	1579
200	3	89	188	408	727	1202	1903	2854	3136
250	4	151	320	684	1237	2047	3240	4859	5340
300	5	234	495	1072	1911	3162	5005	7507	8250
350	6	338	715	1549	2761	4568	7230	10844	11917
400	8	464	983	2130	3797	6282	9942	14913	16388
450	11	615	1302	2822	5028	8320	13168	19752	21705
500	14	971	1674	3628	6465	10698	1693	25396	27908
600	22	1222	2587	5605	9989	16528	26157	39236	43116
700	30	1633	3522	7630	12599	20036	30482	46899	58696
800	45	2387	4791	8736	13786	20613	31395	48117	68250
900	60	3021	6063	11055	17449	26086	26086	60895	86375