



brands you trust.

TECHNICAL DATASHEET
ASME DESIGN
(Imperial Version)

**Crane®FKX 9000
Triple Offset Butterfly Valves**





Crane®FKX 9000 Features and Benefits

Crane®FKX 9000 Next Generation Triple Offset Valves

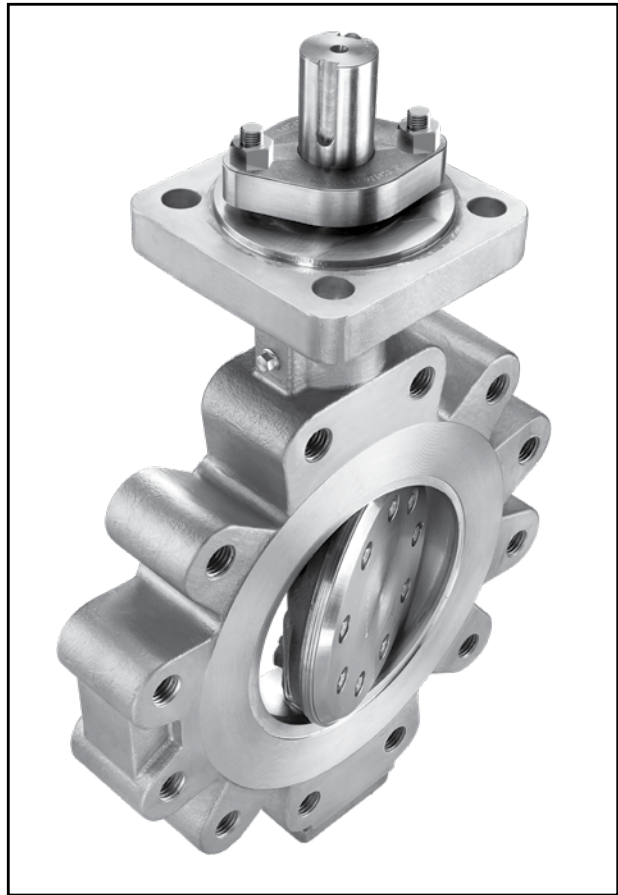
Crane’s new cast TOV design offers best-in-class in-line seal design and world-leading fugitive emissions package. Additional features such as a graphite-free seal ring and pressure tight bearing protection enhance service in severe or abrasive applications.

STANDARD FEATURES INCLUDE:

- Standard Graphite ISO 15848, Class BH, level C03
- TA-Luft compliance
- Stellite seat with wide seat angle for longer seat life
- ISO 5211 actuator mounting bracket
- Reduced weight due to scalloped body
- Optimized disc profile for better Kv
- Fixed disc with flexible, resilient metal seal ring
- Bearing designed to minimize shaft deflection
- Graphite/Stainless Steel laminated seal-ring

OPTIONAL FEATURES INCLUDE:










- Superior Performance Graphite Packing ISO 15848-Class AH (<50ppm), EPA Method 21
- Pressure-tight bearing protector
- Monitoring Port
- Flushing Port
- Live-loaded packing



Product Range

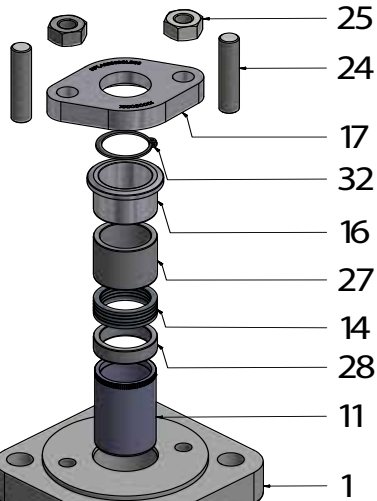
Size	Class	Body Design	Face-to-face Dimension	Body Material
3"-48"	Class 150-600	Lug Double Flanged, Short Pattern Double Flanged, Long Pattern	API 609 ISO 5752 ASME B16.10	WCB CF8M

Crane® FKX 9000 Body Designs

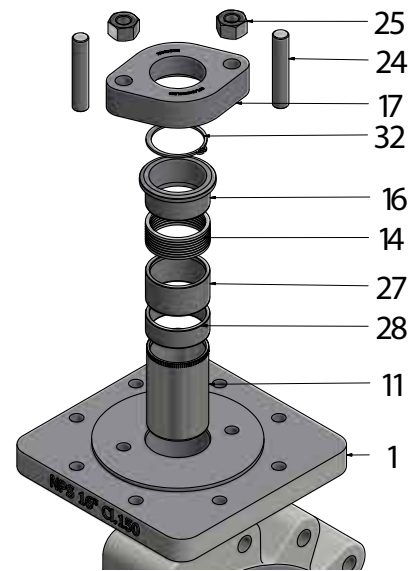
	Lug Design	Double Flanged Short Pattern Design	Double Flanged Long Pattern Design
Front View - Shaft side			
Side View			
Top View			

Exploded View Standard Design

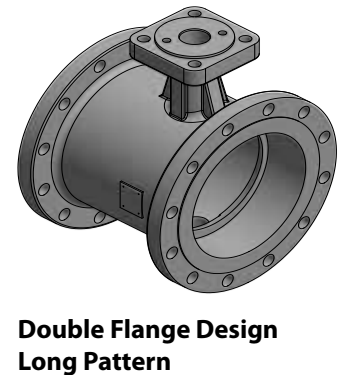
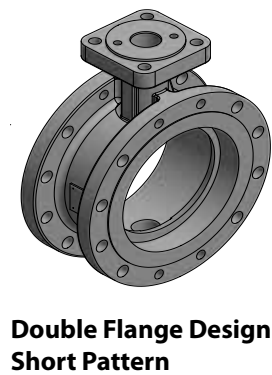
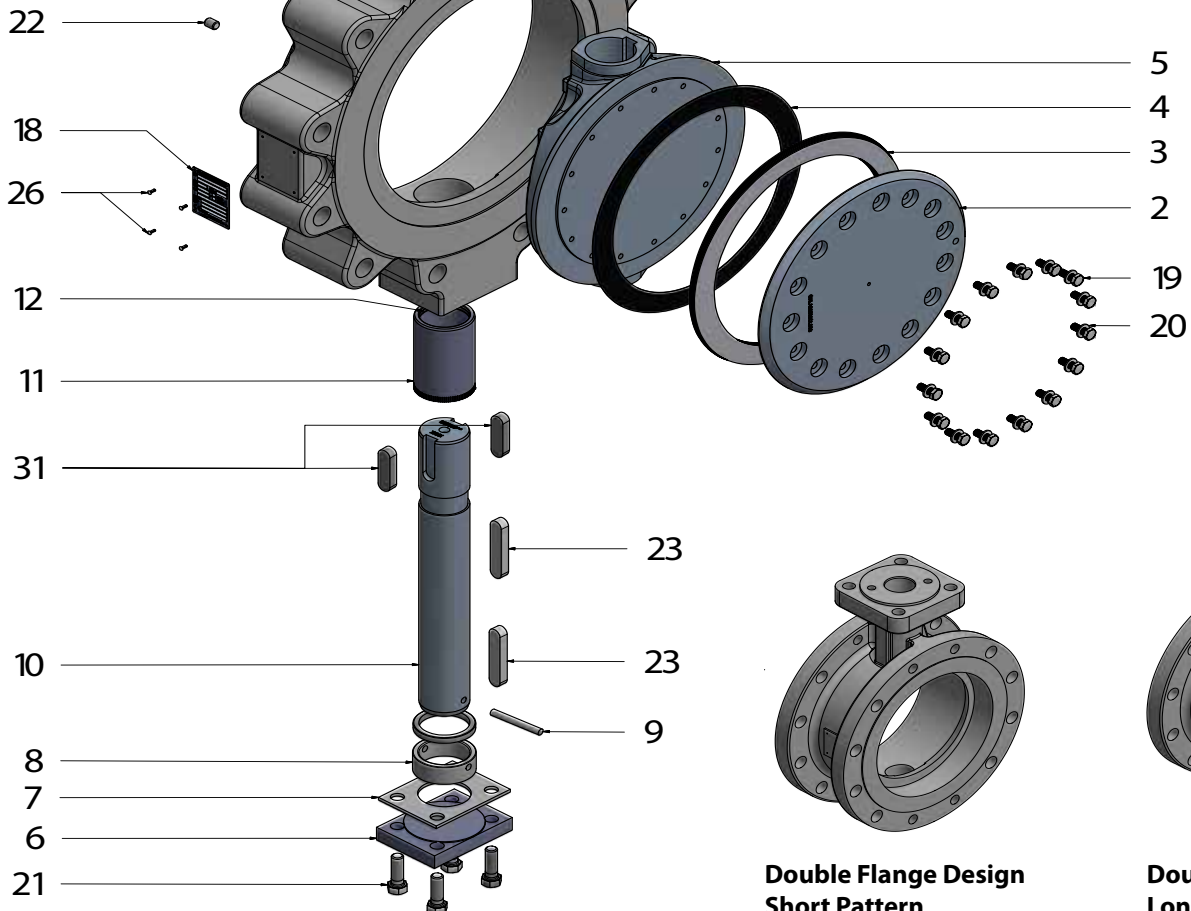
Size
3"-14"
DN 80-350



Size
16"-24"
DN 400-600



Lug Design



Crane®FKX 9000 Materials of Construction

Item*	Description	Spare Part Kit	Carbon Steel		Stainless Steel	
			ASTM	DIN	ASTM	DIN
1	Body		A216 Gr. WCB	1.0619	A351 Gr. CF8M	1.4408
2	Seal retainer ring		A516 Gr. 60	1.0425	A240 T321	1.4541
3	Laminated seal	DSK	A240 UNS S31803 / Graphite	1.4462 / Graphite	A240 UNS S31803 / Graphite	1.4462 / Graphite
4	Seal gasket	DSK	Graphite			
5	Disc		A216 Gr. WCB	1.0619	A351 Gr. CF8M	1.4408
6	Cover		A516 Gr. 60	1.0425	A240 T321	1.4541
7	Cover gasket	BGK	Graphite / Stainless Steel			
8	Shaft retainer		A276 Gr. 304	1.4301	A276 Gr. 304	1.4301
9	Fixing pin		A276 Gr. 431	1.4057	A276 Gr. 431	1.4057
10	Shaft		A276 Gr. 431	1.4057	A276 Gr. 431	1.4057
11	Bearing	SBK	A582 Gr. 303 coated	1.4305 coated	A582 Gr. 303 coated	1.4305 coated
12	Bearing protector inside	SBK	Graphite			
13	Lantern ring		A582 Gr. 303	1.4305	A582 Gr. 303	1.4305
14	Packing	BGK	Graphite			
16	Gland		A582 Gr. 303	1.4305	A582 Gr. 303	1.4305
17	Gland flange		A516 Gr. 60	1.0425	A240 T321	1.4541
18	Name plate		A240 Gr. 304	1.4301	A240 Gr. 304	1.4301
19	Retainer screw	DSK	A193 Gr. B8	A2-70	A193 Gr. B8	A2-70
20	Spring washer	DSK	A2			
21	Cover screw		A193 Gr. B8	A2-70	A193 Gr. B8	A2-70
22	Threaded pin		1.4122			
23	Disc key		A240 Gr. 316Ti	1.4571	A240 Gr. 316Ti	1.4571
24	Gland stud		A193 Gr. B8	A2-70	A193 Gr. B8	A2-70
25	Gland nut		A194 Gr. 8	A2-70	A194 Gr. 8	A2-70
26	Notched nail		A29 Gr. 1012 zinc plated	1.0214 + A2A zinc plated	A29 Gr. 1012 zinc plated	1.0214 + A2A zinc plated
27	Spacer		A582 Gr. 303	1.4305	A582 Gr. 303	1.4305
28	Spacer		A582 Gr. 303	1.4305	A582 Gr. 303	1.4305
30	Plug		A479 Gr. 316Ti	1.4571	A479 Gr. 316Ti	1.4571
31	Drive key (actuation)		A194 Gr.2	1.1191	A194 Gr.2	1.1191
32	Retaining ring		1.4122			
33	Lantern ring		A582 Gr. 303	1.4305	A582 Gr.303	1.4305
35	O-ring	BGK	FKM			
36	Threaded pin		1.4122			
37	Packing-ring	SBK	Graphite			
38	Support ring		A582 Gr. 303	1.4305	A582 Gr. 303	1.4305

DSK = Disc Sealing Kit

SBK = Shaft Bearing Kit

BGK = Body Gasket Kit

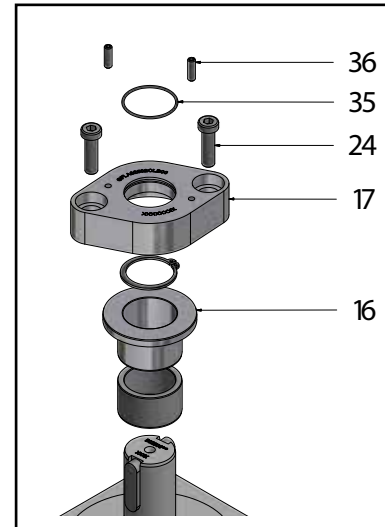
* Master BOM includes all items for standard and optional designs

Exploded View Optional Designs

Chemical Gland Flange Design

Item	Description	Spare Part Kit	Carbon Steel		Stainless Steel	
			ASTM	DIN	ASTM	DIN
16	Gland		A582 Gr. 303	1.4305	A582 Gr. 303	1.4305
17	Gland flange		A516 Gr. 60	1.0425	A240 T321	1.4541
24	Gland stud		A193 Gr. B8	A2-70	A193 Gr. B8	A2-70
35	O-ring	BGK	FKM			
36	Threaded pin		1.4122			

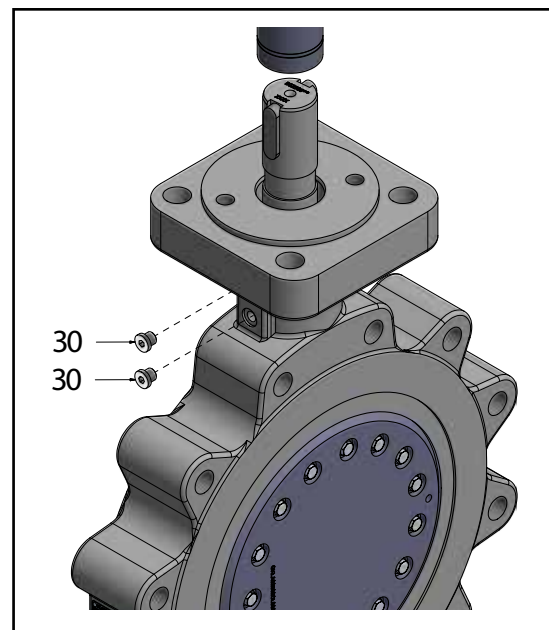
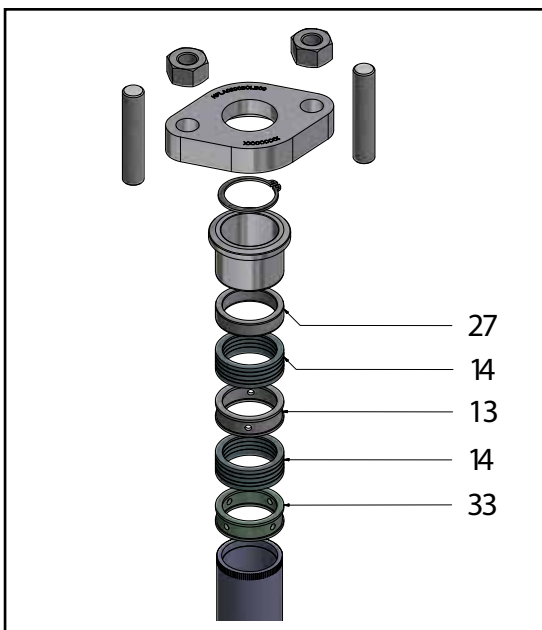
BGK = Body Gasket Kit



Dual Packing Design

Item	Description	Spare Part Kit	Carbon Steel		Stainless Steel	
			ASTM	DIN	ASTM	DIN
13	Lantern ring		A582 Gr. 303	1.4305	A582 Gr. 303	1.4305
14	Packing	BGK	Graphite			
27	Spacer		A582 Gr. 303	1.4305	A582 Gr. 303	1.4305
30	Plug		A479 Gr. 316Ti	1.4571	A479 Gr. 316Ti	1.4571
33	Lantern ring		A582 Gr. 303	1.4305	A582 Gr.303	1.4305

BGK = Body Gasket Kit

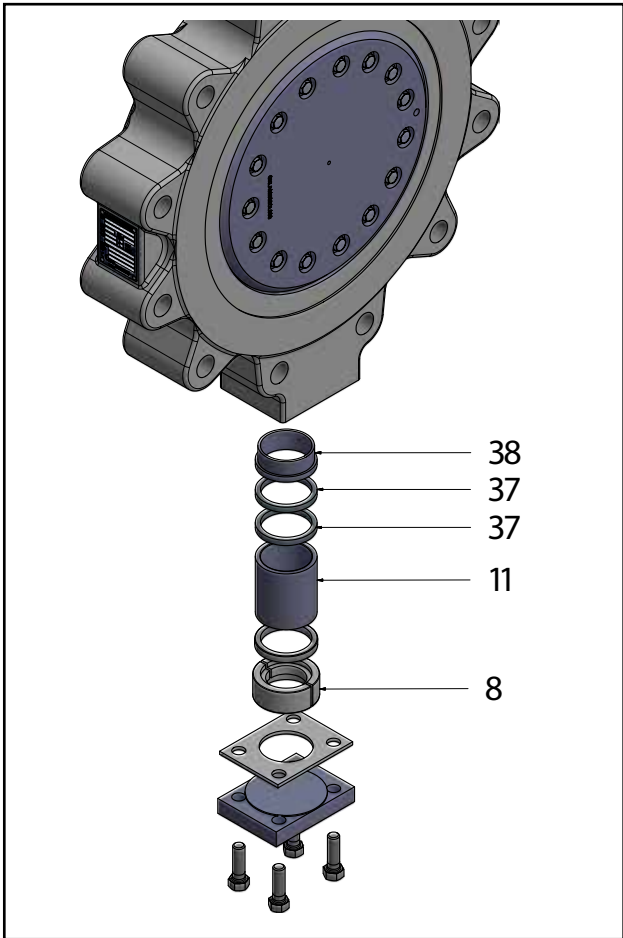
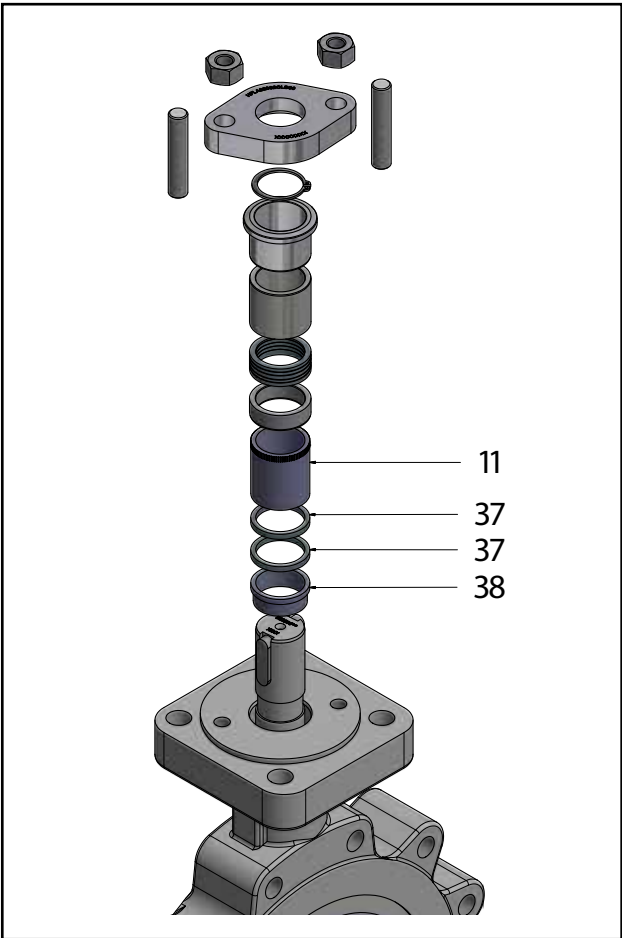


Exploded View Optional Designs

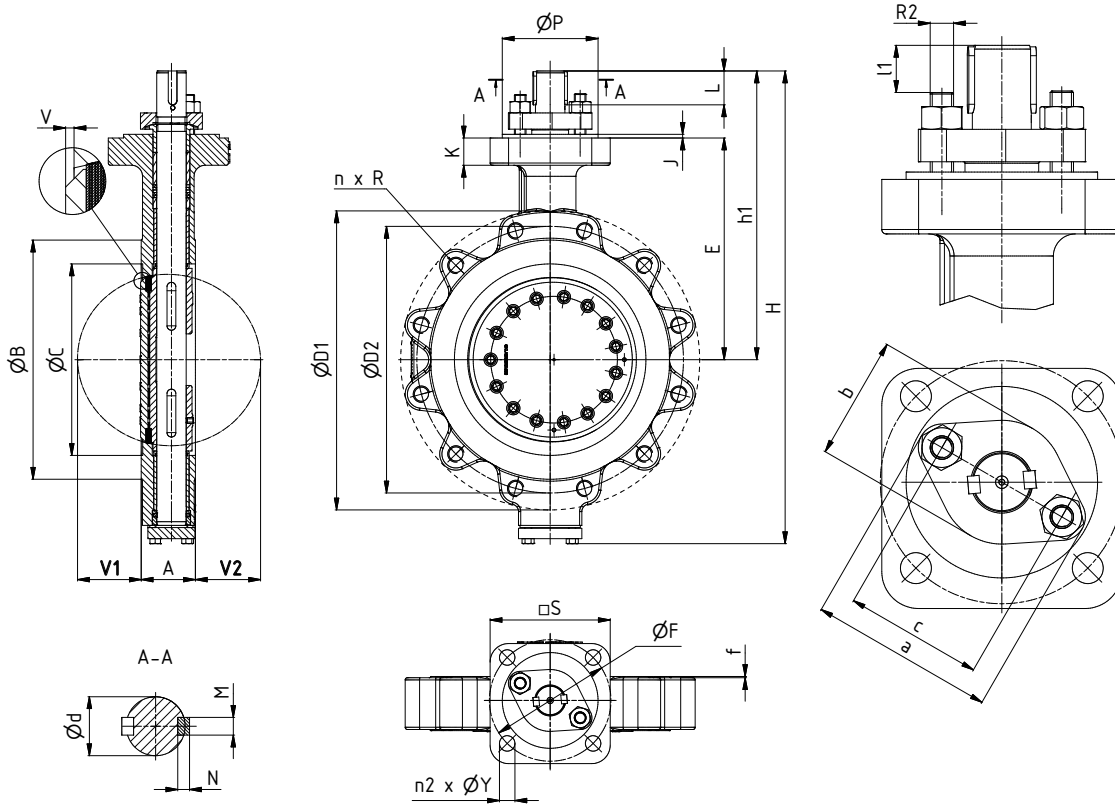
Pressure Tight Bearing Design

Item	Description	Spare Part Kit	Carbon Steel		Stainless Steel	
			ASTM	DIN	ASTM	DIN
8	Ring, divided		A582 Gr. 303 hardened	1.4305 hardened	A582 Gr. 303 hardened	1.4305 hardened
11	Bearing		A582 Gr. 303 coated	1.4305 coated	A582 Gr. 303 coated	1.4305 coated
37	Packing-ring	SBK	Graphite			
38	Support ring		A582 Gr. 303	1.4305	A582 Gr. 303	1.4305

BK = Shaft Bearing Kit



Lug Design Dimensions and Weights Class 150



DN	NPS	Dimensions (inch)										
		A	ØC	H	h1	E	ØD1	ØD2	n	R	ØB	f
Flange Face Raised RF acc. ANSI B16.5												
80	3"	1,89	3,15	15,04	9,65	6,93	7,48	6,00	4	5/8-11 UNC	5,00	0,06
100	4"	2,13	4,25	16,06	10,08	7,32	9,06	7,50	4	5/8-11 UNC	6,19	0,06
150	6"	2,32	6,30	19,29	11,89	8,94	11,02	9,50	4	3/4-10 UNC	8,50	0,06
200	8"	2,62	8,27	22,44	13,98	10,39	13,58	11,75	4	3/4-10 UNC	10,63	0,06
250	10"	2,89	10,24	25,20	15,43	11,85	15,94	14,25	8	7/8-9 UNC	12,76	0,06
300	12"	3,21	11,89	29,41	17,15	13,46	19,09	17,00	8	7/8-9 UNC	15,00	0,06
350	14"	3,72	13,54	31,94	18,80	14,53	21,06	18,75	8	1-8 UNC	16,26	0,06
400	16"	4,11	15,20	36,97	21,44	16,24	23,43	21,25	12	1-8 UNC	18,50	0,06
450	18"	4,59	16,93	41,42	23,82	18,31	25,00	22,75	12	1 1/8-8 UN	21,00	0,06
500	20"	5,10	19,06	44,29	25,43	19,39	27,56	25,00	16	1 1/8-8 UN	22,99	0,06
600	24"	6,16	22,99	50,08	28,41	22,42	32,09	29,50	16	1 1/4-8 UN	27,24	0,06
Flange Face Raised RF acc. ANSI B 16.47 Series A												
700	28"	9,02	27,01	52,72	31,73	25,20	36,42	34,00	28	1 1/4-8 UN	31,50	0,08
750	30"	9,25	29,02	55,47	33,31	26,38	38,78	36,00	28	1 1/4-8 UN	33,74	0,08
800	32"	9,49	30,98	58,90	35,24	27,76	41,73	38,50	28	1 1/2-8 UN	35,98	0,08
900	36"	9,49	35,00	64,17	37,95	29,92	46,06	42,75	32	1 1/2-8 UN	40,24	0,08
Flange Face Raised RF acc. ANSI B 16.47 Series B												
700	28	9,02	27,01	52,72	31,73	25,20	32,87	31,31	40	3/4-10 UNC	30,00	0,08
750	30	9,25	29,02	55,47	33,31	26,38	34,84	33,31	44	3/4-10 UNC	32,01	0,08
800	32	9,49	30,98	58,90	35,24	27,76	37,01	35,44	48	3/4-10 UNC	34,02	0,08
900	36	9,49	35,00	64,17	37,95	29,92	41,54	39,75	44	7/8-9 UNC	38,27	0,08

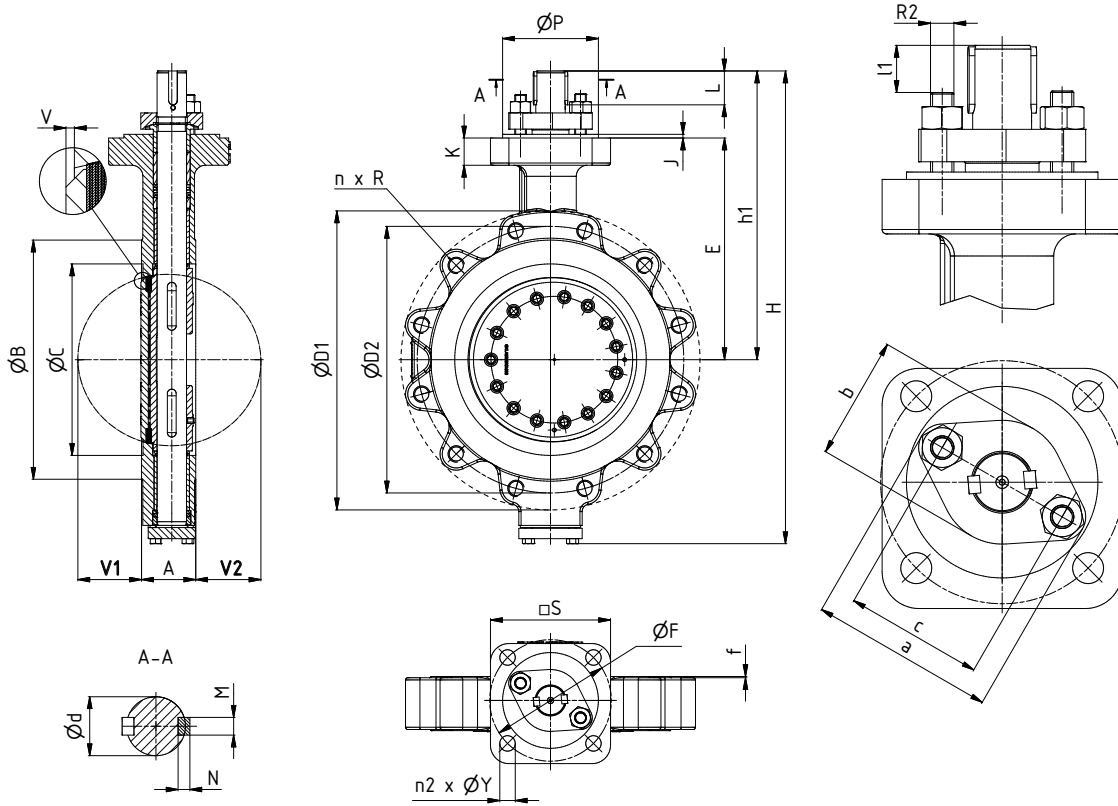
Lug Design Dimensions and Weights Class 150

