

Neles™ Neldisc™ high performance butterfly valves

Series L6, Sizes 28" and bigger & all sizes for pressure ratings F/D & F/E

Neles series L6 is a double flanged metal seated Neldisc triple eccentric disc valve with one piece body design, for both control and tight shut-off applications. It is particularly well suited for the refining, power, petrochemical and chemical industries.

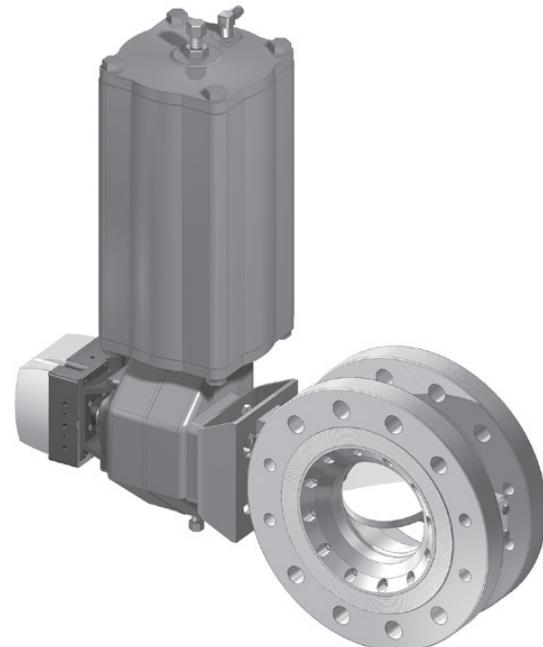
The L6 incorporates the Neldisc triple offset metal seated design, which provides extended operational life in control, tight shut-off, high cycle, high temperature and abrasive applications. S-disc flow construction expands application possibilities beyond those of typical butterfly valves. Pressure rating from ASME 150 to 600 makes the L6 a sound control or shut-off valve and an ideal replacement for gate valves.

Excellent on-off capabilities

- Uniquely functioning full metal seat design assures tightness over long time periods.
- Contact between disc and seat is mechanically induced and does not rely on assistance from differential pressure.
- Bi-directional long term tightness is maintained even in high cycle rate services. Tightness is not compromised by large thermal cycling either.
- Low friction and excellent wear resistance.
- Lowered operational torque reduces actuator size
- Heavy-duty stem and bearings arrangement extends service life and is insensitive to thermal cycles and impurities.

Excellent flow control capabilities

- Good controllability via smoothly rising installed characteristic curve at both very small openings and nearly full Cv positions. L6 provides very wide rangeability in fairly low pressure drop services.
- Good dynamic stability in both flow directions.
- S-disc design provides dynamic torque balancing and noise abatement, allowing L6 valve use in applications where high performance butterflies could not typically be considered. This offers very cost effective control solutions.
- Available with a variety of actuators, positioners and accessories for single source responsibility.



Abrasion resistant

- Solid, sturdy all metal seat design is based on metal-to-metal contact. No resilient parts are needed for seating. Furthermore, there are no resilient parts exposed to the medium.

Wide pressure and temperature range

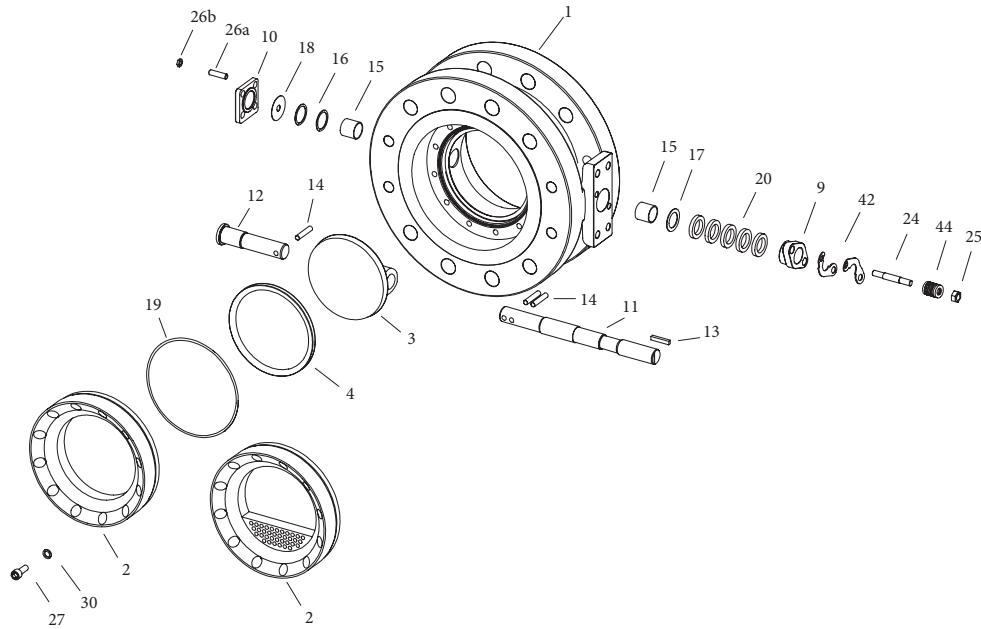
- Differential pressure/temperature ratings in accordance with ASME B16.34.
- Standard construction performs equally well from -200 ...+538 °C / -328 ...+1000 °F.

Low cost of ownership

- Extremely high cycle life minimizes the need for maintenance, and increases Mean Time Between Failure (MTBF).
- Interchangeable seat can be replaced without disassembling the disc and shaft. Seat replacement does not require any adjustment or special tools. Seat design is exactly the same in ASME class 150 and 300 regardless of pressure rating.

