XOMOX®

brands you trust.

TECHNICAL DATASHEET
XOMOX® - Triple Offset Valves

CRANE

ChemPharma Flow Solutions

www.cranechempharma.com

XOMOX®

Index and Model Numbers for Gears with Handwheel

Size	Gear Model*	
3"	ASME 150	GMSB01G10-H10A
	ASME 300	GMSB01G10-H10A
	ASME 600	GMSB01J10-H10A
4"	ASME 150	GMSB02G10-H10A
	ASME 300	GMSB02G10-H10A
	ASME 600	GMSB02J14-H10A
5"	ASME 150	GMSB03G10-H10A
	ASME 300	GMSB03G10-H10A
6"	ASME 150	GMSB04G14-H10A
	ASME 300	GMSB05G14-H10A
	ASME 600	GMSB04J16-H10A
8"	ASME 150	GMSB07G14-H10A
	ASME 300	GMSB07G14-H10A
	ASME 600	GMSB05J16-H10A
10"	ASME 150	GMSB08G14-H10A
	ASME 300	GMSB29G16-H10A
	ASME 600	GMSB07J16-H10A
12"	ASME 150	GMSB10G16-H10A
	ASME 300	GMSB11G16-H10A
	ASME 600	GMSB09J25-H10A
14"	ASME 150	GMSB13G16-H10A
	ASME 300	GMSB30G16-H10A
	ASME 600	GMSB10J25-H10A
16"	ASME 150	GMSB16G16-H10A
	ASME 300	GMSB31G25-H10A
	ASME 600	GMSB11J25-H10A
18"	ASME 150	GMSB20G16-H10A
	ASME 300	GMSB21G25-H10A
20"	ASME 150	GMSB24G16-H10A
	ASME 300	GMSB33G25-H10A
24"	ASME 150	GMSB27G25-H10A
	ASME 300	GMSB28G30-H10A

*Mounting kit included.

Figure Number System

X	L	H	A	1	1	1	0	O	F
1	2	3	4	5	6	7	8	9	10

1. Series		
X	=	XOMOX® TOV

2. Size		
L	=	3"
M	=	4"
N	=	5"
P	=	6"
R	=	8"
S	=	10"
T	=	12"
U	=	14"
V	=	16"
W	=	18"
X	=	20"
Y	=	24"

3. Pressure Class		
N	=	ASME 150
P	=	ASME 300
R	=	ASME 600

4. Body Design		
B	=	Lug type, Carbon Steel (WCB)
D	=	Flange long, Carbon Steel (WCB)
F	=	Flange short, Carbon Steel (WCB)
H	=	Lug type, Stainless Steel (CF8M)
N	=	Flange short, Stainless Steel (CF8M)

5. Flange Face		
1	=	Raised Face

6. Gland Bushing		
1	=	Graphite (Standard)
2	=	Gylon (Steam)

7. Standard Material Combinations**					
Body		Body Seat	Disc	Shaft	Seal
1 =	WCB	316TiSS	Carbon Steel	431 SS	SS/Graphite
2 =	WCB	316TiSS	Steel Nickel-Plated*	431 SS	SS/Graphite
3 =	CF8M	316TiSS	Stainless Steel	431 SS	SS/Graphite
4 =	CF8M	316TiSS	Stainless Steel	S31803 SS	SS/Graphite
5 =	CF8M	316TiSS	Stainless Steel	660 SS	SS/Graphite
6 =	WCB	Stellite®	Steel Nickel-Plated*	431 SS	SS/Graphite
9 =	WCB	316TiSS	Carbon Steel	S31803 SS	SS/Graphite
A =	WCB	316TiSS	Steel Nickel-Plated*	S31803 SS	SS/Graphite
Q =	CF8M	Stellite®	CF8M	S31803 SS	SS/Graphite
L =	WCB	316Ti SS	ENP Coated	431 SS	SS Gylon for use with steam
V =	CF8M	316TiSS	Stainless Steel	1.4057 SS	SS Gylon for use with steam

Stellite® is a registered trademark of Deloro Stellite.
* Nickel-plated steel designs are only available as ASME versions.
** For exact material specification please refer to "Materials/Temperature Range" section.
Special versions available on request.

8. and 9. Design		
0 0	=	Standard

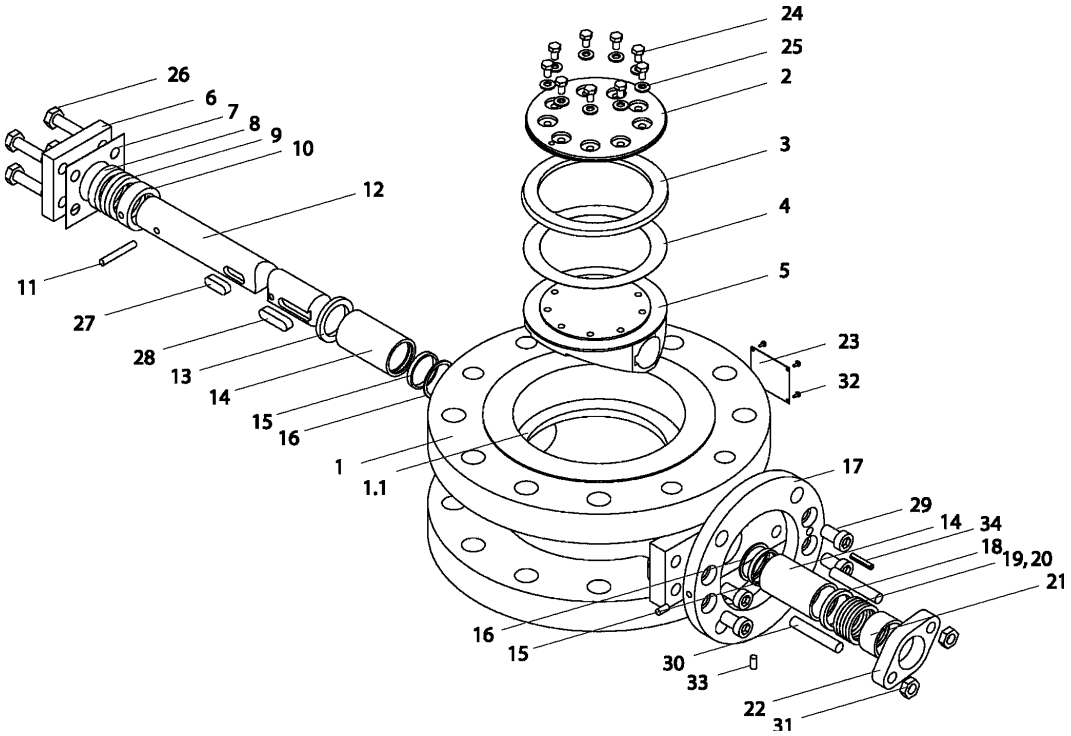
10. Actuation		
F	=	Bare shaft
GX	=	Gear + manufacturer symbol (X)
M	=	Valve + mounting kit* for installation of pneumatic or electric actuators

* This requires specification of actuator flange and shaft end; other operators available on request.

Each XOMOX® TOV Butterfly Valve has a name plate with a stamped model number. This number is complete to such an extent that it specifies each detail of the valve. It can be taken from above model number key.

Ordering example:
XOMOX® TOV Butterfly Valve, 3", Class 150, body lug type, steel disc, shaft made of 1.4057, graphite packing, with bare shaft end, figure number: XLNB11100F.