DN	NPS	Dimensions (inch)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	4,53	3,35	4,92	4	0,51	0,75	0,12	0,79	0,98	0,24	0,24
100	4"	F12	4,53	3,35	4,92	4	0,51	0,71	0,12	0,94	1,14	0,31	0,28
150	6"	F14	5,31	3,94	5,51	4	0,75	1,02	0,16	1,26	1,46	0,39	0,31
200	8"	F16	6,30	5,12	6,50	4	0,83	1,18	0,20	1,57	1,81	0,47	0,35
250	10"	F16	6,42	5,12	6,50	4	0,83	1,46	0,20	1,57	1,81	0,47	0,31
300	12"	F16	6,69	5,12	6,50	4	0,91	1,38	0,20	1,77	2,05	0,55	0,35
350	14"	F16	6,30	5,12	6,50	4	0,83	1,18	0,20	2,17	2,28	0,63	0,39
400	16"	F25	10,63	7,87	10,00	8	0,67	1,32	0,20	2,56	2,83	0,71	0,63
450	18"	F25	10,63	7,87	10,00	8	0,67	1,30	0,20	2,76	3,15	0,79	0,47
500	20"	F25	10,63	7,87	10,00	8	0,67	1,30	0,20	2,95	3,54	0,79	0,47
600	24"	F30	12,99	9,06	11,73	8	0,83	1,50	0,20	3,54	4,04	0,98	0,47
700	28"	F35	16,34	10,24	14,02	8	1,30	1,73	0,20	4,33	6,30	1,10	0,63
750	30"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	4,33	7,09	1,10	0,63
800	32"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	4,72	7,09	1,26	0,71
900	36"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	5,12	8,66	1,26	0,71

DN	NPS	Dimensions (inch)									Weights (lb)
		a CS* SS*	b CS* SS*	c	l1	R2	V1	V2	v		
Flange Face Raised RF acc. ANSI B16.5											
80	3"	3,31	2,13	2,44	1,02	7/16-14 UNC	0,16	0,67			25
100	4"	3,31	2,13	2,44	1,06	7/16-14 UNC	0,47	1,09			34
150	6"	3,86	2,76	2,95	1,02	1/2-13 UNC	1,14	1,96			56
200	8"	4,96	3,31	3,70	1,18	5/8-11 UNC	2,07	2,61			91
250	10"	4,92	3,31	3,70	1,22	5/8-11 UNC	2,81	3,51			132
300	12"	5,08	3,54	4,02	1,26	5/8-11 UNC	3,55	4,36			200
350	14"	5,08	3,54	3,86	1,85	5/8-11 UNC	3,96	4,93			271
400	16"	6,69 6,69	4,72 6,69	5,12	2,24	3/4-10 UNC	4,54	5,55			416
450	18"	7,80 7,48	6,30 7,48	5,91	1,85	1-8 UNC	5,28	6,08			525
500	20"	7,80 7,87	5,51 7,87	5,91	2,17	1-8 UNC	6,22	6,65			658
600	24"	8,86 8,86	6,69 8,86	6,89	1,97	1-8 UNC	7,19	8,44			1064
Flange Face Raised RF acc. ANSI B 16.47 Series A											
700	28"	10,16	10,16	8,03	5,39	1 1/8-8 UN	8,19	8,58			1544
750	30"	10,16	10,16	8,03	6,18	1 1/8-8 UN	8,98	9,41			1808
800	32"	11,10	11,10	8,74	6,14	1 1/4-8 UN	9,76	10,24			2183
900	36"	11,50	11,50	9,13	7,48	1 1/4-8 UN	11,73	12,24			2822
Flange Face Raised RF acc. ANSI B 16.47 Series B											
700	28"	10,16	10,16	8,03	5,39	1 1/8-8 UN	8,19	8,58			3403
750	30"	10,16	10,16	8,03	6,18	1 1/8-8 UN	8,98	9,41			3987
800	32"	11,10	11,10	8,74	6,14	1 1/4-8 UN	9,76	10,24			4813
900	36"	11,50	11,50	9,13	7,48	1 1/4-8 UN	11,73	12,24			6223

*CS = carbon steel design, SS = stainless steel design

Lug Design Dimensions and Weights Class 300



DN	NPS	Dimensions (inch)										
		A	ØC	H	h1	E	ØD1	ØD2	n	R	ØB	f
Flange Face Raised RF acc. ANSI B16.5												
80	3"	1,89	3,15	15,04	9,65	6,93	8,27	6,62	8	3/4-10 UNC	5,00	0,06
100	4"	2,13	4,25	16,65	10,67	7,91	10,04	7,87	8	3/4-10 UNC	6,19	0,06
150	6"	2,32	6,30	19,84	12,44	9,45	12,60	10,62	12	3/4-10 UNC	8,50	0,06
200	8"	2,87	8,27	23,19	14,72	11,14	14,96	13,00	12	7/8-9 UNC	10,63	0,06
250	10"	3,27	10,24	25,94	16,18	12,60	17,52	15,25	16	1-8 UNC	12,76	0,06
300	12"	3,62	11,89	30,16	17,89	14,25	20,47	17,75	16	1 1/8-7 UNC	15,00	0,06
350	14"	4,70	13,54	33,23	20,08	15,79	23,03	20,25	20	1 1/8-8 UN	16,26	0,06
400	16"	5,33	15,20	38,35	22,81	17,42	25,59	22,50	20	1 1/4-8 UN	18,50	0,06
450	18"	5,87	16,93	42,60	25,00	19,49	27,99	24,75	24	1 1/4-8 UN	21,00	0,06
500	20"	6,36	19,06	45,39	26,54	20,49	30,51	27,00	24	1 1/4-8 UN	22,99	0,06
600	24"	7,22	22,99	51,46	29,78	23,80	36,02	32,01	24	1 1/2-8 UN	27,24	0,06
Flange Face Raised RF acc. ANSI B 16.47 Series A												
700	28"	9,02	27,01	61,18	37,28	28,15	40,75	37,00	28	1 5/8-8 UN	31,50	0,08
750	30"	9,25	29,02	64,33	39,45	29,33	42,91	39,25	28	1 3/4-8 UN	33,74	0,08
800	32"	9,49	30,98	66,85	40,59	30,51	45,28	41,50	28	1 7/8-8 UN	35,98	0,08
900	36"	9,49	35,00	73,31	44,69	33,07	50,00	46,00	32	2-8 UN	40,24	0,08
Flange Face Raised RF acc. ANSI B 16.47 Series B												
700	28	9,02	27,01	61,18	37,28	28,15	36,22	33,75	36	1 1/4-8 UN	30,98	0,08
750	30	9,25	29,02	64,33	39,45	29,33	38,98	36,25	36	1 3/8-8 UN	33,27	0,08
800	32	9,49	30,98	66,85	40,59	30,51	41,54	38,50	32	1 1/2-8 UN	35,51	0,08
900	36	9,49	35,00	73,31	44,69	33,07	46,06	42,87	32	1 5/8-8 UN	39,76	0,08

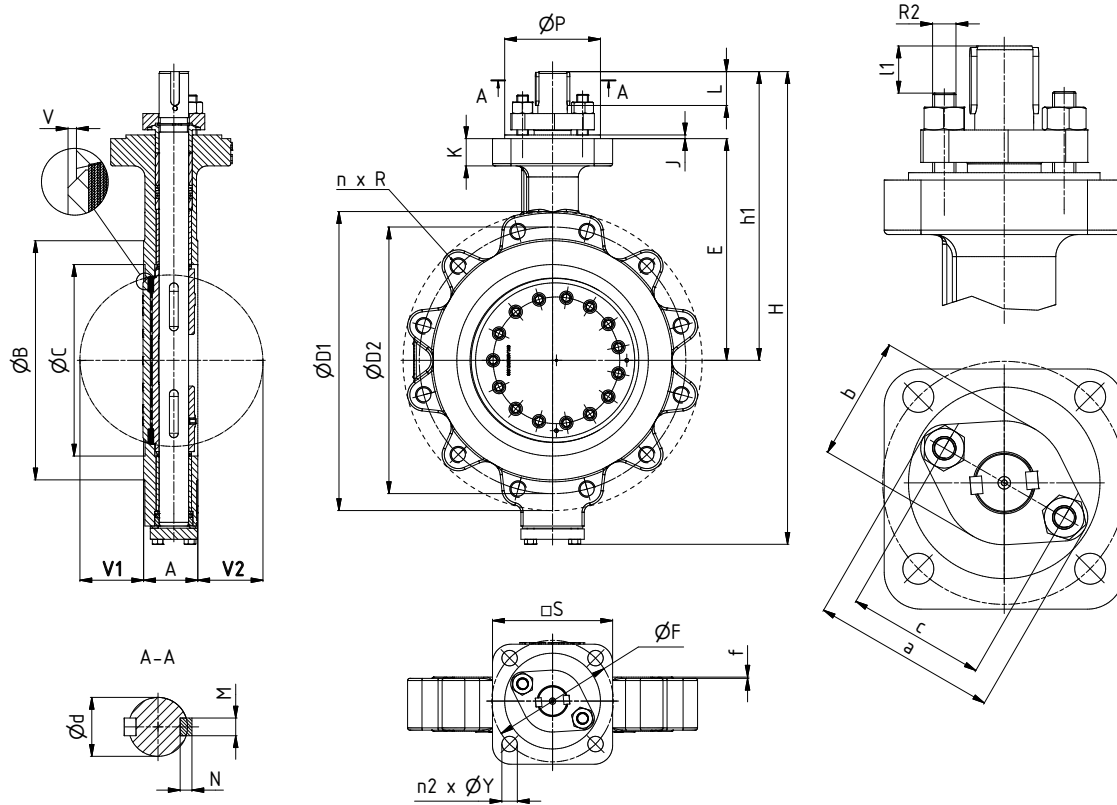
Lug Design Dimensions and Weights Class 300

DN	NPS	Dimensions (inch)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	4,53	3,35	4,92	4	0,51	0,75	0,12	0,79	0,98	0,24	0,24
100	4"	F12	4,53	3,35	4,92	4	0,51	0,71	0,12	0,94	1,14	0,31	0,28
150	6"	F14	5,31	3,94	5,51	4	0,75	1,02	0,16	1,26	1,46	0,39	0,31
200	8"	F16	6,30	5,12	6,50	4	0,83	1,18	0,20	1,57	1,81	0,47	0,35
250	10"	F16	6,42	5,12	6,50	4	0,83	1,46	0,20	1,57	1,81	0,47	0,31
300	12"	F16	6,69	5,12	6,50	4	0,91	1,38	0,20	1,77	2,05	0,55	0,35
350	14"	F16	6,30	5,12	6,50	4	0,83	1,18	0,20	2,17	2,28	0,63	0,39
400	16"	F25	10,63	7,87	10,00	8	0,67	1,32	0,20	2,56	2,83	0,71	0,63
450	18"	F25	10,63	7,87	10,00	8	0,67	1,30	0,20	2,76	3,15	0,79	0,47
500	20"	F25	10,63	7,87	10,00	8	0,67	1,30	0,20	2,95	3,54	0,79	0,47
600	24"	F30	12,99	9,06	11,73	8	0,83	1,50	0,20	3,54	4,04	0,98	0,47
700	28"	F35	16,34	10,24	14,02	8	1,30	1,73	0,20	4,33	6,30	1,10	0,63
750	30"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	4,33	7,09	1,10	0,63
800	32"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	4,72	7,09	1,26	0,71
900	36"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	5,12	8,66	1,26	0,71

DN	NPS	Dimensions (inch)								Weights (lb)
		a CS* SS*	b CS* SS*	c	l1	R2	V1	V2	V	
Flange Face Raised RF acc. ANSI B16.5										
80	3"	3,31	2,13	2,44	1,02	7/16-14 UNC	0,16	0,67		29
100	4"	3,31	2,13	2,44	1,06	7/16-14 UNC	0,47	1,09		39
150	6"	3,86	2,76	2,95	1,02	1/2-13 UNC	1,14	1,96		70
200	8"	4,96	3,31	3,70	1,18	5/8-11 UNC	1,98	2,45		114
250	10"	4,92	3,31	3,70	1,22	5/8-11 UNC	2,79	3,16		170
300	12"	5,08	3,54	4,02	1,26	5/8-11 UNC	3,57	3,93		260
350	14"	5,08	3,54	3,86	1,85	5/8-11 UNC	3,73	4,17		403
400	16"	6,69 6,69	4,72 6,69	5,12	2,24	3/4-10 UNC	4,18	4,68		617
450	18"	7,80 7,48	6,30 7,48	5,91	1,85	1-8 UNC	4,88	5,20		836
500	20"	7,80 7,87	5,51 7,87	5,91	2,17	1-8 UNC	5,64	5,97		960
600	24"	8,86 8,86	6,69 8,86	6,89	1,97	1-8 UNC	7,10	7,46		1541
Flange Face Raised RF acc. ANSI B 16.47 Series A										
700	28"	10,16	10,16	8,03	5,39	1 1/8-8 UN	8,23	8,54		2536
750	30"	10,16	10,16	8,03	6,18	1 1/8-8 UN	8,98	9,37		2933
800	32"	11,10	11,10	8,74	6,14	1 1/4-8 UN	9,80	10,24		3308
900	36"	11,50	11,50	9,13	7,48	1 1/4-8 UN	11,69	12,20		4167
Flange Face Raised RF acc. ANSI B 16.47 Series B										
700	28"	10,16	10,16	8,03	5,39	1 1/8-8 UN	8,23	8,54		5591
750	30"	10,16	10,16	8,03	6,18	1 1/8-8 UN	8,98	9,37		6466
800	32"	11,10	11,10	8,74	6,14	1 1/4-8 UN	9,80	10,24		7293
900	36"	11,50	11,50	9,13	7,48	1 1/4-8 UN	11,69	12,20		9189

*CS = carbon steel design, SS = stainless steel design

Lug Design Dimensions and Weights Class 600



DN	NPS	Dimensions (inch)										
		A	Ø C	H	h1	E	Ø D1	Ø D2	n	R	Ø B	f
Flange Face Raised RF acc. ANSI B16.5												
80	3"	2,13	3,15	16,30	10,08	7,48	8,27	6,63	8	3/4-10 UNC	5,00	0,28
100	4"	2,52	4,09	18,74	11,34	8,66	10,83	8,50	8	7/8-9 UNC	6,19	0,28
150	6"	3,07	5,98	22,64	13,54	10,24	13,98	11,50	12	1-8 UNC	8,50	0,28
200	8"	4,02	7,99	27,56	16,97	12,80	16,54	13,75	12	1 1/8-8 UN	10,63	0,28
250	10"	4,61	9,96	32,72	20,04	15,16	20,08	17,00	16	1 1/4-8 UN	12,75	0,28
300	12"	5,51	12,01	35,24	21,34	16,14	22,05	19,25	20	1 1/4-8 UN	15,00	0,28
350	14"	6,10	13,27	38,94	23,86	17,72	23,82	20,75	20	1 3/8-8 UN	16,25	0,28
400	16"	7,01	15,51	44,29	27,20	20,08	26,97	23,75	20	1 1/2-8 UN	18,50	0,28
450	18"	7,87	17,24	47,68	29,21	21,46	29,33	25,75	20	1 5/8-8 UN	21,00	0,28
500	20"	8,50	19,25	50,59	30,75	22,83	32,09	28,50	24	1 5/8-8 UN	23,00	0,28
600	24"	9,13	23,27	58,46	35,75	25,79	37,01	33,00	24	1 7/8-8 UN	27,25	0,28

Lug Design Dimensions and Weights Class 600

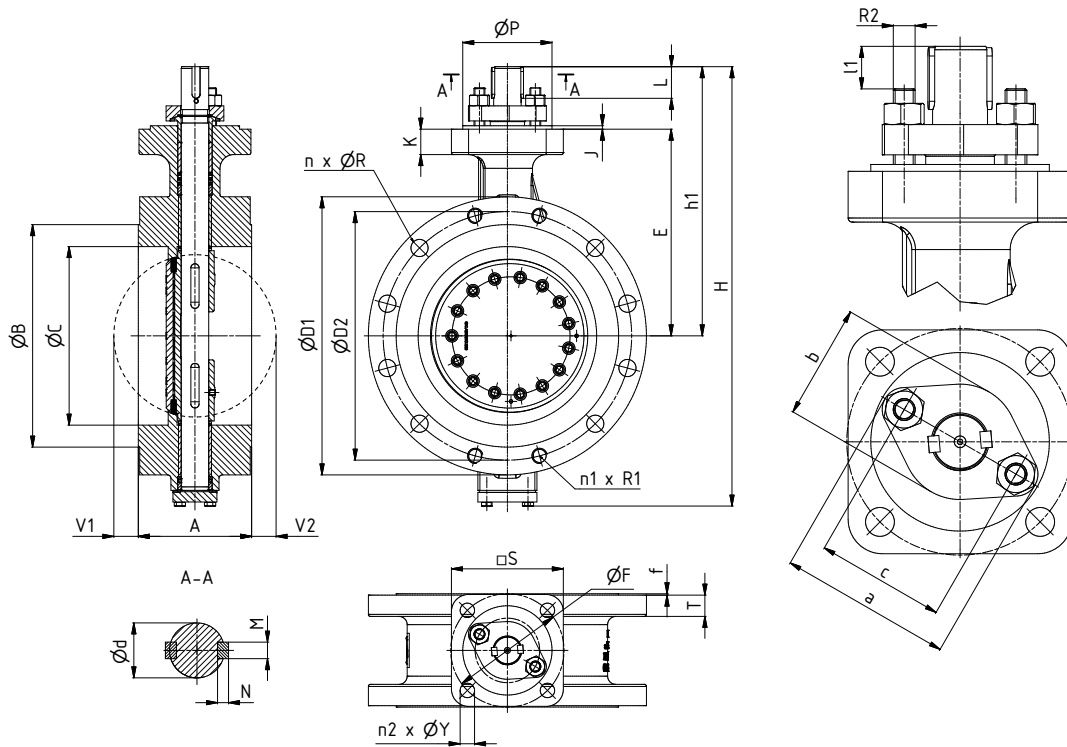
DN	NPS	Dimensions (inch)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	5,85	3,32	4,88	0,16	0,53	0,98	0,20	0,98	0,86	0,31	0,27
100	4"	F12	5,85	3,32	4,88	0,16	0,53	0,98	0,20	1,09	1,09	0,31	0,27
150	6"	F14	6,83	3,90	5,46	0,16	0,68	0,94	0,20	1,40	1,56	0,39	0,31
200	8"	F16	8,19	5,07	6,44	0,16	0,86	0,78	0,20	1,76	2,46	0,55	0,35
250	10"	F25	11,70	7,80	9,91	0,31	0,68	1,52	0,20	2,15	3,12	0,62	0,39
300	12"	F25	11,70	7,80	9,91	0,31	0,68	1,48	0,20	2,54	3,51	0,70	0,43
350	14"	F30	13,65	8,97	11,62	0,31	0,86	1,76	0,20	2,73	3,90	0,78	0,47
400	16"	F30	13,65	8,97	11,62	0,31	0,86	1,56	0,20	3,51	4,88	0,98	0,55
450	18"	F35	16,19	10,14	13,88	0,31	1,29	2,07	0,20	3,51	5,46	0,98	0,55
500	20"	F35	16,19	10,14	13,88	0,31	1,29	2,07	0,20	3,90	5,46	1,09	0,62
600	24"	F40	18,53	11,70	15,83	0,31	1,52	2,34	0,39	4,68	7,02	1,25	0,70

DN	NPS	Dimensions (inch)								Weights (lb)
		a CS* SS*	b CS* SS*	c	l1	R2	V1	V2	V	
Flange Face Raised RF acc. ANSI B16.5										
80	3"	Ø0,31	-	2,28	1,02	7/16-14 UNC	0,08	0,39	0,31	33
100	4"	Ø0,31	-	2,44	1,10	7/16-14 UNC	0,31	0,67	0,18	55
150	6"	Ø0,39	-	2,91	1,54	1/2-13 UNC	0,83	1,18	0,41	110
200	8"	Ø0,55	-	3,70	2,20	9/16-12 UNC	1,42	1,77	0,47	201
250	10"	Ø0,63	-	4,25	2,91	5/8-11 UNC	2,17	2,52	0,47	388
300	12"	Ø0,71	-	4,65	3,03	5/8-11 UNC	2,68	2,99	0,41	531
350	14"	Ø0,79	-	5,28	3,58	3/4-10 UNC	2,76	3,19	0,71	705
400	16"	Ø0,98	-	6,77	3,98	1-8 UNC	3,39	3,82	0,65	999
450	18"	Ø0,98	-	6,77	4,61	1-8 UNC	3,86	4,25	0,30	1323
500	20"	Ø1,10	-	7,17	4,57	1-8 UNC	4,53	4,92	0,26	1691
600	24"	Ø1,26	-	8,74	5,83	1 1/4-8 UNC	6,14	6,54	0,71	2452

*CS = carbon steel design, SS = stainless steel design

Double Flanged, Short Pattern Design

Dimensions and Weights Class 150



DN	NPS	Dimensions (inch)													
		A	ØC	H	h1	E	ØD1	ØD2	n	R	n1	R1	ØB	T	f
Flange Face Raised RF acc. ANSI B16.5															
80	3"	4,49	3,15	15,04	9,65	6,93	7,48	6,00	4	19	-	-	5,00	0,89	0,08
100	4"	5,00	4,25	16,06	10,08	7,32	9,06	7,50	4	19	4	5/8-11 UNC	6,19	0,94	0,08
150	6"	5,51	6,30	19,29	11,89	8,94	11,02	9,50	4	22	4	3/4-10 UNC	8,50	0,98	0,08
200	8"	5,98	8,27	22,44	13,98	10,39	13,58	11,75	4	22	4	3/4-10 UNC	10,63	1,26	0,08
250	10"	6,50	10,24	25,20	15,43	11,85	15,94	14,25	8	25	4	7/8-9 UNC	12,76	1,30	0,08
300	12"	7,01	11,89	29,41	17,15	13,46	19,09	17,00	8	25	4	7/8-9 UNC	15,00	1,30	0,08
350	14"	7,48	13,54	31,94	18,80	14,53	21,06	18,75	8	29	4	1-8 UNC	16,26	1,40	0,08
400	16"	8,50	15,20	36,97	21,44	16,04	23,43	21,25	12	29	4	1-8 UNC	18,50	1,56	0,08
450	18"	8,74	16,93	41,42	23,82	18,31	25,00	22,75	12	32	4	1 1/8-8 UN	21,00	1,59	0,08
500	20"	9,02	19,06	44,29	25,43	19,39	27,56	25,00	16	32	4	1 1/8-8 UN	22,99	1,73	0,08
600	24"	10,51	22,99	50,08	28,41	22,42	32,09	29,50	16	35	4	1 1/4-8 UN	27,24	1,99	0,08
Flange Face Raised RF acc. ANSI B 16.47 Series A															
700	28"	11,50	27,01	52,72	31,73	25,20	36,42	34,00	24	1,38	4	1 1/4-8 UN	31,50	2,75	0,08
750	30"	12,52	29,02	55,47	33,31	26,38	38,78	36,00	24	1,38	4	1 1/4-8 UN	33,74	2,88	0,08
800	32"	12,52	30,98	58,90	35,24	27,76	41,73	38,50	24	1,61	4	1 1/2-8 UN	35,98	3,13	0,08
900	36"	12,99	35,00	64,17	37,95	29,92	46,06	42,75	28	1,61	4	1 1/2-8 UN	40,24	3,50	0,08
1000	40"	16,14	39,02	71,10	42,28	33,27	50,79	47,25	32	1,61	4	1 1/2-8 UN	44,25	3,50	0,08
1050	42"	16,14	40,98	73,86	44,06	34,06	52,95	49,50	32	1,61	4	1 1/2-8 UN	47,01	3,75	0,08
1200	48"	18,50	47,01	81,65	48,31	37,60	59,45	56,00	40	1,61	4	1 1/2-8 UN	53,50	4,19	0,08
Flange Face Raised RF acc. ANSI B 16.47 Series B															
700	28"	11,50	27,01	52,72	31,73	25,20	32,87	31,31	36	0,87	4	3/4-10 UNC	30,00	1,69	0,08
750	30"	12,52	29,02	55,47	33,31	26,38	34,84	33,31	40	0,87	4	3/4-10 UNC	32,01	1,69	0,08
800	32"	12,52	30,98	58,90	35,24	27,76	37,01	35,44	44	0,87	4	3/4-10 UNC	34,02	1,76	0,08
900	36"	12,99	35,00	64,17	37,95	29,92	41,54	39,75	40	0,98	4	7/8-9 UNC	38,27	2,00	0,08
1000	40"	16,14	39,02	71,10	42,28	33,27	46,26	44,13	40	1,14	4	1-8 UNC	42,52	2,13	0,08
1050	42"	16,14	40,98	73,86	44,06	34,06	48,23	46,13	44	1,14	4	1-8 UNC	44,49	2,26	0,08
1200	48"	18,50	47,01	81,65	48,31	37,60	54,72	52,56	40	1,26	4	1 1/8-8 UN	50,75	2,50	0,08

