

HIGH PERFORMANCE BUTTERFLY VALVE

Fire Safe

DN50 – DN600 (2" – 24")

Leeds Valve are world leaders in the manufacture and supply of butterfly valve solutions for niche applications in many diverse industries including oil and gas, LNG, power generation, industrial gas and naval marine, in materials from carbon steel to aluminium bronze, stainless steel and titanium.

Description

The double offset design and geometry of the valve and seal combine to ensure uniform 360° seal contact in the closed position and the double eccentric action moves the disc into and out of the seat with the minimum number of wear and seat torque.

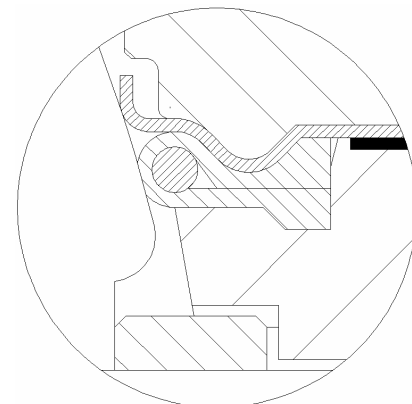
The valves are fully rated to ANSI class 150lb and 300lb in sizes up to 600mm with sizes above on request. All are certified to API 607

Due to the increased demands of the petrochemical and offshore industries the High Performance Butterfly valve was developed into a "Fire safe" design which incorporates a metal secondary seal which will maintain a positive shut off in the event of a primary PTFE seal being destroyed in a fire.

All valves can be supplied with alternative flange drillings such as BS EN 1092 PN 10/16/25 & 40, JIS, BS10, with others on special request.

The Fire Safe High Performance Butterfly Valve provides an economical package for both on/off and control applications when fitted with a suitable operator.

The valve can be supplied with Wafer, Lugged and Double Flanged bodies incorporating full and reduced bore sizes to suit the application.



Seat Design Features

- Bi-directional
- Self energising seat at low pressure
- Pressure energized at high pressure
- Self compensating for wear and temperature
- Seat energizer fully isolated by PTFE envelope
- Cavities are minimised to avoid ingress of particulates
- The disc (and seat) can be supplied with hard surface deposits to suit the process duty
- Leakage in accordance with API 607

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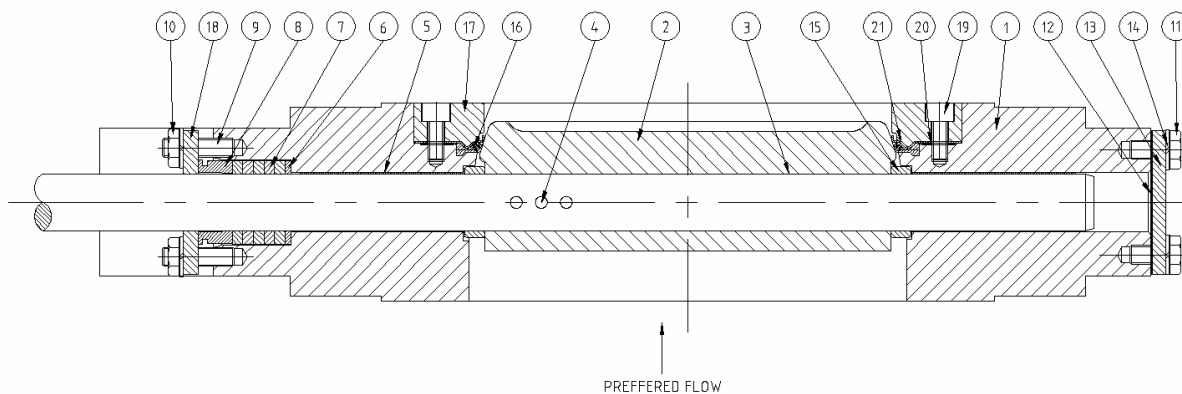
Technical Standards

- **Design:** API 609, Firesafe to API 607
- **Pressure Testing:** API 598, EN 12266 -1:2003
- **Wall Thickness:** ANSI B16.34
- **Face To Face Dimensions:** BS5155, API 609, DIN 3202, ISO 5752
- **Quality Assurance:** ISO 9001:2008