Exploded view

L6C & L6D

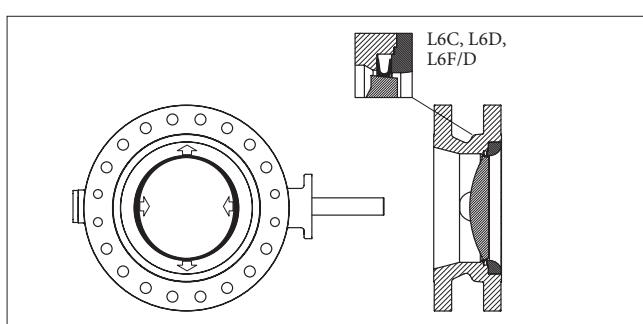


Parts list

Part no.	Part name	Material
1	Body	Carbon Steel ASTM A216 Type WCB / 316 Stainless Steel ASTM A351 Type CF8M
2	Clamp ring	316 Stainless Steel ASTM A182 type F316 / 316 Stainless Steel ASTM A351 Type CF8M
3	Disc	316 stainless steel ASTM A351 type CF8M
4	Seat ring	Incoloy® 825 hard chrome plated DN 100-750 / 4"-30" W:no 1.4418 (Avesta® 248 SV) hard chrome plated DN 800-1500 / 32"-64"
9	Gland	316 stainless steel ASTM A351 type CF8M
10	Blind flange	316 stainless steel ASTM A351 type CF8M
11	Drive shaft	17-4PH stainless steel hard chrome plated
12	Shaft	17-4PH stainless steel hard chrome plated
13	Key	329 stainless steel
14	Cylindrical pin	17-4PH stainless steel
15	Bearing (upper & lower)	Cobalt based alloy / Nitronic® 60
16	Thrust bearing	Cobalt based alloy
17	Anti extrusion ring	Stainless steel
18	Gasket	Graphite
19	Body seal	Graphite
20	Gland packing	PTFE / Graphite.
24	Stud	Stainless steel
25	Nut	Stainless steel
26a	Stud	Stainless steel
26b	Nut	Stainless steel
27	Socket screw	Stainless steel
30	Spring washer	Stainless steel
42	Retaining plate	Stainless steel
44	Spring stack	Stainless steel
44	Boitier ressort	Acier inoxydable

Neldisc triple eccentric seating principle

The disc of the valve is machined to close tolerances, to create an elliptical shape, similar to an oblique slice taken from a solid metal cone. When the valve is closed, the elliptical disc at the major axis displaces the seat ring outward, causing the seat ring to contact the disc at the minor axis. The seat ring is able to move freely in a plane in its recess, to accomodate the disc in an optimal manner. When the valve is opened, the contact is released, and the seat ring returns to its original circular shape.



Technical specifications

Valve ratings

ASME Class 150, 300, 600, and PN10-50.

Sizes and end connection types

ASME cl. 150 valves are available in sizes 28"-80" (DN 700-2000).

ASME cl. 300 valves are available in sizes 28"-56" (DN 700-1400).

ASME cl. 600 valves are available in sizes 28"-36" (DN 700-900).

Flanges are designed as per:

- ASME B16.47 series A for 28" (DN 700) and bigger sizes.
- ASME B16.47 series B flanges are available upon request.

ASME cl. 150 & 300 face-to-face dimensions are acc. to ISO 5752 series 13.

ASME cl. 600 face-to-face dimensions are acc. to ISO 5752 series 14.

Inherent flow characteristic

Standard: Equal percentage

S-disc: Modified equal percentage

Valve tightness (bi-directionally)

• Standard seat, code A:

- ANSI Class V
- ISO 5208, rate D, air
- DIN 3230 rate 3
- 10 x ISO 5208 rate D with RH hand lever

Flow data

Flow coefficients of L6 Neldisc triple eccentric disc valves.

Size	Cv-values					
	Standard			S-Disc		
	#150	#300	#600/300	#150	#300	#600/300
28	25100	16300	16300	12614	10488	10488
30	24100	15900	15900	12344	10339	10339
32	39500	23700	23700	17277	14761	14761
36	53000	24300	24300	23085	14993	14993
40	69600	36700	-	30039	22266	-
42	66300	35700	-	29395	22013	-
48	80700	34000	-	36106	21550	-
52	127000	73600	-	52395	46954	-
56	117000	69800	-	50693	45777	-
60	112000	67400	-	49563	-	-
64	149000	-	-	66646	-	-
72	221000	-	-	110782	-	-
80	203000	-	-	105086	-	-

• Optional tightness:

- API 598 (metal seated),
- ANSI Class VI
- ISO 5208 rate A, air (28"- 30")

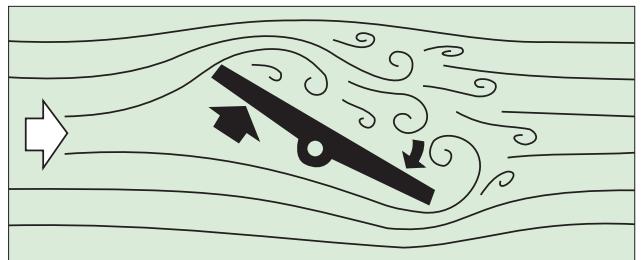
Safety features

- Fire-tested per API 607, 6th edition and BS 6755 part 2.
- Fugitive emission control with live loaded stem sealing as standard, ISO 15848 & TA-Luft/VDI 2440.
- Rugged single piece double flanged body eliminates potential leak paths associated with jointed bodies.
- Positive shaft blow-out prevention.

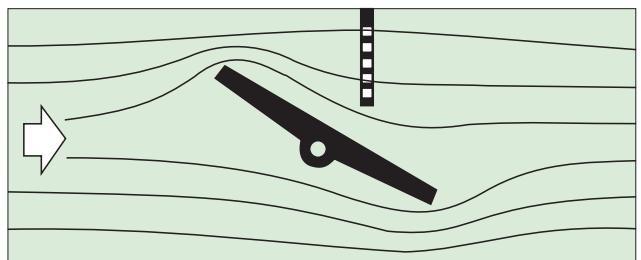
Options

- S-Disc, flow balancing trim, see bulletin 2 S-L1 20
- Oxygen construction for gaseous oxygen service
- High temperature design
- High cycle/cycling design
- Erosion resistant design
- Cryogenic
- Steam jacket, heat tracing
- NACE MR0103/MR0175

Conventional butterfly valve flow



S-Disc™ flow



S-DISC design offers stable flow control, reduced dynamic torque, noise level and vibration. For more information see technical bulletin 2SL120.