Double Flanged, Short Pattern Design Dimensions and Weights Class 150

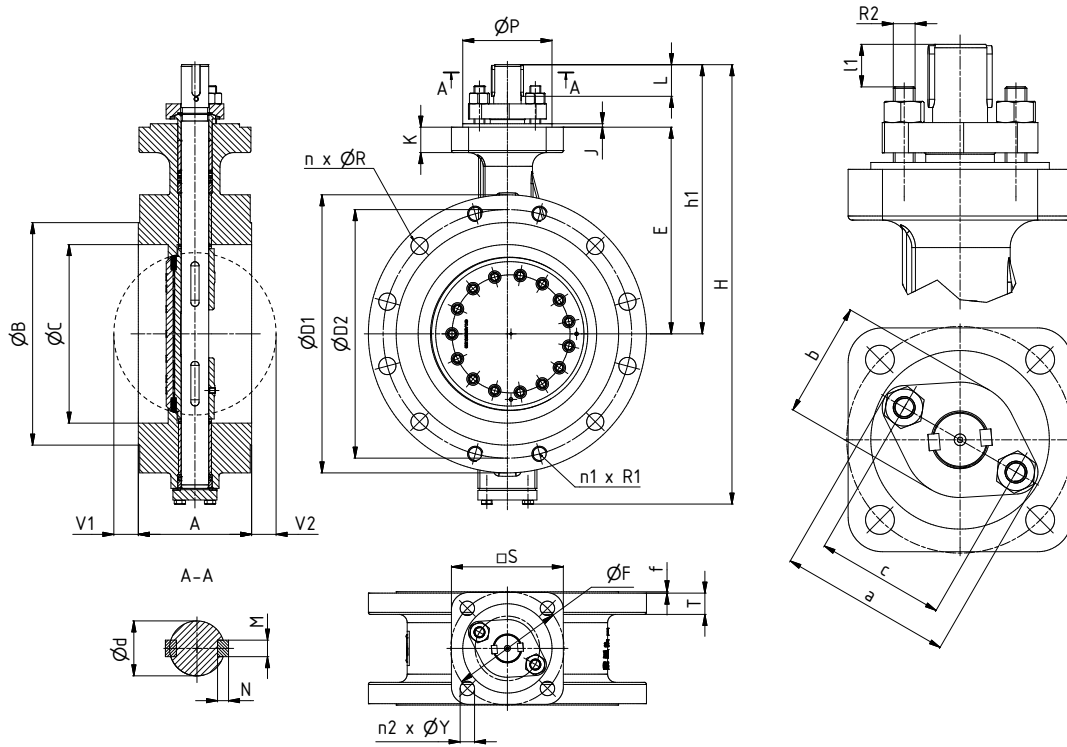
DN	NPS	Dimensions (inch)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	4,53	3,35	4,92	4	0,51	0,75	0,12	0,79	0,98	0,24	0,24
100	4"	F12	4,53	3,35	4,92	4	0,51	0,71	0,12	0,94	1,14	0,31	0,28
150	6"	F14	5,31	3,94	5,51	4	0,75	1,02	0,16	1,26	1,46	0,39	0,31
200	8"	F16	6,30	5,12	6,50	4	0,83	1,18	0,20	1,57	1,81	0,47	0,35
250	10"	F16	6,42	5,12	6,50	4	0,83	1,46	0,20	1,57	1,81	0,47	0,31
300	12"	F16	6,69	5,12	6,50	4	0,91	1,38	0,20	1,77	2,05	0,55	0,35
350	14"	F16	6,30	5,12	6,50	4	0,83	1,18	0,20	2,17	2,28	0,63	0,39
400	16"	F25	11,22	7,87	10,00	8	0,67	1,32	0,20	2,56	2,83	0,71	0,63
450	18"	F25	10,63	7,87	10,00	8	0,67	1,30	0,20	2,76	3,15	0,79	0,47
500	20"	F25	10,63	7,87	10,00	8	0,67	1,30	0,20	2,95	3,54	0,79	0,47
600	24"	F30	12,99	9,06	11,73	8	0,83	1,50	0,20	3,54	4,04	0,98	0,47
700	28"	F30	13,78	9,06	11,73	8	0,87	1,54	0,20	3,15	3,94	0,87	0,55
750	30"	F30	13,78	9,06	11,73	8	0,87	1,54	0,20	3,15	4,33	0,87	0,55
800	32"	F30	13,78	9,06	11,73	8	0,87	1,54	0,20	3,54	4,92	0,98	0,55
900	36"	F35	16,34	10,24	14,02	8	1,30	1,73	0,20	3,94	5,51	1,10	0,63
1000	40"	F35	16,34	10,24	14,02	8	1,30	1,73	0,20	4,33	6,30	1,10	0,63
1050	42"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	4,33	7,09	1,10	0,63
1200	48"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	5,12	7,87	1,26	0,71

DN	NPS	Dimensions (inch)							Weights (lb)
		a CS* SS*	b CS* SS*	c	l1	R2	V1	V2	
Flange Face Raised RF acc. ANSI B16.5									
80	3"	3,31	2,13	2,44	1,02	7/16-14 UNC	-	-	36
100	4"	3,31	2,13	2,44	1,06	7/16-14 UNC	-	-	50
150	6"	3,86	2,76	2,95	1,02	1/2-13 UNC	-	0,25	78
200	8"	4,96	3,31	3,70	1,18	5/8-11 UNC	0,42	0,90	133
250	10"	4,92	3,31	3,70	1,22	5/8-11 UNC	1,17	1,54	181
300	12"	5,08	3,54	4,02	1,26	5/8-11 UNC	1,88	2,24	265
350	14"	5,08	3,54	3,86	1,85	5/8-11 UNC	2,27	2,62	348
400	16"	6,69 6,69	4,72 6,69	5,12	2,24	3/4-10 UNC	2,60	3,09	507
450	18"	7,80 7,48	6,30 7,48	5,91	1,85	1-8 UNC	3,44	3,76	627
500	20"	7,80 7,87	5,51 7,87	5,91	2,17	1-8 UNC	4,31	4,64	759
600	24"	8,86 8,86	6,69 8,86	6,89	1,97	1-8 UNC	5,46	5,82	1190
Flange Face Raised RF acc. ANSI B 16.47 Series A									
700	28"	8,27	8,27	6,38	3,39	1-8 UNC	6,93	7,36	1455
750	30"	8,27	8,27	6,38	3,78	1-8 UNC	7,32	7,76	1742
800	32"	8,66	8,66	6,77	4,33	1-8 UNC	8,27	8,74	2095
900	36"	9,06	9,06	7,17	4,69	1-8 UNC	9,96	10,47	2822
1000	40"	10,16	10,16	8,03	5,28	1 1/8-8 UN	10,16	10,75	3594
1050	42"	10,16	10,16	8,03	6,06	1 1/8-8 UN	11,14	11,77	4079
1200	48"	11,50	11,50	9,13	6,57	1 1/4-8 UN	12,83	13,54	5711
Flange Face Raised RF acc. ANSI B 16.47 Series B									
700	28"	8,27	8,27	6,38	3,39	1-8 UNC	6,93	7,36	1058
750	30"	8,27	8,27	6,38	3,78	1-8 UNC	7,32	7,76	1235
800	32"	8,66	8,66	6,77	4,33	1-8 UNC	8,27	8,74	1433
900	36"	9,06	9,06	7,17	4,69	1-8 UNC	9,96	10,47	2029
1000	40"	10,16	10,16	8,03	5,28	1 1/8-8 UN	10,16	10,75	2668
1050	42"	10,16	10,16	8,03	6,06	1 1/8-8 UN	11,14	11,77	2999
1200	48"	11,50	11,50	9,13	6,57	1 1/4-8 UN	12,83	13,54	4344

*CS = carbon steel design, SS = stainless steel design

Double Flanged, Short Pattern Design

Dimensions and Weights Class 300



DN	NPS	Dimensions (inch)													
		A	ØC	H	h1	E	ØD1	ØD2	n	R	n1	R1	ØB	T	f
Flange Face Raised RF acc. ANSI B16.5															
80	3"	4,49	3,15	15,04	9,65	6,93	8,27	6,62	4	22	4	3/4-10 UNC	5,00	1,08	0,08
100	4"	5,00	4,25	16,06	10,08	7,32	10,04	7,87	4	22	4	3/4-10 UNC	6,19	1,26	0,08
150	6"	5,51	6,30	19,29	11,89	8,94	12,60	10,62	8	22	4	3/4-10 UNC	8,50	1,42	0,08
200	8"	5,98	8,27	22,44	13,98	10,39	14,96	13,00	8	25	4	7/8-9 UNC	10,63	1,69	0,08
250	10"	6,50	10,24	25,20	15,43	11,85	17,52	15,25	12	29	4	1-8 UNC	12,76	1,97	0,08
300	12"	7,01	11,89	29,41	17,15	13,46	20,47	17,75	12	32	4	1 1/8-8 UN	15,00	2,06	0,08
350	14"	7,48	13,54	31,94	18,80	14,53	23,03	20,25	16	32	4	1 1/8-8 UN	16,26	2,15	0,08
400	16"	8,50	15,20	36,97	21,44	16,04	25,59	22,50	16	35	4	1 1/4-8 UN	18,50	2,34	0,08
450	18"	8,74	16,93	41,42	23,82	18,31	27,99	24,75	20	35	4	1 1/4-8 UN	21,00	2,42	0,08
500	20"	9,02	19,06	44,29	25,43	19,39	30,51	27,00	20	35	4	1 1/4-8 UN	22,99	2,56	0,08
600	24"	10,51	22,99	50,08	28,41	22,42	36,02	32,01	20	42	4	1 1/2-8 UN	27,24	2,85	0,08
Flange Face Raised RF acc. ANSI B 16.47 Series A															
700	28"	11,50	27,01	61,18	37,28	28,15	40,75	37,00	20	1,73	8	1 5/8-8 UN	31,50	3,31	0,08
750	30"	12,52	29,02	64,33	39,45	29,33	42,91	39,25	20	1,89	8	1 3/4-8 UN	33,74	3,56	0,08
800	32"	12,52	30,98	66,85	40,59	30,51	45,28	41,50	20	2,01	8	1 7/8-8 UN	35,98	3,81	0,08
900	36"	12,99	35,00	73,31	44,69	33,07	50,00	46,00	24	2,13	8	2-8 UN	40,24	4,06	0,08
Flange Face Raised RF acc. ANSI B 16.47 Series B															
700	28"	11,50	27,01	61,18	37,28	28,15	36,22	33,75	28	1,38	8	1 1/4-8 UN	30,98	3,44	0,08
750	30"	12,52	29,02	64,33	39,45	29,33	38,98	36,25	28	1,50	8	1 3/8-8 UN	33,27	3,63	0,08
800	32"	12,52	30,98	66,85	40,59	30,51	41,54	38,50	24	1,61	8	1 1/2-8 UN	35,51	4,00	0,08
900	36"	12,99	35,00	73,31	44,69	33,07	46,06	42,87	24	1,73	8	1 5/8-8 UN	39,76	4,00	0,08

Double Flanged, Short Pattern Design Dimensions and Weights Class 300

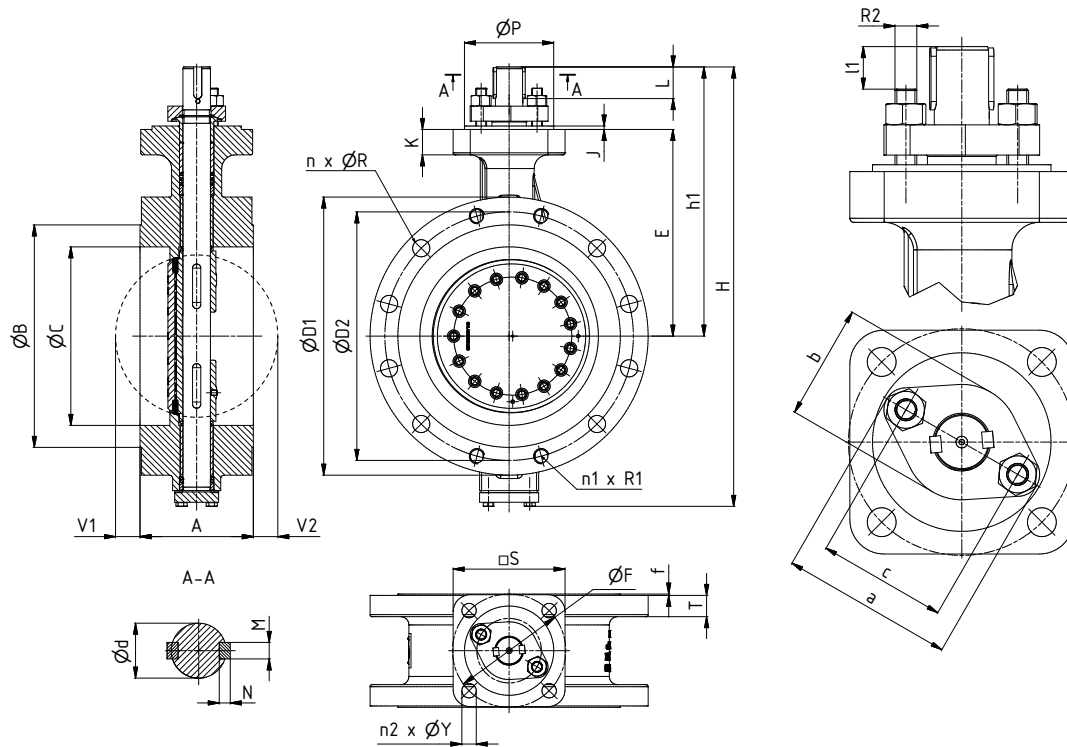
DN	NPS	Dimensions (inch)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	4,53	3,35	4,92	4	0,51	0,75	0,12	0,79	0,98	0,24	0,24
100	4"	F12	4,53	3,35	4,92	4	0,51	0,71	0,12	0,94	1,14	0,31	0,28
150	6"	F14	5,31	3,94	5,51	4	0,75	1,02	0,16	1,26	1,46	0,39	0,31
200	8"	F16	6,30	5,12	6,50	4	0,83	1,18	0,20	1,57	1,81	0,47	0,35
250	10"	F16	6,42	5,12	6,50	4	0,83	1,46	0,20	1,57	1,81	0,47	0,31
300	12"	F16	6,69	5,12	6,50	4	0,91	1,38	0,20	1,77	2,05	0,55	0,35
350	14"	F16	6,30	5,12	6,50	4	0,83	1,18	0,20	2,17	2,28	0,63	0,39
400	16"	F25	10,63	7,87	10,00	8	0,67	1,32	0,20	2,56	2,83	0,71	0,63
450	18"	F25	10,63	7,87	10,00	8	0,67	1,30	0,20	2,76	3,15	0,79	0,47
500	20"	F25	10,63	7,87	10,00	8	0,67	1,30	0,20	2,95	3,54	0,79	0,47
600	24"	F30	12,99	9,06	11,73	8	0,83	1,50	0,20	3,54	4,04	0,98	0,47
700	28"	F35	16,34	10,24	14,02	8	1,30	1,73	0,20	4,33	6,30	1,10	0,63
750	30"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	4,33	7,09	1,10	0,63
800	32"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	4,72	7,09	1,26	0,71
900	36"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	5,12	8,66	1,26	0,71

DN	NPS	Dimensions (inch)							Weights (lb)
		a CS* SS*	b CS* SS*	c	l1	R2	V1	V2	
Flange Face Raised RF acc. ANSI B16.5									
80	3"	3,31	2,13	2,44	1,02	7/16-14 UNC	-	-	46
100	4"	3,31	2,13	2,44	1,06	7/16-14 UNC	-	-	68
150	6"	3,86	2,76	2,95	1,02	1/2-13 UNC	-	0,25	116
200	8"	4,96	3,31	3,70	1,18	5/8-11 UNC	0,42	0,90	177
250	10"	4,92	3,31	3,70	1,22	5/8-11 UNC	1,17	1,54	252
300	12"	5,08	3,54	4,02	1,26	5/8-11 UNC	1,88	2,24	370
350	14"	5,08	3,54	3,86	1,85	5/8-11 UNC	2,27	2,62	486
400	16"	6,69 6,69	4,72 6,69	5,12	2,24	3/4-10 UNC	2,60	3,09	677
450	18"	7,80 7,48	6,30 7,48	5,91	1,85	1-8 UNC	3,44	3,76	853
500	20"	7,80 7,87	5,51 7,87	5,91	2,17	1-8 UNC	4,31	4,64	1053
600	24"	8,86 8,86	6,69 8,86	6,89	1,97	1-8 UNC	5,46	5,82	1606
Flange Face Raised RF acc. ANSI B 16.47 Series A									
700	28"	10,16	10,16	8,03	5,39	1 1/8-8 UN	6,97	7,32	2514
750	30"	10,16	10,16	8,03	6,18	1 1/8-8 UN	7,36	7,76	3021
800	32"	11,10	11,10	8,74	6,14	1 1/4-8 UN	8,27	8,70	3462
900	36"	11,50	11,50	9,13	7,48	1 1/4-8 UN	9,96	10,47	4454
Flange Face Raised RF acc. ANSI B 16.47 Series B									
700	28"	10,16	10,16	8,03	5,39	1 1/8-8 UN	6,97	7,32	2029
750	30"	10,16	10,16	8,03	6,18	1 1/8-8 UN	7,36	7,76	2536
800	32"	11,10	11,10	8,74	6,14	1 1/4-8 UN	8,27	8,70	2999
900	36"	11,50	11,50	9,13	7,48	1 1/4-8 UN	9,96	10,47	3837

*CS = carbon steel design, SS = stainless steel design

Double Flanged, Short Pattern Design

Dimensions and Weights Class 600



DN	NPS	Dimensions (inch)													
		A	ØC	H	h1	E	ØD1	ØD2	n	R	n1	R1	ØB	T	f
Flange Face Raised RF acc. ANSI B16.5															
80	3"	7,09	2,99	16,30	10,08	7,48	8,27	6,63	4	0,87	4	3/4-10 UNC	5,00	1,25	0,28
100	4"	7,48	3,90	18,74	11,34	8,66	10,83	8,50	4	0,98	4	7/8-9 UNC	6,19	1,50	0,28
150	6"	8,27	5,79	22,64	13,54	10,24	13,98	11,50	8	1,14	4	1-8 UNC	8,50	1,88	0,28
200	8"	9,06	7,99	27,56	16,97	12,80	16,54	13,75	8	1,26	4	1 1/8-8 UN	10,63	2,19	0,28
250	10"	9,84	9,69	32,72	20,04	15,16	20,08	17,00	12	1,38	4	1 1/4-8 UN	12,75	2,50	0,28
300	12"	10,63	11,73	35,24	21,34	16,14	22,05	19,25	16	1,38	4	1 1/4-8 UN	15,00	2,63	0,28
350	14"	11,42	12,99	38,94	23,86	17,72	23,82	20,75	16	1,50	4	1 3/8-8 UN	16,25	2,75	0,28
400	16"	12,20	15,51	44,29	27,20	20,08	26,97	23,75	16	1,61	4	1 1/2-8 UN	18,50	3,00	0,28
450	18"	12,99	16,93	47,68	29,21	21,46	29,33	25,75	16	1,73	4	1 5/8-8 UN	21,00	3,25	0,28
500	20"	13,78	18,94	50,59	30,75	22,83	32,09	28,50	20	1,73	4	1 5/8-8 UN	23,00	3,50	0,28
600	24"	15,35	22,95	58,46	35,75	25,79	37,01	33,00	20	2,01	4	1 7/8-8 UN	27,25	4,00	0,28
Flange Face Raised RF acc. ANSI B 16.47 Series A															
700	28"	16,93	27,01	68,62	42,09	29,72	42,32	38,00	20	2,13	8	2-8 UN	31,50	4,38	0,28
750	30"	17,72	29,02	72,01	44,49	30,91	44,49	40,25	20	2,13	8	2-8 UN	33,74	4,50	0,28
800	32"	18,50	30,98	74,61	45,91	32,28	47,05	42,50	20	2,36	8	2 1/4-8 UN	35,98	4,63	0,28
900	36"	20,08	35,00	82,01	50,51	35,43	51,77	47,00	20	2,64	8	2 1/2-8 UN	40,24	4,88	0,28
Flange Face Raised RF acc. ANSI B 16.47 Series B															
700	28"	16,93	27,01	68,62	42,09	29,72	37,4	34	20	1,89	8	1 3/4-8 UN	30,87	4,56	0,28
750	30"	17,72	29,02	72,01	44,49	30,91	40,16	36,5	20	2,01	8	1 7/8-8 UN	33,11	4,94	0,28
800	32"	18,5	30,98	74,61	45,91	32,28	42,72	38,75	20	2,13	8	2-8 UN	35,24	5,13	0,28
900	36"	20,08	35	82,01	50,51	35,43	47,83	43,5	20	2,36	8	2 1/4-8 UN	39,76	5,75	0,28

Double Flanged, Short Pattern Design Dimensions and Weights Class 600

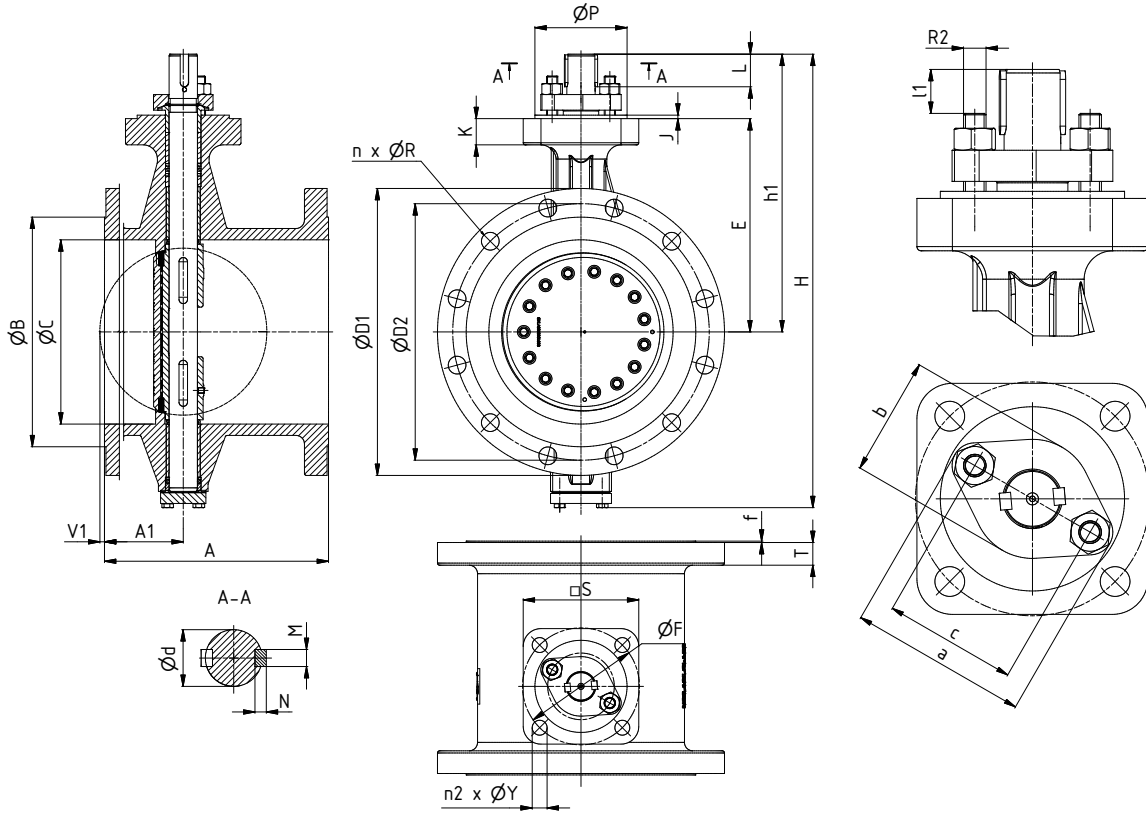
DN	NPS	Dimensions (inch)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	5,91	3,35	4,92	4	0,53	0,98	0,20	0,98	0,87	0,31	0,28
100	4"	F12	5,91	3,35	4,92	4	0,53	0,98	0,20	1,10	1,10	0,31	0,28
150	6"	F14	6,89	3,94	5,51	4	0,69	0,94	0,20	1,42	1,57	0,39	0,31
200	8"	F16	8,27	5,12	6,50	4	0,87	0,79	0,20	1,77	2,48	0,55	0,35
250	10"	F25	11,81	7,87	10,00	8	0,69	1,54	0,20	2,17	3,15	0,63	0,39
300	12"	F25	11,81	7,87	10,00	8	0,69	1,50	0,20	2,56	3,54	0,71	0,43
350	14"	F30	13,78	9,06	11,73	8	0,87	1,77	0,20	2,76	3,94	0,79	0,47
400	16"	F30	13,78	9,06	11,73	8	0,87	1,57	0,20	3,54	4,92	0,98	0,55
450	18"	F35	16,34	10,24	14,02	8	1,30	2,09	0,20	3,54	5,51	0,98	0,55
500	20"	F35	16,34	10,24	14,02	8	1,30	2,09	0,20	3,94	5,51	1,10	0,63
600	24"	F40	18,70	11,81	15,98	8	1,54	2,36	0,39	4,72	7,09	1,26	0,71
700	28"	F48	22,05	14,57	19,02	12	1,54	2,83	0,39	5,51	8,66	1,42	0,79
750	30"	F48	22,05	14,57	19,02	12	1,54	2,83	0,39	5,91	9,84	1,42	0,79
800	32"	F48	22,05	14,57	19,02	12	1,54	2,83	0,39	6,30	9,84	1,57	0,87
900	36"	F60	27,01	18,50	23,74	20	1,54	3,54	0,39	7,09	11,02	1,77	0,98

DN	NPS	Dimensions (inch)							Weights (lb)
		a CS* SS*	b CS* SS*	c	l1	R2	V1	V2	
Flange Face Raised RF acc. ANSI B16.5									
80	3"	Ø0,31	-	2,28	1,02	7/16-14 UNC	-	-	64
100	4"	Ø0,31	-	2,44	1,10	7/16-14 UNC	-	-	110
150	6"	Ø0,39	-	2,91	1,54	1/2-13 UNC	-	-	209
200	8"	Ø0,55	-	3,70	2,20	9/16-12 UNC	-	-	326
250	10"	Ø0,63	-	4,25	2,91	5/8-11 UNC	-	-	556
300	12"	Ø0,71	-	4,65	3,03	5/8-11 UNC	0,12	0,43	688
350	14"	Ø0,79	-	5,28	3,58	3/4-10 UNC	0,12	0,51	882
400	16"	Ø0,98	-	6,77	3,98	1-8 UNC	0,79	1,22	1232
450	18"	Ø0,98	-	6,77	4,61	1-8 UNC	1,30	1,69	1556
500	20"	Ø1,10	-	7,17	4,57	1-8 UNC	1,89	2,28	1916
600	24"	Ø1,26	-	8,74	5,83	1 1/4-8 UNC	3,03	3,43	2915
Flange Face Raised RF acc. ANSI B 16.47 Series A									
700	28"	Ø1,42	-	10,39	7,24	1 1/2-8 UNC	4,21	4,61	4367
750	30"	Ø1,42	-	10,79	8,46	1 1/2-8 UNC	4,72	5,12	4985
800	32"	Ø1,57	-	11,42	8,50	1 5/8-8 UNC	5,28	5,67	5664
900	36"	Ø1,77	-	12,20	9,57	1 5/8-8 UNC	6,46	6,93	7661
Flange Face Raised RF acc. ANSI B 16.47 Series B									
700	28"	Ø1,42	-	10,39	7,24	1 1/2-8 UNC	4,21	4,61	3675
750	30"	Ø1,42	-	10,79	8,46	1 1/2-8 UNC	4,72	5,12	4339
800	32"	Ø1,57	-	11,42	8,50	1 5/8-8 UNC	5,28	5,67	4985
900	36"	Ø1,77	-	12,20	9,57	1 5/8-8 UNC	6,46	6,93	7042

*CS = carbon steel design, SS = stainless steel design

Double Flanged, Long Pattern Design

Dimensions and Weights Class 150



DN	NPS	Dimensions (inch)												
		A	a	ØC	H	h1	E	ØD1	ØD2	n	R	ØB	T	f
Flange Face Raised RF acc. ANSI B16.5														
80	3"	7,99	4,00	3,15	15,04	9,65	6,93	7,48	6,00	4	0,75	5,00	0,91	0,08
100	4"	9,02	3,94	4,25	16,06	10,08	7,32	9,06	7,50	8	0,75	6,19	0,94	0,08
150	6"	10,51	3,07	6,30	19,29	11,89	8,94	11,02	9,50	8	0,87	8,50	1,00	0,08
200	8"	11,50	4,13	8,27	22,44	13,98	10,39	13,58	11,75	8	0,87	10,63	1,26	0,08
250	10"	12,99	4,92	10,24	25,20	15,43	11,85	15,94	14,25	12	0,98	12,76	1,34	0,08
300	12"	14,02	5,91	11,89	29,41	17,15	13,46	19,09	17,00	12	0,98	15,00	1,26	0,08
350	14"	15,00	6,10	13,54	31,94	18,80	14,53	21,06	18,75	12	1,14	16,26	1,40	0,08
400	16"	15,98	6,85	15,20	36,97	21,44	16,04	23,43	21,25	16	1,14	18,50	1,54	0,08
450	18"	17,01	7,09	16,93	41,42	23,82	18,31	25,00	22,75	16	1,26	21,00	1,57	0,08
500	20"	17,99	5,63	19,06	44,29	25,43	19,39	27,56	25,00	20	1,26	22,99	1,69	0,08
600	24"	20,00	9,06	22,99	50,08	28,41	22,42	32,09	29,50	20	1,38	27,24	1,97	0,08
Flange Face Raised RF acc. ANSI B 16.47 Series A														
700	28	24,02	11,77	27,01	52,72	31,73	25,20	36,42	34,00	28	1,38	31,50	2,75	0,08
750	30	24,02	11,89	29,02	55,47	33,31	26,38	38,78	36,00	28	1,38	33,74	2,88	0,08
800	32	25,98	12,15	30,98	58,90	35,24	27,76	41,73	38,50	28	1,61	35,98	3,13	0,08
900	36	27,99	14,00	35,00	64,17	37,95	29,92	46,06	42,75	32	1,61	40,24	3,50	0,08
Flange Face Raised RF acc. ANSI B 16.47 Series B														
700	28	24,02	11,77	27,01	52,72	31,73	25,20	32,87	31,31	1,57	0,87	30,00	1,69	0,08
750	30	24,02	11,89	29,02	55,47	33,31	26,38	34,84	33,31	1,73	0,87	32,01	1,69	0,08
800	32	25,98	12,15	30,98	58,90	35,24	27,76	37,01	35,44	1,89	0,87	34,02	1,76	0,08
900	36	27,99	14,00	35,00	64,17	37,95	29,92	41,54	39,75	1,73	0,98	38,27	2,00	0,08