Materials/Temperature Range for All Models



Materials/Temperature Range

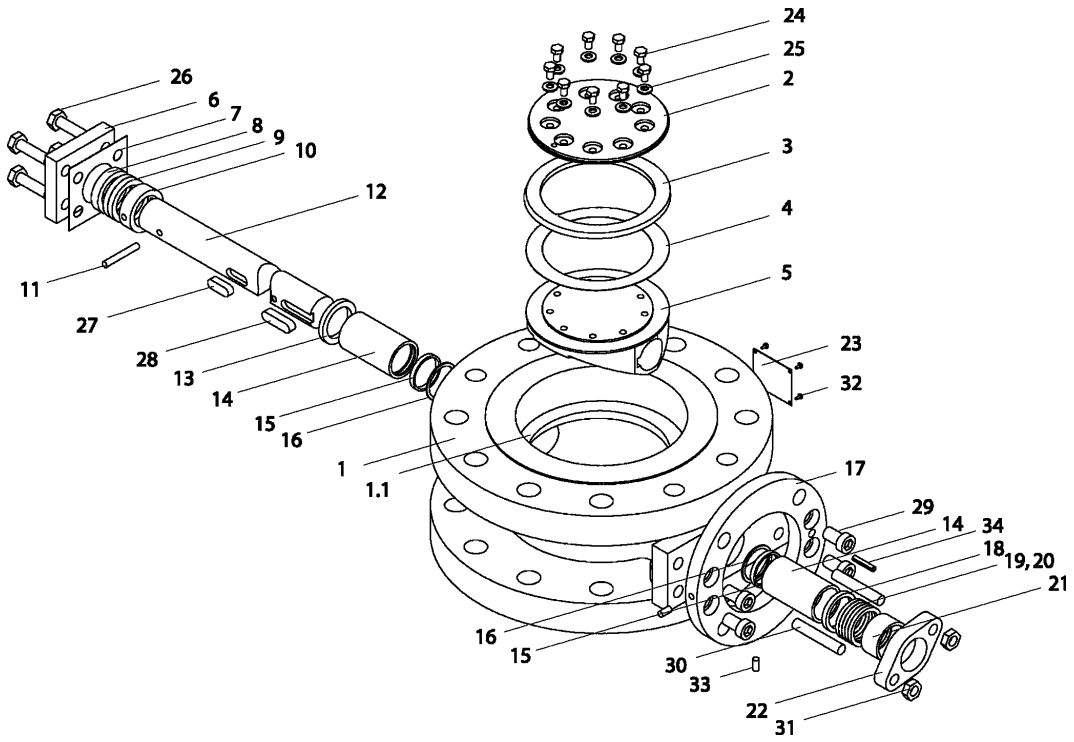
Item	Temperature Range Part Description	Carbon Steel Version**		Stainless Steel Version**		
		-20°F to 752°F Standard	-20°F to 572°F NACE	-20°F to 752°F Basic	-60°F to 572°F NACE (Standard)	-76°F to 1022°F High and Low Temperature
1	Body*	A216 Gr.WCB or A516 Gr.60CS		A351 Gr. CF-8M or A240 Type 321 SS		
1.1	Body Seat*	A240 Type 316Ti SS or Equivalent (Stellite® #21 on request)		A351 Gr. CF-8M or A240 Type 321 SS (Stellite® #21 on request)		
2	Seal Retainer Ring*	A516 Gr. 60 CS / ENP ‡		A240 Type 321 SS or Equivalent		
3	Laminated Seal	A240 Type 321 SS / Graphite		A240 Type 321 SS / Graphite		
4	Seal Gasket	Graphite		Graphite		
5	Disc*	A216 Gr. WCB / ENP ‡		A351 Gr. CF-8M		
6	Cover	A516 Gr. 60 CS		A240 Type 321 SS		
7	Cover Gasket	Graphite		Graphite		
8	Intermediate Ring	303 SS		303 SS		
9	Ring	Graphite		Graphite		
10	Shaft Retainer	303 SS Hard Chrome-plated		303 SS Hard Chrome-plated		
11	Pin	316Ti SS or Equivalent		316Ti SS or Equivalent		
12	Shaft	431 SS	S31803 SS	431 SS	S31803 SS	660 SS
13	Thrust Ring*	440B SS or 5925 SS (Hardened)		440B SS or 5925 SS (Hardened)		
14	Bearing	303 SS ENP ‡		303 SS / ENP ‡		
15	Bearing Protector	Carbon Fiber Mesh		Carbon Fiber Mesh		
16	Anti-seize Ring	- - -		440B SS or 5925 SS (Hardened)		
17	Mounting Plate	Carbon Steel		Carbon Steel / ENP ‡		
18	Packing Ring	303 SS		303 SS		

* Material according to the manufacturer's choice.

**The application type (medium / temperature) must be specified when ordering.

‡ ENP = Electroless Nickel-Plated.

Materials/Temperature Range for All Models (Continued)



Materials/Temperature Range

Item	Temperature Range	Carbon Steel Version**		Stainless Steel Version**		
		-20°F to 752°F	-20°F to 572°F	-20°F to 752°F	-60°F to 572°F	--76°F to 1022°F
	Part Description	Standard	NACE	Basic	NACE (Standard)	High and Low Temperature
19	Anti-extrusion Ring	Carbon Fiber Mesh		Carbon Fiber Mesh		
20	Gland Packing	Graphite		Graphite		
21	Gland	303 SS		303 SS		
22	Gland Flange	A516 Gr. 60		A240 Type 321		
23	Name Plate	Stainless Steel		Stainless Steel		
24	Retainer Screw	A193 Gr. B8 or B8M		A193 Gr. B8 or B8M		A638 Gr. 660 SS
25	Spring Washer*	5925 SS	Inconel® 718	5925 SS	Inconel® 718	
26	Cover Screw	A193 Gr. B8 or B8M		A193 Gr. B8 or B8M		A638 Gr. 660 SS
27	Disc Key	316Ti SS		316Ti SS		
28	Drive Key	316Ti SS		316Ti SS		
29	Mounting Plate Screw	A193 Gr. B8 or B8M		A2-70 Stainless Steel		A638 Gr. 660 SS
30	Gland Stud	A193 Gr. B8 or B8M		A193 Gr. B8 or B8M		A638 Gr. 660 SS
31	Gland Nut	A194 Gr. 8A or 8MA		A194 Gr. 8A or 8MA		A638 Gr. 660 SS
32	Drive Screw	Stainless Steel		Stainless Steel		
33	Groove Pin	Carbon Steel Zinc-plated		Carbon Steel Zinc-plated		
34	Spring Pin	Carbon Steel Zinc-plated		Carbon Steel Zinc-plated		
35	BOP Ring	303 SS or Equivalent		303 SS or Equivalent		
36	Retaining Ring	Stainless Steel		Stainless Steel		

* Material according to the manufacturer's choice.

**The application type (medium / temperature) has to be specified when ordering.

‡ ENP = Electroless Nickel-Plated.