Materials

	Description	Material			
		Stainless Steel	Carbon Steel	Ali-Bronze	Duplex
1	Body	ASTM A351 CF8M	ASTM A216 WCB	ASTM B148 C95800	ASTM A890 / A995
2	Disc	ASTM A351 CF8M	ASTM A351 CF8M	ASTM B148 C95800	ASTM A890 / A995
3	Shaft	ASTM A564 17/4	ASTM A564 17/4	BS 3076 NA 18	UNS 32760
4	Taper Pin* **	ASTM A564 17/4	ASTM A564 17/4	BS 3076 NA 18	UNS 32760
5	Bearing**	MP3	MP3	MP2	Norglide
6	Gland Ring**	ASTM A276 316	ASTM A276 316	BS 3076 NA 18	UNS 32760
7	Packing*	PTFE / Graphite	PTFE / Graphite	PTFE / Graphite	PTFE / Graphite
8	Gland Follower	ASTM A276 316	ASTM A276 316	ASTM A276 316	ASTM A276 316
9	Stud*	ASTM A193-B8M	ASTM A193-B7 GAL	ASTM A193-B8M	ASTM A193-B8M
10	Nut*	ASTM A194 8M	ASTM A194 2H GAL	ASTM A194 8M	ASTM A194 8M
11	HX HD Screws*	ASTM A194-B8M	ASTM A194-2H GAL	ASTM A194-B8M	ASTM A194-B8M
12	Gasket	Graphite	Graphite	Graphite	Graphite
13	Blank End Plate	ASTM A240 316	ASTM A240 316	ASTM A240 316	ASTM A240 316
14	Spring Washer*	BS 6105 304 Gr A2	BS 6105 304 Gr A2	BS 6105 304 Gr A2	BS 6105 304 Gr A2
15	Disc Spacer	ASTM A276 316	ASTM A276 316	BS 3076 NA 1B	UNS 32760
16	Soft Seal	RPTFE	RPTFE	RPTFE	RPTFE
17	Clamping Ring	ASTM A351 CF8M	ASTM A216 WCB	ASTM B148 C95800	ASTM A890 / A995
18	Gland Plate	ASTM A240 316	ASTM A240 316	ASTM A240 316	ASTM A240 316
19	Cap Screws*	BS 6105 304 Gr A2	BS 6105 304 Gr A2	BS 3076 NA 18	UNS 32760
20	Gasket	Graphite	Graphite	Graphite	Graphite
21	Metal Seal	Inconel	Inconel	Inconel	Inconel

Note: * Items quantity may differ between sizes, ** Alternatives available depending on temperature



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Dimensions

ANSI 150

Valve Size (mm)	A	B	C1	C2	D	E	F	G	H	J	K
50	50	92	43	106	144	86	12	50	15	4	M10x15 DP
80	80	127	46	114	158	121	16	50	15	4	M10x15 DP
100	100	157	52	127	210	186	16	50	15	4	M10x15 DP
125	125	186	56	140	195	184	20	50	15	4	M10x15 DP
150	150	216	56	140	207	201	20	50	15	4	M10x15 DP
200	200	270	62	152	285	222	25	70	17	4	M12x20 DP
250	250	324	68	165	305	270	30	70	17	4	M12x20 DP
300	300	381	78	178	350	275	35	70	17	4	M12x20 DP
350	350	413	92	190	387	351	40	70	17	4	M12x20 DP
400	400	470	102	216	390	345	45	90	35	4	M16x25 DP
450	450	533	114	222	448	407	50	80	35	4	M16x25 DP
500	500	584	127	229	465	425	60	90	35	4	M20x30 DP
600	600	692	154	267	565	515	70	90	35	4	M20x30 DP