Double Flanged, Long Pattern Design Dimensions and Weights Class 150

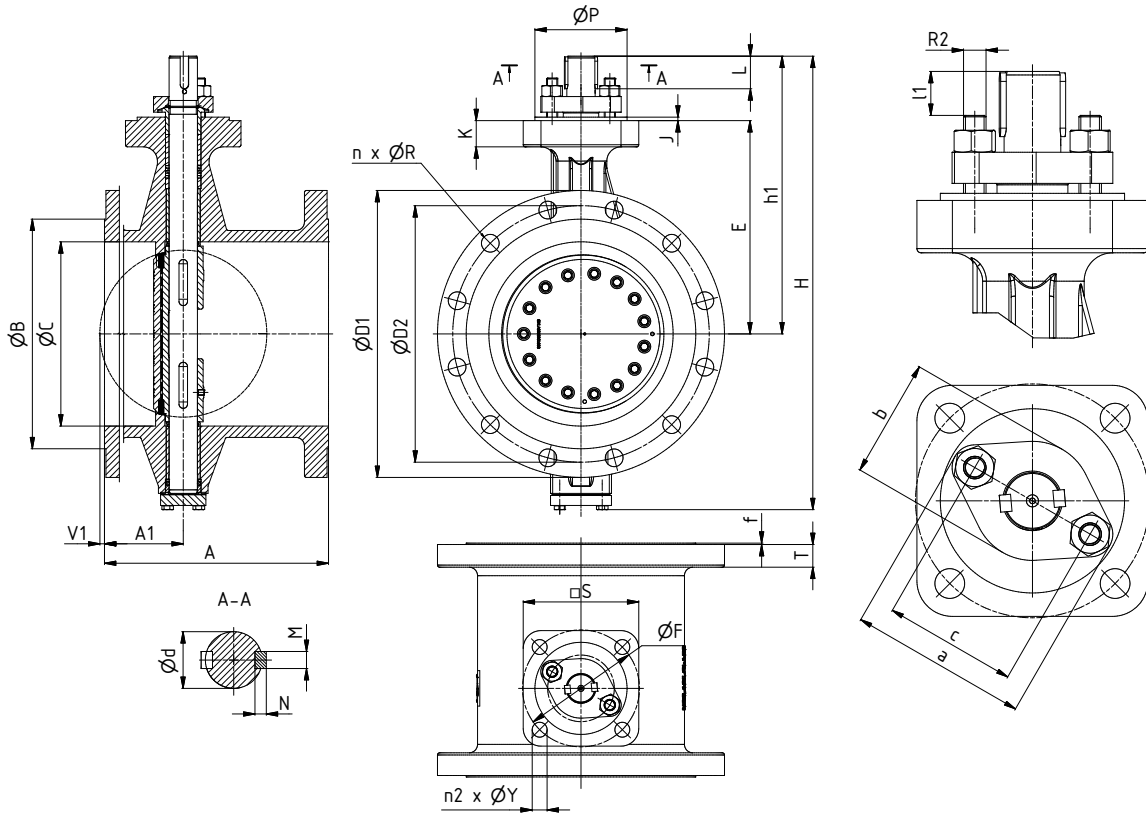
DN	NPS	Dimensions (inch)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	4,53	3,35	4,92	4	0,51	0,75	0,12	0,79	0,98	0,24	0,24
100	4"	F12	4,53	3,35	4,92	4	0,51	0,71	0,12	0,94	1,14	0,31	0,28
150	6"	F14	5,31	3,94	5,51	4	0,75	1,02	0,16	1,26	1,46	0,39	0,31
200	8"	F16	6,30	5,12	6,50	4	0,83	1,18	0,20	1,57	1,81	0,47	0,35
250	10"	F16	6,42	5,12	6,50	4	0,83	1,46	0,20	1,57	1,81	0,47	0,31
300	12"	F16	6,69	5,12	6,50	4	0,91	1,38	0,20	1,77	2,05	0,55	0,35
350	14"	F16	6,30	5,12	6,50	4	0,83	1,18	0,20	2,17	2,28	0,63	0,39
400	16"	F25	10,63	7,87	10,00	8	0,67	1,32	0,20	2,56	2,83	0,71	0,63
450	18"	F25	10,63	7,87	10,00	8	0,67	1,30	0,20	2,76	3,15	0,79	0,47
500	20"	F25	10,63	7,87	10,00	8	0,67	1,30	0,20	2,95	3,54	0,79	0,47
600	24"	F30	12,99	9,06	11,73	8	0,83	1,50	0,20	3,54	4,04	0,98	0,47
700	28"	F35	16,34	10,24	14,02	8	1,30	1,73	0,20	4,33	6,30	1,10	0,63
750	30"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	4,33	7,09	1,10	0,63
800	32"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	4,72	7,09	1,26	0,71
900	36"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	5,12	8,66	1,26	0,71

DN	NPS	Dimensions (inch)							Weights (lb)
		a CS* SS*	b CS* SS*	c	l1	R2	V1	V2	
Flange Face Raised RF acc. ANSI B16.5									
80	3"	3,31	2,13	2,44	1,02	7/16-14 UNC	-	-	39
100	4"	3,31	2,13	2,44	1,06	7/16-14 UNC	-	-	56
150	6"	3,86	2,76	2,95	1,02	1/2-13 UNC	-	-	90
200	8"	4,96	3,31	3,70	1,18	5/8-11 UNC	-	-	158
250	10"	4,92	3,31	3,70	1,22	5/8-11 UNC	-	-	222
300	12"	5,08	3,54	4,02	1,26	5/8-11 UNC	-	-	315
350	14"	5,08	3,54	3,86	1,85	5/8-11 UNC	-	-	412
400	16"	6,69 6,69	4,72 6,69	5,12	2,24	3/4-10 UNC	-	-	581
450	18"	7,80 7,48	6,30 7,48	5,91	1,85	1-8 UNC	0,73	-	742
500	20"	7,80 7,87	5,51 7,87	5,91	2,17	1-8 UNC	3,19	-	923
600	24"	8,86 8,86	6,69 8,86	6,89	1,97	1-8 UNC	1,66	-	1428
Flange Face Raised RF acc. ANSI B 16.47 Series A									
700	28"	10,16	10,16	8,03	5,39	1 1/8-8 UN	0,91	0,87	1433
750	30"	10,16	10,16	8,03	6,18	1 1/8-8 UN	1,69	1,89	1610
800	32"	11,10	11,10	8,74	6,14	1 1/4-8 UN	2,36	1,14	1918
900	36"	11,50	11,50	9,13	7,48	1 1/4-8 UN	2,48	2,99	2690
Flange Face Raised RF acc. ANSI B 16.47 Series B									
700	28"	10,16	10,16	8,03	5,39	1 1/8-8 UN	0,91	0,87	1433
750	30"	10,16	10,16	8,03	6,18	1 1/8-8 UN	1,69	1,89	1610
800	32"	11,10	11,10	8,74	6,14	1 1/4-8 UN	2,36	1,14	1918
900	36"	11,50	11,50	9,13	7,48	1 1/4-8 UN	2,48	2,99	2690

*CS = carbon steel design, SS = stainless steel design

Double Flanged, Long Pattern Design

Dimensions and Weights Class 300



DN	NPS	Dimensions (inch)												
		A	a	ØC	H	h1	E	ØD1	ØD2	n	R	ØB	T	f
Flange Face Raised RF acc. ANSI B16.5														
80	3"	11,10	4,00	3,15	15,04	9,65	6,93	8,27	6,62	8	0,87	5,00	1,08	0,08
100	4"	12,01	3,94	4,25	16,06	10,08	7,32	10,04	7,87	8	0,87	6,19	1,26	0,08
150	6"	15,87	3,07	6,30	19,29	11,89	8,94	12,60	10,62	12	0,87	8,50	1,42	0,08
200	8"	16,46	4,13	8,27	22,44	13,98	10,39	14,96	13,00	12	0,98	10,63	1,69	0,08
250	10"	17,99	4,92	10,24	25,20	15,43	11,85	17,52	15,25	16	1,14	12,76	1,97	0,08
300	12"	19,76	5,91	11,89	29,41	17,15	13,46	20,47	17,75	16	1,26	15,00	1,81	0,08
350	14"	30,00	6,10	13,54	31,94	18,80	14,53	23,03	20,25	20	1,26	16,26	2,13	0,08
400	16"	32,99	6,85	15,20	36,97	21,44	16,04	25,59	22,50	20	1,38	18,50	2,28	0,08
450	18"	35,98	7,09	16,93	41,42	23,82	18,31	27,99	24,75	24	1,38	21,00	2,40	0,08
500	20"	39,02	5,63	19,06	44,29	25,43	19,39	30,51	27,00	24	1,38	22,99	2,48	0,08
600	24"	45,00	9,06	22,99	50,08	28,41	22,42	36,02	32,01	24	1,65	27,24	2,83	0,08
Flange Face Raised RF acc. ANSI B 16.47 Series A														
700	28	52,99	13,86	27,01	61,18	37,28	28,15	40,75	37,00	28	1,73	31,50	3,31	0,08
750	30	55,00	15,30	29,02	64,33	39,45	29,33	42,91	39,25	28	1,89	33,74	3,56	0,08
800	32	60,00	15,79	30,98	66,85	40,59	30,51	45,28	41,50	28	2,01	35,98	3,81	0,08
900	36	67,99	16,16	35,00	73,31	44,69	33,07	50,00	46,00	32	2,13	40,24	4,06	0,08
Flange Face Raised RF acc. ANSI B 16.47 Series B														
700	28	52,99	13,86	27,01	61,18	37,28	28,15	36,22	33,75	1,42	1,38	30,98	3,44	0,08
750	30	55,00	15,30	29,02	64,33	39,45	29,33	38,98	36,25	1,42	1,50	33,27	3,63	0,08
800	32	60,00	15,79	30,98	66,85	40,59	30,51	41,54	38,50	1,26	1,61	35,51	4,00	0,08
900	36	67,99	16,16	35,00	73,31	44,69	33,07	46,06	42,87	1,26	1,73	39,76	4,00	0,08

Double Flanged, Long Pattern Design Dimensions and Weights Class 300

DN	NPS	Dimensions (inch)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	4,53	3,35	4,92	4	0,51	0,75	0,12	0,79	0,98	0,24	0,24
100	4"	F12	4,53	3,35	4,92	4	0,51	0,71	0,12	0,94	1,14	0,31	0,28
150	6"	F14	5,31	3,94	5,51	4	0,75	1,02	0,16	1,26	1,46	0,39	0,31
200	8"	F16	6,30	5,12	6,50	4	0,83	1,18	0,20	1,57	1,81	0,47	0,35
250	10"	F16	6,42	5,12	6,50	4	0,83	1,46	0,20	1,57	1,81	0,47	0,31
300	12"	F16	6,69	5,12	6,50	4	0,91	1,38	0,20	1,77	2,05	0,55	0,35
350	14"	F16	6,30	5,12	6,50	4	0,83	1,18	0,20	2,17	2,28	0,63	0,39
400	16"	F25	10,63	7,87	10,00	8	0,67	1,32	0,20	2,56	2,83	0,71	0,63
450	18"	F25	10,63	7,87	10,00	8	0,67	1,30	0,20	2,76	3,15	0,79	0,47
500	20"	F25	10,63	7,87	10,00	8	0,67	1,30	0,20	2,95	3,54	0,79	0,47
600	24"	F30	12,99	9,06	11,73	8	0,83	1,50	0,20	3,54	4,04	0,98	0,47
700	28"	F35	16,34	10,24	14,02	8	1,30	1,73	0,20	4,33	6,30	1,10	0,63
750	30"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	4,33	7,09	1,10	0,63
800	32"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	4,72	7,09	1,26	0,71
900	36"	F40	18,70	11,81	15,98	8	1,54	1,93	0,39	5,12	8,66	1,26	0,71

DN	NPS	Dimensions (inch)							Weights (lb)
		a CS* SS*	b CS* SS*	c	l1	R2	V1	V2	
Flange Face Raised RF acc. ANSI B16.5									
80	3"	3,31	2,13	2,44	1,02	7/16-14 UNC	-	-	51
100	4"	3,31	2,13	2,44	1,06	7/16-14 UNC	-	-	79
150	6"	3,86	2,76	2,95	1,02	1/2-13 UNC	-	-	147
200	8"	4,96	3,31	3,70	1,18	5/8-11 UNC	-	-	227
250	10"	4,92	3,31	3,70	1,22	5/8-11 UNC	-	-	325
300	12"	5,08	3,54	4,02	1,26	5/8-11 UNC	-	-	470
350	14"	5,08	3,54	3,86	1,85	5/8-11 UNC	-	-	693
400	16"	6,69 6,69	4,72 6,69	5,12	2,24	3/4-10 UNC	-	-	939
450	18"	7,80 7,48	6,30 7,48	5,91	1,85	1-8 UNC	-	-	1252
500	20"	7,80 7,87	5,51 7,87	5,91	2,17	1-8 UNC	1,26	-	1623
600	24"	8,86 8,86	6,69 8,86	6,89	1,97	1-8 UNC	-	-	2492
Flange Face Raised RF acc. ANSI B 16.47 Series A									
700	28"	10,16	10,16	8,03	5,39	1 1/8-8 UN	-	-	3616
750	30"	10,16	10,16	8,03	6,18	1 1/8-8 UN	-	-	4388
800	32"	11,10	11,10	8,74	6,14	1 1/4-8 UN	-	-	5292
900	36"	11,50	11,50	9,13	7,48	1 1/4-8 UN	0,31	-	7166
Flange Face Raised RF acc. ANSI B 16.47 Series B									
700	28"	10,16	10,16	8,03	5,39	1 1/8-8 UN	-	-	3616
750	30"	10,16	10,16	8,03	6,18	1 1/8-8 UN	-	-	4388
800	32"	11,10	11,10	8,74	6,14	1 1/4-8 UN	-	-	5292
900	36"	11,50	11,50	9,13	7,48	1 1/4-8 UN	1,73	-	7166

*CS = carbon steel design, SS = stainless steel design

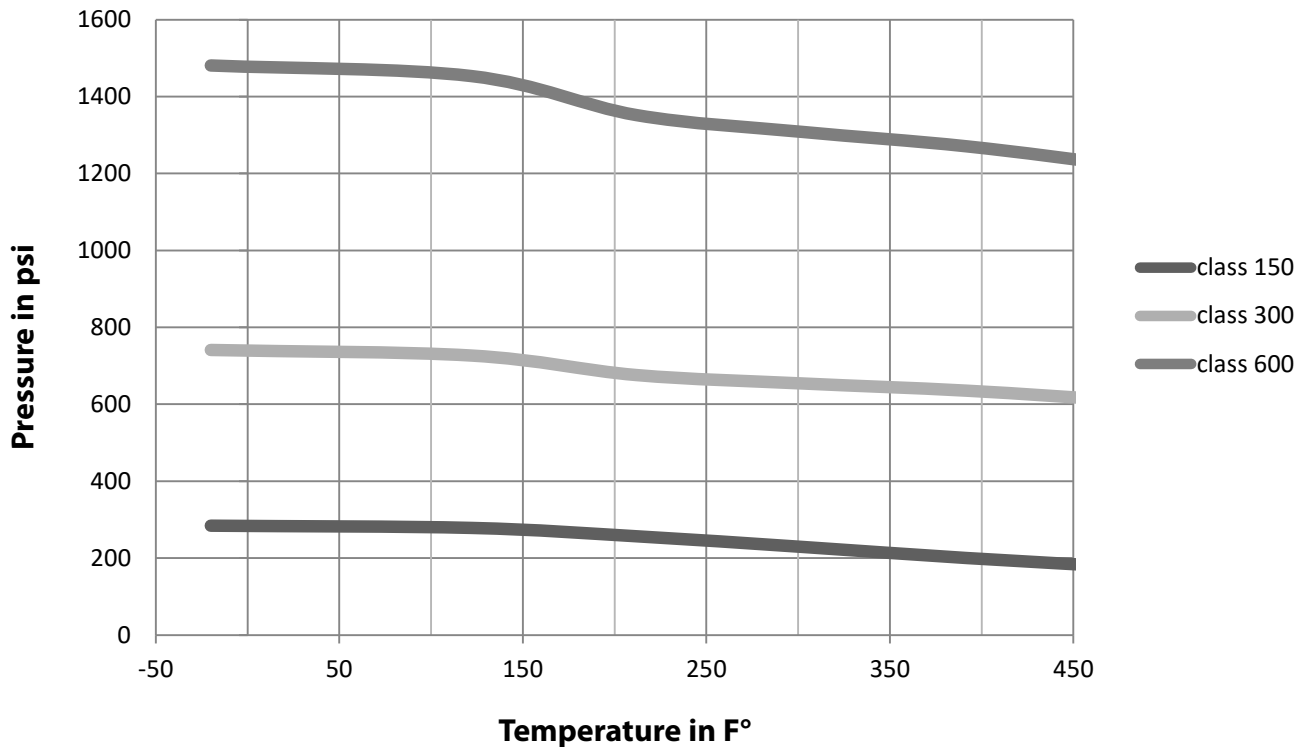


Crane® FKX 9000 Pressure/Temperature Ratings for Steel

Temperature	Max working pressure ASME Class 150	Max working pressure ASME Class 300	Max working pressure ASME Class 600
	ASTM A216 Gr. WCB*		
°F	psi		
-20	284,3	741,2	1480,9
122	278,5	726,7	1453,3
212	256,7	675,9	1351,8
302	229,2	654,1	1308,3
392	200,2	635,3	1270,6
482	175,5	607,7	1216,9
572	147,9	577,3	1154,5
662	121,8	545,4	1089,3
752	94,3	503,3	1006,6
797	79,8	417,7	834,0

*according ASME B16.34 - Material Group 1.1

**Pressure & Temperature
ASTM A216 Gr. WCB**

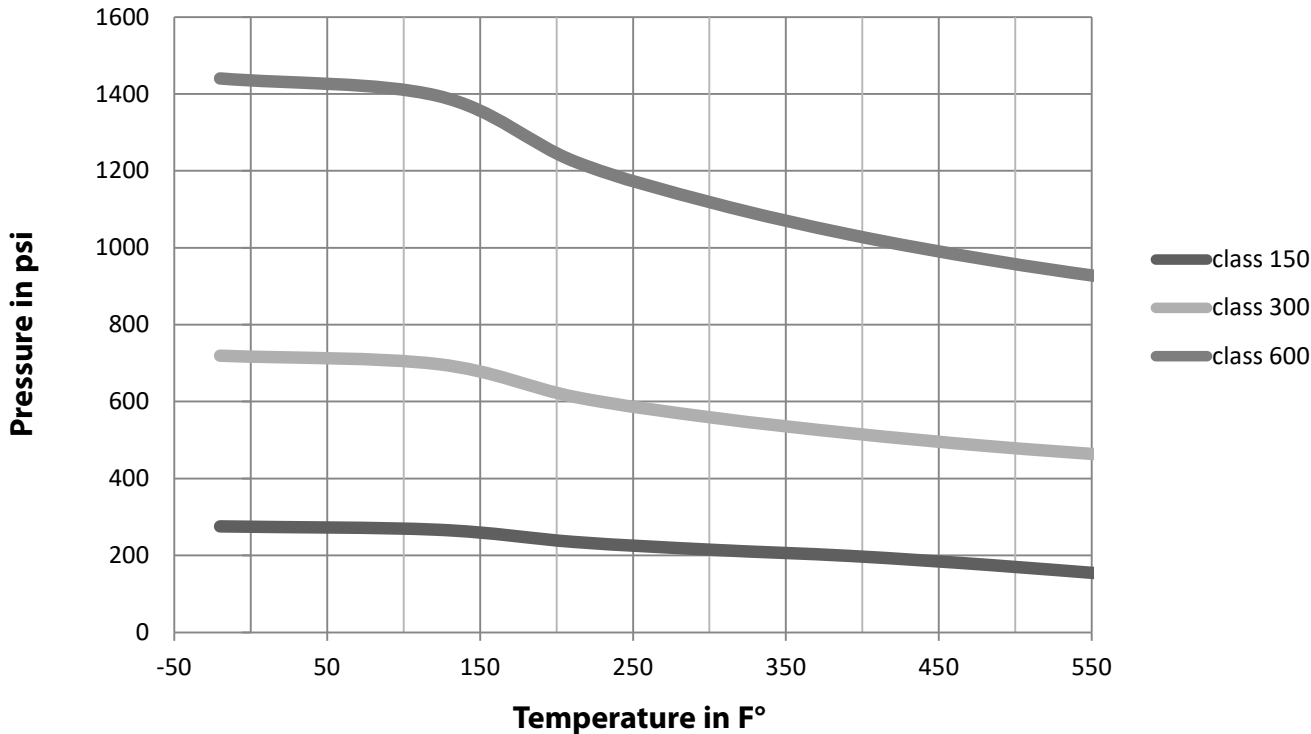


Crane® FKX 9000 Pressure/Temperature Ratings for Stainless Steel

Temperature	Max working pressure ASME Class 150	Max working pressure ASME Class 300	Max working pressure ASME Class 600
	ASTM A351 Gr. CF8M*		
°F	psi		
-20	275,6	719,4	1440,2
122	266,9	697,6	1395,3
212	235,0	612,1	1224,1
302	214,7	558,4	1116,8
392	198,7	517,8	1034,1
482	175,5	484,4	968,9
572	147,9	458,3	916,7
662	121,8	439,5	880,4
752	94,3	426,4	854,3
842	66,7	417,7	836,9
932	40,6	409,0	819,5
1000	20,3	365,5	725,2

*according ASME B16.34 - Material Group 2.2

**Pressure & Temperature
ASTM A351 Gr. CF8M**





Single Packing Torque Values for On/Off Applications

Uni-Directional - Pressure from shaft side

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for liquid media includes a safety of S=1,25.
 For on/off applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	412	411	412	494	411	412
		145	625	454	417	500	454	465
		218	731	475	419	503	475	491
		290	838	496	421	506	496	518
		725	1477	623	436	523	623	677
100	4"	0	567	566	567	680	566	567
		145	944	645	575	690	645	686
		218	1133	684	580	695	684	745
		290	1321	724	584	701	724	805
		725	2452	960	609	731	960	1161
150	6"	0	953	950	953	1144	950	953
		145	2155	1218	973	1168	1218	1309
		218	2756	1353	983	1180	1353	1487
		290	3357	1487	993	1192	1487	1665
		725	6961	2293	1053	1263	2293	2732
200	8"	0	1741	1732	1741	2090	1732	1741
		145	3512	2160	1780	2136	2160	2559
		218	4398	2373	1800	2160	2373	2968
		290	5283	2587	1819	2183	2587	3377
		725	10596	3870	1936	2323	3870	5830
250	10"	0	1757	1740	1757	2109	1740	1757
		145	4167	2336	1796	2155	2336	3061
		218	5371	2634	1816	2179	2634	3713
		290	6576	2932	1835	2202	2932	4365
		725	13804	4721	1952	2342	4721	8277
300	12"	0	2210	2180	2210	2652	2180	2210
		145	5477	3018	2265	2719	3018	4339
		218	7111	3438	2293	2752	3438	5404
		290	8744	3857	2321	2785	3857	6468
		725	18546	6373	2487	2985	6373	12856
350	14"	0	3257	3200	3257	3908	3200	3257
		145	8343	4554	3358	4030	4554	6618
		218	10886	5231	3409	4090	5231	8299
		290	13429	5908	3459	4151	5908	9980
		725	28688	9970	3763	4515	9970	20064
400	16"	0	4522	4423	4522	5426	4423	4522
		145	12232	6534	4689	5627	6534	9561
		218	16087	7590	4773	5727	7590	12081
		290	19942	8645	4856	5827	8645	14601
		725	43072	14978	5357	6429	14978	29718
450	18"	0	8041	7893	8041	9650	7893	8041
		145	15753	10078	8250	9900	10078	14919
		218	19608	11170	8354	10025	11170	18357
		290	23464	12262	8459	10150	12262	21796
		725	46597	18817	9085	10901	18817	42427
500	20"	0	9298	9079	9298	11157	9079	9298
		145	19287	11949	9554	11465	11949	18663
		218	24282	13384	9682	11619	13384	23346
		290	29277	14818	9811	11773	14818	28028
		725	59246	23427	10581	12697	23427	56124
600	24"	0	16704	16202	16704	20044	16202	16704
		145	35158	21639	17147	20576	21639	33209
		218	44385	24357	17369	20842	24357	41462
		290	53613	27076	17590	21108	27076	49714
		725	108976	43386	18921	22705	43386	99230

Single Packing Torque Values for On/Off Applications Uni-Directional - Pressure from shaft side

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	14100	13277	14100	16921	13277	14100
		145	43226	21791	14412	17294	21791	35112
		218	57789	26048	14568	17481	26048	45618
		290	72351	30305	14723	17668	30305	56124
750	30"	0	14557	13506	14557	17469	13506	14557
		145	44752	22423	14869	17842	22423	38651
		218	59850	26882	15024	18029	26882	50698
		290	74948	31341	15180	18216	31341	62746
800	32"	0	18454	17077	18454	22145	17077	18454
		145	58854	29152	18898	22677	29152	49433
		218	79054	35189	19119	22943	35189	64922
		290	99254	41226	19341	23209	41226	80411
900	36"	0	23900	21611	23900	28680	21611	23900
		145	77533	37954	24508	29409	37954	68154
		218	104350	46126	24812	29774	46126	90281
		290	131166	54298	25116	30139	54298	112409
1000	40"	0	34730	31295	34730	41676	31295	34730
		145	113746	55710	35539	42647	55710	94467
		218	153254	67917	35944	43133	67917	124336
		290	192763	80124	36349	43619	80124	154205
1050	42"	0	36137	31999	36137	43364	31999	36137
		145	127953	60490	36947	44336	60490	102268
		218	173861	74736	37351	44822	74736	135333
		290	219769	88982	37756	45307	88982	168398
1200	48"	0	53393	46087	53393	64071	46087	53393
		145	193688	90585	54729	65675	90585	156837
		218	263835	112833	55397	66476	112833	208560
		290	333983	135082	56065	67278	135082	260282

BTO = Break to open
RUN = Running

ETO = End to open

BTC = Break to close

RUN = Running

ETC = End to close

General remark:

Torques for liquid media includes a safety of S=1,25.

