NACKED STEM DUCTILE IRON BUTTERFLY VALVE – ACS EPDM SEAT

CERTIFICAT 3.1 sur demande | CE | ATEX | SIL3 | Marine & Offshore Division | Lloyd's Register | ACS



Reference	Working pressure	∅ DN				
		350	400	450	500	600
10CD021N	10 Bar	●	●	●	●	●

1. Standards

- ✓ Manufacturer certified ISO 9001:2015
- ✓ Designing according to ISO 10631 and EN 593
- ✓ DIRECTIVE 2014/68/EU : For liquids or Gas of Group 1
  - DN350 : Risk category II, CE0094 marking
  - DN400-600 : Risk category III, CE0094 marking
- ✓ Certificate 3.1 on request
- ✓ Pressure tests according to EN 12266-1, Rate A
- ✓ Between flanges according to EN 1092-1 PN10/16
- ✓ ISO 5211 mounting pad
- ✓ Length according to :
  - ISO 5752 short series 20
  - EN 558 series 20 (NF 29305)
  - BS 5155 series 4
  - DIN 3202 part 3, series K1
  - API 609 Table 1 up to DN600
  - ASME B16.10 Table 8 column 3 up to DN350, column 4 from DN400 to 600
- ✓ ATEX Group II Category 2 G/2D Zone 1 & 21 Zone 2 &22 (on request)
- ✓ The valves are suitable for use in a safety instrumented system up to SIL 2 in low demand mode. Under consideration of the minimum required hardware fault tolerance HFT= 1 the valves may be used in a redundant architecture up to SIL 3.
- ✓ French water agreement **A.C.S. N° 24 ACC LY 017**

Approval certificate **Marine BUREAU VERITAS on request**

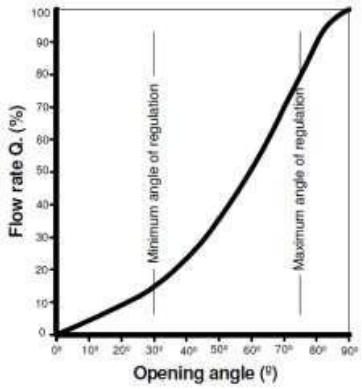
2. Features

Use :	Fluids : Cold and hot water, drinkable water, sea water, alcohol, sodium hydroxide (concentration 70% max), demineralized water, mercury, alcalins
Size :	DN350 to DN600
Connection :	Between flanges PN10/16
Min Temperature :	-20°C
Max Temperature :	+110°C
Max Pressure :	16 bar
Specifications :	Long neck for isolation Lug type Full crossing stem ISO 5211 direct mounting pad
Materials :	Ductile iron GJS 500-7 body, ACS EPDM seat

Information provided as an indication and subject to possible modification

3. Flow coefficient Kvs (m3/h)

DN	Opening Angle								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
350	87	282	606	1101	1817	2768	4325	6661	8179
400	112	363	779	1453	2318	3547	6055	7785	10660
450	138	476	1021	1730	2941	4758	7785	9515	12889
500	173	593	1254	2336	3806	5882	9515	12543	16023
600	260	839	1817	3287	5320	7785	13840	18598	22741



Head loss calculations :

$\Delta p = (Q / Kv)^2 \times SG$ Q : flow in m³/h

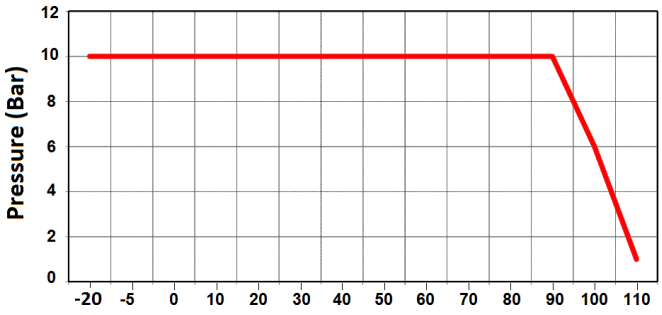
Δp : Head loss in bar

SG : Specific gravity (= 1 for water)

Kv : Volume of water in m³/h, that will flow through a given restriction or valve opening with a pressure drop of 1 bar at 20°C)