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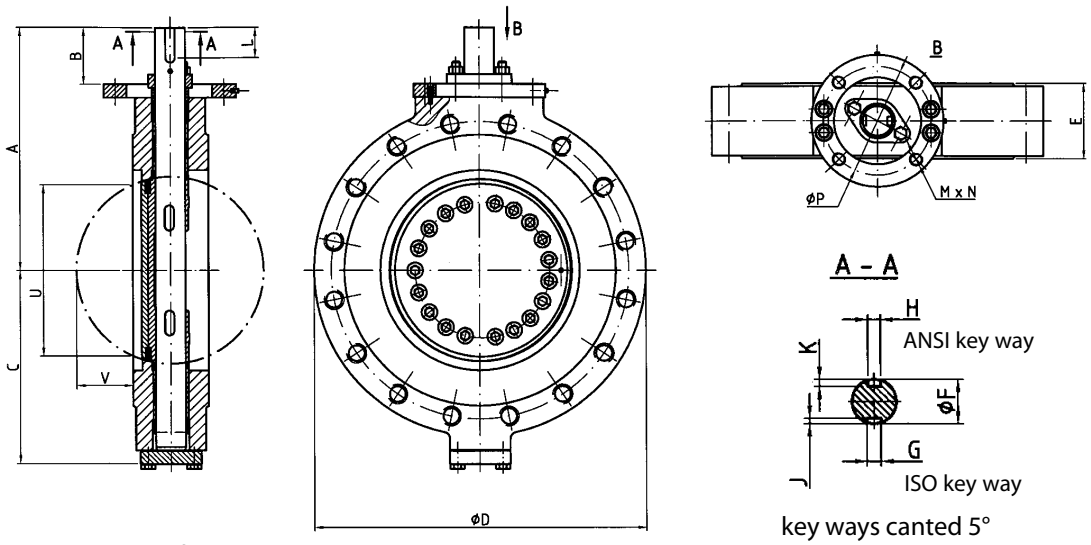
Lug Body - API 609

Dimensions / Weights 3" to 24"



key ways canted 5°

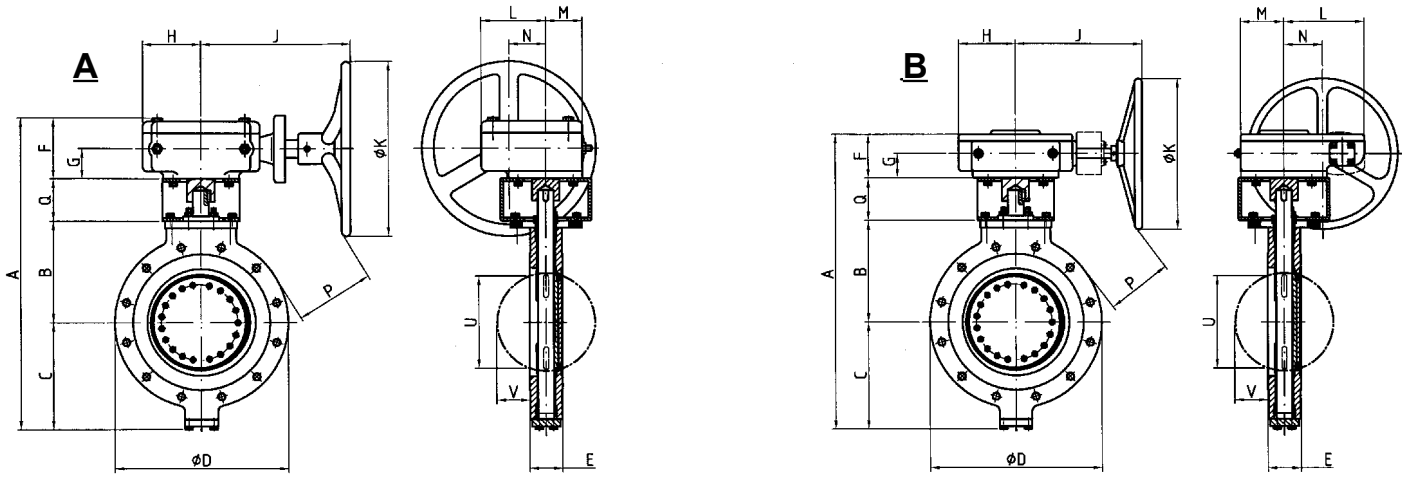
Dimensions in mm. bare shaft end

Inches	3“	4“	6“	8“	10“	12“	14“	16“	18“	20“	24“
A	192	207	252	303	339	367	407	476	533	575	657
B (ASME150)	62	62	72	80	80	85	90	113	120	130	140
B (ASME 300)	62	62	72	80	80	85	90	113	120	130	120
C	130	145	180	208	240	292	317	383	433	465	537
D (ASME 150)	190	240	280	343	406	482	533	597	635	698	813
D (ASME 300)	210	240	318	381	444	520	584	648	711	774	914
E (ASME 150)	48	54	57	64	71	81	92	102	114	127	154
E (ASME 300)	48	54	59	73	83	92	117	133	149	159	181
F	20	22	32	38	40	45	55	65	70	75	90
G	6	6	10	10	12	14	16	18	20	20	25
H	4.8	4.8	8	9.5	9.5	12.7	12.7	15.9	19.1	19.1	22.3
J	3.5	3.5	5	5	5	5.5	6	7	7.5	7.5	9
K	2.7	2.7	4.5	5.4	5.4	7.3	7.1	9	10.9	10.8	12.6
L	22	22	32	40	40	45	50	63	70	80	90
M	4	4	4	4	4	4	4	8	8	8	8
N	7/16-14 UNC		5/8-11 UNC	¾-10 UNC				5/8-11 UNC			
P	125 F12		140 F14	165 F16				254 F25			
U (ASME 150)	72	96	146	191	239	287	326	366	409	457	559
U (ASME 300)	72	96	144	187	234	281	315	353	396	446	545
V (ASME 150)	20	31	55	73	93	114	129	144	159	173	219
V (ASME 300)	31	31	53	65	84	103	109	121	137	156	194

Weights in pounds

Inches	3“	4“	6“	8“	10“	12“	14“	16“	18“	20“	24“
bare shaft											
ASME 150	33	44	62	101	146	181	207	291	549	703	1202
ASME 300	33	44	64	115	170	183	265	379	717	882	1698
with gear											
ASME 150	64	75	93	143	203	238	267	417	705	862	1400
ASME 300	64	75	110	172	227	324	388	569	961	1129	2145