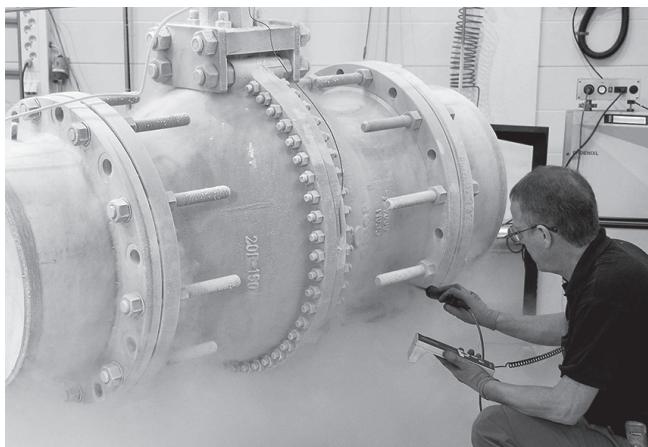
Not recommended mounting position coding for valve-actuator unit if using S-Disc: A-HL, B-HL, C-HL and D-HL.

Constructions

Standard

Fire-tested construction in accordance with API 607 is standard. Standard design also carries a live loaded stem packing.

Cryogenic

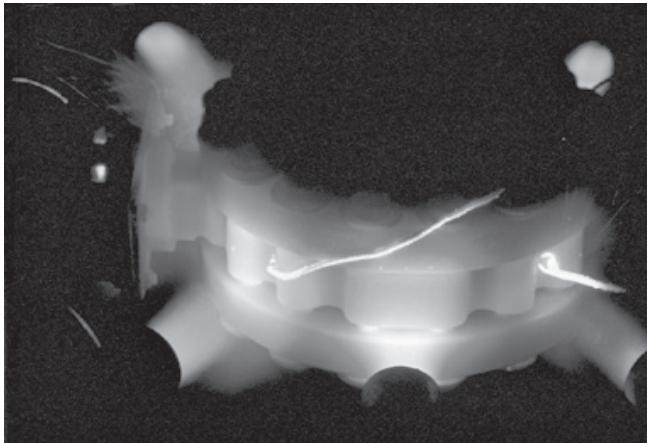


L6 is an excellent valve for cryogenic applications, temperatures -200 ... -46 °C / -320 ... -50 °F. Tight sealing over a wide range of cryogenic temperatures is accomplished with a high nickel alloy seat which maintains its mechanical properties even at cryogenic temperatures. The testing of these valves is done in the cryogenic laboratory. The testing procedure is agreed together with customer to fulfill the available standards and requirements.

Abrasive

The disc can be protected against erosion by HCr plating or cobalt based alloy. The shaft is protected by special bearing bushings and can be flushed with a purge.

High temperature

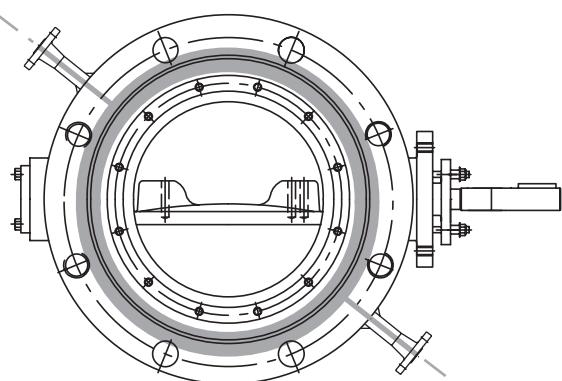


Service temperatures above +425 °C / +800 °F require high temperature construction with cobalt based alloy bearings and high temperature alloy shafts and seat. +600 °C / +1110 °F, consult the factory for proper material selection and higher temperatures.

NACE

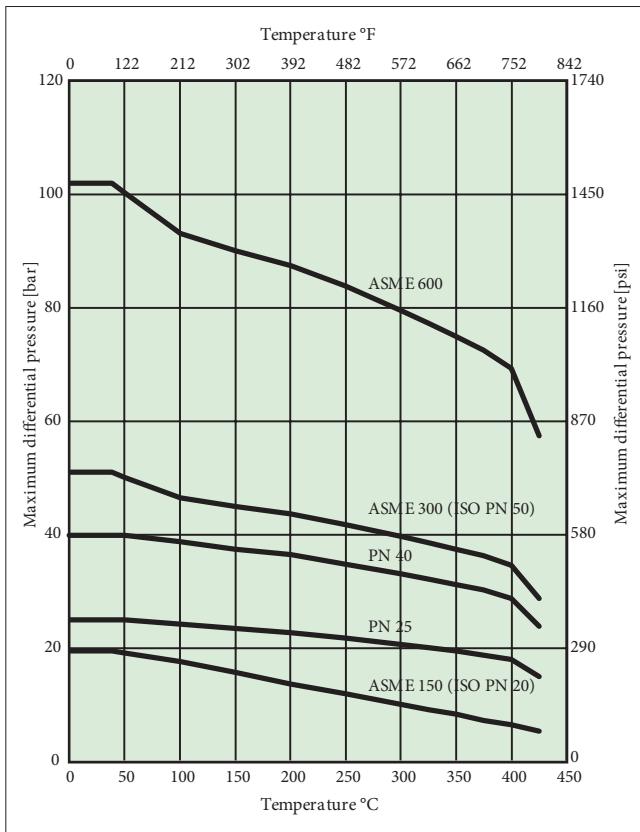
L6 Neldisc valves are available to comply with NACE MR 0103 or NACE MR 0175.

