

XOMOX®

XOMOX® LINED BUTTERFLY VALVES SERIES XLD



DATASHEET

CRANE

v in

www.cranecpe.com

Lined Butterfly Valves Features and Benefits

Product Specifications

Materials of Construction

- **Body:** Ductile iron 5.3103/ASTM A395
- **Body liner:** PFA, PFA antistatic
- **Disc:**
 - 2"-12": Ductile iron 5.3103/ ASTM A395 PFA lined - Standard, Stainless Steel PFA lined, Duplex 1.4470 with PFA Lined, unlined stainless steel and Unlined Titanium Optional
 - 14"-24": Fabricated Disc (A516 Gr. 70+ 1.4462/ F51/ F60 SS Duplex Stem) PFA lined.

Size Range

- 2" to 24" / DN50 to DN600

Pressure Ratings

- ASME Class 150, PN16

Temperature Range

- -29 °C to 204 °C

Body Configurations

- Lug and Wafer

Face to Face

- Acc. to EN 558, basic column 20/ API 609 (except for 14").

Operation

- DN 50 / NPS 2 up to DN 150 / NPS 6 latching lever from DN 200 / NPS 8 with worm gear, pneumatic and electric actuators on request.

Paint

- **Standard paint:** Epoxy - primer and coating based on PUR (Polyurethane) Orange RAL 2009 prevent external corrosion.

Options

- Chlorine application
- Oxygen application
- Other painting on request

Features and Benefits

1

ISO 15848 and TA-LUFT 2021 Complaint

After 4 thermal cycles and 2,500 cycles less than 20PPM FUGITIVE EMISSIONS to atmosphere

2

Best In Class Torques

Ease of use for operators and reduced initial investment of automation through INNOVATIVE BACKUP RING and STEM SEALING

3

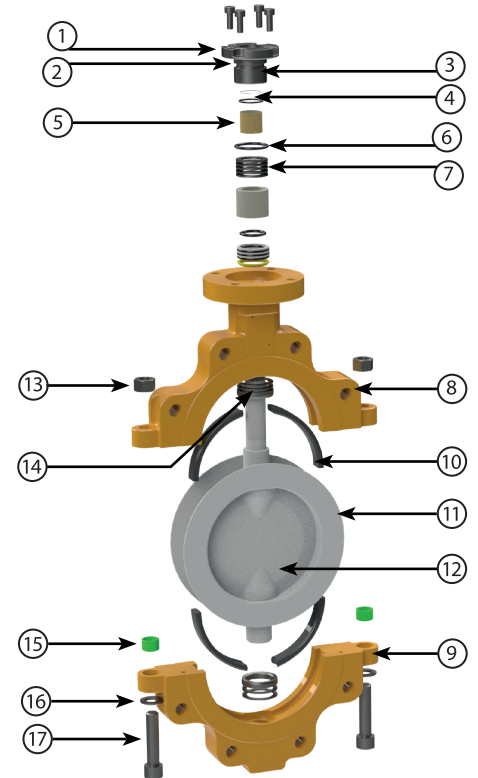
Enhanced In Line Seal

Valves are bubble tight on seat test and shell test after 10.000 open-close cycles

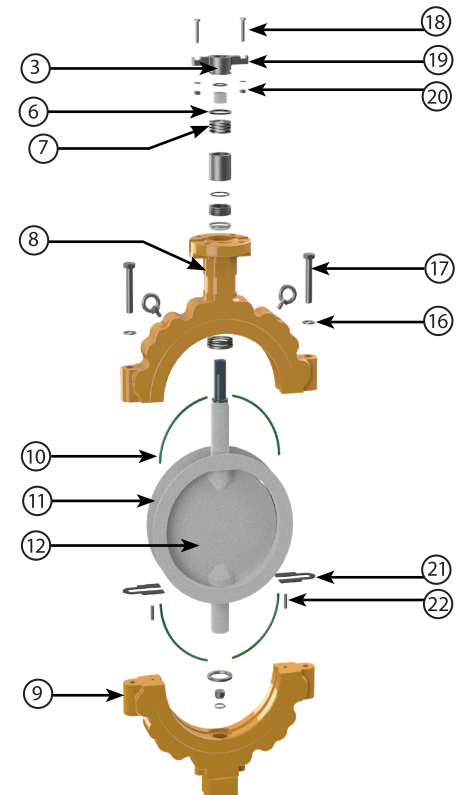
Lined Butterfly Valves Exploded View

Item	Quantity	Part	Material
1	1	Atmospheric seal O-ring	FKM
2	1	Antistatic Ring	1.4301 (SS 304)
3	1	Thrust Collar	RPTFE
4	1	Washer Spring Set	17/7 PH Stainless steel
5	1	PTFE coated bearing	SS & reinforced PTFE
6	3	O-Ring	FKM
7	2	Adapter Ring	RPTFE
8	1	Body Top half	DI 5.3103 / ASTM A395
9	1	Body Bottom half	DI 5.3103 / ASTM A395
10	2	Body Seal Ring	FKM
11	1	Liner	PFA
12	1	Disc	DN50-300: 5.3103(A395)/1.4408 (CF8M)/1.4470(A995) PFA lined DN350-600: Welded Disc A516 Gr.70+1.4462/F51/F60 SS Duplex
13	2	Nut	A4-70/A194 2H
14	1	Press Ring	1.4462 (S31803)
15	2	Positioning tube	1.0904 A26
16	4	Washer	1.4301 (SS 304)
17	2	Body Bolt	A4-70 / A193 B7
18	2	Bolt	A4-70
19	1	Cover Gland	1.4470 (A995)
20	2	Nut	A4-70/ A194 2H
21	2	Laminated Shim	-
22	2	Slotted Spring Pin	1.4310 (AISI 301)

