

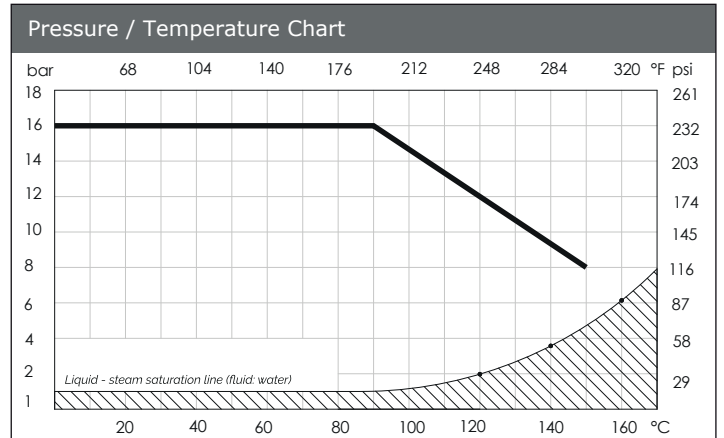
# Lugged & Tapped Butterfly Valve - NBR Liner

ISO 5211 for Direct Mount, Epoxy Coated Ductile Iron Body, 316 Stainless Steel Disc, NBR Liner, Locking Lever Operation 1½" to 10", Gearbox Operation 12" to 24", Complies with 97/23/CE (PED) Directive CE 1115



Pressure / Temperature Specifications	
Pressure	PN16 1½" to 16"
	PN10 18" to 24"
Temperature	-10°C to 80°C (90°C Peak)

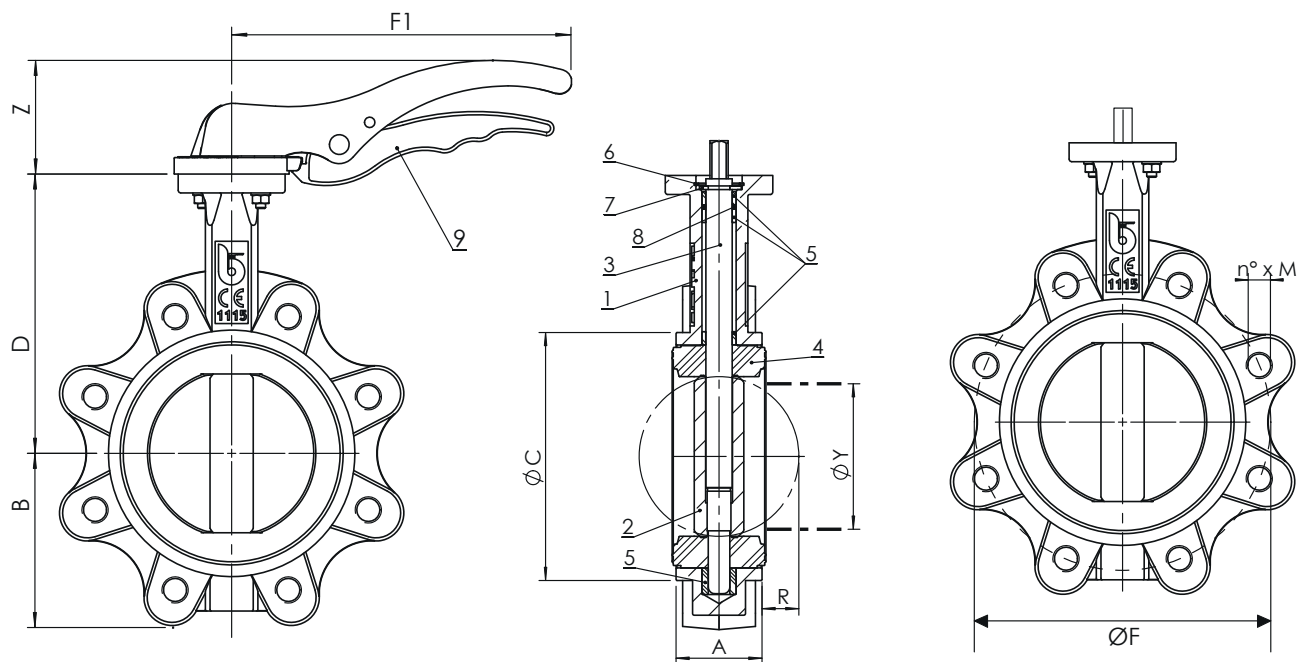
Material Specifications	
1. Body	EN GJS 400 - 15 Ductile Iron
2. Disc	CF8M Stainless Steel
3. Stem	AISI 420 Stainless Steel
4. Liner	NBR
5. Bushing	PTFE
6. Washer	Galvanised Carbon Steel
7. Circlip	Spring Steel
8. O-ring	Viton
9. Lever (1" to 10")	1" to 6" Aluminium 8" & 10" EN GJS 400 - 15 Ductile Iron
10. Bolts	AISI 201 Stainless Steel