Steam jacket

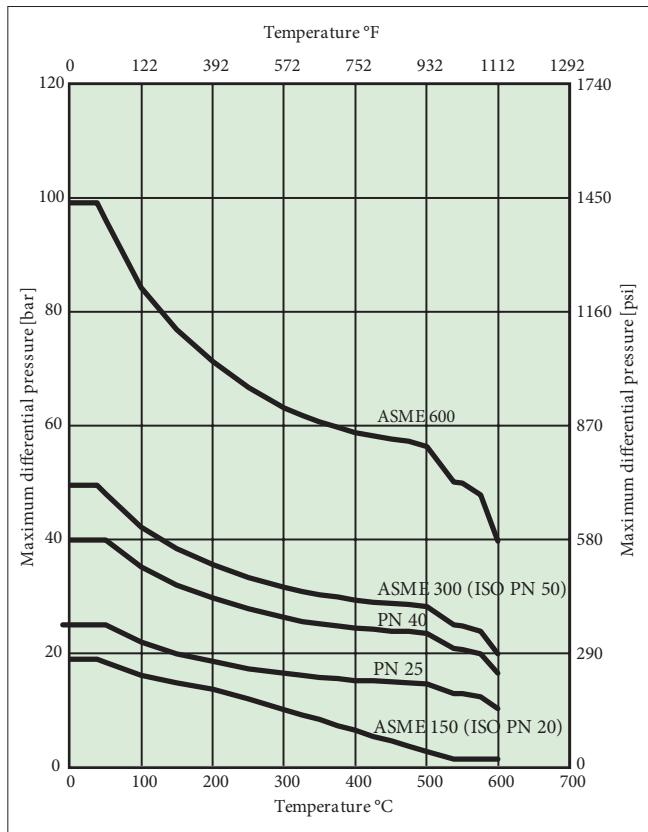


For applications requiring constant higher temperature levels, the L6 valve can be equipped with steam jacket to prevent e.g. liquid sulphur to crystallize. The bearing area is protected by an O-ring to prevent contaminant particles from entering the bearing and packing area.

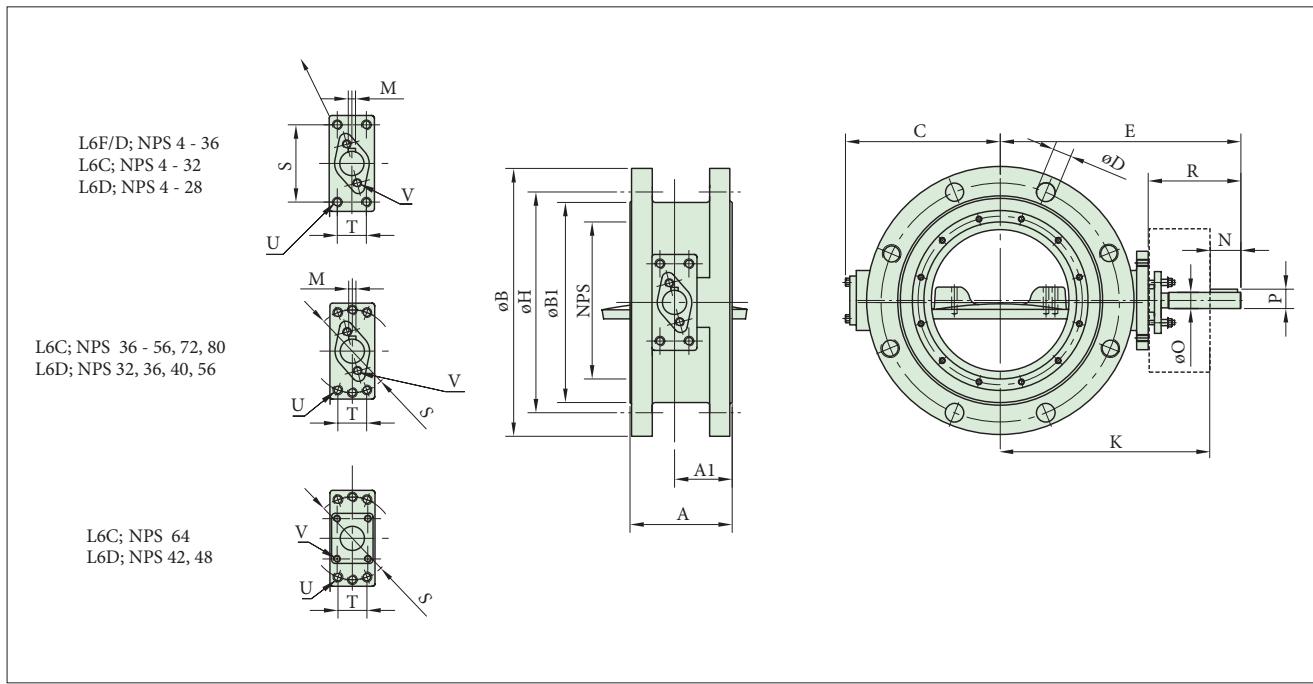
**Pressure/temperature ratings for valve body,
WCB**



**Pressure/temperature ratings for valve body,
CF8M**



Dimensions



L6C, ASME CLASS 150

NPS	Dimensions, mm															kg	U	V	
	A	A1	øB	øB1	øH	øD	C	E	øO	R	P	M	N	K	S	T			
28*	292	144	925	800	863.6	35	464	820	70	300	78.2	19.05	119	701	230	90	700	1	5/8
30*	318	170	985	857	914.4	35	492	785	70	300	78.2	19.05	119	666	230	90	850	1	5/8
32*	318	159	1060	914	977.9	42	530	875	85	325	94.7	22.23	146	730	230	90	1050	1	5/8
36*	330	150	1170	1022	1085.8	42	630	995	95	375	104.8	22.23	156	839	330	120	1350	1 1/4	3/4
38*	330	150	1240	1073	1149.3	42	695	1085	95	375	104.8	22.23	156	929	330	120	1400	1 1/4	3/4
40*	410	222	1290	1124	1200.2	42	645	1090	105	395	116	25.4	180	913	330	120	1600	1 1/4	3/4
48*	470	256	1510	1359	1422.4	42	756	1235	120	425	133.8	31.75	205	1030	330	120	2300	1 1/4	3/4
56*	530	288	1745	1575	1651	48	1001	1470	150	530	181	38.1	280	1190	400	160	4600	1 1/2	1 1/4
64*	600	370	1870	1714	1790	38	1097	1540	165	530	181	38.1	280	1260	400	160	5200	1 1/2	1 1/4
72*	356	160.5	2020	1917	1957	29	1130	1512	135	475	148.9	31.75	225	1287	360	135	4800	1 1/4	7/8
80*	540	274.5	2345	2213	2257	45	1173	1700	135	475	148.9	31.75	225	1475	360	135	6900	1 1/4	7/8