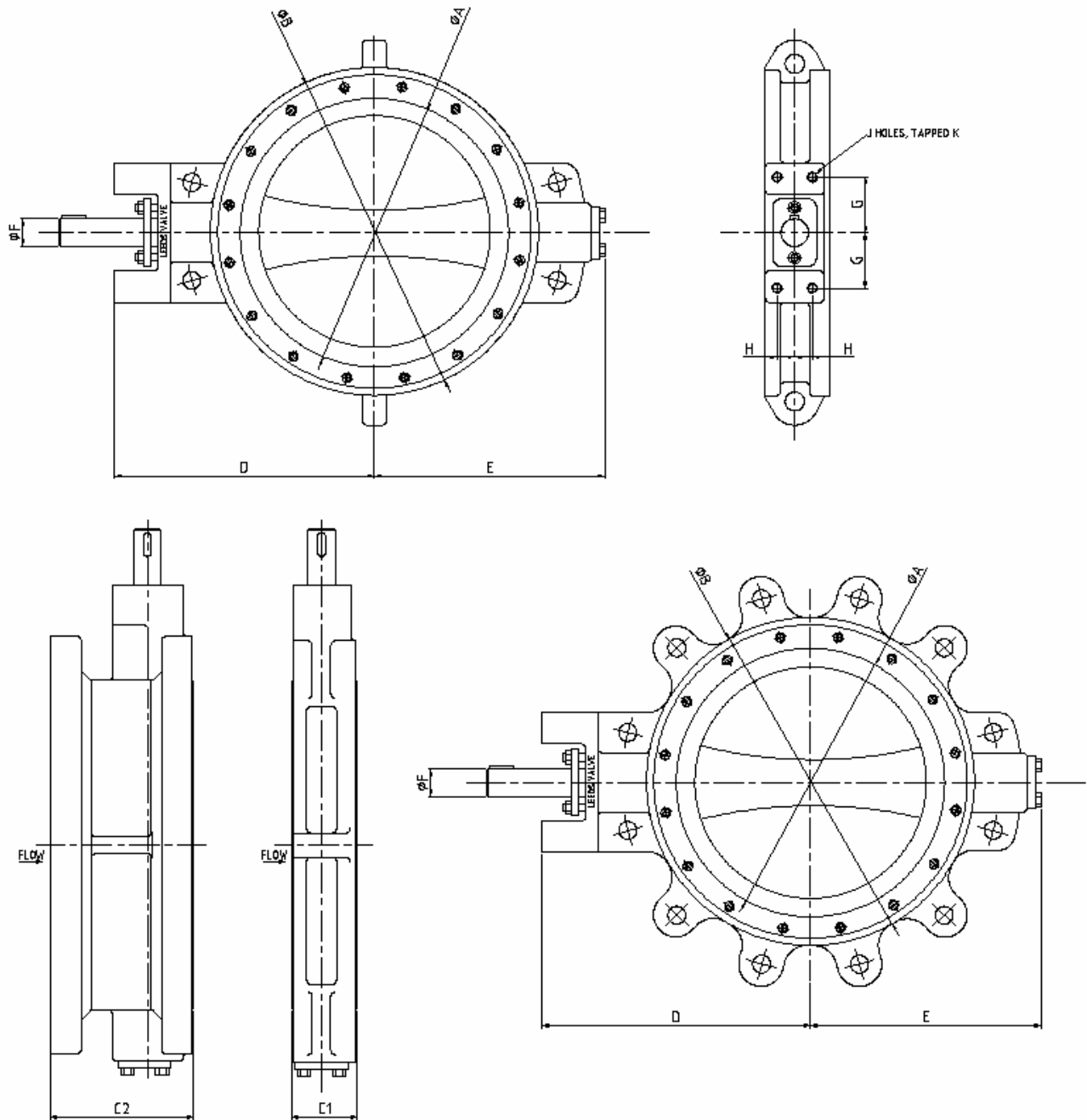
ANSI 300

Valve Size (mm)	A	B	C1	C2	D	E	F	G	H	J	K
50	50	92	43	150	144	136	12	50	0	2	M10x15 DP
80	80	127	49	180	145	135	16	50	0	2	M10x15 DP
100	100	157	56	190	169	171	20	50	15	4	M10x15 DP
125	125	186	56	200	195	184	20	50	15	4	M10x15 DP
150	150	216	59	210	245	220	25	70	17	4	M12x20 DP
200	200	270	71	230	270	225	30	70	17	4	M12x20 DP
250	250	324	83	250	330	290	35	70	17	4	M12x20 DP
300	300	381	92	270	375	325	40	70	17	4	M16x25 DP
350	350	413	117	290	416	376	50	80	35	4	M20x30 DP
400	400	470	133	310	460	415	60	90	35	4	M20x30 DP
450	450	533	149	330	495	450	65	90	35	4	M20x30 DP
500	500	584	159	350	545	500	70	90	35	4	M20x30 DP
600	600	692	181	390	660	590	90	120	40	4	M30x40 DP

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CV Values

Nominal bore	ANSI Rating	10°	20°	30°	40°	50°	60°	70°	80°	90°
50	150	1.4	5.5	13	23	36	55	75	97	101
	300	1.3	5.5	12	22	33	51	70	93	99
65	150	2	8	20	34	52	78	108	140	145
	300	2	7	18	32	48	74	100	133	142
80	150	3	13	30	53	81	123	168	217	225
	300	3	12	28	50	75	115	156	208	221
100	150	6	24	59	106	159	243	331	428	446
	300	6	23	54	97	146	223	304	406	430
125	150	10	39	93	167	252	384	524	678	707
	300	9	36	86	153	230	354	481	642	681
150	150	16	64	149	267	402	595	802	1049	1092
	300	14	58	135	240	362	535	722	972	1031
200	150	27	120	280	499	753	1112	1536	1962	2043
	300	26	106	247	441	664	981	1324	1784	1891
250	150	51	205	477	851	1283	1895	2559	3343	3482
	300	44	178	413	736	1110	1640	2214	2981	3162
300	150	70	281	657	1170	1764	2606	3519	4596	4789
	300	61	245	572	1020	1538	2273	3073	4133	4384
350	150	81	353	850	1530	2307	3520	4800	6399	6788
	300	73	293	707	1272	1918	2926	3991	5321	5644
400	150	119	478	1144	2073	3126	4759	6501	8668	9194
	300	98	392	944	1699	2562	3908	5329	7693	8160
450	150	154	616	1484	2672	4029	6145	8379	11044	11286
	300	125	499	1204	2168	3268	4986	6799	9065	9615
500	150	186	745	1797	3235	4877	7438	10143	13524	14275
	300	142	567	1367	2461	3711	5659	7718	9947	11979
600	150	284	1134	2734	4922	7338	11309	15435	20580	21830
	300	218	869	2096	3773	5690	8678	11834	15778	16836

For Cv figures for larger valves or valves of a higher pressure rating, please contact the sales department.

All dimensions / weights are approximate. The information on this data sheet is accurate to the best of Leeds Valve's knowledge; however we reserve the right to alter the product specification at any time.