For on/off applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	30259	29060	30259	36311	29060	30259
		145	63965	39234	31069	37283	39234	59599
		218	80818	44321	31474	37769	44321	74269
		290	97670	49407	31879	38254	49407	88939
		725	198787	79928	34307	41169	79928	176958
750	30"	0	30707	29284	30707	36849	29284	30707
		145	68213	40661	31517	37820	40661	64262
		218	86966	46350	31922	38306	46350	81040
		290	105719	52039	32327	38792	52039	97817
		725	218236	86171	34755	41706	86171	198481
800	32"	0	36983	35040	36983	44380	35040	36983
		145	85770	49986	38034	45641	49986	78803
		218	110163	57459	38560	46272	57459	99713
		290	134556	64932	39085	46903	64932	120623
		725	280915	109770	42239	50686	109770	246083
900	36"	0	44628	41705	44628	53554	41705	44628
		145	112112	62671	45965	55158	62671	102733
		218	145853	73154	46633	55959	73154	131785
		290	179595	83637	47301	56761	83637	160837
		725	382044	146534	51310	61572	146534	335150



Single Packing Torque Values for Control Applications

Uni-Directional - Pressure from shaft side

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for liquid media includes a safety of S=1,5.
 For control applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	494	494	494	593	494	494
		145	750	544	500	600	544	558
		218	877	570	503	603	570	590
		290	1005	595	506	607	595	621
		725	1772	748	523	628	748	813
100	4"	0	680	679	680	816	679	680
		145	1133	774	690	829	774	823
		218	1359	821	695	835	821	894
		290	1585	868	701	841	868	966
		725	2943	1152	731	877	1152	1394
150	6"	0	1144	1139	1144	1373	1139	1144
		145	2586	1462	1168	1401	1462	1571
		218	3307	1623	1180	1416	1623	1784
		290	4028	1784	1192	1430	1784	1998
		725	8354	2752	1263	1516	2752	3279
200	8"	0	2090	2079	2090	2508	2079	2090
		145	4215	2592	2136	2564	2592	3071
		218	5277	2848	2160	2592	2848	3562
		290	6340	3105	2183	2620	3105	4052
		725	12715	4644	2323	2788	4644	6996
250	10"	0	2109	2088	2109	2530	2088	2109
		145	5000	2803	2155	2587	2803	3673
		218	6446	3161	2179	2615	3161	4456
		290	7891	3519	2202	2643	3519	5238
		725	16565	5665	2342	2811	5665	9932
300	12"	0	2652	2616	2652	3182	2616	2652
		145	6573	3622	2719	3262	3622	5207
		218	8533	4125	2752	3302	4125	6485
		290	10493	4628	2785	3342	4628	7762
		725	22255	7648	2985	3582	7648	15427
350	14"	0	3908	3840	3908	4690	3840	3908
		145	10012	5465	4030	4836	5465	7942
		218	13064	6277	4090	4908	6277	9959
		290	16115	7089	4151	4981	7089	11976
		725	34426	11964	4515	5419	11964	24077
400	16"	0	5426	5308	5426	6512	5308	5426
		145	14678	7841	5627	6752	7841	11474
		218	19304	9108	5727	6873	9108	14497
		290	23930	10374	5827	6993	10374	17521
		725	51686	17974	6429	7714	17974	35662
450	18"	0	9650	9472	9650	11580	9472	9650
		145	18903	12093	9900	11880	12093	17902
		218	23530	13404	10025	12030	13404	22029
		290	28157	14715	10150	12180	14715	26155
		725	55917	22580	10901	13082	22580	50912
500	20"	0	11157	10895	11157	13389	10895	11157
		145	23145	14339	11465	13758	14339	22396
		218	29139	16060	11619	13943	16060	28015
		290	35132	17782	11773	14128	17782	33634
		725	71096	28113	12697	15236	28113	67349
600	24"	0	20044	19442	20044	24053	19442	20044
		145	42190	25967	20576	24692	25967	39851
		218	53262	29229	20842	25011	29229	49754
		290	64335	32491	21108	25330	32491	59657
		725	130771	52063	22705	27246	52063	119076

Single Packing Torque Values for Control Applications Uni-Directional - Pressure from shaft side

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	16921	15933	16921	20305	15933	16921
		145	51871	26149	17294	20753	26149	42135
		218	69346	31257	17481	20977	31257	54742
		290	86822	36366	17668	21202	36366	67349
750	30"	0	17469	16207	17469	20962	16207	17469
		145	53703	26908	17842	21411	26908	46382
		218	71820	32258	18029	21635	32258	60838
		290	89937	37609	18216	21859	37609	75295
800	32"	0	22145	20493	22145	26574	20493	22145
		145	70625	34982	22677	27213	34982	59319
		218	94865	42226	22943	27532	42226	77906
		290	119105	49471	23209	27851	49471	96493
900	36"	0	28680	25933	28680	34415	25933	28680
		145	93040	45545	29409	35291	45545	81785
		218	125220	55352	29774	35729	55352	108338
		290	157400	65158	30139	36167	65158	134890
1000	40"	0	41676	37554	41676	50011	37554	41676
		145	136495	66852	42647	51177	66852	113361
		218	183905	81500	43133	51759	81500	149203
		290	231315	96149	43619	52342	96149	185046
1050	42"	0	43364	38399	43364	52037	38399	43364
		145	153543	72588	44336	53203	72588	122721
		218	208633	89683	44822	53786	89683	162400
		290	263722	106778	45307	54369	106778	202078
1200	48"	0	64071	55305	64071	76885	55305	64071
		145	232425	108701	65675	78810	108701	188205
		218	316602	135400	66476	79772	135400	250272
		290	400780	162098	67278	80734	162098	312339

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for liquid media includes a safety of S=1,5.
 For control applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	36311	34872	36311	43574	34872	36311
		145	76758	47080	37283	44739	47080	71519
		218	96981	53185	37769	45322	53185	89123
		290	117205	59289	38254	45905	59289	106727
		725	238544	95914	41169	49402	95914	212350
750	30"	0	36849	35141	36849	44219	35141	36849
		145	81856	48794	37820	45384	48794	77115
		218	104359	55620	38306	45967	55620	97247
		290	126863	62446	38792	46550	62446	117380
		725	261883	103405	41706	50048	103405	238178
800	32"	0	44380	42048	44380	53256	42048	44380
		145	102924	59983	45641	54770	59983	94564
		218	132195	68951	46272	55526	68951	119656
		290	161467	77918	46903	56283	77918	144748
		725	337098	131724	50686	60824	131724	295299
900	36"	0	53554	50046	53554	64265	50046	53554
		145	134534	75205	55158	66189	75205	123279
		218	175024	87785	55959	67151	87785	158142
		290	215514	100364	56761	68113	100364	193004
		725	458453	175841	61572	73886	175841	402179



Single Packing Torque Values for On/Off Applications

Bi-Directional - Pressure from shaft and disc side

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for gaseous media
 includes a safety of S=1,25.
 For on/off applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	412	411	412	494	411	940
		145	625	454	417	500	454	940
		218	731	475	419	503	475	940
		290	838	496	421	506	496	981
		725	1477	623	436	523	623	1834
100	4"	0	567	566	567	680	566	1283
		145	944	645	575	690	645	1283
		218	1133	684	580	695	684	1323
		290	1321	724	584	701	724	1575
		725	2452	960	609	731	960	3087
150	6"	0	953	950	953	1144	950	3341
		145	2155	1218	973	1168	1218	3341
		218	2756	1353	983	1180	1353	3341
		290	3357	1487	993	1192	1487	3908
		725	6961	2293	1053	1263	2293	8341
200	8"	0	1741	1732	1741	2090	1732	4923
		145	3512	2160	1780	2136	2160	4923
		218	4398	2373	1800	2160	2373	5627
		290	5283	2587	1819	2183	2587	6923
		725	10596	3870	1936	2323	3870	14695
250	10"	0	1757	1740	1757	2109	1740	9072
		145	4167	2336	1796	2155	2336	9072
		218	5371	2634	1816	2179	2634	9072
		290	6576	2932	1835	2202	2932	9072
		725	13804	4721	1952	2342	4721	20009
300	12"	0	2210	2180	2210	2652	2180	12845
		145	5477	3018	2265	2719	3018	12845
		218	7111	3438	2293	2752	3438	12845
		290	8744	3857	2321	2785	3857	12845
		725	18546	6373	2487	2985	6373	27423
350	14"	0	3257	3200	3257	3908	3200	15500
		145	8343	4554	3358	4030	4554	15500
		218	10886	5231	3409	4090	5231	15761
		290	13429	5908	3459	4151	5908	19929
		725	28688	9970	3763	4515	9970	44938
400	16"	0	4522	4423	4522	5426	4423	20456
		145	12232	6534	4689	5627	6534	20456
		218	16087	7590	4773	5727	7590	22327
		290	19942	8645	4856	5827	8645	28262
		725	43072	14978	5357	6429	14978	63872
450	18"	0	8041	7893	8041	9650	7893	25933
		145	15753	10078	8250	9900	10078	25933
		218	19608	11170	8354	10025	11170	27422
		290	23464	12262	8459	10150	12262	33882
		725	46597	18817	9085	10901	18817	72644
500	20"	0	9298	9079	9298	11157	9079	28079
		145	19287	11949	9554	11465	11949	28079
		218	24282	13384	9682	11619	13384	34122
		290	29277	14818	9811	11773	14818	42396
		725	59246	23427	10581	12697	23427	92044
600	24"	0	16704	16202	16704	20044	16202	40470
		145	35158	21639	17147	20576	21639	44781
		218	44385	24357	17369	20842	24357	58819
		290	53613	27076	17590	21108	27076	72857
		725	108976	43386	18921	22705	43386	157088

Single Packing Torque Values for On/Off Applications Bi-Directional - Pressure from shaft and disc side

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	14100	13277	14100	16921	13277	28820
		145	43226	21791	14412	17294	21791	72066
		218	57789	26048	14568	17481	26048	99287
		290	72351	30305	14723	17668	30305	126507
750	30"	0	14557	13506	14557	17469	13506	35005
		145	44752	22423	14869	17842	22423	81860
		218	59850	26882	15024	18029	26882	113692
		290	74948	31341	15180	18216	31341	145524
800	32"	0	18454	17077	18454	22145	17077	41200
		145	58854	29152	18898	22677	29152	103347
		218	79054	35189	19119	22943	35189	143486
		290	99254	41226	19341	23209	41226	183625
900	36"	0	23900	21611	23900	28680	21611	58548
		145	77533	37954	24508	29409	37954	145037
		218	104350	46126	24812	29774	46126	202619
		290	131166	54298	25116	30139	54298	260200
1000	40"	0	34730	31295	34730	41676	31295	75076
		145	113746	55710	35539	42647	55710	201257
		218	153254	67917	35944	43133	67917	280180
		290	192763	80124	36349	43619	80124	359102
1050	42"	0	36137	31999	36137	43364	31999	79557
		145	127953	60490	36947	44336	60490	225082
		218	173861	74736	37351	44822	74736	315037
		290	219769	88982	37756	45307	88982	404993
1200	48"	0	53393	46087	53393	64071	46087	117826
		145	193688	90585	54729	65675	90585	342787
		218	263835	112833	55397	66476	112833	480810
		290	333983	135082	56065	67278	135082	618833

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for gaseous media includes a safety of S=1,25.
 For on/off applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	30259	29060	30259	36311	29060	45803
		145	63965	39234	31069	37283	39234	98997
		218	80818	44321	31474	37769	44321	129583
		290	97670	49407	31879	38254	49407	160169
		725	198787	79928	34307	41169	79928	343686
750	30"	0	30707	29284	30707	36849	29284	52164
		145	68213	40661	31517	37820	40661	112472
		218	86966	46350	31922	38306	46350	149516
		290	105719	52039	32327	38792	52039	186560
800	32"	725	218236	86171	34755	41706	86171	408823
		0	36983	35040	36983	44380	35040	60805
		145	85770	49986	38034	45641	49986	138405
		218	110163	57459	38560	46272	57459	184493
		290	134556	64932	39085	46903	64932	230581
900	36"	725	280915	109770	42239	50686	109770	507109
		0	44628	41705	44628	53554	41705	80686
		145	112112	62671	45965	55158	62671	190224
		218	145853	73154	46633	55959	73154	257443
		290	179595	83637	47301	56761	83637	324663
725	382044	146534	51310	61572	146534	727979		



Single Packing Torque Values for Control Applications

Bi-Directional - Pressure from shaft and disc side

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for gaseous media includes a safety of S=1,5.
 For control applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	494	494	494	593	494	1128
		145	750	544	500	600	544	1128
		218	877	570	503	603	570	1128
		290	1005	595	506	607	595	1177
		725	1772	748	523	628	748	2201
100	4"	0	680	679	680	816	679	1540
		145	1133	774	690	829	774	1540
		218	1359	821	695	835	821	1587
		290	1585	868	701	841	868	1890
		725	2943	1152	731	877	1152	3704
150	6"	0	1144	1139	1144	1373	1139	4009
		145	2586	1462	1168	1401	1462	4009
		218	3307	1623	1180	1416	1623	4009
		290	4028	1784	1192	1430	1784	4690
		725	8354	2752	1263	1516	2752	10010
200	8"	0	2090	2079	2090	2508	2079	5908
		145	4215	2592	2136	2564	2592	5908
		218	5277	2848	2160	2592	2848	6753
		290	6340	3105	2183	2620	3105	8307
		725	12715	4644	2323	2788	4644	17634
250	10"	0	2109	2088	2109	2530	2088	10886
		145	5000	2803	2155	2587	2803	10886
		218	6446	3161	2179	2615	3161	10886
		290	7891	3519	2202	2643	3519	10886
		725	16565	5665	2342	2811	5665	24010
300	12"	0	2652	2616	2652	3182	2616	15414
		145	6573	3622	2719	3262	3622	15414
		218	8533	4125	2752	3302	4125	15414
		290	10493	4628	2785	3342	4628	15414
		725	22255	7648	2985	3582	7648	32907
350	14"	0	3908	3840	3908	4690	3840	18600
		145	10012	5465	4030	4836	5465	18600
		218	13064	6277	4090	4908	6277	18913
		290	16115	7089	4151	4981	7089	23915
		725	34426	11964	4515	5419	11964	53925
400	16"	0	5426	5308	5426	6512	5308	24548
		145	14678	7841	5627	6752	7841	24548
		218	19304	9108	5727	6873	9108	26792
		290	23930	10374	5827	6993	10374	33914
		725	51686	17974	6429	7714	17974	76646
450	18"	0	9650	9472	9650	11580	9472	31119
		145	18903	12093	9900	11880	12093	31119
		218	23530	13404	10025	12030	13404	32907
		290	28157	14715	10150	12180	14715	40659
		725	55917	22580	10901	13082	22580	87173
500	20"	0	11157	10895	11157	13389	10895	33695
		145	23145	14339	11465	13758	14339	33695
		218	29139	16060	11619	13943	16060	40946
		290	35132	17782	11773	14128	17782	50875
		725	71096	28113	12697	15236	28113	110453
600	24"	0	20044	19442	20044	24053	19442	48564
		145	42190	25967	20576	24692	25967	53737
		218	53262	29229	20842	25011	29229	70583
		290	64335	32491	21108	25330	32491	87429
		725	130771	52063	22705	27246	52063	188506

Single Packing Torque Values for Control Applications Bi-Directional - Pressure from shaft and disc side

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	16921	15933	16921	20305	15933	34584
		145	51871	26149	17294	20753	26149	86480
		218	69346	31257	17481	20977	31257	119144
		290	86822	36366	17668	21202	36366	151808
750	30"	0	17469	16207	17469	20962	16207	42006
		145	53703	26908	17842	21411	26908	98232
		218	71820	32258	18029	21635	32258	136430
		290	89937	37609	18216	21859	37609	174629
800	32"	0	22145	20493	22145	26574	20493	49440
		145	70625	34982	22677	27213	34982	124016
		218	94865	42226	22943	27532	42226	172183
		290	119105	49471	23209	27851	49471	220351
900	36"	0	28680	25933	28680	34415	25933	70257
		145	93040	45545	29409	35291	45545	174045
		218	125220	55352	29774	35729	55352	243143
		290	157400	65158	30139	36167	65158	312240
1000	40"	0	41676	37554	41676	50011	37554	90092
		145	136495	66852	42647	51177	66852	241509
		218	183905	81500	43133	51759	81500	336216
		290	231315	96149	43619	52342	96149	430923
1050	42"	0	43364	38399	43364	52037	38399	95469
		145	153543	72588	44336	53203	72588	270098
		218	208633	89683	44822	53786	89683	378045
		290	263722	106778	45307	54369	106778	485991
1200	48"	0	64071	55305	64071	76885	55305	141391
		145	232425	108701	65675	78810	108701	411344
		218	316602	135400	66476	79772	135400	576972
		290	400780	162098	67278	80734	162098	742599

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for gaseous media includes a safety of S=1,5.
 For control applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	36311	34872	36311	43574	34872	54963
		145	76758	47080	37283	44739	47080	118796
		218	96981	53185	37769	45322	53185	155500
		290	117205	59289	38254	45905	59289	192203
		725	238544	95914	41169	49402	95914	412424
750	30"	0	36849	35141	36849	44219	35141	62597
		145	81856	48794	37820	45384	48794	134966
		218	104359	55620	38306	45967	55620	179419
		290	126863	62446	38792	46550	62446	223872
		725	261883	103405	41706	50048	103405	490588
800	32"	0	44380	42048	44380	53256	42048	72966
		145	102924	59983	45641	54770	59983	166086
		218	132195	68951	46272	55526	68951	221392
		290	161467	77918	46903	56283	77918	276697
		725	337098	131724	50686	60824	131724	608530
900	36"	0	53554	50046	53554	64265	50046	96823
		145	134534	75205	55158	66189	75205	228269
		218	175024	87785	55959	67151	87785	308932
		290	215514	100364	56761	68113	100364	389595
		725	458453	175841	61572	73886	175841	873574



Dual Packing Torque Values for On/Off Applications

Uni-Directional - Pressure from shaft side

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for liquid media includes a safety of S=1,25.
 For on/off applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	652	652	652	782	652	652
		145	865	694	657	788	694	705
		218	971	715	659	791	715	732
		290	1078	736	662	794	736	758
		725	1717	863	676	812	863	917
100	4"	0	913	912	913	1095	912	913
		145	1290	991	921	1106	991	1032
		218	1478	1030	926	1111	1030	1091
		290	1667	1070	930	1116	1070	1151
		725	2798	1306	955	1146	1306	1507
150	6"	0	1568	1565	1568	1882	1565	1568
		145	2770	1833	1588	1906	1833	1924
		218	3371	1968	1598	1918	1968	2102
		290	3972	2102	1608	1930	2102	2280
		725	7576	2908	1668	2001	2908	3347
200	8"	0	2943	2933	2943	3531	2933	2943
		145	4714	3361	2982	3578	3361	3760
		218	5599	3575	3001	3601	3575	4169
		290	6485	3788	3021	3625	3788	4578
		725	11797	5071	3137	3765	5071	7032
250	10"	0	2958	2941	2958	3550	2941	2958
		145	5368	3537	2997	3597	3537	4262
		218	6573	3836	3017	3620	3836	4914
		290	7777	4134	3036	3644	4134	5566
		725	15005	5922	3153	3784	5922	9478
300	12"	0	3730	3700	3730	4476	3700	3730
		145	6997	4539	3786	4543	4539	5859
		218	8631	4958	3813	4576	4958	6924
		290	10265	5377	3841	4609	5377	7989
		725	20066	7893	4007	4809	7893	14376
350	14"	0	5528	5471	5528	6633	5471	5528
		145	10614	6825	5629	6755	6825	8889
		218	13157	7502	5680	6816	7502	10570
		290	15700	8179	5730	6876	8179	12251
		725	30959	12241	6034	7241	12241	22335
400	16"	0	7694	7595	7694	9233	7595	7694
		145	15404	9706	7861	9433	9706	12733
		218	19259	10762	7945	9533	10762	15253
		290	23114	11817	8028	9634	11817	17772
		725	46244	18150	8529	10235	18150	32890
450	18"	0	13927	13779	13927	16713	13779	13927
		145	21638	15964	14136	16963	15964	20804
		218	25494	17056	14240	17088	17056	24243
		290	29350	18148	14345	17213	18148	27682
		725	52483	24703	14970	17964	24703	48313
500	20"	0	16054	15836	16054	19265	15836	16054
		145	26044	18705	16311	19573	18705	25420
		218	31039	20140	16439	19727	20140	30102
		290	36034	21575	16568	19881	21575	34785
		725	66003	30184	17337	20805	30184	62881
600	24"	0	28866	28364	28866	34639	28364	28866
		145	47320	33801	29309	35171	33801	45371
		218	56547	36519	29531	35437	36519	53624
		290	65775	39238	29752	35703	39238	61876
		725	121138	55548	31083	37299	55548	111392

Dual Packing Torque Values for On/Off Applications Uni-Directional - Pressure from shaft side

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	23710	22887	23710	28452	22887	23710
		145	52836	31401	24021	28826	31401	44722
		218	67398	35657	24177	29013	35657	55228
		290	81961	39914	24333	29199	39914	65734
750	30"	0	24167	23115	24167	29000	23115	24167
		145	54362	32033	24478	29374	32033	48261
		218	69460	36491	24634	29561	36491	60308
		290	84557	40950	24790	29748	40950	72355
800	32"	0	30616	29239	30616	36740	29239	30616
		145	71016	41314	31060	37272	41314	61595
		218	91216	47351	31281	37538	47351	77084
		290	111416	53388	31503	37804	53388	92573
900	36"	0	38915	36626	38915	46697	36626	38915
		145	92548	52969	39523	47427	52969	83169
		218	119365	61141	39827	47792	61141	105296
		290	146181	69313	40131	48157	69313	127423
1000	40"	0	56531	53097	56531	67838	53097	56531
		145	135548	77511	57341	68809	77511	116269
		218	175056	89719	57746	69295	89719	146138
		290	214564	101926	58151	69781	101926	176007
1050	42"	0	57939	53801	57939	69526	53801	57939
		145	149755	82292	58748	70498	82292	124069
		218	195662	96538	59153	70984	96538	157135
		290	241570	110783	59558	71469	110783	190200
1200	48"	0	83843	76538	83843	100611	76538	83843
		145	224138	121035	85179	102215	121035	187288
		218	294286	143283	85847	103017	143283	239010
		290	364433	165532	86515	103819	165532	290732

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for liquid media includes a safety of S=1,25.
 For on/off applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	52061	50862	52061	62473	50862	52061
		145	85767	61035	52871	63445	61035	81401
		218	102619	66122	53275	63931	66122	96071
		290	119472	71209	53680	64416	71209	110741
		725	220589	101730	56109	67331	101730	198760
750	30"	0	52509	51086	52509	63011	51086	52509
		145	90015	62463	53319	63982	62463	86064
		218	108768	68152	53723	64468	68152	102841
		290	127521	73840	54128	64954	73840	119619
800	32"	0	62929	60986	62929	75515	60986	62929
		145	111716	75932	63980	76776	75932	104749
		218	136109	83405	64506	77407	83405	125659
		290	160502	90878	65031	78038	90878	146569
		725	306861	135716	68184	81821	135716	272029
900	36"	0	75079	72155	75079	90094	72155	75079
		145	142562	93121	76415	91698	93121	133183
		218	176303	103604	77083	92500	103604	162235
		290	210045	114087	77751	93302	114087	191287
		725	412494	176984	81760	98112	176984	365600



Dual Packing Torque Values for Control Applications

Uni-Directional - Pressure from shaft side

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for liquid media
 includes a safety of S=1,5.
 For control applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	782	782	782	939	782	782
		145	1038	833	788	946	833	846
		218	1166	858	791	949	858	878
		290	1294	884	794	953	884	910
		725	2060	1036	812	974	1036	1101
100	4"	0	1095	1094	1095	1315	1094	1095
		145	1548	1189	1106	1327	1189	1238
		218	1774	1236	1111	1333	1236	1309
		290	2000	1284	1116	1339	1284	1381
		725	3358	1567	1146	1375	1567	1809
150	6"	0	1882	1877	1882	2258	1877	1882
		145	3324	2200	1906	2287	2200	2309
		218	4045	2361	1918	2301	2361	2522
		290	4766	2522	1930	2316	2522	2736
		725	9092	3490	2001	2402	3490	4017
200	8"	0	3531	3520	3531	4237	3520	3531
		145	5656	4033	3578	4293	4033	4513
		218	6719	4290	3601	4322	4290	5003
		290	7781	4546	3625	4350	4546	5494
		725	14157	6085	3765	4518	6085	8438
250	10"	0	3550	3529	3550	4260	3529	3550
		145	6441	4245	3597	4316	4245	5115
		218	7887	4603	3620	4344	4603	5897
		290	9333	4960	3644	4372	4960	6679
		725	18007	7107	3784	4540	7107	11373
300	12"	0	4476	4440	4476	5372	4440	4476
		145	8397	5446	4543	5451	5446	7031
		218	10357	5950	4576	5491	5950	8309
		290	12317	6453	4609	5531	6453	9586
		725	24079	9472	4809	5771	9472	17251
350	14"	0	6633	6565	6633	7960	6565	6633
		145	12737	8190	6755	8106	8190	10667
		218	15789	9002	6816	8179	9002	12684
		290	18841	9815	6876	8252	9815	14701
		725	37151	14689	7241	8689	14689	26803
400	16"	0	9233	9114	9233	11079	9114	9233
		145	18485	11647	9433	11320	11647	15280
		218	23111	12914	9533	11440	12914	18303
		290	27737	14181	9634	11560	14181	21327
		725	55492	21780	10235	12282	21780	39468
450	18"	0	16713	16535	16713	20055	16535	16713
		145	25966	19156	16963	20356	19156	24965
		218	30593	20467	17088	20506	20467	29092
		290	35220	21778	17213	20656	21778	33218
		725	62980	29643	17964	21557	29643	57976
500	20"	0	19265	19003	19265	23118	19003	19265
		145	31253	22447	19573	23488	22447	30504
		218	37247	24168	19727	23672	24168	36123
		290	43241	25890	19881	23857	25890	41742
		725	79204	36221	20805	24966	36221	75457
600	24"	0	34639	34037	34639	41567	34037	34639
		145	56784	40561	35171	42205	40561	54445
		218	67857	43823	35437	42524	43823	64348
		290	78930	47085	35703	42844	47085	74252
		725	145366	66658	37299	44759	66658	133671

Dual Packing Torque Values for Control Applications Uni-Directional - Pressure from shaft side

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	28452	27464	28452	34142	27464	28452
		145	63403	37681	28826	34591	37681	53666
		218	80878	42789	29013	34815	42789	66273
		290	98353	47897	29199	35039	47897	78880
750	30"	0	29000	27738	29000	34800	27738	29000
		145	65234	38439	29374	35249	38439	57913
		218	83352	43790	29561	35473	43790	72370
		290	101469	49140	29748	35697	49140	86826
800	32"	0	36740	35087	36740	44088	35087	36740
		145	85220	49576	37272	44726	49576	73914
		218	109460	56821	37538	45045	56821	92501
		290	133700	64066	37804	45365	64066	111088
900	36"	0	46697	43951	46697	56037	43951	46697
		145	111058	63563	47427	56913	63563	99803
		218	143238	73370	47792	57351	73370	126355
		290	175418	83176	48157	57789	83176	152908
1000	40"	0	67838	63716	67838	81405	63716	67838
		145	162657	93014	68809	82571	93014	139523
		218	210067	107662	69295	83154	107662	175365
		290	257477	122311	69781	83737	122311	211208
1050	42"	0	69526	64561	69526	83432	64561	69526
		145	179705	98750	70498	84598	98750	148883
		218	234795	115845	70984	85180	115845	188562
		290	289884	132940	71469	85763	132940	228240
1200	48"	0	100611	91845	100611	120734	91845	100611
		145	268966	145242	102215	122658	145242	224745
		218	353143	171940	103017	123620	171940	286812
		290	437320	198639	103819	124582	198639	348879

BTO = Break to open
RUN = Running

ETO = End to open

BTC = Break to close

RUN = Running

ETC = End to close

General remark:

Torques for liquid media

includes a safety of S=1,5.