NPS	Dimensions, inch															lb	U	V	
	A	A1	øB	øB1	øH	øD	C	E	øO	R	P	M	N	K	S	T			
28*	11.50	5.67	36.50	31.50	34.00	1.38	18.27	32.28	2.76	11.81	3.08	0.75	4.69	27.60	9.06	3.54	1540	1	5/8
30*	12.52	6.69	38.74	33.75	36.00	1.38	19.37	30.91	2.76	11.81	3.08	0.75	4.69	26.22	9.06	3.54	1870	1	5/8
32*	12.52	6.26	41.73	36.00	38.50	1.65	20.87	34.45	3.35	12.80	3.73	0.88	5.75	28.74	9.06	3.54	2310	1	5/8
36*	12.99	5.91	45.98	40.25	42.75	1.65	24.80	39.17	3.74	14.76	4.13	0.88	6.14	33.03	12.99	4.72	2970	1 1/4	3/4
38*	12.99	5.91	48.74	42.24	45.25	1.65	27.36	42.72	3.74	14.76	4.13	0.88	6.14	36.57	12.99	4.72	3080	1 1/4	3/4
40*	16.14	8.74	50.75	44.25	47.24	1.65	25.39	42.91	4.13	15.55	4.57	1.00	7.08	35.94	12.99	4.72	3520	1 1/4	3/4
48*	18.50	10.08	59.49	53.50	56.00	1.65	29.76	48.62	4.72	16.73	5.27	1.25	8.07	40.55	12.99	4.72	5060	1 1/4	3/4
56*	20.87	11.34	68.90	62.01	65.00	1.89	39.41	57.87	5.91	20.87	7.13	1.50	11.02	46.85	15.75	6.30	10120	1 1/2	1 1/4
64*	23.62	14.57	73.62	67.48	70.47	1.50	43.19	60.63	6.50	20.87	7.13	1.50	11.02	49.61	15.75	6.30	11440	1 1/2	1 1/4
72*	14.02	18.13	83.46	78.39	80.00	1.14	44.49	59.53	5.31	18.70	5.86	1.25	8.86	50.67	14.17	5.31	10560	1 1/4	7/8
80*	21.26	10.81	92.32	87.13	88.86	1.77	46.18	66.93	5.31	18.70	5.86	1.25	8.86	58.07	14.17	5.31	15180	1 1/4	7/8

*) Size 28" and bigger acc. to ASME B16.47 Series A, drilling for sizes 64" and bigger to be agreed with the factory

L6D, ASME CLASS 300

NPS	Dimensions, mm															kg	U	V	
	A	A1	oB	øB1	øH	øD	C	E	øO	R	P	M	N	K	S	T			
26	292	140	970	749	876.3	45	575	955	95	375	104.8	25.4	156	799	330	120	900	1 1/4	3/4
28*	292	140	1035	800	939.8	45	575	975	95	395	104.8	25.4	156	819	330	120	1100	1 1/4	3/4
32*	318	159	1150	914	1054	51	640	1055	120	425	133.8	31.75	205	850	330	120	1400	1 1/4	1
36*	330	165	1270	1022	1168.4	54	780	1175	135	475	149	31.75	225	950	360	135	1900	1 1/4	1 1/4
40*	410	165	1240	1086	1155.7	45	780	1175	135	475	149	31.75	225	950	360	135	1900	1 1/4	1 1/4
42*	410	205	1290	1137	1206.5	45	820	1260	165	530	181	38.1	280	980	360	135	2530	1 1/4	1 1/4
48*	470	255	1465	1302	1371.6	51	940	1380	165	530	181	38.1	280	1100	360	135	3530	1 1/4	1 1/4
56*	530	285	1710	1518	1600.2	60	1110	1590	200	590	222.1	50.8	340	1250	460	180	5650	1 1/2	1 1/2

NPS	Dimensions, inch															lb	U	V	
	A	A1	oB	øB1	øH	øD	C	E	øO	R	P	M	N	K	S	T			
26	11.50	5.51	38.27	29.50	34.50	1.77	22.64	37.60	3.74	14.76	4.13	1.00	6.14	31.46	12.99	4.72	1980	1 1/4	3/4
28*	11.50	5.51	40.75	31.50	37.00	1.77	22.64	38.39	3.74	15.55	4.13	1.00	6.14	32.24	12.99	4.72	2420	1 1/4	3/4
32*	12.52	6.26	45.28	37.80	41.50	2.01	25.20	41.54	4.72	16.73	5.27	1.25	8.07	33.46	12.99	4.72	3080	1 1/4	1
36*	12.99	6.50	50.00	40.25	46.00	2.13	30.71	46.26	5.31	18.70	5.87	1.25	8.86	37.40	14.17	5.31	4180	1 1/4	1 1/4
40*	16.14	6.50	48.74	42.75	45.50	1.77	30.71	46.26	5.31	18.70	5.87	1.25	8.86	37.40	14.17	5.31	4180	1 1/4	1 1/4
42*	16.14	8.07	50.75	40.35	47.50	1.77	32.28	49.61	6.50	20.87	7.13	1.50	11.02	38.58	14.17	5.31	5566	1 1/4	1 1/4
48*	18.50	10.04	57.76	51.25	54.00	2.01	37.01	54.33	6.50	20.87	7.13	1.50	11.02	43.31	14.17	5.31	7766	1 1/4	1 1/4
56*	20.87	11.22	67.24	59.75	63.00	2.36	43.70	62.60	7.87	23.23	8.74	2.00	13.39	49.21	18.11	7.09	12430	1 1/2	1 1/2