Lug Body - API 609



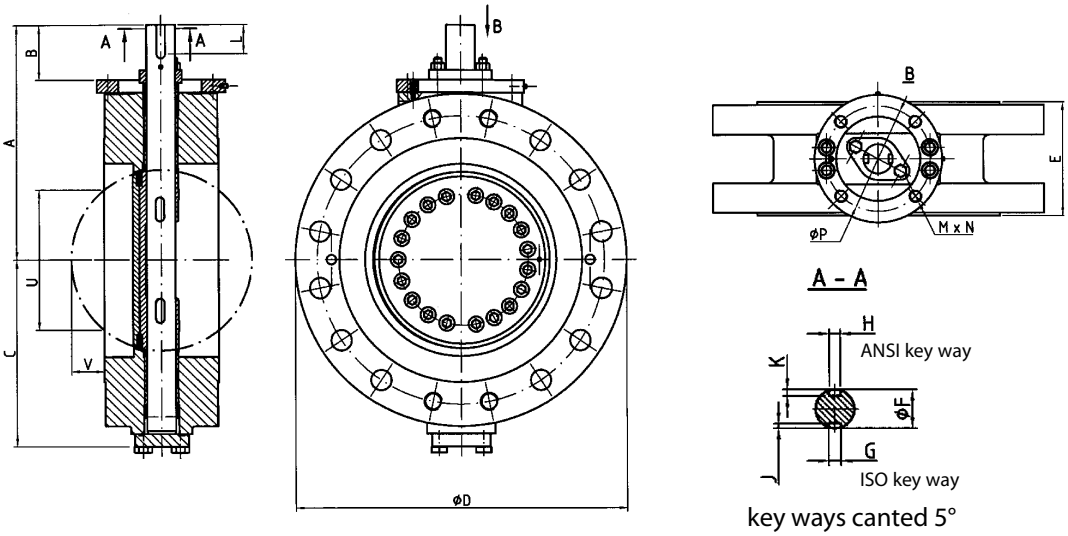
Dimensions in mm. with manual gear

Inches	3“	4“	6“		8"		10"		12"			14"				16"			
ΔP max (psi)	715	715	285	715	230	715	570	715	230	360	715	230	360	570	715	145	360	570	715
A	416	446	526	530	627	631	699	699	774	800	821	834	860	881	906	1006	1032	1078	1076
B	130	145	180		223		259		282			317				363			
Q	80	80	90		120		120		120			120				180			
F	76	76	76	80	76	80	80	106	80	106	127	80	106	127	152	80	106	152	150
G	42	42	42	44.5	42	44.5	44.5	50	44.5	50	50	44.5	50	50	66	44.5	50	66	64
H	64	64	64	100	64	100	100	126	100	126	158	100	126	158	155	100	126	155	153
J	240	240	240	282	240	282	282	362	282	362	387	282	362	387	493	282	362	493	509
K	250	250	250	400	250	400	400	600	400	600	600	400	600	600	600	400	600	600	600
L	98	98	98	134	98	134	134	178	134	178	209	134	178	209	232	134	178	232	239
M	45	45	45	64	45	64	64	114	64	114	117	64	114	117	158	64	114	158	171
N	65	65	65	96.4	65	96.4	96.4	123	96.4	123	154	96.4	123	154	60	96.4	123	60	68
P (ASME 150)	159	142	148	-	169	150	141	-	118	133	-	118	123	-	-	169	151	-	-
P (ASME 300)	149	142	129	127	150	131	122	143	99	114	137	92	97	120	222	143	126	241	253
Drawing	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B

Inches	18"				20"					24" (class 150)		
ΔP max (psi)	145	230	360	675	145	230	360	570	715	230	360	715
A	1082	1103	1128	1226	1196	1217	1242	1240	1254	1386	1384	1418
B	413				445					517		
Q	180				180					180		
F	106	127	152	150	106	127	152	150	164	152	150	164
G	50	50	66	64	50	50	66	64	70	66	64	70
H	126	158	155	153	126	158	155	153	175	155	153	175
J	362	387	493	509	362	387	493	509	464	493	509	464
K	600	600	600	600	600	600	600	600	600	600	600	600
L	178	209	232	239	178	209	232	239	175	232	239	175
M	114	117	158	171	114	117	158	171	326	158	171	326
N	123	154	60	68	123	154	60	68	153	60	68	153
P(150)	167	184	196	-	158	175	264	-	-	255	265	-
P(300)	129	146	158	237	120	137	226	238	207	204	215	224
Drawing	B	B	B	B	B	B	B	B	B	B	B	B

Double Flange Short - ISO 5752

Dimensions / Weights 3" to 24"



key ways canted 5°

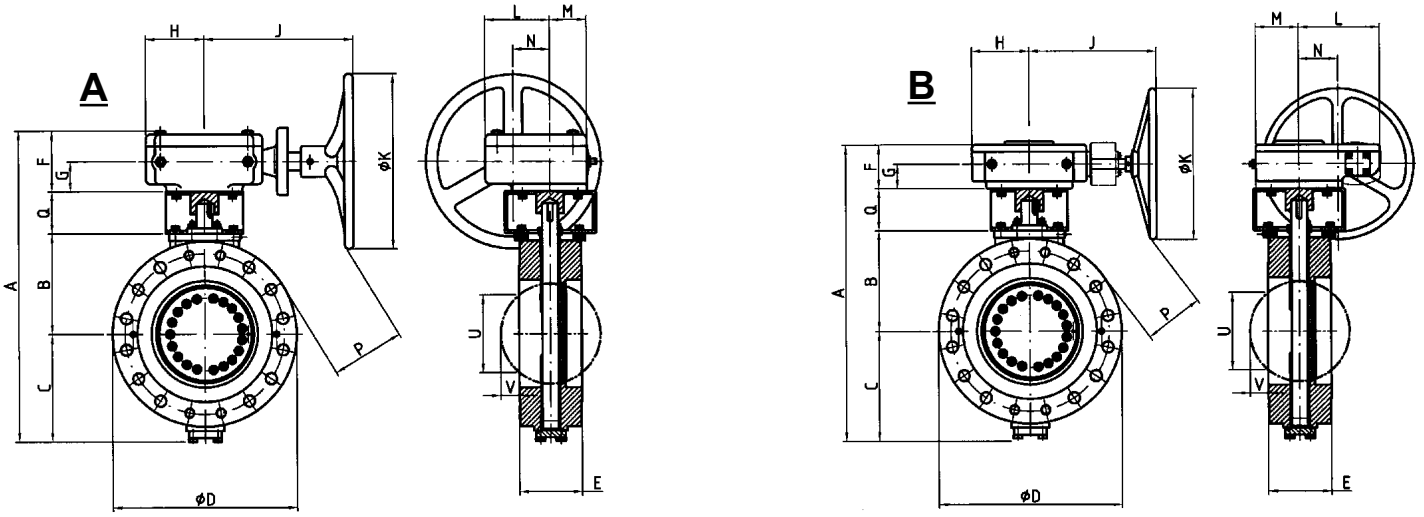
Dimensions in mm. bare shaft end

Inches	3“	4“	6“	8“	10“	12“	14“	16“	18“	20“	24“
A	192	207	252	303	339	367	407	476	553	575	657
B (ASME 150)	62	62	72	80	80	85	90	113	120	130	140
B (ASME 300)	62	62	72	80	80	85	90	113	120	130	120
C	130	145	180	208	240	292	317	383	433	465	537
D (ASME 150)	190	229	280	343	406	482	533	597	635	698	813
D (ASME 300)	210	254	318	381	444	520	584	648	711	774	914
E	114	127	140	152	165	178	190	216	222	229	267
F	20	22	32	38	40	45	55	65	70	75	90
G	6	6	10	10	12	14	16	18	20	20	25
H	4.8	4.8	8	9.5	9.5	12.7	12.7	16	19.1	19.1	22.3
J	3.5	3.5	5	5	5	5.5	6	7	7.5	7.5	9
K	2.7	2.7	4.5	5.4	5.4	7.3	7.1	9	10.9	10.8	12.6
L	22	22	32	40	40	45	50	63	70	80	90
M	4	4	4	4	4	4	4	8	8	8	8
N	7/16 -14UNC		5/8 -11UNC	¾ -10UNC				5/8 -11UNC			
P	125 F12		140 F14	165 F16				254 F25			
U	0	0	78	137	189	239	280	313	362	418	511
V	0	0	10	26	43	60	74	81	100	122	152