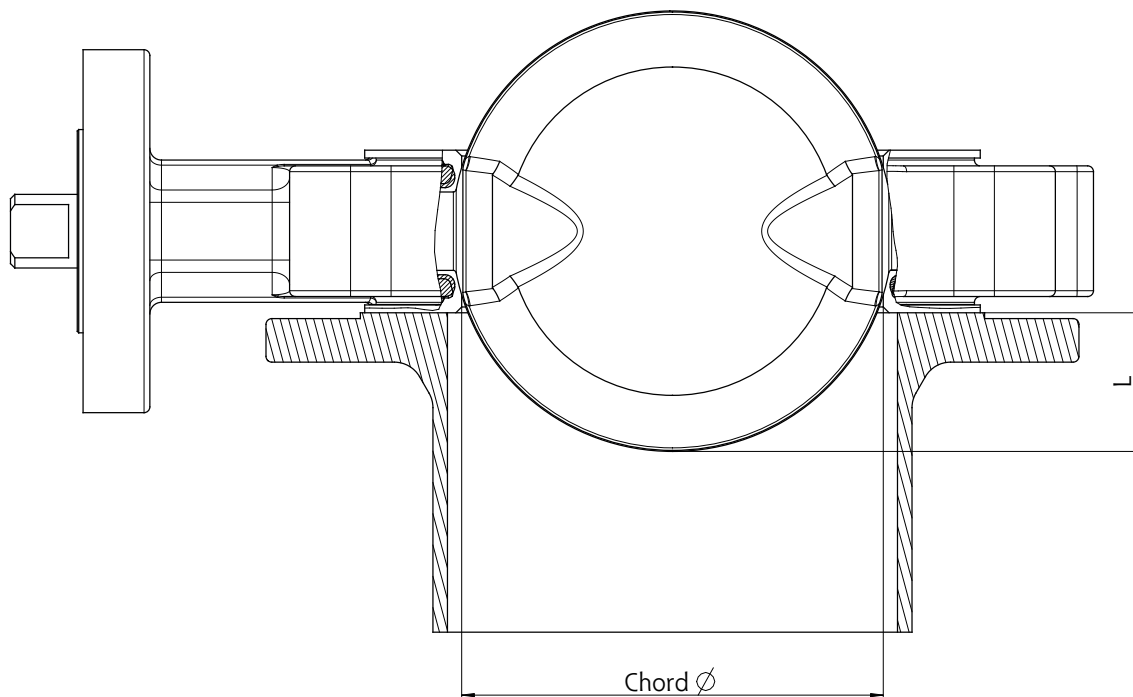
DN 50/2"
300/12"



DN 350/14"
600/24"



Lined Butterfly Valves In-Line Mounting Dimensions



Valve Coefficients for Process Control: DN 50 – 600 / NPS 2" – 24"

DN	NPS	In-line Mounting Dimensions		Free Space Sectional Area at 90° in cm ²	ξ ₁	Break-Away Torque in Nm	Maximal Allowable Torque on Stem in Nm
		Dimension L in mm	Chord Ø mm		*1		
50	2	0.472 [12]	1.811 [46]	10.6	3.2	35	72
80	3	0.63 [16]	2.52 [64]	24.7	2.4	35	93
100	4	0.98 [25]	3.543 [90]	51.8	0.85	50	97
125	5			89.2	0.72	62	-
150	6	1.929 [49]	5.709 [145]	138	0.45	94	453
200	8	2.834 [72]	7.756 [197]	255.2	0.53	209	804
250	10	3.66 [93]	9.724 [247]	411.3	0.58	242	804
300	12	4.449 [113]	11.693 [297]	610.6	0.55	308	804
350	14	4.803 [122]	12.992 [330]	709.5	0.45	900	2432
400	16	5.63 [143]	14.96 [380]	923.3	0.50	1300	2432
450	18	6.318 [160]	16.93 [430]	1201.1	0.50	1700	5655
500	20	7.126 [181]	18.897 [480]	1527.7	0.51	2700	5765
600	24	10.945 [278]	22.835 [580]	2306.6	0.56	4000	11649

DN65 NPS 2-1/2" on request

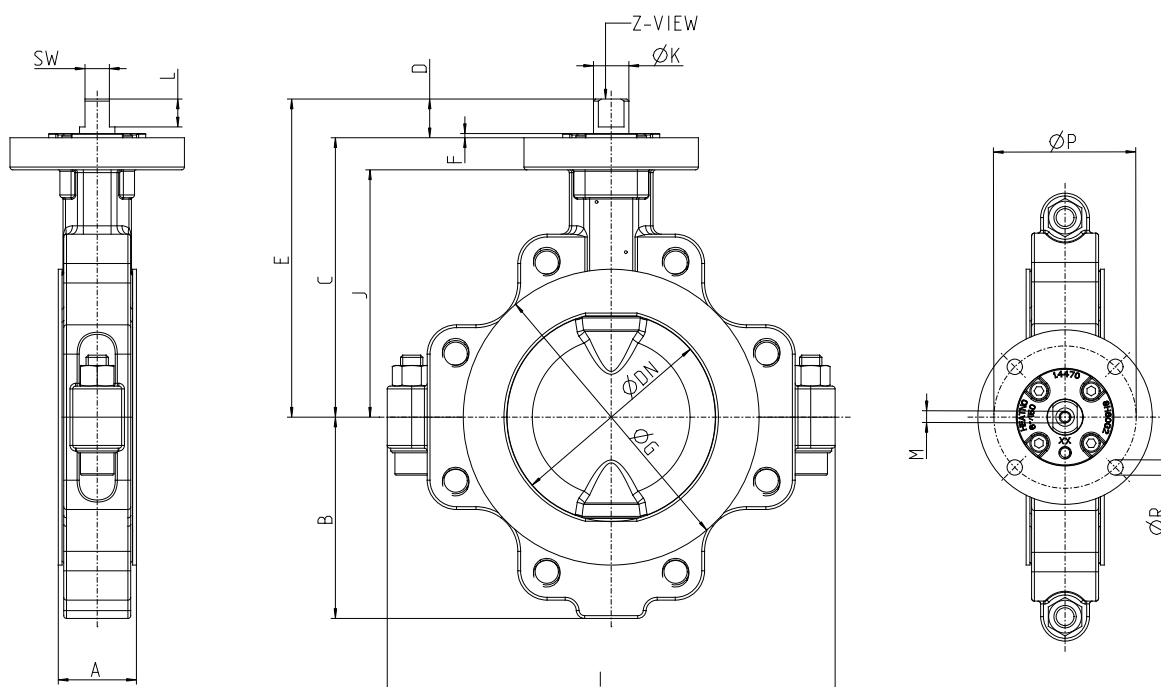
*1 Coefficient of resistance, acc. to theoretical pipe diameter (DN) and K_{va} (opening angle 90°)