*) Size 28" and bigger acc. to ASME B16.47 Series A

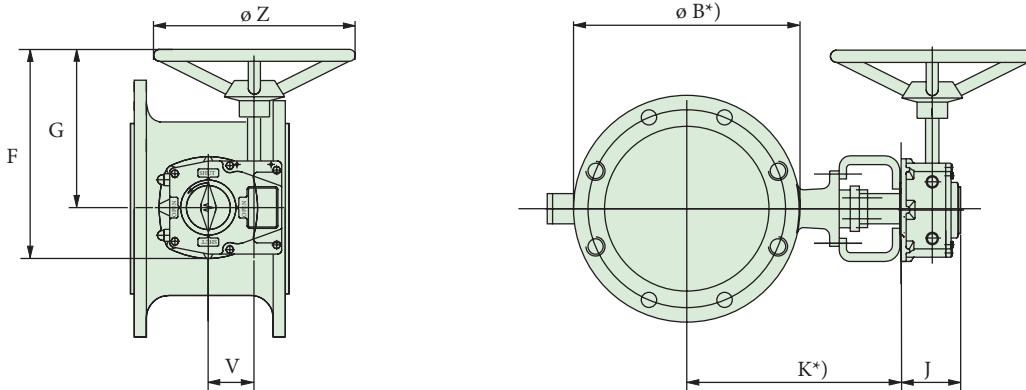
L6F/D & L6F/E, ASME CLASS 600/300

NPS	Dimensions, mm															kg	U	V	
	A	A1	oB	øB1	øH	øD	C	E	øO	R	P	M	N	K	S	T			
4	190	110	275	157.2	215.9	25.4	108	271	15	126	17	4.8	25	246	110	32	45	1/2	3/8
6	210	125	355	215.9	292.1	29	167	335	20	135	22.2	4.8	35	300	110	32	90	1/2	3/8
8	230	177	420	270	349.2	31.8	238	397	25	167	27.8	6.4	46	351	110	32	150	1/2	1/2
10	250	145	510	323.8	431.8	35	238	493	35	208	39.1	9.5	58	435	160	40	215	5/8	5/8
12	270	181	560	381	489	35	333	642	45	260	50.4	12.7	80	562	230	90	350	1	3/4
14	290	145	605	412.8	527.1	38.1	330	595	45	260	50.4	12.7	80	515	230	90	410	1	3/4
16	310	202	685	469.9	603.2	42	409	707	50	271	55.5	12.7	90	617	230	90	450	1	3/4
18	330	220	745	533.4	654.1	44.5	426	660	55	270	60.6	12.7	90	570	230	90	600	M24	7/8
20	350	243.5	815	584.2	723.9	44.5	527	803	70	303	78.2	19.1	119	684	230	90	895	1	1
24	390	256.5	952.4	692.2	838.2	50.8	567	971	85	366	94.6	22.2	146	825	330	120	1225	1 1/4	1
28*	430	200	1075	800.1	965.2	54	645	1001	95	376	104.8	22.2	156	845	330	120	1625	1 1/4	1 1/4
30*	430	200	1130	857	1022.4	53.9	721	941	95	316	104.8	22.2	156	785	330	120	1795	1 1/4	1 1/4
36*	510	345	1314	1022.3	1193.8	66.7	835	1385	135	665	149	31.8	225	1160	360	135	2770	1 1/4	1

NPS	Dimensions, inch															lb	U	V	
	A	A1	oB	øB1	øH	øD	C	E	øO	R	P	M	N	K	S	T			
4	7.48	4.33	10.83	6.19	8.50	1.00	4.25	10.67	0.59	4.96	0.67	0.19	0.98	9.69	4.33	1.26	99	1/2	3/8
6	8.27	4.92	13.98	8.50	11.50	1.14	6.57	13.19	0.79	5.31	0.87	0.19	1.38	11.81	4.33	1.26	198	1/2	3/8
8	9.06	6.97	16.54	10.63	13.75	1.25	9.37	15.63	0.98	6.57	1.09	0.25	1.81	13.82	4.33	1.26	331	1/2	1/2
10	9.84	5.71	20.08	12.75	17.00	1.38	9.37	19.41	1.38	8.19	1.54	0.38	2.28	17.13	6.30	1.57	474	5/8	5/8
12	10.63	7.13	22.05	15.00	19.25	1.38	13.11	25.28	1.77	10.24	1.98	0.50	3.15	22.13	9.06	3.54	772	1	3/4
14	11.42	5.71	23.82	16.25	20.75	1.50	12.99	23.43	1.77	10.24	1.98	0.50	3.15	20.28	9.06	3.54	904	1	3/4
16	12.20	7.95	26.97	18.50	23.75	1.65	16.10	27.83	1.97	10.67	2.19	0.50	3.54	24.29	9.06	3.54	992	1	3/4
18	12.99	8.66	29.33	21.00	25.75	1.75	16.77	25.98	2.17	10.63	2.39	0.50	3.54	22.44	9.06	3.54	1323	M24	7/8
20	13.78	9.59	32.09	23.00	28.50	1.75	20.75	31.63	2.76	11.93	3.08	0.75	4.69	26.93	9.06	3.54	1973	1	1
24	15.35	10.10	37.50	27.25	33.00	2.00	22.32	38.23	3.35	14.41	3.73	0.88	5.75	32.48	12.99	4.72	2701	1 1/4	1
28*	16.93	7.87	42.32	31.50	38.00	2.13	25.39	39.41	3.74	14.80	4.13	0.88	6.14	33.27	12.99	4.72	3583	1 1/4	1 1/4
30*	16.93	7.87	44.49	33.74	40.25	2.12	28.39	37.05	3.74	12.44	4.13	0.88	6.14	30.91	12.99	4.72	3957	1 1/4	1 1/4
36*	20.08	13.58	51.73	40.25	47.00	2.63	32.87	54.53	5.31	26.18	5.86	1.25	8.86	45.67	14.17	5.31	6107	1 1/4	1