Weights in pounds

Inches	3“	4“	6“	8“	10“	12“	14“	16“	18“	20“	24“
bare shaft											
ASME 150	40	49	79	132	212	234	333	500	619	697	1116
ASME 300	49	68	117	187	295	346	498	701	897	1021	1623
with gear											
ASME 150	71	79	110	174	269	291	392	626	776	855	1314
ASME 300	79	99	163	245	353	465	622	891	1142	1268	2070

Double Flange Short - ISO 5752



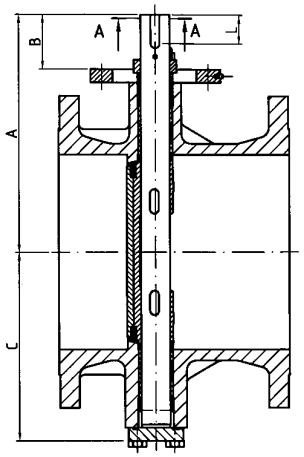
Dimensions in mm. with manual gear

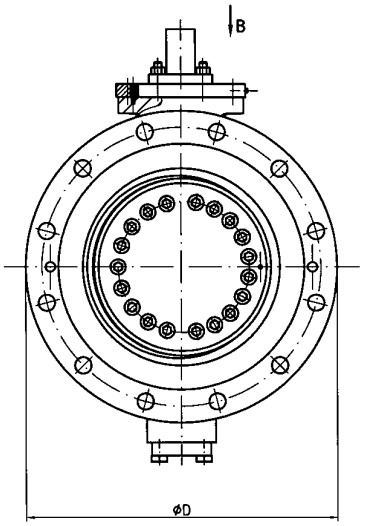
Inches	3“	4“	6“		8"		10"		12"			14"				16"			
ΔP max (psi)	715	715	285	715	230	715	570	715	230	360	715	230	360	570	715	145	360	570	715
A	416	446	526	530	627	631	699	699	774	800	821	834	860	881	906	1006	1032	1078	1076
B	130	145	180		223		259	259	282			317				363			
Q	80	80	90		120		120		120			120				180			
F	76	76	76	80	76	80	80	106	80	106	127	80	106	127	152	80	106	152	150
G	42	42	42	44.5	42	44.5	44.5	50	44.5	50	50	44.5	50	50	66	44.5	50	66	64
H	64	64	64	100	64	100	100	126	100	126	158	100	126	158	155	100	126	155	153
J	240	240	240	282	240	282	282	362	282	362	387	282	362	387	493	282	362	493	509
K	250	250	250	400	250	400	400	600	400	600	600	400	600	600	600	400	600	600	600
L	98	98	98	134	98	134	134	178	134	178	209	134	178	209	232	134	178	232	239
M	45	45	45	64	45	64	64	114	64	114	117	64	114	117	158	64	114	158	171
N	65	65	65	96.4	65	96.4	96.4	123	96.4	123	154	96.4	123	154	60	96.4	123	60	68
P(ASME 150)	159	147	148	-	169	150	141	-	118	133	-	118	123	-	-	169	151	-	-
P(ASME 300)	149	135	129	127	150	131	122	143	99	114	137	92	97	120	222	143	126	241	253
Drawing	A	A	A	A	A	A	A	B	A	B	B	A	B	B	B	A	B	B	B

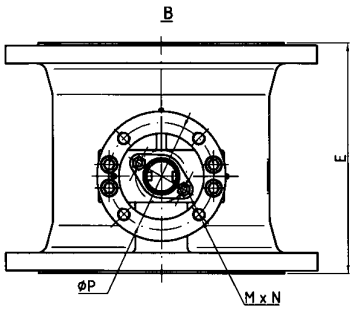
Inches	18"				20"					24" (class 150)		
ΔP max (psi)	145	230	360	675	145	230	360	570	715	230	360	715
A	1082	1103	1128	1226	1196	1217	1222	1240	1254	1386	1364	1418
B	413				445					517		
Q	180				180					180		
F	106	127	152	150	106	127	152	150	164	152	150	164
G	50	50	66	64	50	50	66	64	70	66	64	70
H	126	158	155	153	126	158	155	153	175	155	153	175
J	362	387	493	509	362	387	493	509	464	493	509	464
K	600	600	600	600	600	600	600	600	600	600	600	600
L	178	209	232	239	178	209	232	239	175	232	239	175
M	114	117	158	171	114	117	158	171	326	158	171	326
N	123	154	60	68	123	154	60	68	153	60	68	153
P (ASME 150)	167	184	196	-	158	175	264	-	-	255	265	-
P (ASME 300)	129	146	158	237	120	137	226	238	207	204	215	224
Drawing	B	B	B	B	B	B	B	B	B	B	B	B

Double Flange Long - ASME B16.10

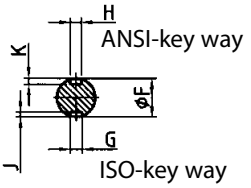
Dimensions / Weights 4" to 12"







A – A



key ways canted 5°

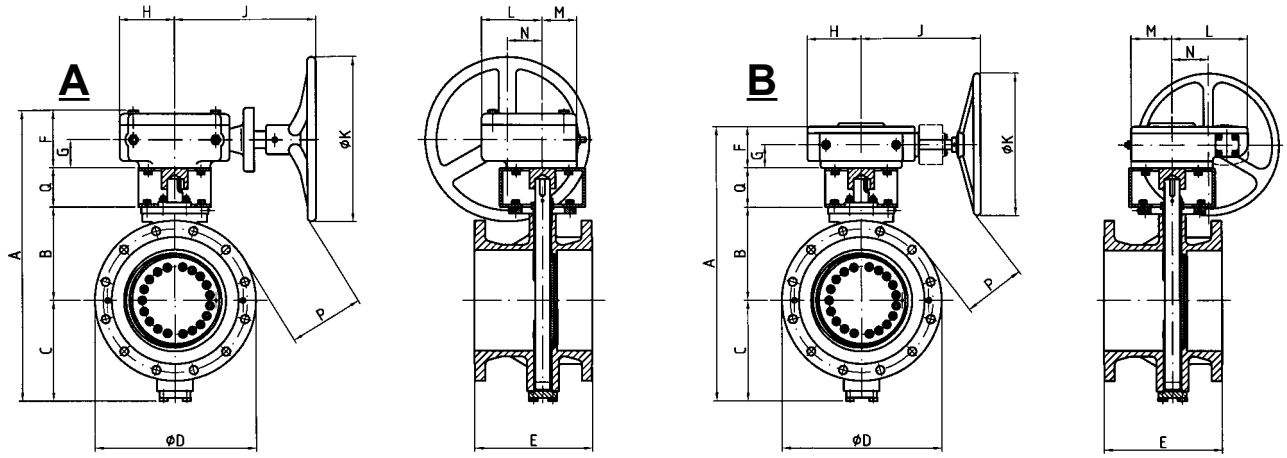
Dimensions in mm. bare shaft end

Inches	4“	6“	8“	10“	12“
A	207	252	303	339	367
B	62	72	80	80	85
C	145	180	208	240	292
D (ASME 150)	229	280	343	406	482
D (ASME 300)	254	318	381	444	520
E (ASME 150)	229	267	292	330	356
E (ASME 300)	305	403	419	457	502
F	22	32	38	40	45
G	6	10	10	12	14
H	4.8	8	9.5	9.5	12.7
J	3.5	5	5	5	5.5
K	2.7	4.5	5.4	5.4	7.3
L	22	32	40	40	45
M	4	4	4	4	4
N	7/16 -14 UNC	5/8 -11 UNC	¾ -10 UNC	¾ -10 UNC	¾ -10 UNC
P	125 F12	140 F14	165	165 F16	165