*2 Identical torque at opening and closing, running torque = 40% of break away torque

*3 Max. Permissible torque with Material EN-JS1049 up to DN300 & with 1.4462 SS from DN 350 onwards

Lined Butterfly Valves

Lug Body Dimensions with Bare Shaft DN 50-300, 2" - 12"

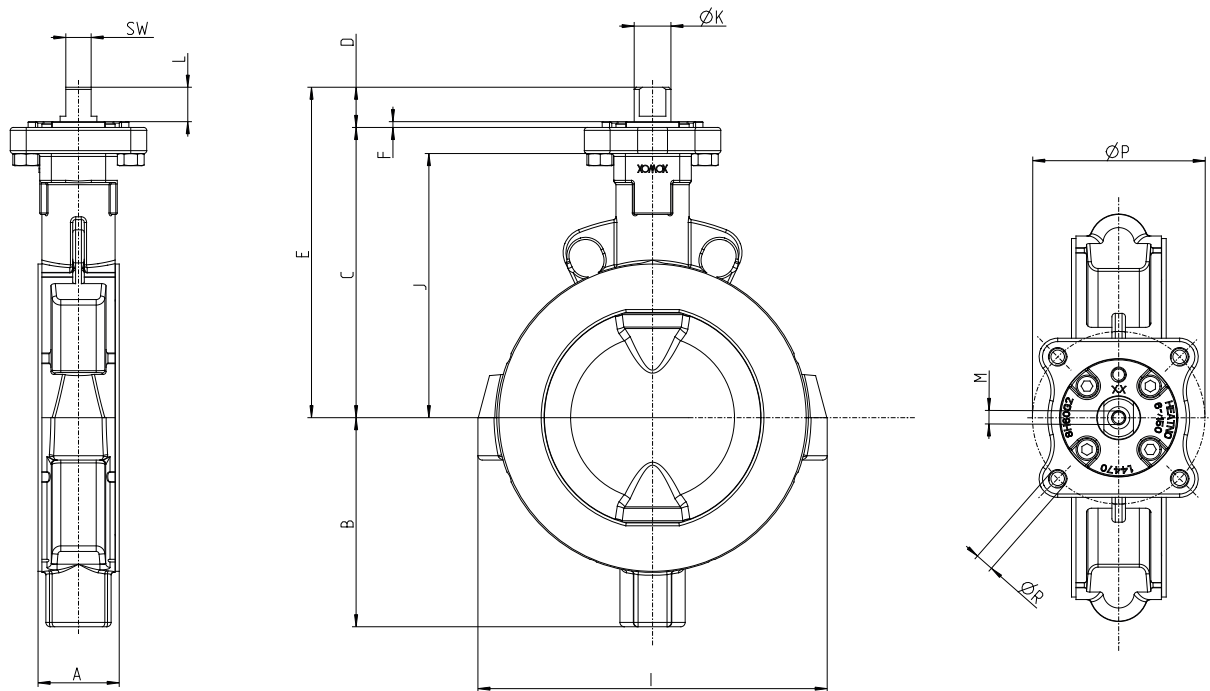


Dimensions (mm) and Weight (kg)

DN NPS	50 2	65 2 1/2	80 3	100 4	125 5	150 6	200 8	250 10	300 12
A	43	46	46	52	56	56	60	68	78
B	81	87	102	120	135	145	190	233	258
C	133	146	162	170	185	203	230	258	288
D	30	30	22	26	29	28	26	26	30
E	163	176	182	196	214	228	256	284	318
F	3	3	3	3	3	3	3	3	3
ØG	100	128	127	153	184	212	265	324	374
J	119	135	138	154	166	180	210	232	266
I	168	175	223	267	295	321	394	462	552
ØK	15.9	15.9	15.9	15.9	15.9	25.4	31.8	31.8	31.8
SW	11.1	11.1	11.1	11.1	11.1	17.5	20.6	20.6	20.6
L	25	25	17	21	24	20	21	21	25
M	M6	M6	M6	M6	M6	M8	M8	M8	M8
DIN ISO 5211	F07	F07	F07	F07	F07	F10	F10	F10	F12
ØP	70	70	70	70	70	102	102	102	125
ØR	9	9	9	9	9	11	11	11	14
Weight	7	9	11.4	13.8	14.5	17.5	28.5	41	60

Lined Butterfly Valves

Wafer Body Dimensions with Bare Shaft DN 50-300, 2" - 12"