Weight		
Size	with Lever	with Gearbox
1½"	2.3	6.3
2"	3.2	7.2
2½"	4.1	8.1
3"	5.4	9.2
4"	6.7	10.5
5"	9.6	12.9
6"	10.8	14.1
8"	21.1	28.4
10"	32.7	42.0
12"	-	50.5
14"	-	79.3
16"	-	122.6
18"	-	154.8
20"	-	228.3
24"	-	308.6

Operating Torque (Nm)				
Size	3 Bar	6 Bar	10 Bar	16 Bar
1½"	7.8	8.4	8.8	9.2
2"	11.3	12.0	13.0	13.0
2½"	17.0	18.0	20.0	21.0
3"	23.0	25.0	26.0	28.0
4"	33.0	36.0	40.0	44.0
5"	48.0	54.0	61.0	68.0
6"	68.0	78.0	88.0	99.0
8"	120.0	134.0	148.0	162.0
10"	189.0	212.0	234.0	257.0
12"	290.0	316.0	342.0	367.0
14"	298.0	347.0	396.0	550.0
16"	481.0	551.0	622.0	850.0
18"	--- Please confirm with sales ---			
20"	--- Please confirm with sales ---			
24"	--- Please confirm with sales ---			

# Lugged & Tapped Butterfly Valve - NBR Liner



Dimensions								
Size	A	B	ØC	D	F1	R	ØY	Z
1½"	33	63	82	116	170	5	27	50
2"	43	62	89	126	170	5	31	50
2½"	46	69	102	136	170	9	45	50
3"	46	90	118	150	206	17	65	69
4"	52	106	150	170	206	26	90	69
5"	56	119	174	180	285	34	110	90
6"	56	131	205	200	285	50	146	90
8"	60	166	260	230	400	71	194	72
10"	68	202	318	266	530	91	241	72
12"	78	235	376	292	530	112	291	72
14"	78	257	406	335	-	128	324	-
16"	102	292	471	360	-	144	379	-
18"	114	317	539	422	-	163	428	-
20"	127	358	594	480	-	182	475	-
24"	154	447	695	562	-	219	573	-

Drilling Dimensions				
Size	PN10		PN16	
	ØF	No x M	ØF	No x M
1½"	110	4 x 16	110	4 x 16
2"	125	4 x 16	125	4 x 16
2½"	145	4 x 16	145	4 x 16
3"	160	8 x 16	160	8 x 16
4"	180	8 x 16	180	8 x 16
5"	210	8 x 16	210	8 x 16
6"	240	8 x 20	240	8 x 20
8"	295	8 x 20	295	12 x 20
10"	350	12 x 20	355	12 x 24
12"	400	12 x 20	410	12 x 24
14"	460	16 x 20	470	16 x 24
16"	515	16 x 24	525	16 x 27
18"	565	20 x 24	585	20 x 27
20"	620	20 x 24	650	20 x 30
24"	725	20 x 27	770	20 x 33

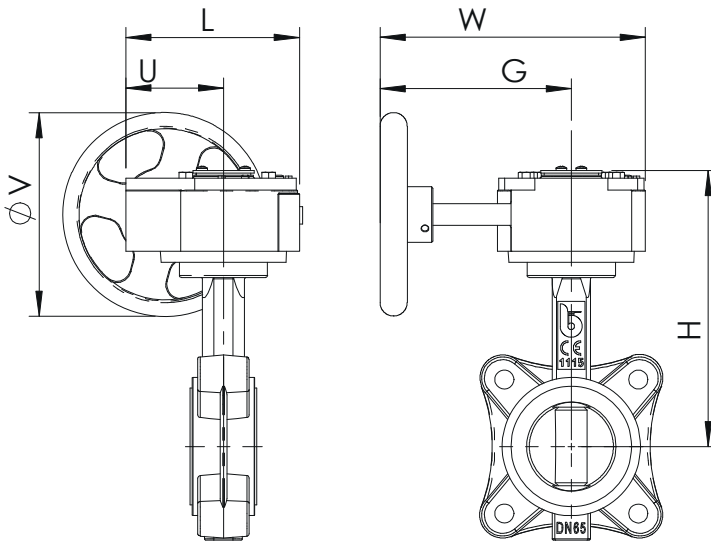
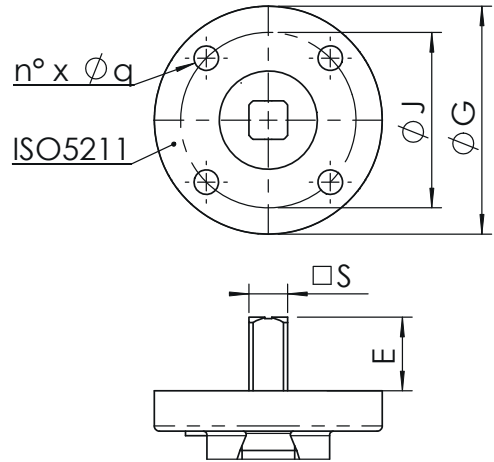
Note: Our stocked range is suitable for both PN10 and PN16 up to 6". We stock 8" in PN10 or PN16 (please specify on order). Our stocked products from 10" to 24" are PN16. 10" to 24" PN10 are available to order.