Weights in pounds

Inches	4“	6“	8“	10“	12“
bare shaft					
ASME 150	55	101	161	196	290
ASME 300	81	156	242	372	447
with gear					
ASME 150	86	132	202	253	348
ASME 300	112	163	299	429	557

Double Flange Long - ASME B16.10



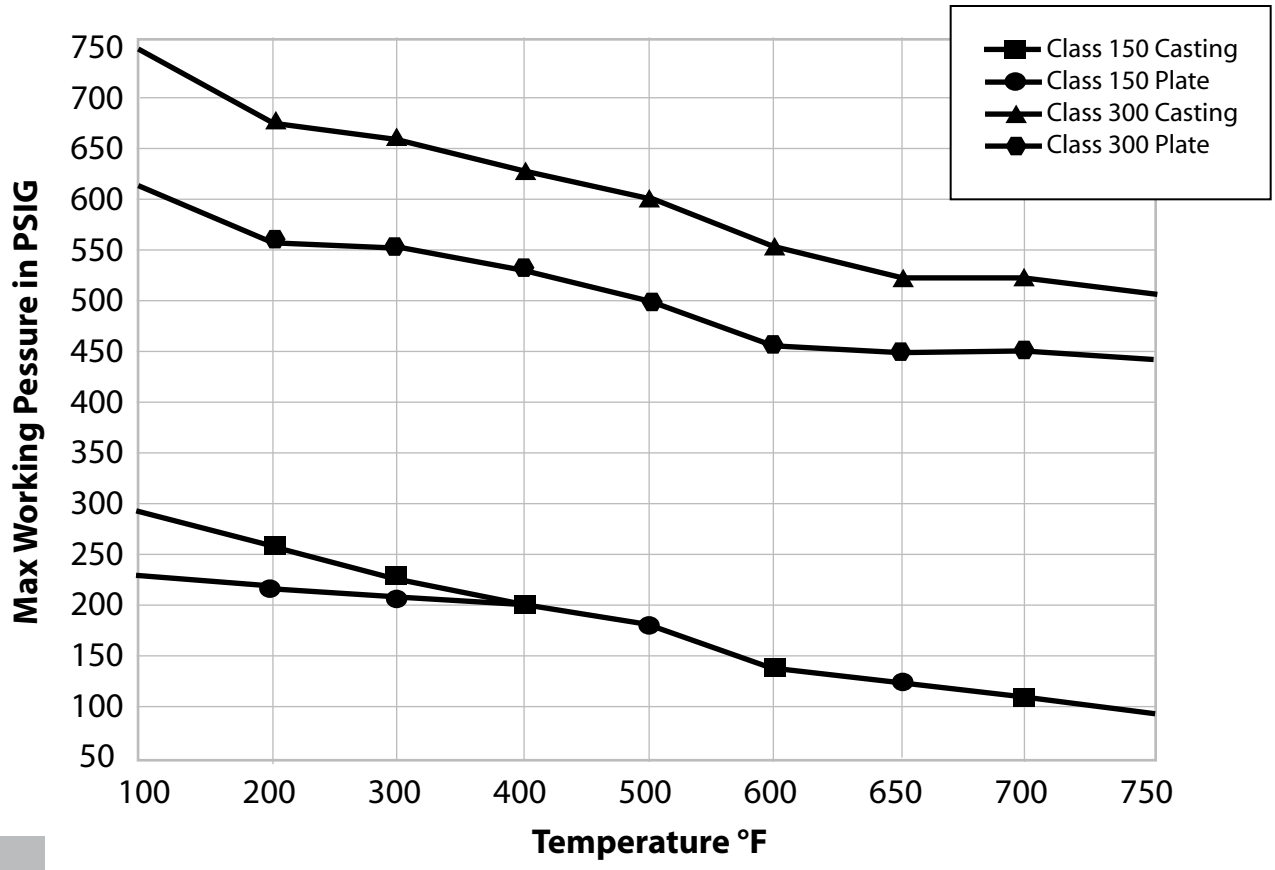
Dimensions in mm. with manual gear

Inches	4“	6“		8"		10"		12"		
ΔP max (psi)	**715**	**285**	**715**	**230**	**715**	**570**	**715**	**230**	**360**	**715**
A	446	526	530	627	631	699	699	774	800	821
B	145	180		223		259	259	282		
Q	80	90		120		120		120		
F	76	76	80	76	80	80	106	80	106	127
G	42	42	44.5	42	44.5	44.5	50	44.5	50	50
H	64	64	100	64	100	100	126	100	126	158
J	240	240	282	240	282	282	362	282	362	387
K	250	250	400	250	400	400	600	400	600	600
L	98	98	134	98	134	134	178	134	178	209
M	45	45	64	45	64	64	114	64	114	117
N	65	65	96.4	65	96.4	96.4	123	96.4	123	154
P(ASME 150)	147	148	-	169	150	141	-	118	133	-
P(ASME 300)	135	129	127	150	131	122	143	99	114	137
Drawing	A	A	A	A	A	A	B	A	B	B

Pressure/Temperature Ratings for Steel

Temperature	Max Working Pressure in psig ASME Class 150 Steel		Max Working Pressure in psig ASME Class 300 Steel	
	Casting	Plate *	Casting	Plate *
	A216 WCB	A516 Gr.60	A216 WCB	A516 Gr.60
°F	psig	psig	psig	psig
-20 to 100	285	235	740	620
200	260	215	675	560
300	230	210	655	550
400	200	200	635	530
500	170	170	600	500
600	140	140	550	455
650	125	125	535	450
700	110	110	535	450
750	95	95	505	445
800	-	-	-	-
850	-	-	-	-
900	-	-	-	-
950	-	-	-	-
1000	-	-	-	-

