DOUBLE FLANGED
RESILIENT SEAT BUTTERFLY VALVE
MODEL - USSE 150 - 1200MM

CHALLENGER
VALVES AND ACTUATORS

FEATURES AND BENEFITS

- This product is Bi-directional, ideal for throttling or bubble tight shut off at full rated pressure.
- Suitable for fully rated end of line service.
- The Phenolic backed seat is blow out proof and easily field replaceable.
- Triple shaft bushing located at the top, middle and bottom of the valve act as bearing lubricant, preventing shaft or disc deflection, provides precision disc positioning and allows easy operation while reducing component wear.
- Bushing provides secondary seal points to liner preventing ingress of media into the shaft cavity area.
- Shaft sealing: Rubber O-rings located at the top, middle and bottom of the valve protect against the ingress of foreign matter and media, in addition it also protects against corrosion. Moulded in O-rings on the seat seal against the shaft also protect against the ingress of foreign media and corrosion.
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- The entire wetted area of the valve body is rubber lined extending over the flanges, providing corrosion protection.
- Reliable one piece shaft ensures higher stability and greater disc control.
- Mounting flange complies with ISO5211 allowing for direct mounting.
- Installation can be made on any angle.
- Maintenance free design.
- Suitable for vacuum service (2 Bar).
- Precision taper pins ensure positive connection with the disc avoiding blow out under pressure and vibration, they are also easily replaceable.
- Polished disc edges reduce seating torque and scrubbing action. This increases valve performance and life cycle.
- 150mm - 300mm available with stainless steel lever

APPLICATIONS

Challenger Valves and Actuators are the ***"Right Choice for Valves and Actuation"*** when quality matters.

Servicing industries such as : Chemical, Textile, Paper, Engineering, Water and Waste Water.

These valves are suitable for throttling or stopping the flow of corrosive or non-corrosive media such as gases, liquids, semiliquids and solid powder.

TECHNICAL SPECIFICATION

Construction : Seal on body, concentric double flanged butterfly valve, short pattern
Design: In accordance with AS4795 / EN593
Size: 150mm - 1200mm
Pressure Rating: PN16
Pressure Testing: ISO5208
Flange Drilling: : AS4087 PN16 (Table D), AS2129 Table E, ANSI B16.5 #150
Coatings: FBE Coating (EPOXY coating to AS4158 & AS4020 available)
Temperature Range: -20°C to 110°C

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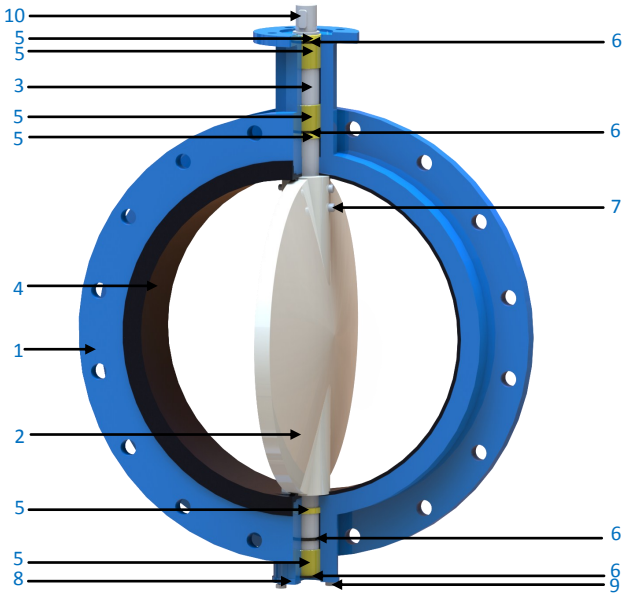
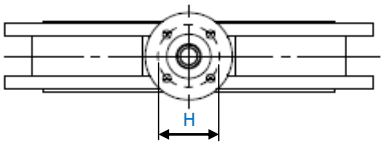
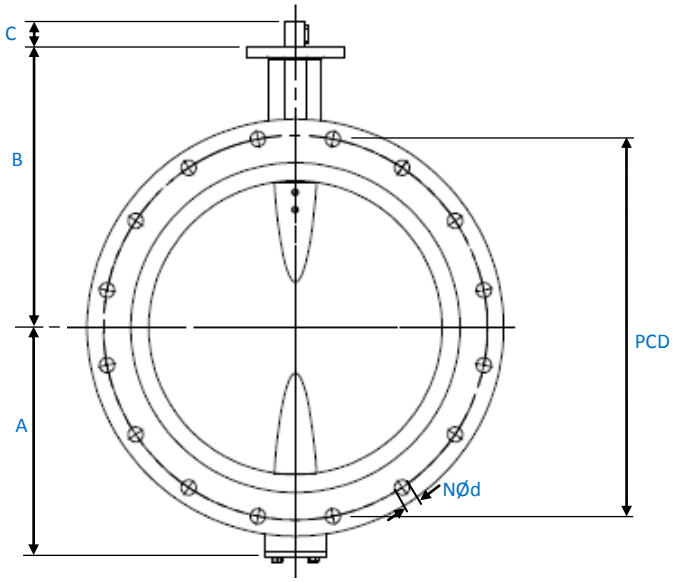
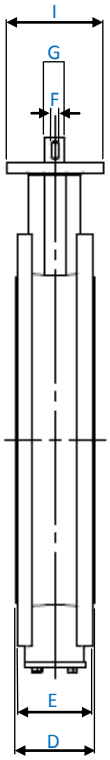
TECHNICAL : VALVE MATERIALS