For control applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	62473	61034	62473	74968	61034	62473
		145	102920	73242	63445	76134	73242	97681
		218	123143	79347	63931	76717	79347	115285
		290	143367	85451	64416	77300	85451	132889
		725	264706	122076	67331	80797	122076	238512
750	30"	0	63011	61303	63011	75613	61303	63011
		145	108018	74956	63982	76779	74956	103277
		218	130521	81782	64468	77362	81782	123410
		290	153025	88608	64954	77945	88608	143542
		725	288045	129567	67868	81442	129567	264340
800	32"	0	75515	73183	75515	90618	73183	75515
		145	134059	91118	76776	92132	91118	125699
		218	163330	100086	77407	92888	100086	150791
		290	192602	109053	78038	93645	109053	175883
		725	368233	162859	81821	98186	162859	326434
900	36"	0	90094	86587	90094	108113	86587	90094
		145	171074	111745	91698	110038	111745	159819
		218	211564	124325	92500	111000	124325	194682
		290	252054	136904	93302	111962	136904	229545
		725	494993	212381	98112	117735	212381	438720



Dual Packing Torque Values for On/Off Applications

Bi-Directional - Pressure from shaft and disc side

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for gaseous media
 includes a safety of S=1,25.
 For on/off applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	652	652	652	782	652	940
		145	865	694	657	788	694	940
		218	971	715	659	791	715	1079
		290	1078	736	662	794	736	1221
		725	1717	863	676	812	863	2074
100	4"	0	913	912	913	1095	912	1283
		145	1290	991	921	1106	991	1417
		218	1478	1030	926	1111	1030	1669
		290	1667	1070	930	1116	1070	1921
		725	2798	1306	955	1146	1306	3433
150	6"	0	1568	1565	1568	1882	1565	3341
		145	2770	1833	1588	1906	1833	3341
		218	3371	1968	1598	1918	1968	3785
		290	3972	2102	1608	1930	2102	4523
		725	7576	2908	1668	2001	2908	8956
200	8"	0	2943	2933	2943	3531	2933	4923
		145	4714	3361	2982	3578	3361	5533
		218	5599	3575	3001	3601	3575	6829
		290	6485	3788	3021	3625	3788	8124
		725	11797	5071	3137	3765	5071	15896
250	10"	0	2958	2941	2958	3550	2941	9072
		145	5368	3537	2997	3597	3537	9072
		218	6573	3836	3017	3620	3836	9072
		290	7777	4134	3036	3644	4134	10259
		725	15005	5922	3153	3784	5922	21210
300	12"	0	3730	3700	3730	4476	3700	12845
		145	6997	4539	3786	4543	4539	12845
		218	8631	4958	3813	4576	4958	12845
		290	10265	5377	3841	4609	5377	13815
		725	20066	7893	4007	4809	7893	28943
350	14"	0	5528	5471	5528	6633	5471	15500
		145	10614	6825	5629	6755	6825	15500
		218	13157	7502	5680	6816	7502	18032
		290	15700	8179	5730	6876	8179	22200
		725	30959	12241	6034	7241	12241	47209
400	16"	0	7694	7595	7694	9233	7595	20456
		145	15404	9706	7861	9433	9706	20456
		218	19259	10762	7945	9533	10762	25499
		290	23114	11817	8028	9634	11817	31434
		725	46244	18150	8529	10235	18150	67044
450	18"	0	13927	13779	13927	16713	13779	25933
		145	21638	15964	14136	16963	15964	26848
		218	25494	17056	14240	17088	17056	33308
		290	29350	18148	14345	17213	18148	39768
		725	52483	24703	14970	17964	24703	78530
500	20"	0	16054	15836	16054	19265	15836	28079
		145	26044	18705	16311	19573	18705	32604
		218	31039	20140	16439	19727	20140	40878
		290	36034	21575	16568	19881	21575	49153
		725	66003	30184	17337	20805	30184	98801
600	24"	0	28866	28364	28866	34639	28364	40470
		145	47320	33801	29309	35171	33801	56943
		218	56547	36519	29531	35437	36519	70981
		290	65775	39238	29752	35703	39238	85020
		725	121138	55548	31083	37299	55548	169250

Dual Packing Torque Values for On/Off Applications Bi-Directional - Pressure from shaft and disc side

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	23710	22887	23710	28452	22887	38434
		145	52836	31401	24021	28826	31401	81676
		218	67398	35657	24177	29013	35657	108896
		290	81961	39914	24333	29199	39914	136117
750	30"	0	24167	23115	24167	29000	23115	44608
		145	54362	32033	24478	29374	32033	91470
		218	69460	36491	24634	29561	36491	123302
		290	84557	40950	24790	29748	40950	155133
800	32"	0	30616	29239	30616	36740	29239	53359
		145	71016	41314	31060	37272	41314	115509
		218	91216	47351	31281	37538	47351	155648
		290	111416	53388	31503	37804	53388	195788
900	36"	0	38915	36626	38915	46697	36626	73561
		145	92548	52969	39523	47427	52969	160052
		218	119365	61141	39827	47792	61141	217634
		290	146181	69313	40131	48157	69313	275215
1000	40"	0	56531	53097	56531	67838	53097	96882
		145	135548	77511	57341	68809	77511	223059
		218	175056	89719	57746	69295	89719	301981
		290	214564	101926	58151	69781	101926	380904
1050	42"	0	57939	53801	57939	69526	53801	101363
		145	149755	82292	58748	70498	82292	246884
		218	195662	96538	59153	70984	96538	336839
		290	241570	110783	59558	71469	110783	426794
1200	48"	0	83843	76538	83843	100611	76538	148272
		145	224138	121035	85179	102215	121035	373237
		218	294286	143283	85847	103017	143283	511260
		290	364433	165532	86515	103819	165532	649283

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for gaseous media includes a safety of S=1,25.
 For on/off applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	52061	50862	52061	62473	50862	67609
		145	85767	61035	52871	63445	61035	120798
		218	102619	66122	53275	63931	66122	151385
		290	119472	71209	53680	64416	71209	181971
		725	220589	101730	56109	67331	101730	365488
750	30"	0	52509	51086	52509	63011	51086	73970
		145	90015	62463	53319	63982	62463	134274
		218	108768	68152	53723	64468	68152	171318
		290	127521	73840	54128	64954	73840	208362
		725	240038	107972	56557	67868	107972	430625
800	32"	0	62929	60986	62929	75515	60986	86748
		145	111716	75932	63980	76776	75932	164351
		218	136109	83405	64506	77407	83405	210439
		290	160502	90878	65031	78038	90878	256527
		725	306861	135716	68184	81821	135716	533055
900	36"	0	75079	72155	75079	90094	72155	111143
		145	142562	93121	76415	91698	93121	220674
		218	176303	103604	77083	92500	103604	287894
		290	210045	114087	77751	93302	114087	355113
		725	412494	176984	81760	98112	176984	758429



Dual Packing Torque Values for Control Applications

Bi-Directional - Pressure from shaft and disc side

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for gaseous media
 includes a safety of S=1,5.
 For control applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	782	782	782	939	782	1128
		145	1038	833	788	946	833	1128
		218	1166	858	791	949	858	1294
		290	1294	884	794	953	884	1465
		725	2060	1036	812	974	1036	2489
100	4"	0	1095	1094	1095	1315	1094	1540
		145	1548	1189	1106	1327	1189	1700
		218	1774	1236	1111	1333	1236	2003
		290	2000	1284	1116	1339	1284	2305
		725	3358	1567	1146	1375	1567	4119
150	6"	0	1882	1877	1882	2258	1877	4009
		145	3324	2200	1906	2287	2200	4009
		218	4045	2361	1918	2301	2361	4542
		290	4766	2522	1930	2316	2522	5428
		725	9092	3490	2001	2402	3490	10748
200	8"	0	3531	3520	3531	4237	3520	5908
		145	5656	4033	3578	4293	4033	6640
		218	6719	4290	3601	4322	4290	8194
		290	7781	4546	3625	4350	4546	9749
		725	14157	6085	3765	4518	6085	19075
250	10"	0	3550	3529	3550	4260	3529	10886
		145	6441	4245	3597	4316	4245	10886
		218	7887	4603	3620	4344	4603	10886
		290	9333	4960	3644	4372	4960	12311
		725	18007	7107	3784	4540	7107	25452
300	12"	0	4476	4440	4476	5372	4440	15414
		145	8397	5446	4543	5451	5446	15414
		218	10357	5950	4576	5491	5950	15414
		290	12317	6453	4609	5531	6453	16578
		725	24079	9472	4809	5771	9472	34732
350	14"	0	6633	6565	6633	7960	6565	18600
		145	12737	8190	6755	8106	8190	18600
		218	15789	9002	6816	8179	9002	21639
		290	18841	9815	6876	8252	9815	26640
		725	37151	14689	7241	8689	14689	56651
400	16"	0	9233	9114	9233	11079	9114	24548
		145	18485	11647	9433	11320	11647	24548
		218	23111	12914	9533	11440	12914	30599
		290	27737	14181	9634	11560	14181	37721
		725	55492	21780	10235	12282	21780	80453
450	18"	0	16713	16535	16713	20055	16535	31119
		145	25966	19156	16963	20356	19156	32217
		218	30593	20467	17088	20506	20467	39970
		290	35220	21778	17213	20656	21778	47722
		725	62980	29643	17964	21557	29643	94236
500	20"	0	19265	19003	19265	23118	19003	33695
		145	31253	22447	19573	23488	22447	39124
		218	37247	24168	19727	23672	24168	49054
		290	43241	25890	19881	23857	25890	58983
		725	79204	36221	20805	24966	36221	118561
600	24"	0	34639	34037	34639	41567	34037	48564
		145	56784	40561	35171	42205	40561	68331
		218	67857	43823	35437	42524	43823	85177
		290	78930	47085	35703	42844	47085	102024
		725	145366	66658	37299	44759	66658	203101

Dual Packing Torque Values for Control Applications Bi-Directional - Pressure from shaft and disc side

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 150					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	28452	27464	28452	34142	27464	46121
		145	63403	37681	28826	34591	37681	98011
		218	80878	42789	29013	34815	42789	130675
		290	98353	47897	29199	35039	47897	163340
750	30"	0	29000	27738	29000	34800	27738	53529
		145	65234	38439	29374	35249	38439	109764
		218	83352	43790	29561	35473	43790	147962
		290	101469	49140	29748	35697	49140	186160
800	32"	0	36740	35087	36740	44088	35087	64031
		145	85220	49576	37272	44726	49576	138610
		218	109460	56821	37538	45045	56821	186778
		290	133700	64066	37804	45365	64066	234945
900	36"	0	46697	43951	46697	56037	43951	88273
		145	111058	63563	47427	56913	63563	192063
		218	143238	73370	47792	57351	73370	261161
		290	175418	83176	48157	57789	83176	330258
1000	40"	0	67838	63716	67838	81405	63716	116259
		145	162657	93014	68809	82571	93014	267671
		218	210067	107662	69295	83154	107662	362378
		290	257477	122311	69781	83737	122311	457085
1050	42"	0	69526	64561	69526	83432	64561	121636
		145	179705	98750	70498	84598	98750	296260
		218	234795	115845	70984	85180	115845	404207
		290	289884	132940	71469	85763	132940	512153
1200	48"	0	100611	91845	100611	120734	91845	177927
		145	268966	145242	102215	122658	145242	447884
		218	353143	171940	103017	123620	171940	613512
		290	437320	198639	103819	124582	198639	779140

BTO = Break to open
 RUN = Running
 ETO = End to open

BTC = Break to close
 RUN = Running
 ETC = End to close

General remark:
 Torques for gaseous media
 includes a safety of S=1,5.
 For control applications.

DN	NPS	Δp [psi]	Torque (In lb(f)) Class 300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	62473	61034	62473	74968	61034	81130
		145	102920	73242	63445	76134	73242	144958
		218	123143	79347	63931	76717	79347	181662
		290	143367	85451	64416	77300	85451	218365
		725	264706	122076	67331	80797	122076	438586
750	30"	0	63011	61303	63011	75613	61303	88764
		145	108018	74956	63982	76779	74956	161128
		218	130521	81782	64468	77362	81782	205581
		290	153025	88608	64954	77945	88608	250034
		725	288045	129567	67868	81442	129567	516750
800	32"	0	75515	73183	75515	90618	73183	104098
		145	134059	91118	76776	92132	91118	197221
		218	163330	100086	77407	92888	100086	252527
		290	192602	109053	78038	93645	109053	307832
		725	368233	162859	81821	98186	162859	639665
900	36"	0	90094	86587	90094	108113	86587	133372
		145	171074	111745	91698	110038	111745	264809
		218	211564	124325	92500	111000	124325	345472
		290	252054	136904	93302	111962	136904	426136
		725	494993	212381	98112	117735	212381	910115



Crane® FKX 9000 Maximum Allowable Stem Torque

Maximum Allowable Stem Torque Class 150

DN	NPS	MAST [in lb(f)]				
		1.4057 ASTM A276 Gr. 431	1.4462 ASTM A182 Gr. F51	1.4980 ASTM A453 Gr. 660	1.4542 (17-4PH) ASTM A564 Gr. 630	1.3964 (XM19) Nitronic 50
80	3"	3077	3077	3077	4072	2795
100	4"	5815	4361	5815	6658	3538
150	6"	15016	11262	15016	18145	9135
200	8"	25365	25365	25365	33560	21937
250	10"	32825	27046	32825	43430	21937
300	12"	46265	37346	46265	60168	30291
350	14"	70523	69594	70523	93307	56448
400	16"	101681	101681	101681	134532	92650
450	18"	117500	117500	117500	155461	117500
500	20"	146875	146875	146875	194326	146875
600	24"	257030	257030	257030	340071	257030
700	28"	300750	225562	300750	359031	182956
750	30"	300750	225562	300750	363415	182956
800	32"	447423	335563	447423	511142	272180
900	36"	613756	460317	613756	707426	373369
1000	40"	843454	632584	843454	987984	513099
1050	42"	843454	632584	843454	1019175	513099
1200	48"	1426719	1070044	1426719	1620205	867923

Maximum Allowable Stem Torque Class 300

DN	NPS	MAST [in lb(f)]				
		1.4057 ASTM A276 Gr. 431	1.4462 ASTM A182 Gr. F51	1.4980 ASTM A453 Gr. 660	1.4542 (17-4PH) ASTM A564 Gr. 630	1.3964 (XM19) Nitronic 50
80	3"	3077	3077	3077	4072	2795
100	4"	5815	4361	5815	6658	3538
150	6"	15016	11262	15016	18145	9135
200	8"	25365	25365	25365	33560	21937
250	10"	32825	27046	32825	43430	21937
300	12"	46265	37346	46265	60168	30291
350	14"	70523	69594	70523	93307	56448
400	16"	101681	101681	101681	134532	92650
450	18"	117500	117500	117500	155461	117500
500	20"	146875	146875	146875	194326	146875
600	24"	257030	257030	257030	340071	257030
700	28"	747340	632584	747340	747340	513099
750	30"	812689	632584	812689	812689	513099
800	32"	1092822	819782	1092822	1092822	664944
900	36"	1426719	1070044	1426719	1459327	867923

Crane® FKX 9000 Maximum Allowable Stem Torque

Maximum Allowable Stem Torque Class 600

DN	NPS	MAST [in lb(f)]				
		1.4057 ASTM A276 Gr. 431	1.4462 ASTM A182 Gr. F51	1.4980 ASTM A453 Gr. 660	1.4542 (17-4PH) ASTM A564 Gr. 630	1.3964 (XM19) Nitronic 50
80	3"	7564	5802	7564	7564	4712
100	4"	9442	8698	9442	9442	7050
150	6"	18769	18733	18769	18769	15190
200	8"	43977	38875	43977	43977	31532
250	10"	79433	74234	79433	79433	60213
300	12"	128060	123065	128060	128060	99823
350	14"	172409	154057	172409	172409	124960
400	16"	315199	315199	315199	315199	272223
450	18"	377352	335616	377352	377352	272223
500	20"	539035	460390	539035	539035	373428
600	24"	964951	819911	964951	964951	665040
700	28"	1478096	1332383	1478096	1478096	1080717
750	30"	1720903	1676306	1720903	1720903	1359663
800	32"	2182117	2026156	2182117	2182117	1643437
900	36"	2860354	2858441	2860354	2860354	2318512



Crane® FKX 9000 Kv / Cv Values

Kv / Cv Values Class 150

DN	NPS	Opening Angle															
		90°		80°		70°		60°		50°		40°		30°		20°	
		Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv
80	3"	102	119	98	114	79	92	59	69	44	51	32	37	21	24	12	14
100	4"	195	227	187	217	150	174	113	131	84	98	60	70	41	48	23	27
150	6"	560	651	538	626	431	501	325	378	241	280	174	202	118	137	67	78
200	8"	1270	1477	1219	1417	978	1137	737	857	546	635	394	458	267	310	152	177
250	10"	2000	2326	1920	2233	1540	1791	1160	1349	860	1000	620	721	420	488	240	279
300	12"	3000	3488	2880	3349	2310	2686	1740	2023	1290	1500	930	1081	630	733	360	419
350	14"	4600	5349	4416	5135	3542	4119	2668	3102	1978	2300	1426	1658	966	1123	552	642
400	16"	6400	7442	6144	7144	4928	5730	3712	4316	2752	3200	1984	2307	1344	1563	768	893
450	18"	8700	10116	8352	9712	6699	7790	5046	5867	3741	4350	2697	3136	1827	2124	1044	1214
500	20"	11000	12791	10560	12279	8470	9849	6380	7419	4730	5500	3410	3965	2310	2686	1320	1535
600	24"	17000	19767	16320	18977	13090	15221	9860	11465	7310	8500	5270	6128	3570	4151	2040	2372
700	28"	23404	27149	24254	28135	18311	21241	13734	15931	9533	11058	6159	7144	3899	4523	2228	2584
750	30"	26719	30994	27690	32120	20904	24249	15679	18188	10883	12624	7031	8156	4452	5164	2544	2951
800	32"	30400	35264	31504	36545	23784	27589	17839	20693	12382	14363	8000	9280	5065	5875	2894	3357
900	36"	38126	44226	39511	45833	29829	34602	22373	25953	15529	18014	10033	11638	6352	7368	3630	4211
1000	40"	47500	55100	49226	57102	37163	43109	27874	32334	19347	22443	12500	14500	7914	9180	4523	5247
1050	42"	52369	60748	54271	62954	40972	47528	30731	35648	21330	24743	13781	15986	8725	10121	4986	5784
1200	48"	68400	79344	70885	82227	53515	62077	40138	46560	27860	32318	18000	20880	11396	13219	6512	7554

Kv / Cv Values Class 300

DN	NPS	Opening Angle															
		90°		80°		70°		60°		50°		40°		30°		20°	
		Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv
80	3"	102	119	98	114	79	92	59	69	44	51	32	37	21	24	12	14
100	4"	195	227	187	217	150	174	113	131	84	98	60	70	41	48	23	27
150	6"	560	651	538	626	431	501	325	378	241	280	174	202	118	137	67	78
200	8"	1270	1477	1219	1417	978	1137	737	857	546	635	394	458	267	310	152	177
250	10"	2000	2326	1920	2233	1540	1791	1160	1349	860	1000	620	721	420	488	240	279
300	12"	3000	3488	2880	3349	2310	2686	1740	2023	1290	1500	930	1081	630	733	360	419
350	14"	4600	5349	4416	5135	3542	4119	2668	3102	1978	2300	1426	1658	966	1123	552	642
400	16"	6400	7442	6144	7144	4928	5730	3712	4316	2752	3200	1984	2307	1344	1563	768	893
450	18"	8700	10116	8352	9712	6699	7790	5046	5867	3741	4350	2697	3136	1827	2124	1044	1214
500	20"	11000	12791	10560	12279	8470	9849	6380	7419	4730	5500	3410	3965	2310	2686	1320	1535
600	24"	17000	19767	16320	18977	13090	15221	9860	11465	7310	8500	5270	6128	3570	4151	2040	2372
700	28"	19305	22394	20006	23207	15104	17521	11329	13142	7863	9121	5080	5893	3216	3731	1838	2132
750	30"	23625	27405	24483	28400	18484	21441	13864	16082	9623	11163	6217	7212	3936	4566	2249	2609
800	32"	26880	31181	27856	32313	21030	24395	15774	18298	10948	12700	7074	8206	4478	5194	2559	2968
900	36"	34552	40080	35807	41536	27033	31358	20276	23520	14073	16325	9092	10547	5757	6678	3290	3816

Crane® FKX 9000 Kv / Cv Values

Kv / Cv Values Class 600

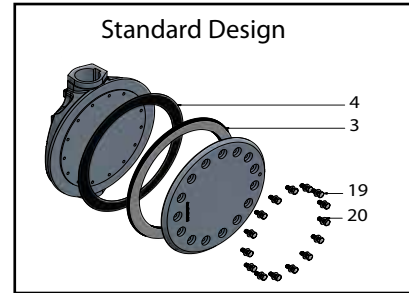
DN	NPS	Opening Angle															
		90°		80°		70°		60°		50°		40°		30°		20°	
		Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv
80	3"	81	94	91	106	85	98	79	91	64	75	50	58	40	46	29	34
100	4"	195	226	219	254	204	237	189	219	155	180	121	140	96	111	71	82
150	6"	401	465	447	519	414	480	380	441	310	360	241	279	188	218	135	157
200	8"	606	703	673	781	618	717	564	654	458	531	352	408	270	313	188	218
250	10"	1214	1409	1342	1557	1224	1419	1105	1282	893	1036	681	789	512	594	344	399
300	12"	1823	2114	2003	2324	1813	2103	1623	1883	1304	1513	985	1143	726	842	467	542
350	14"	2431	2820	2657	3082	2387	2769	2117	2456	1691	1962	1265	1468	912	1058	558	647
400	16"	3039	3525	3304	3833	2946	3417	2587	3001	2054	2383	1521	1764	1008	1169	616	715
450	18"	4079	4732	4372	5071	3851	4468	3331	3864	2635	3057	1939	2249	1356	1574	774	898
500	20"	5220	6055	5514	6396	4798	5566	4083	4736	3216	3731	2349	2725	1637	1898	924	1071
600	24"	8203	9515	8411	9757	7130	8271	5849	6785	4564	5294	3278	3803	2259	2621	1240	1439
700	28"	12090	14024	12023	13947	9904	11489	7785	9030	6004	6964	4223	4898	2870	3329	1517	1759
750	30"	14560	16890	14254	16535	11563	13413	8872	10291	6795	7882	4718	5473	3179	3687	1639	1901
800	32"	17012	19734	16392	19015	13085	15179	9778	11342	7431	8620	5084	5897	3390	3932	1696	1967
900	36"	22360	25938	21545	24992	17198	19950	12852	14908	9767	11330	6682	7751	4456	5169	2229	2586

*Cv Values Dependant Upon Opening Angle (Cv= 1,16*Kv)*

Spare Part Kits Disc Sealing Kit (DSK)

Disc Sealing Kit (DSK)

Item	Designation
3	Laminated Seal
4	Seal Gasket
19	Hex. Head screw
20	Spring Washer



DN	NPS	Laminated Seal Design ASTM A240 UNS S31803/Graphite, laminated 1.4462 (X2CrNiMoN22-5-3)/Graphite, laminated		
Class 150-300		Standard (00) 19=ASTM A193 Gr. B8/A2-70, 20=A2	Nace (NA) 19=ASTM A182 Gr. F51/1.4462 (X2CrNiMoN22-5-3), 20=Inconel 718	High temperature (HT) 19=ASTM A453 Gr. 660/1.4980 (X6NiCrTiMoVB25-15-2), 20=Inconel 718
80	3"	FKX-DSK-LP-100	FKX-DSK-LP-1NA	FKX-DSK-LP-1HT
100	4"	FKX-DSK-MP-100	FKX-DSK-MP-1NA	FKX-DSK-MP-1HT
150	6"	FKX-DSK-PP-100	FKX-DSK-PP-1NA	FKX-DSK-PP-1HT
200	8"	FKX-DSK-RP-100	FKX-DSK-RP-1NA	FKX-DSK-RP-1HT
250	10"	FKX-DSK-SP-100	FKX-DSK-SP-1NA	FKX-DSK-SP-1HT
300	12"	FKX-DSK-TP-100	FKX-DSK-TP-1NA	FKX-DSK-TP-1HT
350	14"	FKX-DSK-UP-100	FKX-DSK-UP-1NA	FKX-DSK-UP-1HT
400	16"	FKX-DSK-VP-100	FKX-DSK-VP-1NA	FKX-DSK-VP-1HT
450	18"	FKX-DSK-WP-100	FKX-DSK-WP-1NA	FKX-DSK-WP-1HT
500	20"	FKX-DSK-XP-100	FKX-DSK-XP-1NA	FKX-DSK-XP-1HT
600	24"	FKX-DSK-YP-100	FKX-DSK-YP-1NA	FKX-DSK-YP-1HT
Class 150		Standard (00) 19=ASTM A193 Gr. B8/A2-70, 20=A2	Nace (NA) 19=ASTM A182 Gr. F51/1.4462 (X2CrNiMoN22-5-3), 20=Inconel 718	High temperature (HT) 19=ASTM A453 Gr. 660/1.4980 (X6NiCrTiMoVB25-15-2), 20=Inconel 718
700	28"	FKX-DSK-ZN-100	FKX-DSK-ZN-1NA	FKX-DSK-ZN-1HT
750	30"	FKX-DSK-1N-100	FKX-DSK-1N-1NA	FKX-DSK-1N-1HT
800	32"	FKX-DSK-2N-100	FKX-DSK-2N-1NA	FKX-DSK-2N-1HT
900	36"	FKX-DSK-3N-100	FKX-DSK-3N-1NA	FKX-DSK-3N-1HT
1000	40"	FKX-DSK-4N-100	FKX-DSK-4N-1NA	FKX-DSK-4N-1HT
1050	42"	FKX-DSK-5N-100	FKX-DSK-5N-1NA	FKX-DSK-5N-1HT
1200	48"	FKX-DSK-7N-100	FKX-DSK-7N-1NA	FKX-DSK-7N-1HT
Class 300		Standard (00) 19=ASTM A193 Gr. B8/A2-70, 20=A2	Nace (NA) 19=ASTM A182 Gr. F51/1.4462 (X2CrNiMoN22-5-3), 20=Inconel 718	High temperature (HT) 19=ASTM A453 Gr. 660/1.4980 (X6NiCrTiMoVB25-15-2), 20=Inconel 718
700	28"	FKX-DSK-ZP-100	FKX-DSK-ZP-1NA	FKX-DSK-ZP-1HT
750	30"	FKX-DSK-1P-100	FKX-DSK-1P-1NA	FKX-DSK-1P-1HT
800	32"	FKX-DSK-2P-100	FKX-DSK-2P-1NA	FKX-DSK-2P-1HT
900	36"	FKX-DSK-3P-100	FKX-DSK-3P-1NA	FKX-DSK-3P-1HT

Spare Part Kits Disc Sealing Kit (DSK)

DN	NPS	Laminated Seal Design ASTM A240 UNS S31803/Graphite, laminated 1.4462 (X2CrNiMoN22-5-3)/Graphite, laminated		
		Standard (00) 19=ASTM A193 Gr. B8/A2-70, 20=A2	Nace (NA) 19=ASTM A182 Gr. F51/1.4462 (X2CrNiMoN22-5-3), 20=Inconel 718	High temperature (HT) 19=ASTM A453 Gr. 660/1.4980 (X6NiCrTiMoVB25-15-2), 20=Inconel 718
Class 600				
80	3"	FKX-DSK-LR-100	FKX-DSK-LR-1NA	FKX-DSK-LR-1HT
100	4"	FKX-DSK-MR-100	FKX-DSK-MR-1NA	FKX-DSK-MR-1HT
150	6"	FKX-DSK-PR-100	FKX-DSK-PR-1NA	FKX-DSK-PR-1HT
200	8"	FKX-DSK-RR-100	FKX-DSK-RR-1NA	FKX-DSK-RR-1HT
250	10"	FKX-DSK-SR-100	FKX-DSK-SR-1NA	FKX-DSK-SR-1HT
300	12"	FKX-DSK-TR-100	FKX-DSK-TR-1NA	FKX-DSK-TR-1HT
350	14"	FKX-DSK-UR-100	FKX-DSK-UR-1NA	FKX-DSK-UR-1HT
400	16"	FKX-DSK-VR-100	FKX-DSK-VR-1NA	FKX-DSK-VR-1HT
450	18"	FKX-DSK-WR-100	FKX-DSK-WR-1NA	FKX-DSK-WR-1HT
500	20"	FKX-DSK-XR-100	FKX-DSK-XR-1NA	FKX-DSK-XR-1HT
600	24"	FKX-DSK-YR-100	FKX-DSK-YR-1NA	FKX-DSK-YR-1HT
700	28"	FKX-DSK-ZR-100	FKX-DSK-ZR-1NA	FKX-DSK-ZR-1HT
750	30"	FKX-DSK-1R-100	FKX-DSK-1R-1NA	FKX-DSK-1R-1HT
800	32"	FKX-DSK-2R-100	FKX-DSK-2R-1NA	FKX-DSK-2R-1HT
900	36"	FKX-DSK-3R-100	FKX-DSK-3R-1NA	FKX-DSK-3R-1HT