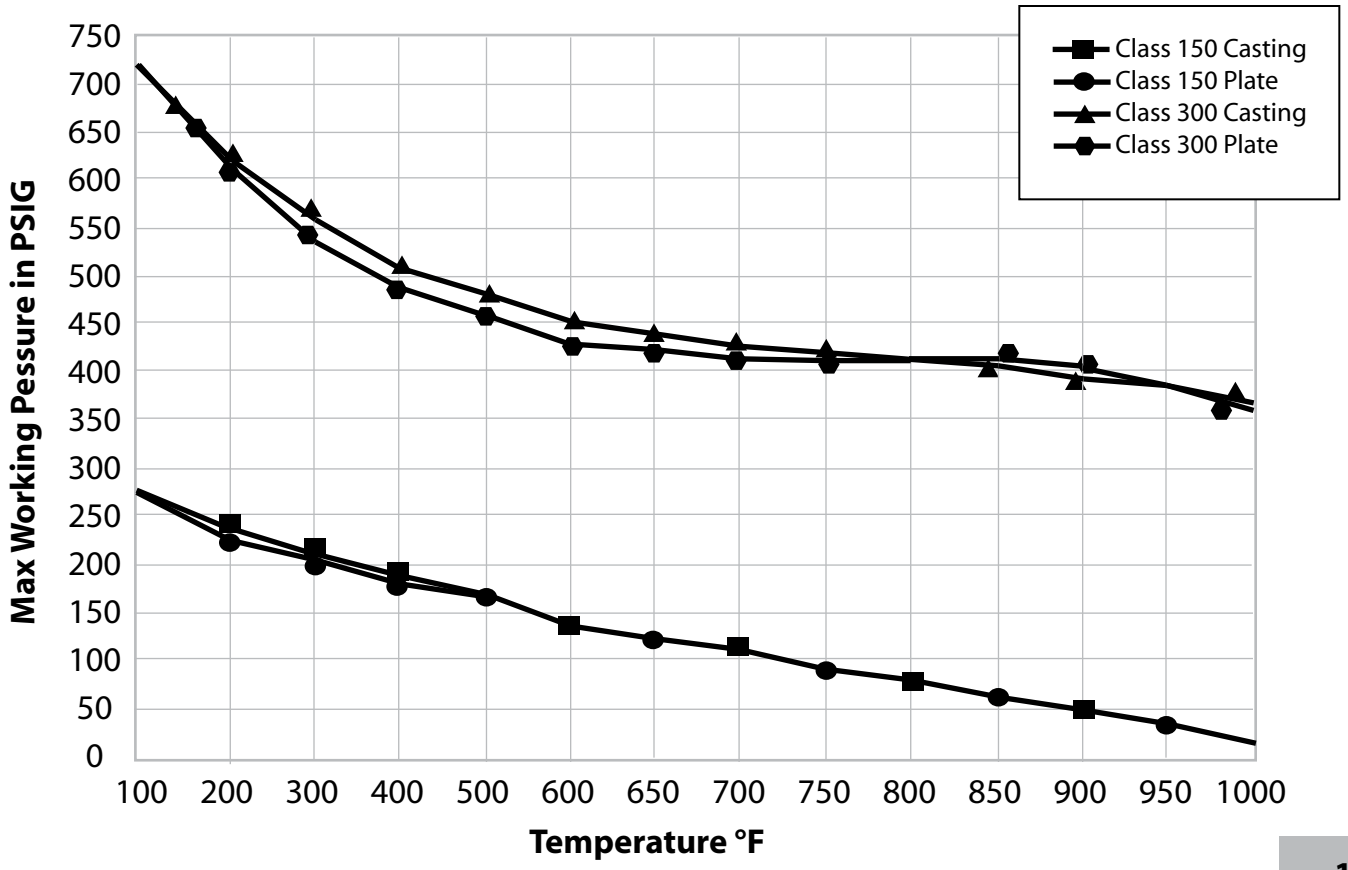
Note: Values in accordance with ASME B16.34.
*Used only with Lug Body - API 609 up to 6", > 8" body made of casting.



Pressure/Temperature Ratings for Stainless Steel

	Max Working Pressure in psig ASME Class 150 Stainless Steel		Max Working Pressure in psig ASME Class 300 Stainless Steel	
	Casting	Plate *	Casting	Plate *
Temperature	A351 CF 8M	A240 Type 321	A351 CF 8M	A240 Type 321
°F	psig	psig	psig	psig
-20 to 100	275	275	720	720
200	240	235	620	610
300	215	210	560	545
400	195	190	515	495
500	170	170	480	460
600	140	140	450	435
650	125	125	445	430
700	110	110	430	420
750	95	95	425	415
800	80	80	415	415
850	65	65	405	410
900	50	50	395	405
950	35	35	385	385
1000	20	20	365	355

Note: Values in accordance with ASME B16.34.
*Used only with Lug Body - API 609 up to 6", > 8" body made of casting.



Screw Dimensions - Lug Body

Lug Body API 609

Inches	ASME Class	Quantity	x	Thread	x	Length
3"	150	8	x	5/8 -11UNC	x	1 ¾"
	300	16	x	¾ - 10UNC	x	2"
4"	150	16	x	5/8 -11UNC	x	2"
	300	16	x	¾ - 10UNC	x	2¼"
6"	150	16	x	¾ -10UNC	x	2"
	300	24	x	¾ - 10UNC	x	2½"
8"	150	16	x	¾ -10UNC	x	2¼"
	300	24	x	7/8 - 9UNC	x	3"
10"	150	24	x	7/8 - 9UNC	x	2½"
	300	24	x	1 - 8UNC	x	3¼"
		8*	x	1 - 8UNC	x	2¾"
12"	150	24	x	7/8 - 9UNC	x	2½"
	300	32	x	1 1/8 - 7UNC	x	3½"
		8*	x	1 1/8 - 7UNC	x	3"
14"	150	24	x	1 - 8UNC	x	2¾"
	300	32	x	1 1/8 - 7UNC	x	4"
		8*	x	1 1/8 - 7UNC	x	3"
16"	150	32	x	1 - 8UNC	x	2¾"
	300	32	x	1¼ - 7UNC	x	4"
		8*	x	1¼ - 7UNC	x	3¼"
18"	150	24	x	1 1/8 - 7UNC	x	3"
		8*	x	1 1/8 - 7UNC	x	2½"
	300	40	x	1¼ - 7UNC	x	4"
		8*	x	1¼ - 7UNC	x	3¼"
20"	150	32	x	1 1/8 - 7UNC	x	3¼"
		8*	x	1 1/8 - 7UNC	x	2½"
	300	40	x	1¼ - 7UNC	x	4½"
		8*	x	1¼ - 7UNC	x	3½"
24"	150	32	x	1¼ - 7UNC	x	3½"
		8*	x	1¼ - 7UNC	x	2¾"
	300	40	x	1½ - 6UNC	x	5"
		8*	x	1½ - 6UNC	x	4"

* The shorter screws are to be provided for the tapped holes next to the shaft.

Screw dimensions for weld neck flanges in accordance with ASME B 16.5.

Screw/Nut Dimensions - Double Flange

Double Flange Long - ASME B16.10

Inches	ASME Class	Quantity	x	Thread	x	Length
4"	150	16	x	5/8 -11UNC	x	2¾" Screw with Nut
	300	16	x	¾ - 10UNC	x	3½" Screw with Nut
6"	150	16	x	¾ -10UNC	x	3" Screw with Nut
	300	24	x	¾ - 10UNC	x	4" Screw with Nut
8"	150	16	x	¾ -10UNC	x	3¼" Screw with Nut
	300	24	x	7/8 - 9UNC	x	4½" Screw with Nut
10"	150	24	x	7/8 - 9UNC	x	3½" Screw with Nut
	300	32	x	1 - 8UNC	x	5 1/8" Screw with Nut
12"	150	24	x	7/8 - 9UNC	x	3¾" Screw with Nut
	300	32	x	1 1/8 - 7UNC	x	5½" Screw with Nut

Screw/Nut dimensions for weld neck flanges in accordance with ASME B 16.5.