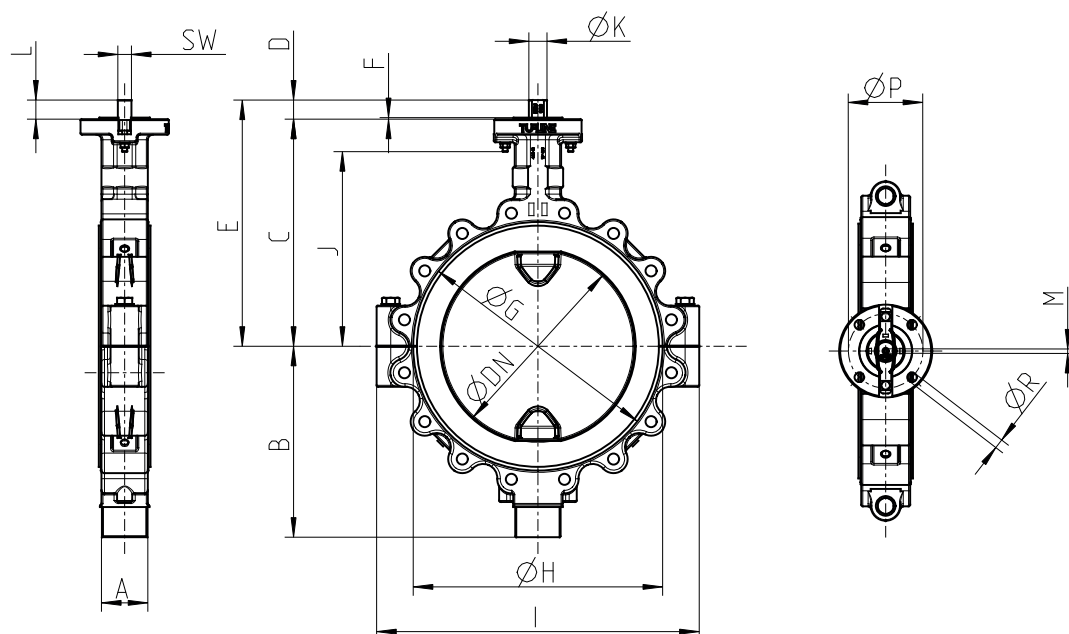


Dimensions (mm) and Weight (kg)

DN NPS	50 2	65 2 1/2	80 3	100 4	125 5	150 6	200 8	250 10	300 12
A	43	46	46	52	56	56	60	68	78
B	81	87	102	120	135	145	190	233	258
C	133	146	162	170	185	203	230	258	288
D	30	30	22	26	29	28	26	26	30
E	163	176	182	196	214	228	256	284	318
F	3	3	3	3	3	3	3	3	3
ØG	100	128	127	153	184	212	265	324	374
J	119	135	138	154	166	180	210	232	266
I	125	145.5	148	188.5	-	242.5	305	363.5	435
ØK	15.9	15.9	15.9	15.9	15.9	25.4	31.8	31.8	31.8
SW	11.1	11.1	11.1	11.1	11.1	17.5	20.6	20.6	20.6
L	25	25	17	21	24	20	21	21	25
M	M6	M6	M6	M6	M6	M8	M8	M8	M8
DIN ISO 5211	F07	F07	F07	F07	F07	F10	F10	F10	F12
ØP	70	70	70	70	70	102	102	102	125
ØR	9	9	9	9	9	11	11	11	14
Weight	7	9	11.4	13.8	14.5	17.5	28.5	41	60

Lined Butterfly Valves

Dimensions with Bare Shaft DN 350 - 600, NPS 14 - 24



Dimensions (mm) and Weight (kg)

DN NPS	350 14	400 16	450 18	500 20	600 24
A	92	102	114	127	154
B	353	380	410	460	520
C	417	452	470	500	560
D	38	38	60	60	65
E	455	490	530	560	625
F	3	3	5	5	5
ØG	415	480	530	580	684
J	576	640	676	740	880
I	345	380	393	423	468
ØK	36	36	48	48	60
SW	27	27	36	36	46
L	35	35	55	55	62
M	M8	M8	M12	M12	M12
Actuator Connection					
DIN ISO 5211	F14	F14	F16	F16	F16
ØP	140	140	165	165	165
ØR	18	18	22	22	22
Weight	115	138.5	184.5	233	342

Lined Butterfly Valves Flange Bolt Dimensions

Drilling DIN PN 10 (mm)

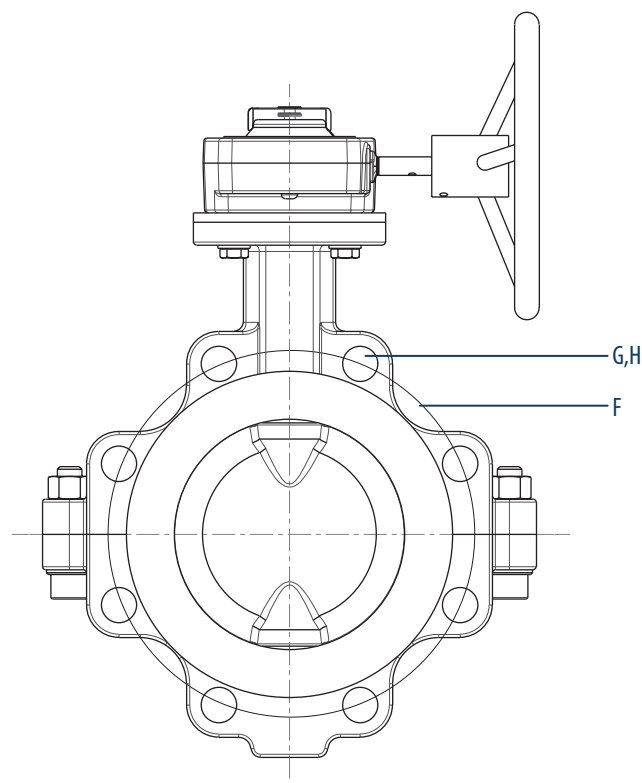
Size	XLD 10/16 Wafer Style			XLD 22 Lug Style		
	F	G	H	F	G	H
DN 50	125	4	18	125	4	M16
DN 65	145	4	18	145	4	M16
DN 80	160	8	18	160	8	M16
DN 100	180	8	18	180	8	M16
DN 125	210	8	18	210	8	M16
DN 150	240	8	22	240	8	M20
DN 200	295	8/12	22	295	8/12	M20
DN 250	350/355	12	22/26	350/355	12	M20/24
DN 300	400/410	12	22/26	400/410	12	M20/24
DN 350	460/470	16	22/26	460/470	16	M20/24
DN 400	515/525	16	26/30	515/525	16	M24/27
DN 450	565/585	20	26/30	565/585	20	M24/27
DN 500	620	20	26	620	20	M24
DN 600	725	20	30	725	20	M27

Drilling JIS 10 K 10 (mm)

Size	XLD 13 Wafer Style			XLD 13 Lug Style		
	F	G	H	F	G	H
DN 50	120	4	19	120	4	M16
DN 65	140	4	19	140	4	M16
DN 80	150	8	19	150	8	M16
DN 100	175	8	19	175	8	M16
DN 125	210	8	23	210	8	M20
DN 150	240	8	23	240	8	M20
DN 200	290	12	23	290	12	M20
DN 250	355	12	25	355	12	M22
DN 300	400	12+4	25/22	400	16	M22
DN 350	445	16	25	445	16	M22
DN 400	510	16	27	510	16	M24
DN 450	565	20	27	565	20	M24
DN 500	620	20	27	620	20	M24
DN 600	N/A	N/A	N/A	-	-	-