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Mounting Plate Dimensions

Size	ISO	G	J	No x Øq	S	E
1½"	F05	65	50	4 x 7	9	21
2"	F05	65	50	4 x 7	9	21
2½"	F05	65	50	4 x 7	9	21
3"	F05	65	50	4 x 7	11	21
4"	F05	65	50	4 x 7	11	21
5"	F07	90	70	4 x 9	14	27
6"	F07	90	70	4 x 9	14	27
8"	F10	125	102	4 x 11	17	27
10"	F12	150	125	4 x 13	27	27
12"	F12	150	125	4 x 13	27	27
14"	F12	150	125	4 x 13	27	27
16"	F12	150	125	4 x 13	27	27
18"*	F16	210	165	4 x 22	27	51
20"*	F16	210	165	4 x 22	36	64
24"*	F16	210	165	4 x 22	36	70

\*Topworks dimensions may vary; please contact sales for confirmation.

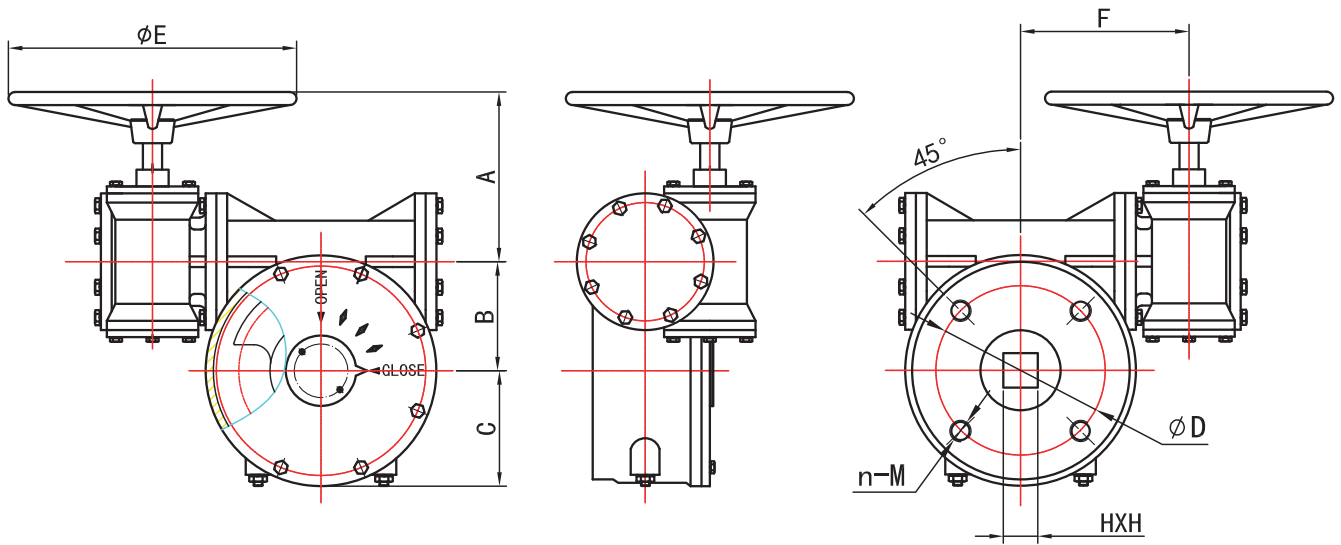


Dimensions with Gearbox

Size	L	U	H	W	G	V
1½"	130	77	178	225	170	150
2"	130	77	188	225	170	150
2½"	130	77	198	225	170	150
3"	130	77	212	225	170	150
4"	130	77	232	225	170	150
5"	130	77	242	225	170	150
6"	130	77	262	225	170	150
8"	180	104	308	338	260	300
10"	205	124	346	345	260	300
12"	205	124	372	345	260	300
14"	205	124	448	345	260	300
16"	278	118	497	291	167	380
18"	248	124	527	395	270	385
20"	*	*	630	*	*	*
24"	*	*	562	*	*	*

\*Please see following page for 20 & 24" gearbox dimensions.