ITEM	COMPONENT	MATERIAL	GRADE
1	Body	Ductile Iron	AS1831
2	Disc	Stainless Steel	ASTM A351 - CF8M
3	Stem	Stainless Steel	ASTM A276 - 410
4	Seat	EPDM/Rubber	AS1628 AS681.1
5	Bushing	Bronze	N/A
6	O-Ring	NBR (NITRILE) Rubber	AS1646
7	Taper Pin	Stainless Steel	316/431
8	End Cap	Ductile Iron	AS1831
9	Fasteners	Stainless Steel	ASTM A 0276 - 316
10	Key	Tool Steel	









SIZE	A	B	C	D	E	F (Key)	G	H	I	NØd	PCD Table C/D	KGs LEVER	KGs GEARBOX
150MM	133	226	30	59	54	-	14*	70	92	8 x M16	235	15	21
200MM	175	260	34	64	60	-	17*	102	125	8 x M16	292	23	29
225MM	190	275	34	72	67	-	22*	102	125	8 x M16	324	32	38
250MM	203	292	34	72	67	-	22*	102	128	8 x M20	356	36	42
300MM	242	337	34	79	76	-	22*	102	140	12 x M20	406	53	59
350MM	267	368	40	79	76	1 x 8mm	31.7	102	140	12 x M24	470	-	70
375MM	313	375	52	106	102	1 x 10mm	33.1	140	197	12 x M24	495	-	102
400MM	309	400	52	106	102	1 x 10mm	33.1	140	197	12 x M24	521	-	107
450MM	337	422	52	119	114	1 x 10mm	38	140	197	12 x M24	584	-	137
500MM	368	480	64	132	127	1 x 10mm	44.1	140	197	16 x M24	641	-	215
600MM	459	562	70	156	151	2 x 16mm	50.6	165	276	16 x M27	756	-	291
700MM	527	626	95	169	165	2 x 18mm	63.35	254	300	20 x M27	845	-	470
750MM	554	660	95	172	167	2 x 18mm	63.35	254	300	20 x M30	927	-	505
800MM	605	666	95	195	190	2 x 18mm	63.35	254	300	20 x M33	984	-	608
900MM	668	720	130	211	203	2 x 20mm	75	254	300	24 x M33	1092	-	832
1000MM	728	806	130	224	216	2 x 22mm	85	254	300	24 x M33	1175	-	960
1200MM	855	938	150	284	276	2 x 28mm	105	298	350	32 x M33	1410	-	1485

* Denotes square shaft

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TECHNICAL DATA

CV VALUES
Cv is defined as the volume of water in U.S.G.P.M that will flow through a given restriction or valve opening with a pressure drop of one (1) P.S.I at room temperature.
Recommended control angles are between 25°- 70° open.
Preferred angle for control valve sizing is 60° - 65° open. To convert Cv to Kv divide by 1.1553

TORQUE DATA
Torque is the measure of the turning force on an object. For a butterfly valve the turning force is determined by the friction of the disc and the seat, bushing friction and fluid dynamic torque. The torques listed are based on normal temperatures and applications at full 16 Bar (1600KPA) rated pressures