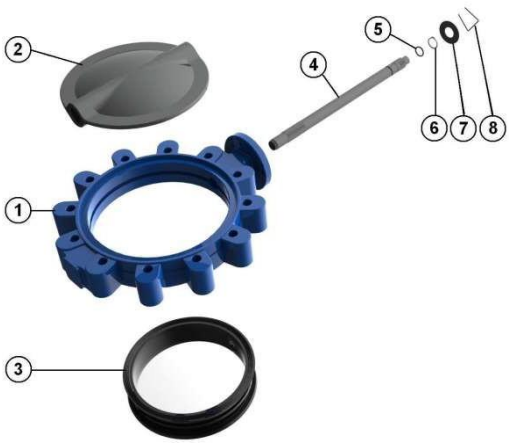
4. Pressure / temperature graph

PS 10 BAR DN350-1200



5. Materials

DN350-400



Item	Designation	Materials
1	Body	Ductile iron EN GJS-500-7 rilsan coated color RAL 5024 250-300 µ thickness
2	Disc	ASTM A351 CF8M
3	Seat	EPDM
4	Stem	AISI 304
5	O ring	NBR
6	Circlips	Steel
7	Ring	Steel
8	Spring	Steel
	Lever (up to DN300)	Ductile iron EN GJS-500-7 with epoxy painting 50µ thickness

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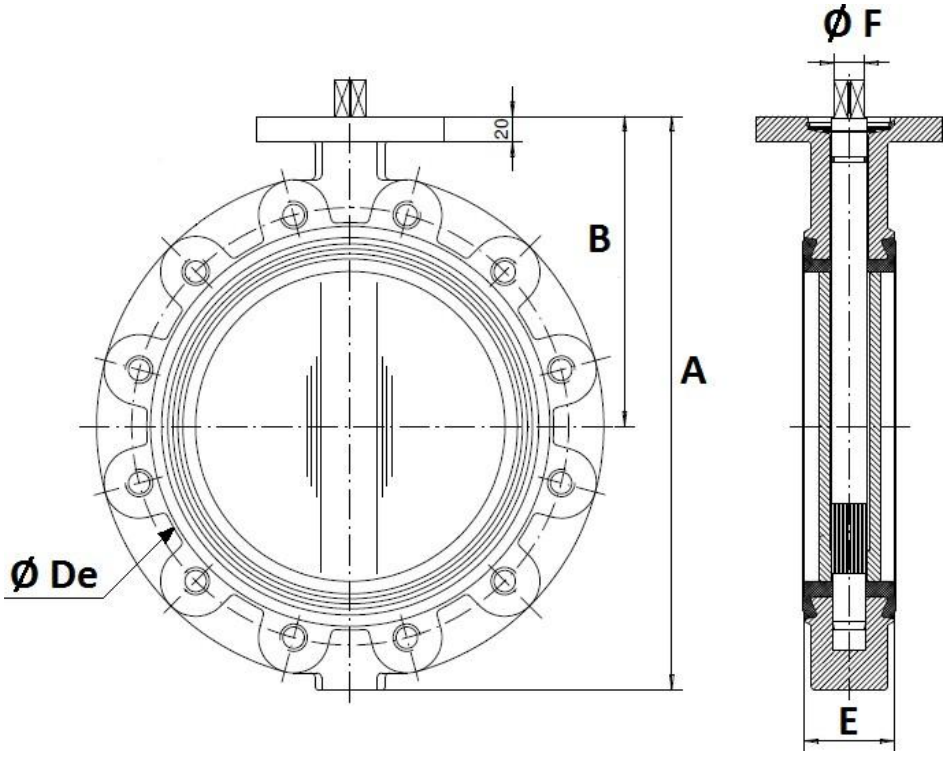
DN450-600



Item	Designation	Materials
1	Body	Ductile iron EN GJS-500-7 rilsan coated color RAL 5024 250-300 µ thickness
2	Disc	ASTM A351 CF8M
3	Seat	EPDM
4	Stem	AISI 304
5	O ring	NBR
6	O ring	NBR
7	Pin	ST – 60
8	Socket	BRONZE
9	Ring	F1110
10	Screw	5.6
11	Screw	5.6
12	Cap	F1110
13	O ring	NBR
14	Socket	F1110
15	Screw	5.6
16	Socket	BRONZE
17	O ring	NBR