Spare Part Kits Disc Sealing Kit (DSK)

DN	NPS	Laminated Seal Design ASTM A240 UNS S31803, laminated w/o graphite 1.4462 (X2CrNiMoN22-5), laminated w/o graphite		
		Standard (00) 19=ASTM A193 Gr. B8/A2-70, 20=A2	Nace (NA) 19=ASTM A182 Gr. F51/1.4462 (X2CrNiMoN22-5-3), 20=Inconel 718	High temperature (HT) 19=ASTM A453 Gr. 660/1.4980 (X6NiCrTiMoVB25-15-2), 20=Inconel 718
Class 150-300				
80	3"	FKX-DSK-LP-200	FKX-DSK-LP-2NA	FKX-DSK-LP-2HT
100	4"	FKX-DSK-MP-200	FKX-DSK-MP-2NA	FKX-DSK-MP-2HT
150	6"	FKX-DSK-PP-200	FKX-DSK-PP-2NA	FKX-DSK-PP-2HT
200	8"	FKX-DSK-RP-200	FKX-DSK-RP-2NA	FKX-DSK-RP-2HT
250	10"	FKX-DSK-SP-200	FKX-DSK-SP-2NA	FKX-DSK-SP-2HT
300	12"	FKX-DSK-TP-200	FKX-DSK-TP-2NA	FKX-DSK-TP-2HT
350	14"	FKX-DSK-UP-200	FKX-DSK-UP-2NA	FKX-DSK-UP-2HT
400	16"	FKX-DSK-VP-200	FKX-DSK-VP-2NA	FKX-DSK-VP-2HT
450	18"	FKX-DSK-WP-200	FKX-DSK-WP-2NA	FKX-DSK-WP-2HT
500	20"	FKX-DSK-XP-200	FKX-DSK-XP-2NA	FKX-DSK-XP-2HT
600	24"	FKX-DSK-YP-200	FKX-DSK-YP-2NA	FKX-DSK-YP-2HT
Class 150				
700	28"	FKX-DSK-ZN-200	FKX-DSK-ZN-2NA	FKX-DSK-ZN-2HT
750	30"	FKX-DSK-1N-200	FKX-DSK-1N-2NA	FKX-DSK-1N-2HT
800	32"	FKX-DSK-2N-200	FKX-DSK-2N-2NA	FKX-DSK-2N-2HT
900	36"	FKX-DSK-3N-200	FKX-DSK-3N-2NA	FKX-DSK-3N-2HT
1000	40"	FKX-DSK-4N-200	FKX-DSK-4N-2NA	FKX-DSK-4N-2HT
1050	42"	FKX-DSK-5N-200	FKX-DSK-5N-2NA	FKX-DSK-5N-2HT
1200	48"	FKX-DSK-7N-200	FKX-DSK-7N-2NA	FKX-DSK-7N-2HT
Class 300				
700	28"	FKX-DSK-ZP-200	FKX-DSK-ZP-2NA	FKX-DSK-ZP-2HT
750	30"	FKX-DSK-1P-200	FKX-DSK-1P-2NA	FKX-DSK-1P-2HT
800	32"	FKX-DSK-2P-200	FKX-DSK-2P-2NA	FKX-DSK-2P-2HT
900	36"	FKX-DSK-3P-200	FKX-DSK-3P-2NA	FKX-DSK-3P-2HT
Class 600				
80	3"	FKX-DSK-LR-200	FKX-DSK-LR-2NA	FKX-DSK-LR-2HT
100	4"	FKX-DSK-MR-200	FKX-DSK-MR-2NA	FKX-DSK-MR-2HT
150	6"	FKX-DSK-PR-200	FKX-DSK-PR-2NA	FKX-DSK-PR-2HT
200	8"	FKX-DSK-RR-200	FKX-DSK-RR-2NA	FKX-DSK-RR-2HT
250	10"	FKX-DSK-SR-200	FKX-DSK-SR-2NA	FKX-DSK-SR-2HT
300	12"	FKX-DSK-TR-200	FKX-DSK-TR-2NA	FKX-DSK-TR-2HT
350	14"	FKX-DSK-UR-200	FKX-DSK-UR-2NA	FKX-DSK-UR-2HT
400	16"	FKX-DSK-VR-200	FKX-DSK-VR-2NA	FKX-DSK-VR-2HT
450	18"	FKX-DSK-WR-200	FKX-DSK-WR-2NA	FKX-DSK-WR-2HT
500	20"	FKX-DSK-XR-200	FKX-DSK-XR-2NA	FKX-DSK-XR-2HT
600	24"	FKX-DSK-YR-200	FKX-DSK-YR-2NA	FKX-DSK-YR-2HT
700	28"	FKX-DSK-ZR-200	FKX-DSK-ZR-2NA	FKX-DSK-ZR-2HT
750	30"	FKX-DSK-1R-200	FKX-DSK-1R-2NA	FKX-DSK-1R-2HT
800	32"	FKX-DSK-2R-200	FKX-DSK-2R-2NA	FKX-DSK-2R-2HT
900	36"	FKX-DSK-3R-200	FKX-DSK-3R-2NA	FKX-DSK-3R-2HT

Spare Part Kits Disc Sealing Kit (DSK)

DN	NPS	Laminated Seal Design ASTM A240 UNS S31803/PTFE, laminated 1.4462 (X2CrNiMoN22-5-3)/PTFE, laminated	
Class 150-300		Standard (00) 19=ASTM A193 Gr. B8/A2-70, 20=A2	Nace (NA) 19=ASTM A182 Gr. F51/1.4462 (X2CrNiMoN22-5-3), 20=Inconel 718
80	3"	FKX-DSK-LP-600	FKX-DSK-LP-6NA
100	4"	FKX-DSK-MP-600	FKX-DSK-MP-6NA
150	6"	FKX-DSK-PP-600	FKX-DSK-PP-6NA
200	8"	FKX-DSK-RP-600	FKX-DSK-RP-6NA
250	10"	FKX-DSK-SP-600	FKX-DSK-SP-6NA
300	12"	FKX-DSK-TP-600	FKX-DSK-TP-6NA
350	14"	FKX-DSK-UP-600	FKX-DSK-UP-6NA
400	16"	FKX-DSK-VP-600	FKX-DSK-VP-6NA
450	18"	FKX-DSK-WP-600	FKX-DSK-WP-6NA
500	20"	FKX-DSK-XP-600	FKX-DSK-XP-6NA
600	24"	FKX-DSK-YP-600	FKX-DSK-YP-6NA
Class 150		Standard (00) 19=ASTM A193 Gr. B8/A2-70, 20=A2	Nace (NA) 19=ASTM A182 Gr. F51/1.4462 (X2CrNiMoN22-5-3), 20=Inconel 718
700	28"	FKX-DSK-ZN-600	FKX-DSK-ZN-6NA
750	30"	FKX-DSK-1N-600	FKX-DSK-1N-6NA
800	32"	FKX-DSK-2N-600	FKX-DSK-2N-6NA
900	36"	FKX-DSK-3N-600	FKX-DSK-3N-6NA
1000	40"	FKX-DSK-4N-600	FKX-DSK-4N-6NA
1050	42"	FKX-DSK-5N-600	FKX-DSK-5N-6NA
1200	48"	FKX-DSK-7N-600	FKX-DSK-7N-6NA
Class 300		Standard (00) 19=ASTM A193 Gr. B8/A2-70, 20=A2	Nace (NA) 19=ASTM A182 Gr. F51/1.4462 (X2CrNiMoN22-5-3), 20=Inconel 718
700	28"	FKX-DSK-ZP-600	FKX-DSK-ZP-6NA
750	30"	FKX-DSK-1P-600	FKX-DSK-1P-6NA
800	32"	FKX-DSK-2P-600	FKX-DSK-2P-6NA
900	36"	FKX-DSK-3P-600	FKX-DSK-3P-6NA
Class 600		Standard (00) 19=ASTM A193 Gr. B8/A2-70, 20=A2	Nace (NA) 19=ASTM A182 Gr. F51/1.4462 (X2CrNiMoN22-5-3), 20=Inconel 718
80	3"	FKX-DSK-LR-600	FKX-DSK-LR-6NA
100	4"	FKX-DSK-MR-600	FKX-DSK-MR-6NA
150	6"	FKX-DSK-PR-600	FKX-DSK-PR-6NA
200	8"	FKX-DSK-RR-600	FKX-DSK-RR-6NA
250	10"	FKX-DSK-SR-600	FKX-DSK-SR-6NA
300	12"	FKX-DSK-TR-600	FKX-DSK-TR-6NA
350	14"	FKX-DSK-UR-600	FKX-DSK-UR-6NA
400	16"	FKX-DSK-VR-600	FKX-DSK-VR-6NA
450	18"	FKX-DSK-WR-600	FKX-DSK-WR-6NA
500	20"	FKX-DSK-XR-600	FKX-DSK-XR-6NA
600	24"	FKX-DSK-YR-600	FKX-DSK-YR-6NA
700	28"	FKX-DSK-ZR-600	FKX-DSK-ZR-6NA
750	30"	FKX-DSK-1R-600	FKX-DSK-1R-6NA
800	32"	FKX-DSK-2R-600	FKX-DSK-2R-6NA
900	36"	FKX-DSK-3R-600	FKX-DSK-3R-6NA

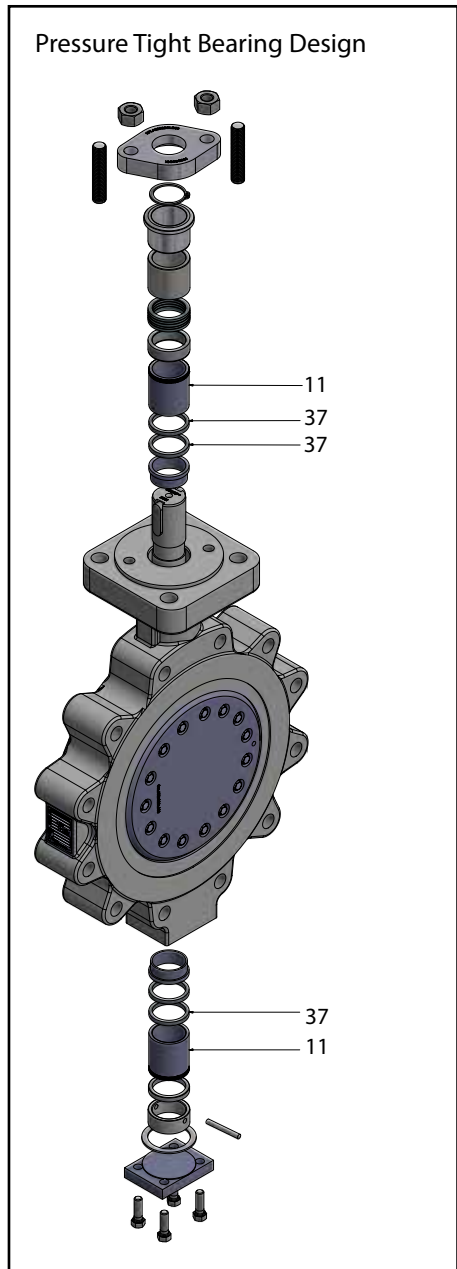
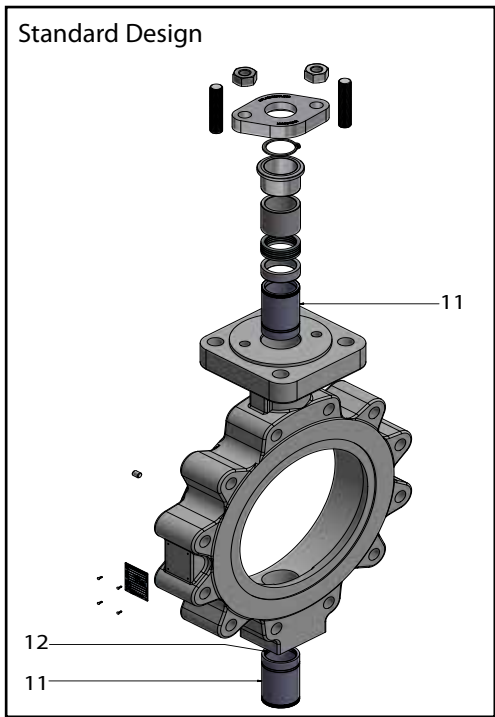
Spare Part Kits Shaft Bearing Kit (SBK)

Shaft Bearing Kit (SBK)

Item	Designation
11	Bearing
12 *	Bearing Protector inside
37 **	Packing Ring

*Standard bearing design only

**Pressure tight bearing design only



Spare Part Kits Body Gasket Kit (BGK)

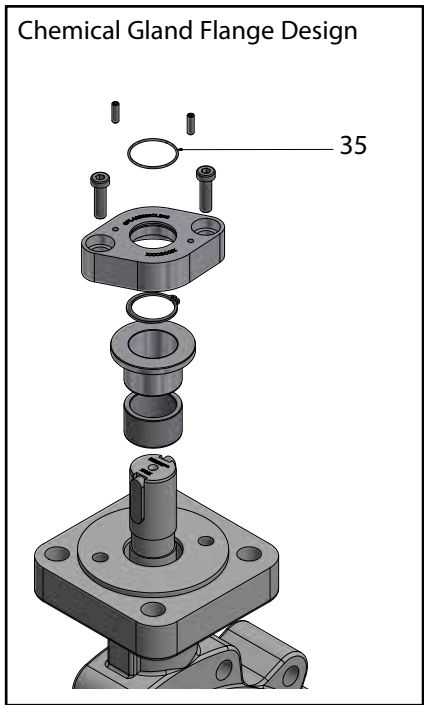
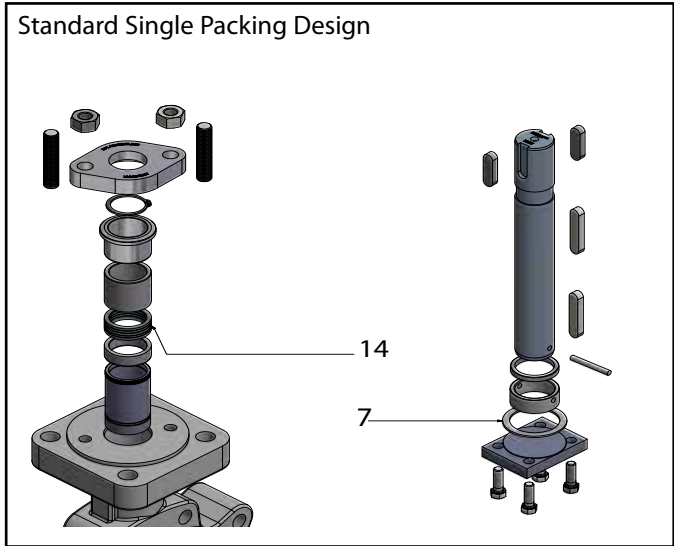
DN	NPS	Shaft Bearing Design ASTM A582 Gr. 303 coated 1.4305 (X8CrNiS18-9) coated	
Class 150-300		Standard (00)	Pressure Tight (PT)
80	3"	FKX-SBK-LP-000	FKX-SBK-LP-OPT
100	4"	FKX-SBK-MP-000	FKX-SBK-MP-OPT
150	6"	FKX-SBK-PP-000	FKX-SBK-PP-OPT
200	8"	FKX-SBK-RP-000	FKX-SBK-RP-OPT
250	10"	FKX-SBK-SP-000	FKX-SBK-SP-OPT
300	12"	FKX-SBK-TP-000	FKX-SBK-TP-OPT
350	14"	FKX-SBK-UP-000	FKX-SBK-UP-OPT
400	16"	FKX-SBK-VP-000	FKX-SBK-VP-OPT
450	18"	FKX-SBK-WP-000	FKX-SBK-WP-OPT
500	20"	FKX-SBK-XP-000	FKX-SBK-XP-OPT
600	24"	FKX-SBK-YP-000	FKX-SBK-YP-OPT
Class 150		Standard (00)	Pressure Tight (PT)
700	28"	FKX-SBK-ZN-000	FKX-SBK-ZN-OPT
750	30"	FKX-SBK-1N-000	FKX-SBK-1N-OPT
800	32"	FKX-SBK-2N-000	FKX-SBK-2N-OPT
900	36"	FKX-SBK-3N-000	FKX-SBK-3N-OPT
1000	40"	FKX-SBK-4N-000	FKX-SBK-4N-OPT
1050	42"	FKX-SBK-5N-000	FKX-SBK-5N-OPT
1200	48"	FKX-SBK-7N-000	FKX-SBK-7N-OPT
Class 300		Standard (00)	Pressure Tight (PT)
700	28"	FKX-SBK-ZP-000	FKX-SBK-ZP-OPT
750	30"	FKX-SBK-1P-000	FKX-SBK-1P-OPT
800	32"	FKX-SBK-2P-000	FKX-SBK-2P-OPT
900	36"	FKX-SBK-3P-000	FKX-SBK-3P-OPT
Class 600		Standard (00)	Pressure Tight (PT)
80	3"	FKX-SBK-LR-000	FKX-SBK-LR-OPT
100	4"	FKX-SBK-MR-000	FKX-SBK-MR-OPT
150	6"	FKX-SBK-PR-000	FKX-SBK-PR-OPT
200	8"	FKX-SBK-RR-000	FKX-SBK-RR-OPT
250	10"	FKX-SBK-SR-000	FKX-SBK-SR-OPT
300	12"	FKX-SBK-TR-000	FKX-SBK-TR-OPT
350	14"	FKX-SBK-UR-000	FKX-SBK-UR-OPT
400	16"	FKX-SBK-VR-000	FKX-SBK-VR-OPT
450	18"	FKX-SBK-WR-000	FKX-SBK-WR-OPT
500	20"	FKX-SBK-XR-000	FKX-SBK-XR-OPT
600	24"	FKX-SBK-YR-000	FKX-SBK-YR-OPT
700	28"	FKX-SBK-ZR-000	FKX-SBK-ZR-OPT
750	30"	FKX-SBK-1R-000	FKX-SBK-1R-OPT
800	32"	FKX-SBK-2R-000	FKX-SBK-2R-OPT
900	36"	FKX-SBK-3R-000	FKX-SBK-3R-OPT

Spare Part Kits **Body Gasket Kit (BGK)**

Body Gasket Kit (BGK)

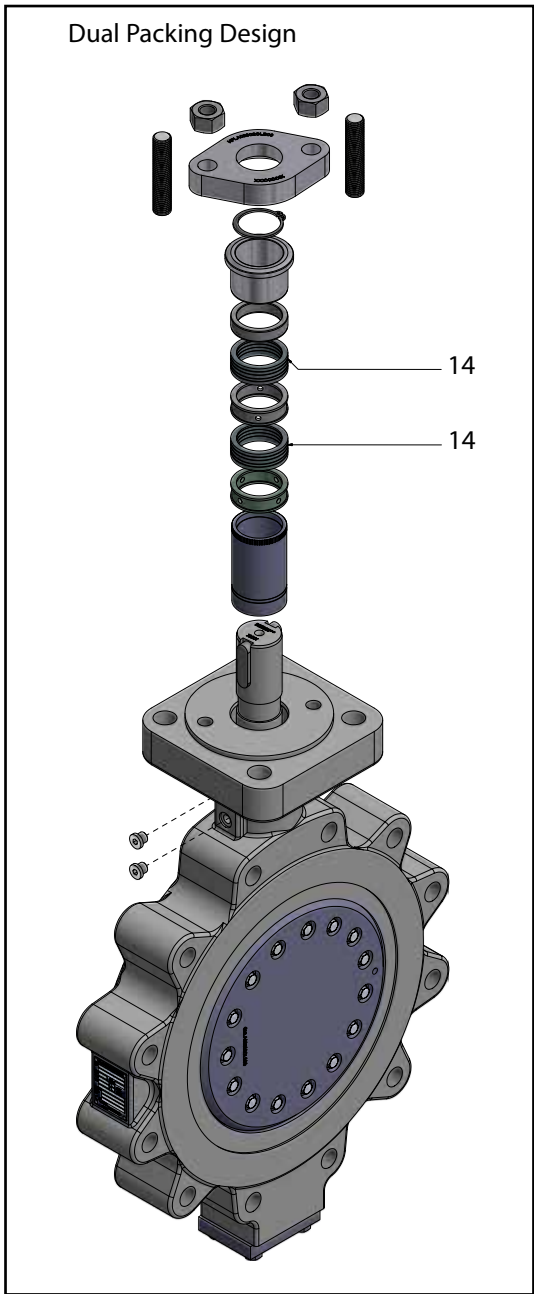
Item	Designation
7	Cover Gasket
14	Packing
35*	O-Ring

*Chemical gland flange design only



DN	NPS	Single Packing Standard Design	
Class 150-300		Standard (A)	Chemical (B)
80	3"	FKX-BGK-LP-S1A	FKX-BGK-LP-S1B
100	4"	FKX-BGK-MP-S1A	FKX-BGK-MP-S1B
150	6"	FKX-BGK-PP-S1A	FKX-BGK-PP-S1B
200	8"	FKX-BGK-RP-S1A	FKX-BGK-RP-S1B
250	10"	FKX-BGK-SP-S1A	FKX-BGK-SP-S1B
300	12"	FKX-BGK-TP-S1A	FKX-BGK-TP-S1B
350	14"	FKX-BGK-UP-S1A	FKX-BGK-UP-S1B
400	16"	FKX-BGK-VP-S1A	FKX-BGK-VP-S1B
450	18"	FKX-BGK-WP-S1A	FKX-BGK-WP-S1B
500	20"	FKX-BGK-XP-S1A	FKX-BGK-XP-S1B
600	24"	FKX-BGK-YP-S1A	FKX-BGK-YP-S1B
Class 150		Standard (A)	Chemical (B)
700	28"	FKX-BGK-ZN-S1A	FKX-BGK-ZN-S1B
750	30"	FKX-BGK-1N-S1A	FKX-BGK-1N-S1B
800	32"	FKX-BGK-2N-S1A	FKX-BGK-2N-S1B
900	36"	FKX-BGK-3N-S1A	FKX-BGK-3N-S1B
1000	40"	FKX-BGK-4N-S1A	FKX-BGK-4N-S1B
1050	42"	FKX-BGK-5N-S1A	FKX-BGK-5N-S1B
1200	48"	FKX-BGK-7N-S1A	FKX-BGK-7N-S1B
Class 300		Standard (A)	Chemical (B)
700	28"	FKX-BGK-ZP-S1A	FKX-BGK-ZP-S1B
750	30"	FKX-BGK-1P-S1A	FKX-BGK-1P-S1B
800	32"	FKX-BGK-2P-S1A	FKX-BGK-2P-S1B
900	36"	FKX-BGK-3P-S1A	FKX-BGK-3P-S1B
Class 600		Standard (00)	Chemical (B)
80	3"	FKX-BGK-LR-S1A	FKX-BGK-LR-S1B
100	4"	FKX-BGK-MR-S1A	FKX-BGK-MR-S1B
150	6"	FKX-BGK-PR-S1A	FKX-BGK-PR-S1B
200	8"	FKX-BGK-RR-S1A	FKX-BGK-RR-S1B
250	10"	FKX-BGK-SR-S1A	FKX-BGK-SR-S1B
300	12"	FKX-BGK-TR-S1A	FKX-BGK-TR-S1B
350	14"	FKX-BGK-UR-S1A	FKX-BGK-UR-S1B
400	16"	FKX-BGK-VR-S1A	FKX-BGK-VR-S1B
450	18"	FKX-BGK-WR-S1A	FKX-BGK-WR-S1B
500	20"	FKX-BGK-XR-S1A	FKX-BGK-XR-S1B
600	24"	FKX-BGK-YR-S1A	FKX-BGK-YR-S1B
700	28"	FKX-BGK-ZR-S1A	FKX-BGK-ZR-S1B
750	30"	FKX-BGK-1R-S1A	FKX-BGK-1R-S1B
800	32"	FKX-BGK-2R-S1A	FKX-BGK-2R-S1B
900	36"	FKX-BGK-3R-S1A	FKX-BGK-3R-S1B

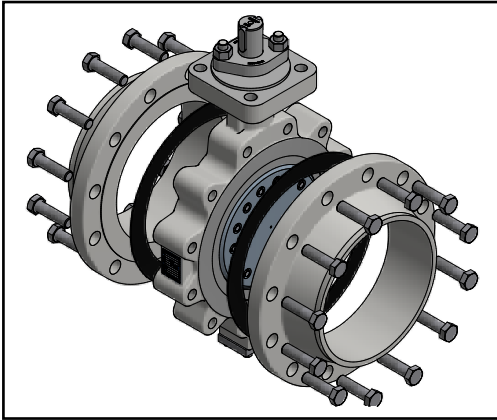
Spare Part Kits **Body Gasket Kit (BGK)**



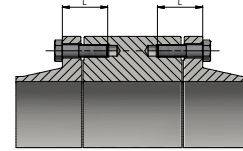
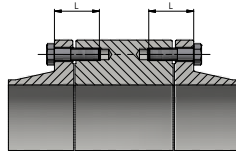
DN	NPS	Dual Packing Standard Design	
Class 150-300		Standard (A)	Chemical (B)
80	3"	FKX-BGK-LP-D1A	FKX-BGK-LP-D1B
100	4"	FKX-BGK-MP-D1A	FKX-BGK-MP-D1B
150	6"	FKX-BGK-PP-D1A	FKX-BGK-PP-D1B
200	8"	FKX-BGK-RP-D1A	FKX-BGK-RP-D1B
250	10"	FKX-BGK-SP-D1A	FKX-BGK-SP-D1B
300	12"	FKX-BGK-TP-D1A	FKX-BGK-TP-D1B
350	14"	FKX-BGK-UP-D1A	FKX-BGK-UP-D1B
400	16"	FKX-BGK-VP-D1A	FKX-BGK-VP-D1B
450	18"	FKX-BGK-WP-D1A	FKX-BGK-WP-D1B
500	20"	FKX-BGK-XP-D1A	FKX-BGK-XP-D1B
600	24"	FKX-BGK-YP-D1A	FKX-BGK-YP-D1B
Class 150		Standard (A)	Chemical (B)
700	28"	FKX-BGK-ZN-D1A	FKX-BGK-ZN-D1B
750	30"	FKX-BGK-1N-D1A	FKX-BGK-1N-D1B
800	32"	FKX-BGK-2N-D1A	FKX-BGK-2N-D1B
900	36"	FKX-BGK-3N-D1A	FKX-BGK-3N-D1B
1000	40"	FKX-BGK-4N-D1A	FKX-BGK-4N-D1B
1050	42"	FKX-BGK-5N-D1A	FKX-BGK-5N-D1B
1200	48"	FKX-BGK-7N-D1A	FKX-BGK-7N-D1B
Class 300		Standard (A)	Chemical (B)
700	28"	FKX-BGK-ZP-D1A	FKX-BGK-ZP-D1B
750	30"	FKX-BGK-1P-D1A	FKX-BGK-1P-D1B
800	32"	FKX-BGK-2P-D1A	FKX-BGK-2P-D1B
900	36"	FKX-BGK-3P-D1A	FKX-BGK-3P-D1B
Class 600		Standard (00)	Chemical (B)
80	3"	FKX-BGK-LR-D1A	FKX-BGK-LR-D1B
100	4"	FKX-BGK-MR-D1A	FKX-BGK-MR-D1B
150	6"	FKX-BGK-PR-D1A	FKX-BGK-PR-D1B
200	8"	FKX-BGK-RR-D1A	FKX-BGK-RR-D1B
250	10"	FKX-BGK-SR-D1A	FKX-BGK-SR-D1B
300	12"	FKX-BGK-TR-D1A	FKX-BGK-TR-D1B
350	14"	FKX-BGK-UR-D1A	FKX-BGK-UR-D1B
400	16"	FKX-BGK-VR-D1A	FKX-BGK-VR-D1B
450	18"	FKX-BGK-WR-D1A	FKX-BGK-WR-D1B
500	20"	FKX-BGK-XR-D1A	FKX-BGK-XR-D1B
600	24"	FKX-BGK-YR-D1A	FKX-BGK-YR-D1B
700	28"	FKX-BGK-ZR-D1A	FKX-BGK-ZR-D1B
750	30"	FKX-BGK-1R-D1A	FKX-BGK-1R-D1B
800	32"	FKX-BGK-2R-D1A	FKX-BGK-2R-D1B
900	36"	FKX-BGK-3R-D1A	FKX-BGK-3R-D1B