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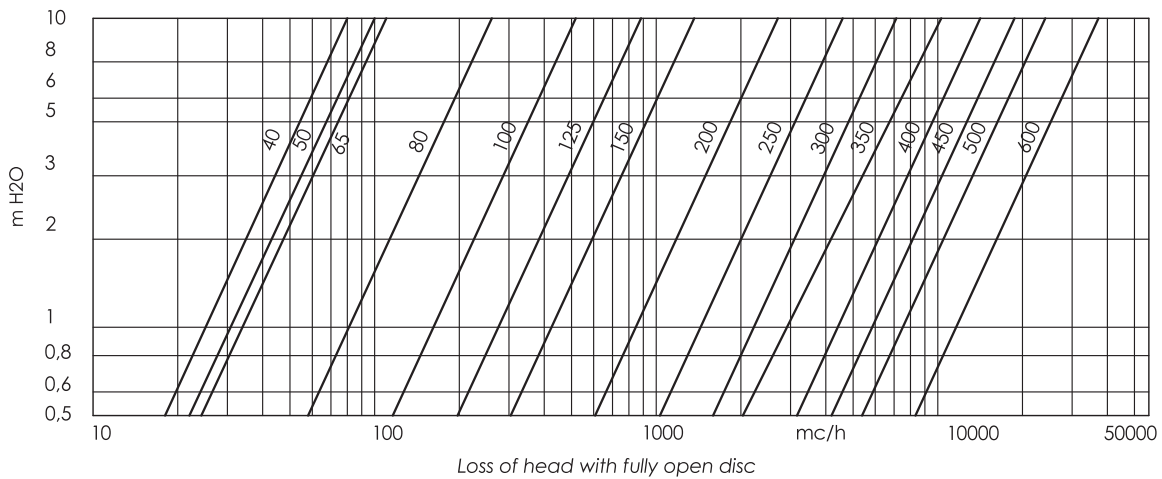
Dimensions with Gearbox

Size	A	B	C	ØE	F	ØD	N - M	H x H	ISO
20"	154	100	107	385	169	165	4 x M20	36 x 36	F16
24"	154	100	107	385	169	165	4 x M20	36 x 36	F16

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KV Values									
Size	10°	20°	30°	40°	50°	60°	70°	80°	90°
1½"	0.04	2.1	4.8	10.0	19.0	30.0	48.0	73.0	79.0
2"	0.05	2.6	6.0	13.0	23.0	38.0	60.0	91.0	99.0
2½"	0.00	3.8	14.0	33.0	53.0	75.0	98.0	108.0	108.0
3"	0.17	7.8	16.0	34.0	60.0	100.0	158.0	237.0	261.0
4"	0.26	15.0	31.0	67.0	120.0	199.0	314.0	471.0	518.0
5"	0.43	25.0	53.0	115.0	205.0	339.0	535.0	803.0	883.0
6"	0.69	39.0	82.0	177.0	316.0	522.0	827.0	1241.0	1364.0
8"	2.6	52.0	142.0	250.0	450.0	713.0	1122.0	1723.0	2716.0
10"	2.6	130.0	276.0	599.0	1068.0	1768.0	2798.0	4196.0	4611.0
12"	3.5	202.0	427.0	926.0	1650.0	2730.0	4322.0	6483.0	7124.0
14"	5.2	292.0	617.0	1376.0	2384.0	3945.0	6243.0	9364.0	10291.0
16"	6.9	401.0	849.0	1839.0	3279.0	5425.0	8585.0	12878.0	14152.0
18"	9.5	531.0	1124.0	2437.0	4342.0	7185.0	11371.0	17057.0	18743.0
20"	12.0	683.0	1445.0	3133.0	5609.0	9238.0	14620.0	21930.0	24099.0
24"	19.0	1055.0	2234.0	4840.0	8626.0	14272.0	22587.0	33882.0	37232.0

Head Loss Chart (Fluid: Water [1m H<sub>2</sub>O = 0.098 Bar] Head Loss with Valve Fully Opened)



Flow Rate / Opening Position Chart (Flow percentage on the flow at full opening under the same head loss)