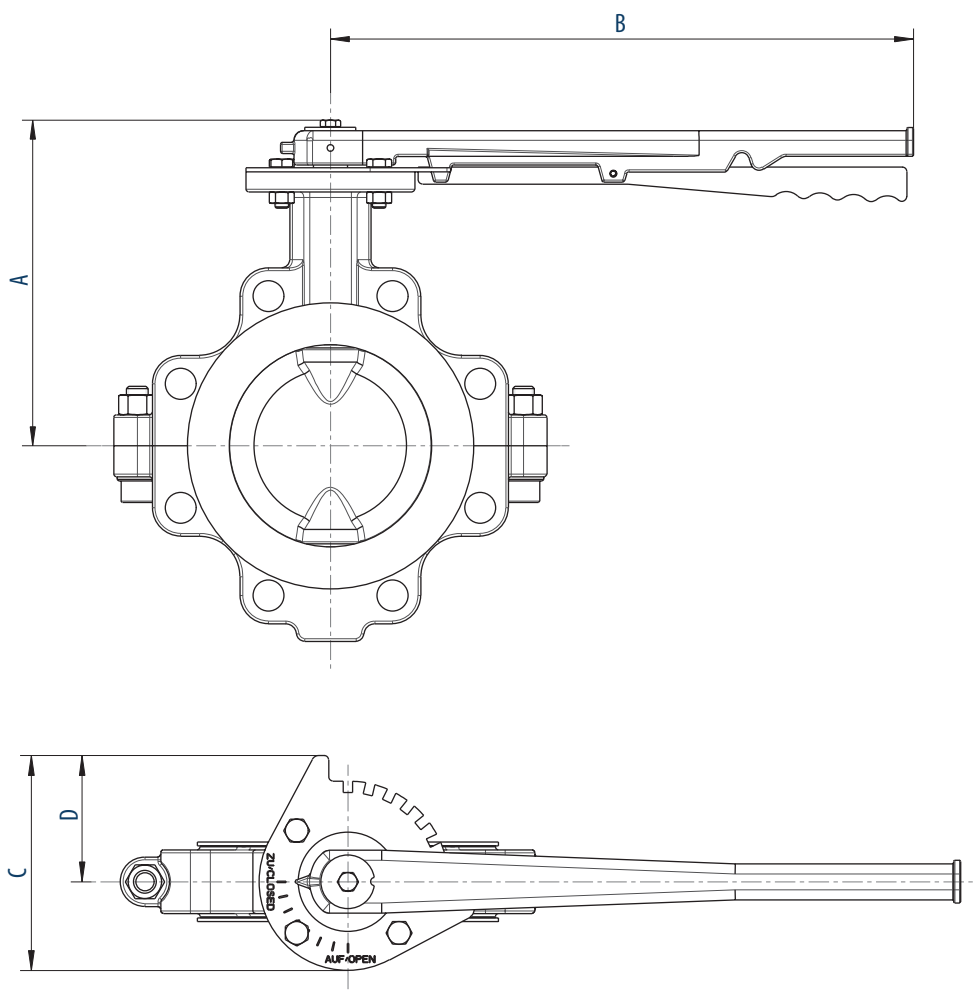
Drilling ANSI Pressure Class 150 (in)

Size	XLD 11 Wafer Style			XLD 21 Lug Style		
	F	G	H	F	G	H
2"	4.75	4	0.75	4.75	4	5/8-11 UNC
3"	6	4	0.75	6	4	5/8-11 UNC
4"	7.5	8	0.75	7.5	8	5/8-11 UNC
5"	8.5	8	0.88	8.5	8	3/4-10 UNC
6"	9.5	8	0.88	9.5	8	3/4-10 UNC
8"	11.75	8	0.88	11.75	8	3/4-10 UNC
10"	14.25	12	1	14.25	12	7/8-9 UNC
12"	17	12	1	17	12	7/8-9 UNC
14"	18.75	12	1.13	18.75	12	1"-UNC
16"	21.25	16	1.13	21.25	16	1"-UNC
18"	22.75	16	1.25	22.75	16	1 1/8"-8UN
20"	25	20	1.25	25	20	1 1/8"-8UN
24"	29.5	20	1.37	29.5	20	1 1/4"-8UN



F: Hole Circle
G: Number of Holes/Threads
H: Diameter of Hole/Thread Dimension

Lined Butterfly Valves Dimensions with Locking Lever



Lever Design:

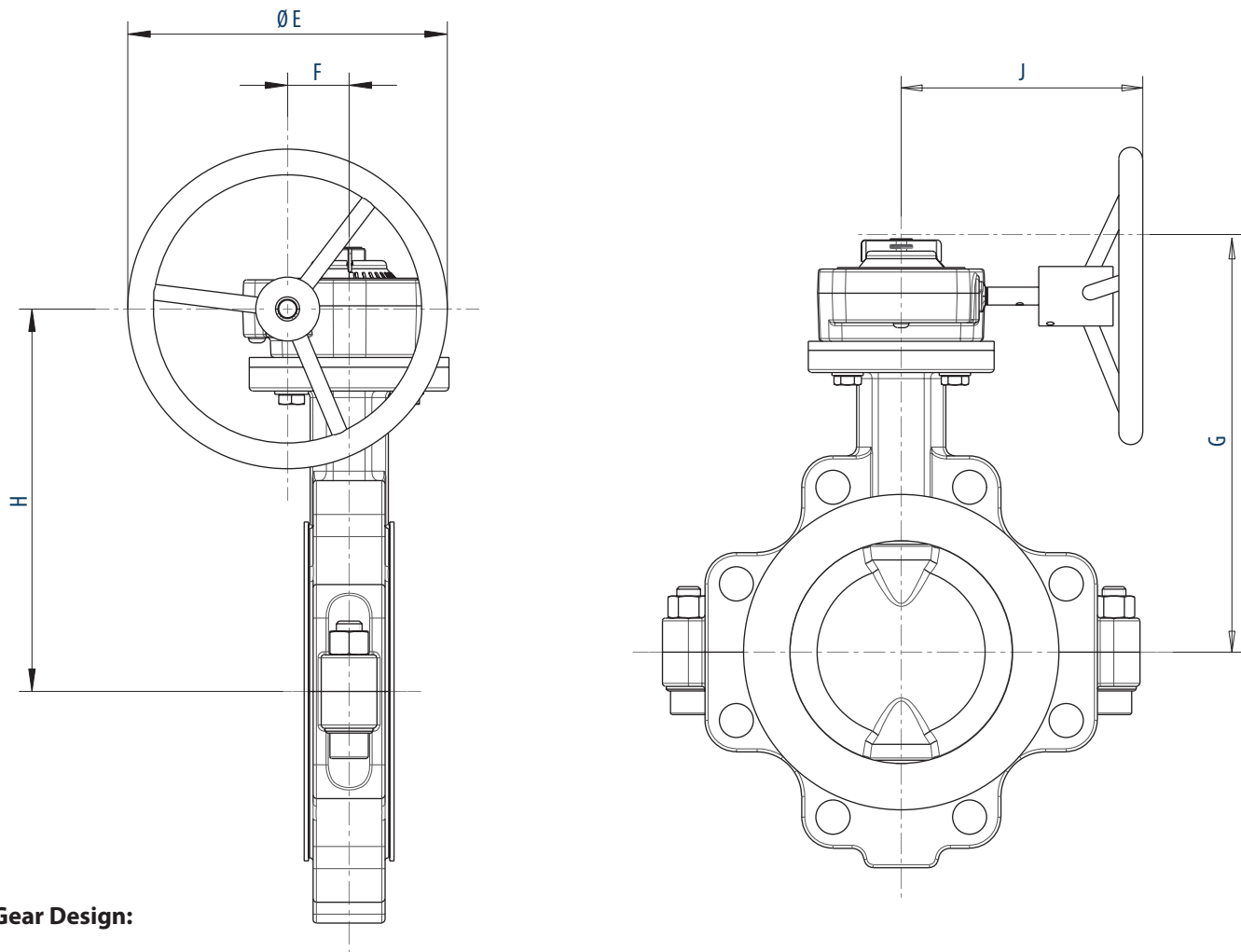
- **Lever:** ENJS 1049 (GGG 40.3); zinc - phosphate coated
- **Notch Plate:** 1.4571
- **Screws:** A4 - 70
- **Nuts:** A4

Dimensions (mm) and Weight (kg)

DN NPS	50 2	65 2.5	80 3	100 4	125 5	150 6
A	173	186	192	208	225	245
B	356	356	356	356	356	432
C	134	134	134	134	134	134
D	89	89	89	89	89	89
Weight	8.5	9	9.5	11.5	14	17.5

Lined Butterfly Valves

Dimensions with Gear DN 50 - 300, NPS 2" -12"



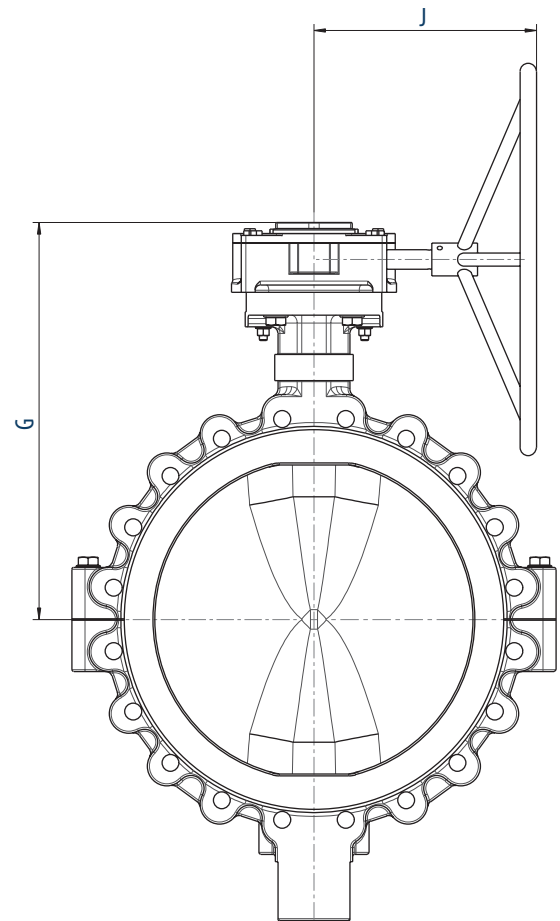
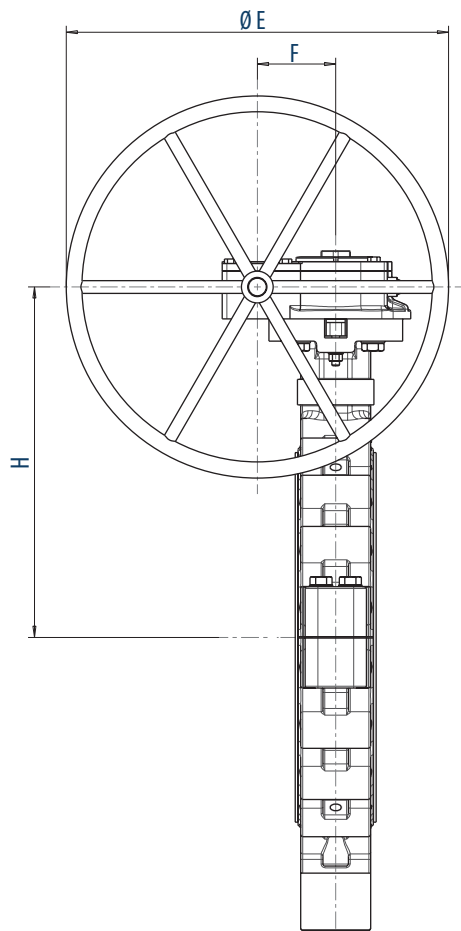
Gear Design:

- **Gear Box:** Rotork
- **Standard:** Alu-Gear (aluminium-molded, chromed)
- **Screws:** A4-70;
- **Wheel:** EN 10025 (1.0038), powder coated

Dimensions (mm) and Weight (kg)

DN NPS	50 2	65 2.5	80 3	100 4	125 5	150 6	200 8	250 10	300 12
$\varnothing E$	125	125	125	125	125	200	200	200	200
F	42.5	42.5	42.5	42.5	42.5	50	50	50	60
G	200	213	277	237	252	277	304	332	374
H	166	179	193	203	218	237	264	292	332
J	203	203	203	203	203	219	219	219	249
Weight	8.5	11.5	14	16.5	17	21.5	32	45	54
Rotork Gear Type	232-06	232-06	232-06	232-06	232-06	232-08	232-08	232-08	232-11

Lined Butterfly Valves DN 350 - 600, NPS 14" - 24"

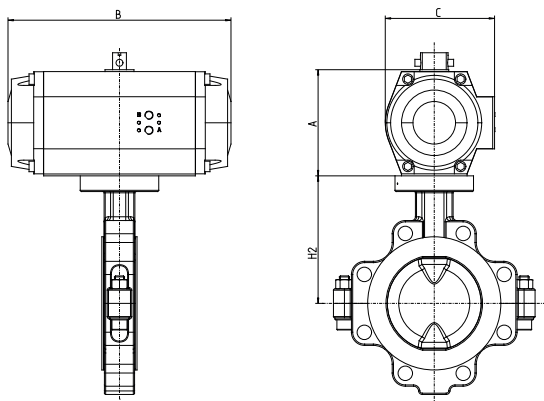


Dimensions (mm) and Weight (kg)

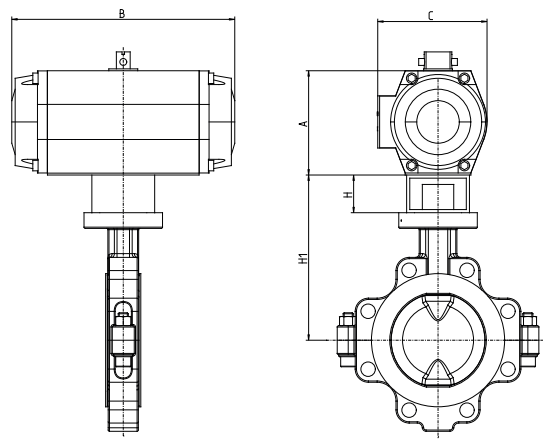
DN NPS	350 14	400 16	450 18	500 20	600 24
ØE	450	450	450	600	600
F	71	71	86	105	105
G	507	542	568	606	661
H	461	496	517	553	608
J	307	307	295	354	354
Weight	129.5	150	201.5	260	369
Rotork Gear Type	AB-550	AB-550	AB-880	AB-1250	AB-1250

Lined Butterfly Valves Dimensions with Actuator

Direct Mounting



With Bracket and Coupling



Single Acting Pneumatic Actuators

DN	A	B	C	H1	H2	H	Direct Mounting
50	143	360	128	213	133	80	Yes
80	143	360	128	232	152	80	Yes
100	143	360	128	248	168	80	Yes
125	143	360	128	265	185	80	Yes
150	181	387	173	279	199	80	Yes
200	259	517	231	318	N/A	90	No
250	259	517	231	344	N/A	90	No
300	259	517	231	430	N/A	90	No

DN65 NPS21/2 on request

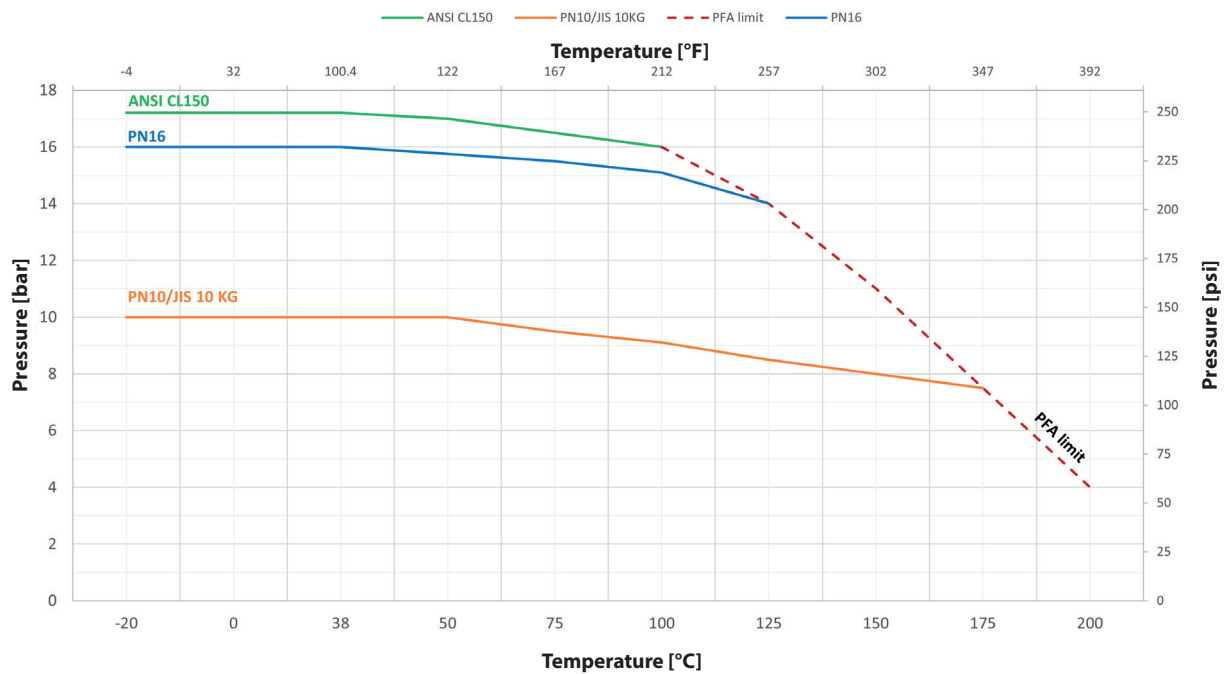
Double Acting Pneumatic Actuators

DN	A	B	C	H1	H2	H	Direct Mounting
50	93	180	86	193	133	60	Yes
80	93	180	86	212	152	60	Yes
100	105	199	98	228	166	60	Yes
125	118	221	108	247	184	60	Yes
150	143	283	128	279	198	80	Yes
200	181	305	173	308	226	80	Yes
250	181	305	173	334	254	80	Yes
300	181	305	173	368	288	80	Yes