6. Size (in mm)

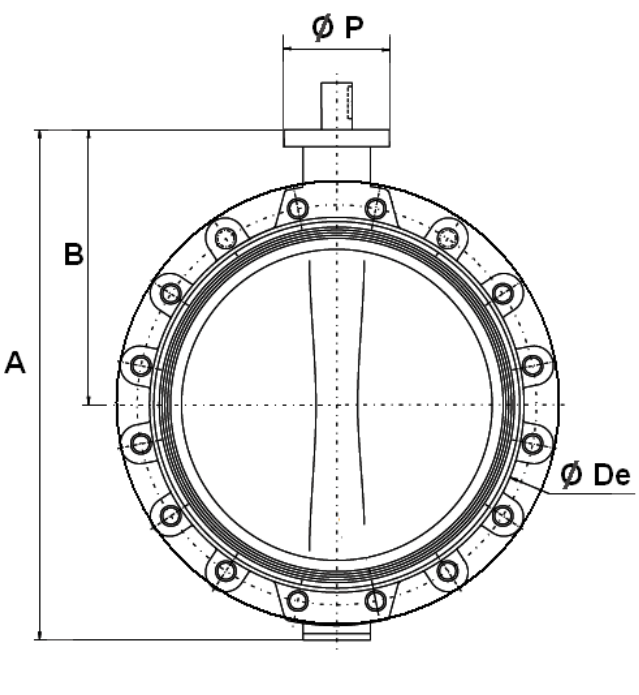
VALVE SIZE DN350-400

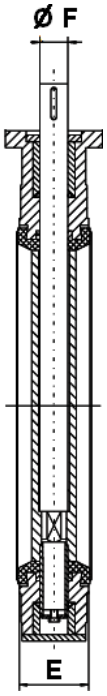


DN	200	250	300	350
A	422	460	523	570
B	255	248	280	300
Ø De	275	329	378	436
E	60	68	78	78
Ø F	21	23	26.5	26.5
Weight (Kg)	18.5	31.8	47.80	53

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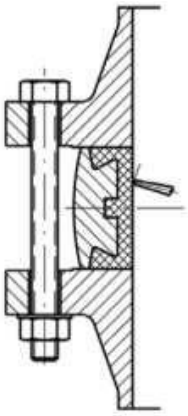
VALVE SIZE DN450-600





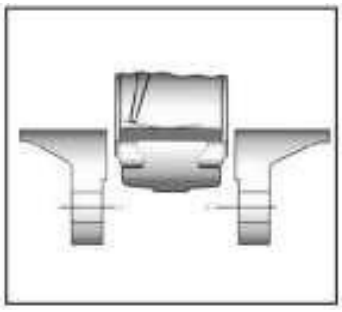
DN	450	500	600
A	738	822	965
B	394	440	507
Ø De	538	593	695
E	114	127	154
Ø F	50	50	60
Ø P	175	175	250
Weight (Kg)	110	135	210

7. Maximum tightening torques for bolting flanges

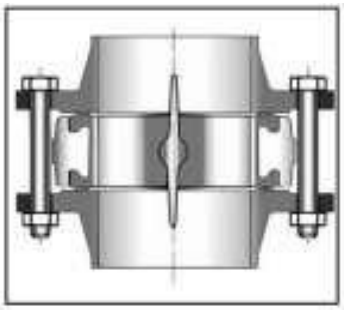


		Maximum torques (Nm)			
	Bolting types	5,6 / A307 Gr.B	8,8 / A193 B7	10,9	12,9
Bolting DN	**M12 (1/2")**	41,16	84,28	117,6	142,1
	M14 (9/16")	66,64	132,3	186,2	225,4
	M16 (5/8")	102,9	205,8	289,1	347,9
	M18 (3/4")	142,1	284,2	396,9	475,3
	M20 (3/4")	196	401,8	568,4	676,2
	M22 (7/8")	259,7	539	764,4	911,4
	M24 (1")	338,1	695,8	980	1176
	M27 (1"1/8)	499,8	1029	1470	1764
	M30 (1"1/4)	666,4	1421	1960	2352

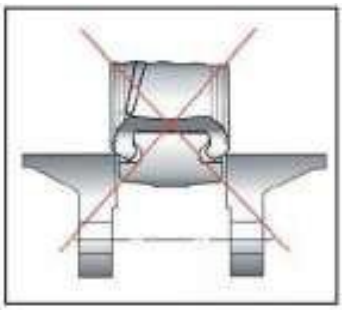
8. Installation instructions



Half open valve introduction



Complete opened disc valves when screw tightening



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