OPTIONS
- Epoxy coating to AS4020. Jotun Tankgard 412.
- Hand wheel operation up to 300mm
- Gearbox operation
- Lockable gearbox
- Actuation:
  - Pneumatic
  - Electric
  - Hydraulic
- Torque limiting devices
- Buried service
- Submerged service
- Extension spindles
- Chain wheel operation
- Seat material: NBR (Nitrile)
- Disc material: Bronze, Duplex
- Shaft material: Monel
- Flange drillings: AS2129 Table E, ANSI B16.5 (ANSI#150), DIN
- Limit switches
- 316 Stainless Steel fasteners

Cv VALUES										*TORQUE Nm
SIZE (mm)	10°	20°	30°	40°	50°	60°	70°	80°	90°	@ 16 BAR
150	0.8	45	95	205	366	605	958	1437	1579	128
200	2	89	188	408	727	1202	1903	2854	3156	240
225	2.8	117	295	600	1101	1700	2471	3186	3568	394
250	3	151	320	694	1237	2047	3240	4859	5340	404
300	4	234	495	1072	1911	3162	5005	7507	8250	613
350	6	338	715	1549	2761	4568	7230	10844	19917	782
375	7.5	364	880	1819	3256	5218	8108	12400	14000	1038
400	8	464	983	2130	3797	6282	9942	14913	16388	1056
450	11	615	1302	2822	5028	8320	13168	19752	21705	1414
500	14	791	1647	3628	6465	10698	16931	25396	27908	1789
600	22	1222	2587	5605	9989	16528	26157	39236	43116	2877
700	36	1813	3639	6636	1000	14949	22769	34898	49500	5312
750	37	2080	4406	9546	17010	28147	44545	66818	73426	6122
800	45	2387	4791	8736	13788	20613	31395	48117	38250	7000
900	260	3050	6730	12740	20220	32500	52500	79600	87500	8543
1000	84	4183	8395	15307	24159	36166	55084	84425	119750	14504
1200	455	5365	11840	22400	30600	51200	92300	140000	154000	20402

*These figures include 25% safety factors

***TORQUE NOTES:**
For conditions that vary from those noted, apply the following Application Factor Multipliers:
- Operated less than once per day x 1.2
- Dry Service with gas or air x 1.5
- Dry Service with abrasive powder x 1.7
- Lubricant oils x 0.5
- Temperature - lower than –4.5°C x 1.2
  - higher than 93°C x 1.2
- For NBR (Nitrile) Seat Figures will be 1.1 times
- Chemical attack: **Consult Challenger**

USSE SIZING CHART				
SIZE	**GEARBOX**	**DOUBLE ACTING PNEUMATIC ACTUATOR**	**SPRING RETURN PNEUMATIC ACTUATOR**	**ELECTRIC ACTUATORS**
150	SBWG BF	HP-DA100	HP-SR125	HQ015
200	SBWG-0	HP-DA125	HP-SR160	HQ030
225	SBWG-0	HP-DA160	HP-SR200	HQ030
250	SBWG-0	HP-DA160	HP-SR200	HQ050
300	SBWG-0	HP-160	HP-SR212	HQ080
350	SBWG-00	HP-DA200*	HP-SR212*	HQ080
375	SBWG-1-1S	HP-DA-200*	HP-SR212*	HQ120
400	SBWG-1-1S	HP-DA200*	HP-SR212*	HQ120
450	SBWG-1-1S	HP-DA212*	ETS085SR300*	HQ200
500	SBWG-2-1S	HP-DA212*	ETS085SR300*	HQ200
600	SBWG-3-1S	HP-DA212*	ETS100SR385*	HQ300
700	SBWG-04-1S2B	ETS085DA 335*	ETS130SR435*	HQ600
750	SBWG-04-1S2B	ETS100DA 335	ETS130SR485*	HQ800
800	SBWG-04-1S2B	ETS100DA 385	ETS130SR535*	HQ800
900	SBWG-04-1S2B	ETS 100DA 385	ETS160SR535*	HQ900
1000	SBWG-05-1SD	ETS130DA 435*	ETS200SR635*	TBC
1200	SBWG-06-1SD	ETS 130DA 535*	ETS200SR635*	TBC

*Bracket & drive piece required for mounting