DN65 NPS21/2 on request

Lined Butterfly Valves Performance

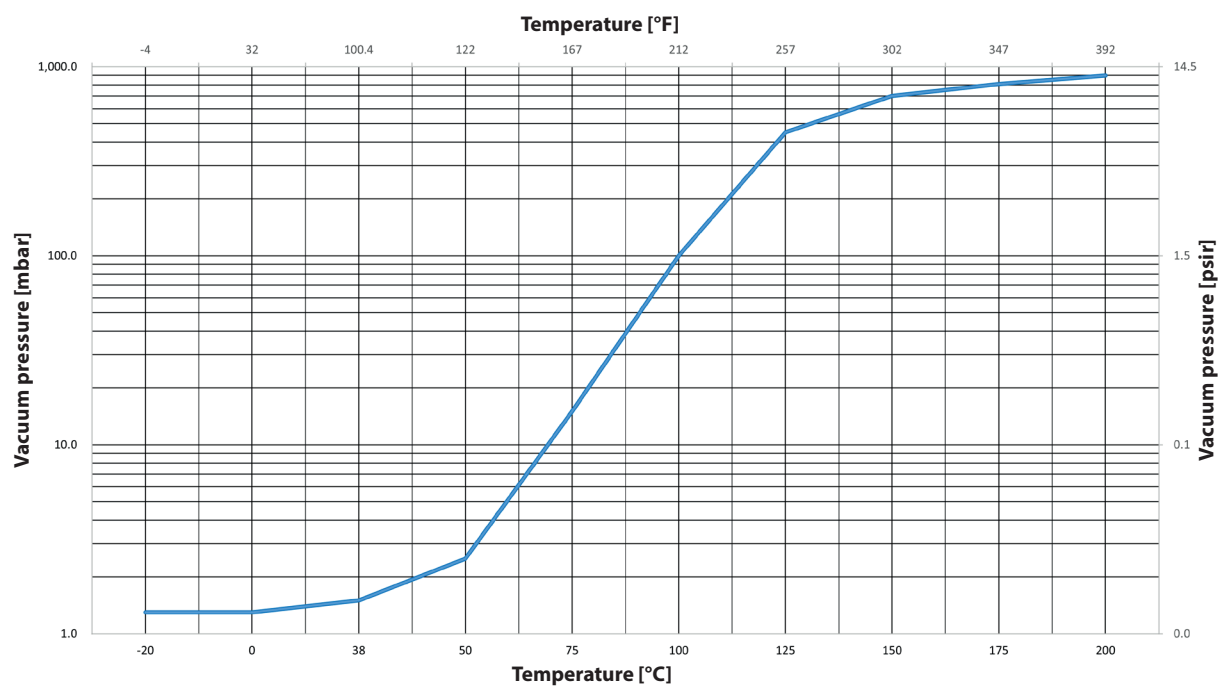
Pressure/Temperature Rating



Note: Max. differential operating pressure limited to maximum of 10bar for all sizes

* XLD 13 / 23 10K UPTO DN500

All XLD in Vacuum Condition



Lined Butterfly Valves Applications

Performance Chart

Function	On / Off	●
	Clean Liquids & Gases	●
	Dirty Liquids & Gases	●
Media Types	Corrosive Liquids & Gases	●
	Hazardous Liquids & Gases	●
	Viscous Liquids	●
	Abrasive Slurries	●
	Dry Materials	●
	Vacuum Service	●
	High Flow Capacity	●
	Low Torque	●
	Fugitive Emissions Control	●
	Reduced Maintenance	●
	Extended Service Life	●
	Sizes	2"-24" DN50-DN600
	Pressure Ratings	Class 150 / PN 10 PN 20
Application Requirements	High Temperature (ASME/EN)	200°C / 392°F
	Low Temperature (EN)	-10°C / 14°F
	Low Temperature (ASME)	-20°C / -4°F
	Key Benefit	Safety / Economy

- Superior Performance
- Limited Application

XLD valves offer economical solutions for the vast majority of chemical applications while maintaining the highest possible degree of performance in terms of in-line leakage and fugitive emissions.

XLD valves are commonly used within the following industries:

- Chlor-Alkali
- Industrial Inorganic Chemicals
- Metal and Mining
- Nitrogen and Phosphatic Fertilizers
- Petroleum Refining
- Pharmaceutical

Within these industries, XLD valves have superior performance in the following applications:

- Chlorine
- Benzene
- Bromine
- Sulfuric Acid
- Nitric Acid
- Hydrochloric Acid
- Phosphoric Acid
- Sea Water

Lined Butterfly Valves How to Order

6" - XLD21 - 0 - 0 - L - C

Size:

2" – 24"
DN50-600

Figure No

Wafer ANSI	XLD11
Wafer DIN	XLD12
Wafer JIS	XLD13
Lug ANSI	XLD21
Lug DIN	XLD22
Lug JIS	XLD23

Disc & Liner Material

DI/PFA	0
Duplex/PFA	1
SS/PFA	2
Unlined SS	3
Unlined Ti	4

Service

Chlorine	C
Oxygen	O
Vacuum	V
General Service	Blank
Other**	X

Operator

Bare Stem	N
Locking Lever	L
Gear	G
Actuated*	A

Body Liner & Back Up Material

PFA + Viton	0
PFA-AS + Viton	1

*Contact Xomox Sales for Automation specifications

** Contact Xomox Sales for service specifications



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