*) Size 28" and bigger acc. to ASME B16.47 Series A

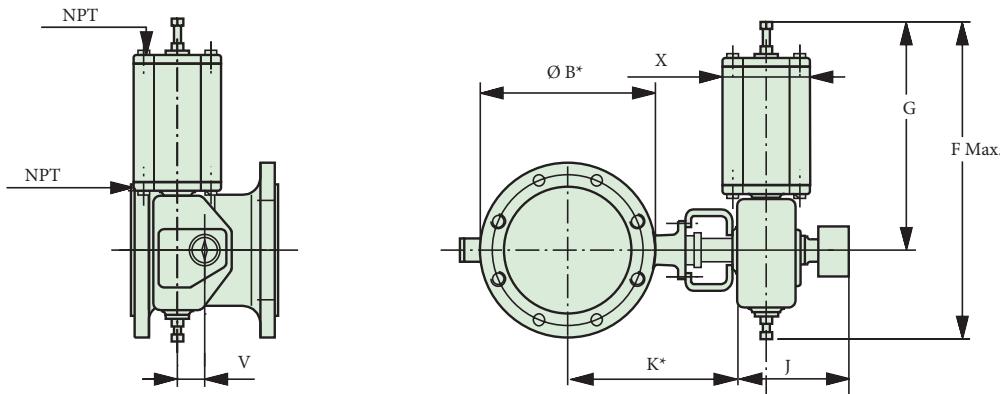
VALVE + MANUAL GEAR OPERATOR



*) See dimensions K and øB on pages 6-7.

Type	Dimensions in mm					kg	Type	Dimensions in inch					lbs
	F	G	J	V	Z			F	G	J	V	Z	
M07	196	152	58	38	160	3	M07	7.72	5.98	2.28	1.52	6.30	6
M10	297	239	67	52	200	5	M10	11.69	9.41	2.64	2.05	7.87	11
M12	357	282	81	66	315	10	M12	14.06	11.10	3.19	2.63	12.40	21
M14	435	345	93	89	400	18	M14	17.13	13.58	3.68	3.52	25.75	40
M15	532	406	105	123	500	31	M15	20.94	15.98	4.15	4.84	19.69	68
M16	642	466	126	154	600	45	M16	25.28	18.35	4.98	6.06	23.62	99
M25	597	412	160	182	600	61	M25	23.28	16.07	6.24	7.10	23.40	134

VALVE + PNEUMATIC ACTUATOR B1C, B1J, B1JA



*) See dimensions K and øB on pages 6-7.

Type	Dimensions in mm					NPT	kg	Type	Dimensions in inch					lbs	
	X	G	F	V	J				X	G	F	V	J		
B1C6	90	260	400	36	283	1/4	4,2	B1C6	3.54	10.24	15.75	1.42	11.14	1/4	9
B1C9	110	315	455	43	279	1/4	9,6	B1C9	4.33	12.40	17.91	1.69	10.98	1/4	21
B1C11	135	375	540	51	290	3/8	16	B1C11	5.31	14.76	21.26	2.01	11.42	3/8	35
B1C13	175	445	635	65	316	3/8	31	B1C13	6.89	17.52	25.00	2.56	12.44	3/8	68
B1C17	215	545	770	78	351	1/2	54	B1C17	8.46	21.46	30.31	3.07	13.82	1/2	119
B1C20	215	575	840	97	385	1/2	73	B1C20	8.46	22.64	33.07	3.82	15.16	1/2	161
B1C25	265	710	1040	121	448	1/2	131	B1C25	10.43	27.95	40.94	4.76	17.64	1/2	289
B1C32	395	910	1330	153	525	3/4	256	B1C32	15.55	35.83	52.36	6.02	20.67	3/4	564
B1C40	505	1150	1660	194	595	3/4	446	B1C40	19.88	45.28	65.35	7.64	23.43	3/4	983
B1C50	610	1350	1970	242	690	1	830	B1C50	24.02	53.15	77.56	9.53	27.17	1	1829

Type	Dimensions in mm					NPT	kg	Type	Dimensions in inch					lbs	
	X	G	F	V	J				X	G	F	V	J		
B1J, B1JA8	135	420	560	43	279	3/8	17	B1J, B1JA8	5.31	16.54	22.05	1.69	10.98	3/8	37
B1J, B1JA10	175	490	650	51	290	3/8	30	B1J, B1JA10	6.89	19.29	25.59	2.01	11.42	3/8	66
B1J, B1JA12	215	620	800	65	316	1/2	57	B1J, B1JA12	8.46	24.41	31.5	2.56	12.44	1/2	126
B1J, B1JA16	265	760	990	78	351	1/2	100	B1J, B1JA16	10.43	29.92	38.98	3.07	13.82	1/2	220
B1J, B1JA20	395	935	1200	97	358	3/4	175	B1J, B1JA20	15.55	36.81	47.24	3.82	14.09	3/4	386
B1J, B1JA25	505	1200	1530	121	448	3/4	350	B1J, B1JA25	19.88	47.24	60.24	4.76	17.64	3/4	771
B1J, B1JA32	540	1410	1830	153	525	1	671	B1J, B1JA32	21.26	55.51	72.05	6.02	20.67	1	1479
B1J/B1JA40	724	1578	2095	194	580	1	1100	B1J/B1JA40	28.50	62.13	84.48	7.64	22.83	1	2424