Screw/Nut Dimensions - Double Flange

Double Flange Short - ISO 5752

Inches	ASME Class	Quantity	x	Thread	x	Length
3"	150	8	x	5/8 -11UNC	x	2 ¾" Screw with Nut
	300	8	x	¾ - 10UNC	x	3¼" Screw with Nut
		8*	x	¾ - 10UNC	x	2"
4"	150	8	x	5/8 -11UNC	x	2¾" Screw with Nut
		8*	x	5/8 -11UNC	x	1¾"
	300	8	x	¾ - 10UNC	x	3½" Screw with Nut
		8*	x	¾ - 10UNC	x	2¼"
6"	150	8	x	¾ -10UNC	x	3" Screw with Nut
		8*	x	¾ - 10UNC	x	1¾"
	300	16	x	¾ - 10UNC	x	4" Screw with Nut
		8*	x	¾ - 10UNC	x	2¼"
8"	150	8	x	¾ -10UNC	x	3¼" Screw with Nut
		8*	x	¾ - 10UNC	x	2"
	300	16	x	7/8 - 9UNC	x	4½" Screw with Nut
		8*	x	7/8 - 9UNC	x	2¾"
10"	150	16	x	7/8 - 9UNC	x	3½" Screw with Nut
		8*	x	7/8 - 9UNC	x	2¼"
	300	24	x	1 - 8UNC	x	5 1/8" Screw with Nut
		8*	x	1 - 8UNC	x	3"
12"	150	16	x	7/8 - 9UNC	x	3¾" Screw with Nut
		8*	x	7/8 - 9UNC	x	2¼"
	300	24	x	1 1/8 - 7UNC	x	5½" Screw with Nut
		8*	x	1 1/8 - 7UNC	x	3¼"
14"	150	16	x	1 - 8UNC	x	4¼" Screw with Nut
		8*	x	1 - 8UNC	x	2¾"
	300	32	x	1 1/8 - 7UNC	x	5¾" Screw with Nut
		8*	x	1 1/8 - 7UNC	x	3½"
16"	150	24	x	1 - 8UNC	x	4¼" Screw with Nut
		8*	x	1 - 8UNC	x	2¾"
	300	32	x	1¼ - 7UNC	x	6¼" Screw with Nut
		8*	x	1¼ - 7UNC	x	3½"
18"	150	24	x	1 1/8 - 7UNC	x	5" Screw with Nut
		8*	x	1 1/8 - 7UNC	x	3"
	300	40	x	1¼ - 7UNC	x	6½" Screw with Nut
		8*	x	1¼ - 7UNC	x	4"
20"	150	32	x	1 1/8 - 7UNC	x	5" Screw with Nut
		8*	x	1 1/8 - 7UNC	x	3¼"
	300	40	x	1¼ - 7UNC	x	7" Screw with Nut
		8*	x	1¼ - 7UNC	x	4"
24"	150	32	x	1¼ - 7UNC	x	5¾" Screw with Nut
		8*	x	1¼ - 7UNC	x	3½"
	300	40	x	1½ - 6UNC	x	7¾" Screw with Nut
		8*	x	1½ - 6UNC	x	4½"

* The shorter screws are to be provided for the tapped holes next to the shaft.
Screw/Nut dimensions for weld neck flanges in accordance with ASME B 16.5.

Weights in Pounds

Size	Nominal Pressure	Valve with Bare Shaft End			Valve with Gear		
		Lug Body API 609	Double Flange Short ISO 5752	Double Flange Long ASME B16.10	Lug Body API 609	Double Flange Short ISO 5752	Double Flange Long ASME B16.10
3"	ASME 150	33	40	-	64	71	-
3"	ASME 300	33	49	-	64	79	-
4"	ASME 150	44	49	55	75	79	86
4"	ASME 300	44	68	82	75	99	112
6"	ASME 150	62	79	101	93	110	132
6"	ASME 300	64	117	157	110	163	163
8"	ASME 150	101	132	161	143	174	203
8"	ASME 300	115	187	243	172	245	300
10"	ASME 150	146	212	196	203	269	254
10"	ASME 300	-	295	373	227	-	430
12"	ASME 150	181	234	291	238	291	348
12"	ASME 300	205	346	448	324	465	558
14"	ASME 150	207	333	-	267	392	-
14"	ASME 300	265	498	-	388	622	-
16"	ASME 150	291	500	-	417	626	-
16"	ASME 300	379	701	-	569	891	-
18"	ASME I50	549	619	-	705	776	-
18"	ASME 300	717	897	-	961	1142	-
20"	ASME 150	703	697	-	862	855	-
20"	ASME 300	882	1021	-	1129	1268	-
24"	ASME 150	1202	1116	-	1400	1314	-
24"	ASME 300	1698	1623	-	2145	2070	-

Torques and Cv Values

Torques in Nm

Inches	Max Differential Pressure with Valve Closed psig								
	147	235	294	367.5	441	514.5	588	661.5	735
3"	44	64	77	94	110	127	143	160	176
4"	79	114	137	165	194	223	251	280	309
5"	132	185	221	266	311	355	400	445	490
6"	274	373	439	521	603	685	768	850	932
8"	290	464	580	725	870	1015	1160	1305	1450
10"	488	750	925	1144	1363	1581	1800	2019	2238
12"	795	1107	1315	1575	1835	2095	2355	2615	2875
14"	1286	1817	2171	2614	3057	3500	3943	4386	4829
16"	1450	2230	2750	3400	4050	4700	5350	6000	6650
18"	1900	2770	3350	4075	4800	5525	6250	6975	7700
20"	2600	3680	4400	5300	6200	7100	8000	8900	9800
24"	4460	6176	7320	8750	10180	11610	13040	14470	15900

The torques above are design torques for actuators. They feature a safety factor and may be used for any application, regardless whether the higher pressure is effective in preferred direction (shaft side) or in opposite direction (disc side). The value for 10 bar differential pressure is to be taken as minimum torque.

Cv Values Dependent Upon Opening Angle

Inches	Opening Angle							
	90°	80°	70°	60°	50°	40°	30°	20°
3"	119	114	92	69	51	37	24	14
4"	227	217	174	131	98	70	48	27
5"	395	379	305	229	170	122	83	48
6"	651	626	501	378	280	202	137	78
8"	1477	1417	1137	857	635	458	310	177
10"	2326	2233	1791	1349	1000	721	488	279
12"	3488	3349	2686	2023	1500	1081	733	419
14"	5349	5135	4119	3102	2300	1658	1123	642
16"	7442	7144	5730	4316	3200	2307	1563	893
18"	10116	9712	7790	5867	4350	3136	2124	1214
20"	12791	12279	9849	7419	5500	3965	2686	1535
24"	19767	18977	15221	11465	8500	6128	4151	2372

Standard Spare Parts

Item	Part	Material
3	Laminated seal	1.4541 / Graphite
4	Gasket	Graphite
7	Cover gasket	Graphite
19/20	Gland packing	3 Graphite rings, 2 rings made of carbon fiber mesh

Inches	Lug Body - API 609 Article No. *2	Double Flange Short - ISO 5752 and Double Flange Long - ASME B16.10 Article No. *2
3“	GSPA0080	GSPA0080S
4“	GSPA0100	GSPA0100S
5“	GSPA0125	GSPA0125S
6“	GSPA0150 *	GSPA0150S
6“	GSPA0150A **	
8“	GSPA0200 *	GSPA0200S
8“	GSPA0200A **	
10“	GSPA0250	GSPA0250S
12“	GSPA0300	GSPA0300S
14“	GSPA0350	GSPA0350S
16“	GSPA0400	GSPA0400S
18“	GSPA0450	GSPA0450S
20“	GSPA0500	GSPA0500S
24“	GSPA0600	GSPA0600S

* Not for Lug Body - API 609 in ASME 150.
** Only for Lug Body - API 609 in ASME 150.
* 2 Applies only to the current series 2.
Spare parts for other series indicating the complete article number available on request.

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