How to order

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.												
	L6	C	B	N	24	P	A	C	A	G	/													
1. Sign	S-disc construction																							
S-	Flow balancing trim on downstream side of the body flow port																							
2. Sign	Product series/design																							
L6	L6C and L6D pressure ratings are flanged and face-to-face according to EN 558 part 1, basic serie 13, ISO 5752 series 13, API 609 category B, double flanged, short pattern L6F and L6F/D are flanged and face-to-face according to EN 558 part 1, basic serie 14, ISO 5752 series 14, API 609 category B																							
3. Sign	Pressure rating																							
C	Body ASME Class 150																							
D	Body ASME Class 300																							
F/D	Body ASME Class 600 / Internals ASME Class 300																							
F/E	Body ASME Class 600 / Internals extended ASME Class 300																							
4. Sign	Seat design																							
B not L6F/D or L6F/E	Metal seat - actuator mounting manufacturer standard / metric threads with drive shaft with 2 key ways - pipe flange threads according to pipe flange standard applied (sign 13) Used together with sign 5, codes N, C, H, S (also NACE versions)																							
5. Sign	Construction																							
N or 1N (NACE)	STANDARD in size range 4" ... 24" (cl.150, cl.300) - $t_{max} = +425^{\circ}\text{C} / +800^{\circ}\text{F}$ - bearings cobalt based alloy, shaft bearing surface nitrated (17-4PH shaft) - body and blind flange gaskets graphite - bare shaft valve ATEX II 2 G c - not used in L6F/D or L6F/E																							
A	Standard design in size range 04" ... 24" (cl.150, cl.300) - Bearings PTFE + C25 + AISI 316 or PTFE + C25 + Alloy 625 depending on body material, shaft bearing surface non-nitrated. - $t_{max} = +260^{\circ}\text{C} / +500^{\circ}\text{F}$ - Gr. 630 (17-4PH) shaft - body and blind flange gaskets graphite																							
U or 1U (NACE)	Standard design in size range 28" ... 80" (cl.150, cl.300) and 4" - 36" (L6F/D & L6F/E) - $t_{max} = +425^{\circ}\text{C} / +800^{\circ}\text{F}$ - shaft bearings surfaces chrome plated - bearings NITRONIC 60 (not NACE) - bearings cobalt based alloy (NACE) - body and blind flange gaskets graphite - clamp ring screws Gr. 660 (NACE) - bare shaft valve ATEX II 2 G c																							
H or 1H (NACE)	High temperature / High Cycle - $t_{max} = +538^{\circ}\text{C}$ (for higher temperatures contact product line) - bearing surfaces of shafts cobalt based alloy - bearings cobalt based alloy - body and blind flange gaskets graphite (ATEX II 2 G c)																							
C	Cryogenic, - $t = -200 \dots +260^{\circ}\text{C}$, code C - $t = -50^{\circ}\text{C} \text{ or } -100^{\circ}\text{C} \dots +260^{\circ}\text{C}$, code 1C - $t = -200 \dots +260^{\circ}\text{C}$, code 2C - extended bonnet and drive shaft (Cryo extension for $T = -200^{\circ}\text{C}$ to $+260^{\circ}\text{C}$) - bearings PTFE+ C25 + AISI 316 - body and blind flange gaskets graphite																							
X or 1X (NACE)	LOW EMISSION CONSTRUCTION - Low emission graphite packing - Low emission blind flange - Low emission blind flange bolting - Otherwise as construction "N" or "1N"																							
S or 1S (NACE)	STEAM JACKET WITH BEARING PROTECTION - steam jacket on valve body and graphite bearing protection, otherwise as construction "BN" or "BU"																							
Z	OXYGEN CONSTRUCTION - BAM tested non-metallic materials - $T = -50 \dots +200^{\circ}\text{C}$ - Max pressure as per body rating - Bearings cobalt based alloy - Oxygen cleaning acc. to manufacturer internal procedures. - Recommended typecodes L_ _ BZH_AACAG or L_ _ BZH_AMMKG or L_ _ BZH_MMMKG																							
Note! Only "Z" construction available for oxygen flow media. Not to be used with other flow medias.																								
6. Sign	Size																							
	L6C: 28, 30, 32, 36, 38, 40, 42, 48, 52, 54, 56, 60, 64, 72, 80 L6D: 26, 28, 30, 32, 36, 40, 42, 44, 48, 50, 56 L6F/D & L6F/E: 04, 06, 08, 10, 12, 14, 16, 18, 20, 24, 28, 30, 36																							
7. Sign	Body materials																							
A	ASTM A 351 gr. CF8M. Standard.																							
P	ASTM A 216 gr. WCB. Standard.																							
F	ASTM A 352 gr. LCC																							
8. Sign	Disc material																							
A	ASTM A 351 gr. CF8M / F 316. Standard																							
9. Sign	Shaft and pin material																							
C	Gr. 630 (17-4PH). Standard.																							
H	Nimonic 80A (high temp. above $+425^{\circ}\text{C} / +800^{\circ}\text{F}$)																							
10. Sign	Seat material																							
	Standard																							
A not L6F/E	Incoloy 825, hard chrome plated.																							
B	W.no. 1.4418, hard chrome plated (AVESTA 248 SV).																							
D not L6F/E	F6NM, hard chrome plated (Nace) $t = -75^{\circ}\text{C} \dots +425^{\circ}\text{C} / -100^{\circ}\text{C} \dots +800^{\circ}\text{F}$																							
H	Nimonic 80A, hard chrome plated, (high temp. above $+425^{\circ}\text{C} / +800^{\circ}\text{F}$).																							
11. Sign	Packing material option																							
G	Live loaded graphite packing, Fire-safe																							
T	Live loaded PTFE V-ring packing																							
12. Sign	Flange facing																							
	Ra 3.2 - 6.3, standard, without sign cover: EN 1092-1 Type B1 (Ra 3.2 - 12.5) ASME B16.5, Ra 3.2 - 6.3 (125 - 250 μm)																							
13. Sign	Flange drilling																							
-	According to ASME B16.5, without sign (4" - 24"). According to ASME B16.47 series A (28" and up).																							
B	ASME B16.47 Series B Class 150 & Class 300 (size 26" and bigger).																							
Examples:																								
L6CBN24AACAG = Standard construction with metal bearings, stainless steel body and disc. Max. temperature $+425^{\circ}\text{C}$																								
L6CBN24AACAT = Max. temperature $+230^{\circ}\text{C}$																								
L6CMU28AACAG = Standard construction in bigger sizes, metal bearings, stainless steel body and disc. Max. temperature $+425^{\circ}\text{C}$																								
L6CBH24AAHHG = High temperature construction																								
L6CBC24AACAG = Cryo construction																								
L6F/DMU08PACAG = Standard construction with metal bearings, carbon steel body and stainless steel disc. Body ASME Class 600 / Internals ASME Class 300																								

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