Lug Design

Flange Bolting Class 150



General remark:
 Quantities of required screws and nuts for the whole valve
 Counterflange according to AMSE B16.5
 Flange gasket thickness 2mm
 Screws according ASME B18.2.1



Class 150

DN	NPS	Thread Size	Threaded Hole		Threaded Hole in Shaft Area	
			Quantity Screws	Length L	Quantity Screws	Length L
Flange Face Raised RF acc. ANSI B16.5						
80	3"	5/8-11 UNC	4	1 3/4"	-	-
100	4"	5/8-11 UNC	8	2"	-	-
150	6"	3/4-10 UNC	8	2"	-	-
200	8"	3/4-10 UNC	8	2 1/2"	-	-
250	10"	7/8-9 UNC	12	2 2/4"	-	-
300	12"	7/8-9 UNC	12	2 3/4"	-	-
350	14"	1-8 UNC	12	3"	-	-
400	16"	1-8 UNC	12	3"	4	2 3/4"
450	18"	1 1/8-8 UN	12	3 1/4"	4	2 1/2"
500	20"	1 1/8-8 UN	16	3 1/4"	4	2 3/4"
600	24"	1 1/4-8 UN	16	3 1/2"	4	2 3/4"
Flange Face Raised RF acc. ANSI B 16.47 Series A						
700	28"	1 1/4-8 UN	24	4 1/2"	4	4 1/2"
750	30"	1 1/4-8 UN	24	4 1/2"	4	4 1/2"
800	32"	1 1/2-8 UN	24	5"	4	5"
900	36"	1 1/2-8 UN	28	5 1/2"	4	5 1/2"
Flange Face Raised RF acc. ANSI B 16.47 Series B						
700	28"	3/4-10 UNC	36	3"	4	3"
750	30"	3/4-10 UNC	40	3"	4	3"
800	32"	3/4-10 UNC	44	3"	4	3"
900	36"	7/8-9 UNC	40	3 1/4"	4	3 1/4"

Lug Design Flange Bolting Class 300

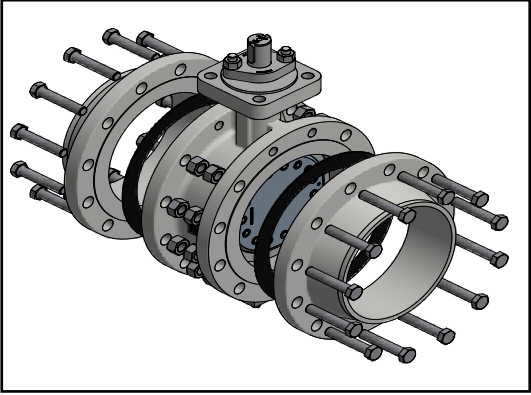
Class 300

DN	NPS	Thread Size	Threaded Hole		Threaded Hole in Shaft Area	
			Quantity Screws	Length L	Quantity Screws	Length L
Flange Face Raised RF acc. ANSI B16.5						
80	3"	3/4-10 UNC	8	2"	-	-
100	4"	3/4-10 UNC	8	2 1/4"	-	-
150	6"	3/4-10 UNC	12	2 1/4"	-	-
200	8"	7/8-9 UNC	12	3"	-	-
250	10"	1-8 UNC	12	3 1/2"	4	2 3/4"
300	12"	1 1/8-7 UNC	12	3 1/2"	4	3 1/4"
350	14"	1 1/8-8 UN	16	4 1/4"	4	3 1/4"
400	16"	1 1/4-8 UN	16	4 1/4"	4	3 1/4"
450	18"	1 1/4-8 UN	20	4 1/2"	4	3 1/4"
500	20"	1 1/4-8 UN	20	5"	4	3 3/4"
600	24"	1 1/2-8 UN	20	5 1/2"	4	4 1/4"
Flange Face Raised RF acc. ANSI B 16.47 Series A						
700	28"	1 5/8-8 UN	24	5 1/2"	4	4 3/4"
750	30"	1 3/4-8 UN	24	5 3/4"	4	5"
800	32"	1 7/8-8 UN	24	6 1/4"	4	5 1/2"
900	36"	2-8 UN	28	6 1/2"	4	5 3/4"
Flange Face Raised RF acc. ANSI B 16.47 Series B						
700	28"	1 1/4-8 UN	32	5 1/4"	4	4 1/2"
750	30"	1 3/8-8 UN	32	5 1/2"	4	4 3/4"
800	32"	1 1/2-8 UN	28	6"	4	5 1/4"
900	36"	1 5/8-8 UN	28	6"	4	5 1/4"

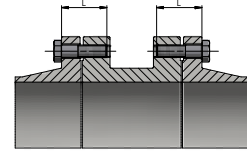
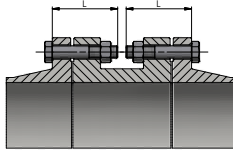
Class 600

DN	NPS	Thread Size	Threaded Hole		Threaded Hole in Shaft Area	
			Quantity Screws	Length L	Quantity Screws	Length L
Flange Face Raised RF acc. ANSI B16.5						
80	3"	3/4-10 UNC	4	2 3/4"	4	-
100	4"	7/8-9 UNC	4	3 1/4"	4	-
150	6"	1-8 UNC	8	3 3/4"	4	-
200	8"	1 1/8-8 UN	8	4 1/4"	4	-
250	10"	1 1/4-8 UN	12	4 1/2"	4	2 3/4"
300	12"	1 1/4-8 UN	16	4 3/4"	4	3 1/4"
350	14"	1 3/8-8 UN	16	5"	4	3 1/4"
400	16"	1 1/2-8 UN	16	5 1/4"	4	3 1/4"
450	18"	1 5/8-8 UN	16	5 3/2"	4	3 1/4"
500	20"	1 5/8-8 UN	20	6"	4	3 3/4"
600	24"	1 7/8-8 UN	20	6 3/4"	4	4 1/4"

Double Flanged, Short Pattern Design Flange Bolting Class 150



General remark:
 Quantities of required screws and nuts for the whole valve
 Counterflange according to AMSE B16.5
 Flange gasket thickness 2mm
 Screws according ASME B18.2.1
 Heavy hex nuts according to AMSE B18.2.2



Class 150

DN	NPS	Thread Size	Through Hole			Threaded Hole in Shaft Area	
			Quantity Screws	Length L	Quantity Nuts	Quantity Screws	Length L
Flange Face Raised face RF acc. ANSI B16.5							
80	3"	5/8-11 UNC	4	3 1/4"	4	-	-
100	4"	5/8-11 UNC	4	3 1/4"	4	4	2 1/4"
150	6"	3/4-10 UNC	4	3 1/4"	4	4	2 1/2"
200	8"	3/4-10 UNC	4	3 1/2"	4	4	2 3/4"
250	10"	7/8-9 UNC	8	3 3/4"	8	4	2 3/4"
300	12"	7/8-9 UNC	8	4"	8	4	3"
350	14"	1-8 UNC	8	4 1/4"	8	4	3 1/4"
400	16"	1-8 UNC	12	4 1/4"	12	4	3 1/4"
450	18"	1 1/8-8 UN	12	4 3/4"	12	4	3 1/2"
500	20"	1 1/8-8 UN	16	5"	16	4	4"
600	24"	1 1/4-8 UN	16	5 1/2"	16	4	4 1/4"
Flange Face Raised RF acc. ANSI B 16.47 Series A							
700	28"	1 1/4-8 UN	24	7 1/2"	24	4	4 1/2"
750	30"	1 1/4-8 UN	24	7 3/4"	24	4	4 1/2"
800	32"	1 1/2-8 UN	24	8 1/2"	24	4	5"
900	36"	1 1/2-8 UN	28	9 1/4"	28	4	5 1/2"
1000	40"	1 1/2-8 UN	32	9 1/4"	32	4	5 1/2"
1050	42"	1 1/2-8 UN	32	9 3/4"	32	4	5 3/4"
1200	48"	1 1/2-8 UN	40	10 1/2"	40	4	6 1/4"
Flange Face Raised RF acc. ANSI B 16.47 Series B							
700	28"	3/4-10 UNC	36	4 3/4"	36	4	3"
750	30"	3/4-10 UNC	40	4 3/4"	40	4	3"
800	32"	3/4-10 UNC	44	4 3/4"	44	4	3"
900	36"	7/8-9 UNC	40	5 1/2"	40	4	3 1/4"
1000	40"	1-8 UNC	40	5 3/4"	40	4	3 1/2"
1050	42"	1-8 UNC	44	6"	44	4	3 3/4"
1200	48"	1 1/8-8 UN	40	6 3/4"	40	4	4"

Double Flanged, Short Pattern Design Flange Bolting Class 300

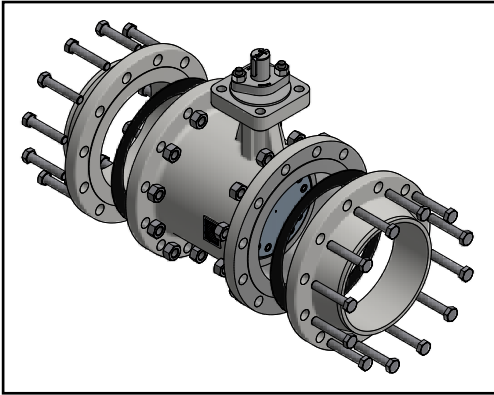
Class 300

DN	NPS	Thread Size	Through Hole			Threaded Hole in Shaft Area	
			Quantity Screws	Length L	Quantity Nuts	Quantity Screws	Length L
Flange Face Raised RF acc. ANSI B16.5							
80	3"	3/4-10 UNC	4	3 1/2"	4	4	2 3/4"
100	4"	3/4-10 UNC	4	4"	4	4	3"
150	6"	3/4-10 UNC	8	4 1/4"	8	4	3 1/4"
200	8"	7/8-9 UNC	8	4 3/4"	8	4	3 3/4"
250	10"	1-8 UNC	12	5 1/4"	12	4	4 1/4"
300	12"	1 1/8-8 UN	12	5 1/2"	12	4	4 1/2"
350	14"	1 1/8-8 UN	16	6"	16	4	4 3/4"
400	16"	1 1/4-8 UN	16	6 1/4"	16	4	5"
450	18"	1 1/4-8 UN	20	6 1/2"	20	4	5 1/4"
500	20"	1 1/4-8 UN	20	7"	20	4	5 1/2"
600	24"	1 1/2-8 UN	20	7 1/2"	20	4	6"
Flange Face Raised RF acc. ANSI B 16.47 Series A							
700	28"	1 5/8-8 UN	20	9"	20	8	5 1/2"
750	30"	1 3/4-8 UN	20	9 3/4"	20	8	5 3/4"
800	32"	1 7/8-8 UN	20	10 1/4"	20	8	6 1/4"
900	36"	2-8 UN	24	11"	24	8	6 1/2"
Flange Face Raised RF acc. ANSI B 16.47 Series B							
700	28"	1 1/4-8 UN	28	8 3/4"	28	8	5 1/4"
750	30"	1 3/8-8 UN	28	9 1/4"	28	8	5 1/2"
800	32"	1 1/2-8 UN	24	10 1/4"	24	8	6"
900	36"	1 5/8-8 UN	24	10 1/4"	24	8	6"

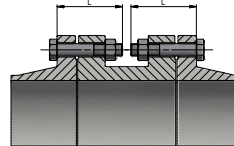
Class 600

DN	NPS	Thread Size	Through Hole			Threaded Hole in Shaft Area	
			Quantity Screws	Length L	Quantity Nuts	Quantity Screws	Length L
Flange Face Raised RF acc. ANSI B16.5							
80	3"	3/4-10 UNC	4	4 1/4"	8	4	2 3/4"
100	4"	7/8-9 UNC	4	4 3/4"	8	4	3 1/4"
150	6"	1-8 UNC	8	5 3/4"	16	4	3 3/4"
200	8"	1 1/8-8 UN	8	6 1/2"	16	4	4 1/4"
250	10"	1 1/4-8 UN	12	7 1/4"	24	4	4 1/2"
300	12"	1 1/4-8 UN	16	7 1/2"	32	4	4 3/4"
350	14"	1 3/8-8 UN	16	8"	32	4	5"
400	16"	1 1/2-8 UN	16	8 1/2"	32	4	5 1/4"
450	18"	1 5/8-8 UN	16	9 1/4"	32	4	5 3/4"
500	20"	1 5/8-8 UN	20	9 3/4"	40	4	6"
600	24"	1 7/8-8 UN	20	11"	40	4	6 3/4"
Flange Face Raised RF acc. ANSI B 16.47 Series A							
700	28"	2-8 UN	20	12"	40	8	7 1/4"
750	30"	2-8 UN	20	12 1/4"	40	8	7 1/4"
800	32"	2 1/4-8 UN	20	12 3/4"	40	8	7 1/4"
900	36"	2 1/2-8 UN	20	13 1/2"	40	8	7 1/4"
Flange Face Raised RF acc. ANSI B 16.47 Series B							
700	28"	1 3/4-8 UN	20	12"	40	8	7 1/4"
750	30"	1 7/8-8 UN	20	13"	40	8	7 3/4"
800	32"	2-8 UN	20	13 1/2"	40	8	8"
900	36"	2 1/4-8 UN	20	15"	40	8	8 1/2"

Double Flanged, Long Pattern Design Flange Bolting Class 150



General remark:
 Quantities of required screws and nuts for the whole valve
 Counterflange according to AMSE B16.5
 Flange gasket thickness 2mm
 Screws according ASME B18.2.1
 Heavy hex nuts according to AMSE B18.2.2



Class 150

DN	NPS	Thread Size	Through Hole		
			Quantity Screws	Length L	Quantity Nuts
Flange Face Raised RF acc. ANSI B16.5					
80	3"	5/8-11 UNC	4	3 1/4"	4
100	4"	5/8-11 UNC	8	3 1/4"	8
150	6"	3/4-10 UNC	8	3 1/4"	8
200	8"	3/4-10 UNC	8	3 1/2"	8
250	10"	7/8-9 UNC	12	3 3/4"	12
300	12"	7/8-9 UNC	12	4"	12
350	14"	1-8 UNC	12	4 1/4"	12
400	16"	1-8 UNC	16	4 1/4"	16
450	18"	1 1/8-8 UN	16	4 3/4"	16
500	20"	1 1/8-8 UN	20	5"	20
600	24"	1 1/4-8 UN	20	5 1/2"	20
Flange Face Raised face RF acc. ANSI B 16.47 Series A					
700	28"	1 1/4-8 UN	28	7 1/2"	28
750	30"	1 1/4-8 UN	28	7 3/4"	28
800	32"	1 1/2-8 UN	28	8 1/2"	28
900	36"	1 1/2-8 UN	32	9 1/4"	32
Flange Face Raised face RF acc. ANSI B 16.47 Series B					
700	28"	3/4-10 UNC	40	4 3/4"	40
750	30"	3/4-10 UNC	44	4 3/4"	44
800	32"	3/4-10 UNC	48	4 3/4"	48
900	36"	7/8-9 UNC	44	5 1/2"	44

Double Flanged, Long Pattern Design Flange Bolting Class 300

Class 300

DN	NPS	Thread Size	Through Hole		
			Quantity Screws	Length L	Quantity Nuts
Flange Face Raised RF acc. ANSI B16.5					
80	3"	3/4-10 UNC	8	3 1/2"	8
100	4"	3/4-10 UNC	8	4"	8
150	6"	3/4-10 UNC	12	4 1/4"	12
200	8"	7/8-9 UNC	12	4 3/4"	12
250	10"	1-8 UNC	16	5 1/4"	16
300	12"	1 1/8-8 UN	16	5 1/2"	16
350	14"	1 1/8-8 UN	20	6"	20
400	16"	1 1/4-8 UN	20	6 1/4"	20
450	18"	1 1/4-8 UN	24	6 1/2"	24
500	20"	1 1/4-8 UN	24	7"	24
600	24"	1 1/2-8 UN	24	7 1/2"	24
Flange Face Raised RF acc. ANSI B 16.47 Series A					
700	28"	1 5/8-8 UN	28	9"	28
750	30"	1 3/4-8 UN	28	9 3/4"	28
800	32"	1 7/8-8 UN	28	10 1/4"	28
900	36"	2-8 UN	32	11"	32
Flange Face Raised RF acc. ANSI B 16.47 Series B					
700	28"	1 1/4-8 UN	36	8 3/4"	36
750	30"	1 3/8-8 UN	36	9 1/4"	36
800	32"	1 1/2-8 UN	32	10 1/4"	32
900	36"	1 5/8-8 UN	32	10 1/4"	32

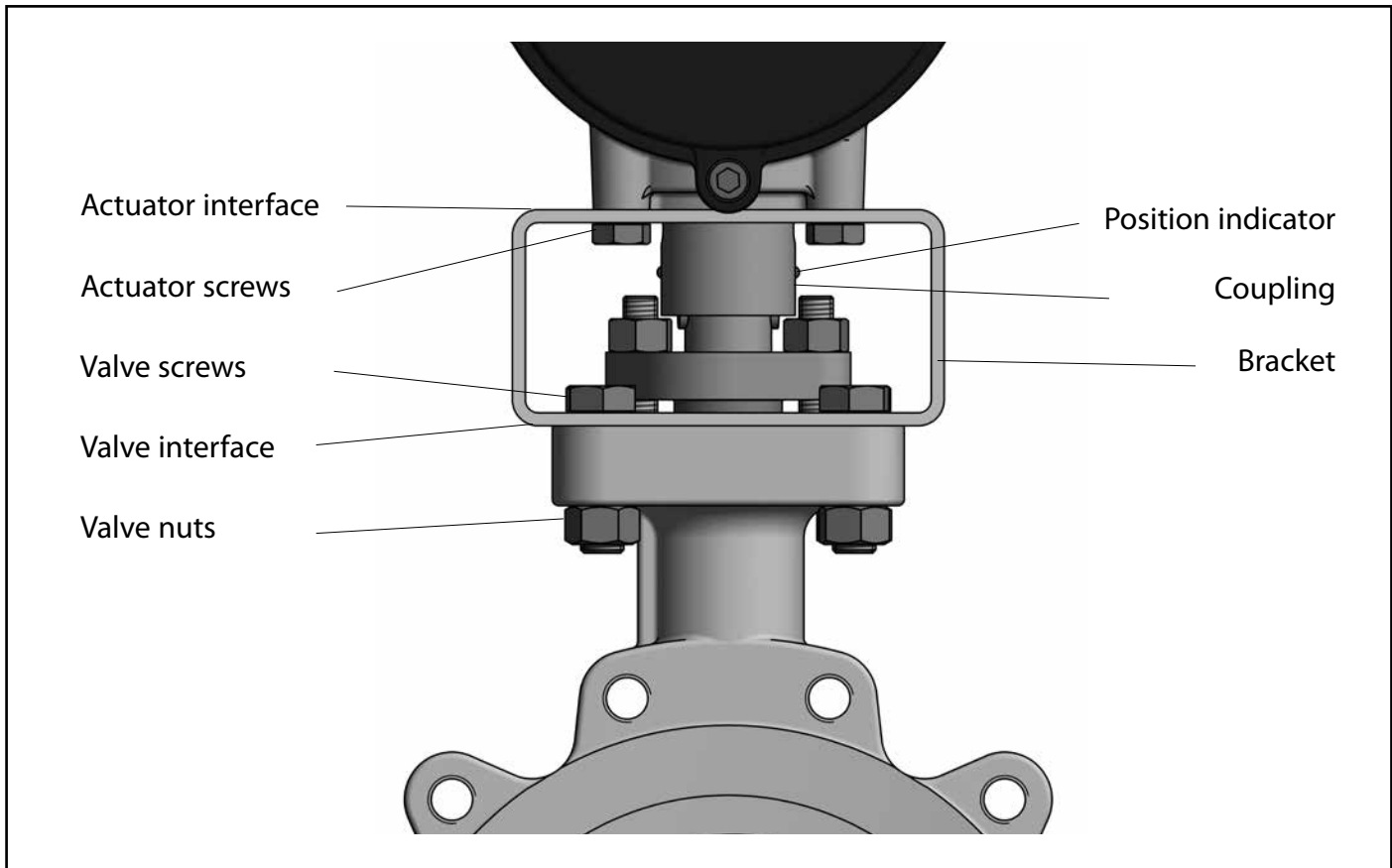
Crane®FKX 9000 Mounting Kits

The mounting kit is used to connect the valve and actuator with a standardized interface according to ISO 5211.

It is subject to EN 15081 and ensures that the maximum torque value can be transmitted from the actuator to the top flange of the valve.

The mounting kit contains the following components:

- Coupling
- Bracket
- Valve screws and nuts
- Actuator screws
- Position indicator



Crane®FKX 9000 Mounting Kits Class 150

DN	NPS	ISO 5211		Mounting Kit
		Valve	Actuator	Item Number
80	3"	F12	F07	MFMLP1F07V017A
			F10	MFMLP1F10V022A
			F12	MFMLP1F12V027A
			F14	MFMLP1F14V036A
100	4"	F12	F07	MFMP1F07V017A
			F10	MFMP1F10V022A
			F12	MFMP1F12V027A
			F14	MFMP1F14V036A
150	6"	F14	F10	MFPP1F10V022A
			F12	MFPP1F12V027A
			F14	MFPP1F14V036A
			F16	MFPP1F16V046A
200	8"	F16	F10	MFRRP1F10V022A
			F12	MFRRP1F12V027A
			F14	MFRRP1F14V036A
			F16	MFRRP1F16V046A
			F25	MFRRP1F25V055A
250	10"	F16	F10	MFSP1F10V022A
			F12	MFSP1F12V027A
			F14	MFSP1F14V036A
			F16	MFSP1F16V046A
			F25	MFSP1F25V055A
300	12"	F16	F12	MFTRP1F12V027A
			F14	MFTRP1F14V036A
			F16	MFTRP1F16V046A
			F25	MFTRP1F25V055A
350	14"	F16	F14	MFURP1F14V036A
			F16	MFURP1F16V046A
			F25	MFURP1F25V055A
400	16"	F25	F12	MFVRP1F12V027A
			F14	MFVRP1F14V036A
			F16	MFVRP1F16V046A
			F25	MFVRP1F25V055A
			F30	MFVRP1F30V075A
450	18"	F25	F16	MFWRP1F16V046A
			F25	MFWRP1F25V055A
			F30	MFWRP1F30V075A
500	20"	F25	F14	MFXXP1F14V036A
			F16	MFXXP1F16V046A
			F25	MFXXP1F25V055A
			F30	MFXXP1F30V075A
600	24"	F30	F16	MFYRP1F16V046A
			F25	MFYRP1F25V055A
			F30	MFYRP1F30V075A

DN	NPS	ISO 5211		Mounting Kit
		Class 150	Valve	Actuator
700	28"	F30	F16	MFZN3F16V046A
			F25	MFZN3F25V055A
			F30	MFZN3F30V075A
			F35	MFZN3F35R120A
750	30"	F30	F16	MF1N3F16V046A
			F25	MF1N3F25V055A
			F30	MF1N3F30V075A
			F35	MF1N3F35R120A
800	32"	F30	F16	MF2N3F16V046A
			F25	MF2N3F25V055A
			F30	MF2N3F30V075A
			F35	MF2N3F35R120A
900	36"	F35	F25	MF3N3F25V055A
			F30	MF3N3F30V075A
			F35	MF3N3F35R120A
			F40	MF3N3F40R160A
			F25	MF4N3F25V055A
1000	40"	F35	F30	MF4N3F30V075A
			F35	MF4N3F35R120A
			F40	MF4N3F40R160A
			F30	MF5N3F30V075A
1050	42"	F40	F35	MF5N3F35R120A
			F40	MF5N3F40R160A
			F48	MF5N3F48R180A
1200	48"	F40	F30	MF7N3F30V075A
			F35	MF7N3F35R120A
			F40	MF7N3F40R160A
			F48	MF7N3F48R180A



Crane®FKX 9000 Mounting Kits Class 300

DN	NPS	ISO 5211		Mounting Kit
		Valve	Actuator	Item Number
80	3"	F12	F07	MFXLP1F07V017A
			F10	MFXLP1F10V022A
			F12	MFXLP1F12V027A
			F14	MFXLP1F14V036A
100	4"	F12	F07	MFXMP1F07V017A
			F10	MFXMP1F10V022A
			F12	MFXMP1F12V027A
			F14	MFXMP1F14V036A
150	6"	F14	F10	MFXPP1F10V022A
			F12	MFXPP1F12V027A
			F14	MFXPP1F14V036A
			F16	MFXPP1F16V046A
200	8"	F16	F10	MFXRP1F10V022A
			F12	MFXRP1F12V027A
			F14	MFXRP1F14V036A
			F16	MFXRP1F16V046A
			F25	MFXRP1F25V055A
250	10"	F16	F10	MFXSP1F10V022A
			F12	MFXSP1F12V027A
			F14	MFXSP1F14V036A
			F16	MFXSP1F16V046A
			F25	MFXSP1F25V055A
300	12"	F16	F12	MFXTP1F12V027A
			F14	MFXTP1F14V036A
			F16	MFXTP1F16V046A
			F25	MFXTP1F25V055A
350	14"	F16	F14	MFXUP1F14V036A
			F16	MFXUP1F16V046A
			F25	MFXUP1F25V055A
400	16"	F25	F12	MFXVP1F12V027A
			F14	MFXVP1F14V036A
			F16	MFXVP1F16V046A
			F25	MFXVP1F25V055A
			F30	MFXVP1F30V075A
450	18"	F25	F16	MFXWP1F16V046A
			F25	MFXWP1F25V055A
			F30	MFXWP1F30V075A
500	20"	F25	F14	MFXXP1F14V036A
			F16	MFXXP1F16V046A
			F25	MFXXP1F25V055A
			F30	MFXXP1F30V075A
600	24"	F30	F16	MFXYP1F16V046A
			F25	MFXYP1F25V055A
			F30	MFXYP1F30V075A

DN	NPS	ISO 5211		Mounting Kit
		Valve	Actuator	Item Number
700	28"	F35	F25	MFXZP3F25V055A
			F30	MFXZP3F30V075A
			F35	MFXZP3F35R120A
			F40	MFXZP3F40R160A
750	30"	F40	F30	MFX1P3F30V075A
			F35	MFX1P3F35R120A
			F40	MFX1P3F40R160A
			F48	MFX1P3F48R180A
800	32"	F40	F30	MFX2P3F30V075A
			F35	MFX2P3F35R120A
			F40	MFX2P3F40R160A
			F48	MFX2P3F48R180A
900	36"	F40	F30	MFX3P3F30V075A
			F35	MFX3P3F35R120A
			F40	MFX3P3F40R160A
			F48	MFX3P3F48R180A

Crane® FKX 9000 Mounting Kits Class 600

DN	NPS	ISO 5211		Mounting Kit
		Valve	Actuator	Item Number
80	3"	F12	F10	MFXMLR1F10V022A
			F12	MFXMLR1F12V027A
			F14	MFXMLR1F14V036A
100	4"	F12	F10	MFXMR1F10V022A
			F12	MFXMR1F12V027A
			F14	MFXMR1F14V036A
150	6"	F14	F12	MFXPR1F12V027A
			F14	MFXPR1F14V036A
			F16	MFXPR1F16V046A
200	8"	F16	F14	MFXRR1F14V036A
			F16	MFXRR1F16V046A
			F25	MFXRR1F25V055A
250	10"	F25	F16	MFXSR1F16V046A
			F25	MFXSR1F25V055A
			F30	MFXSR1F30V075A
300	12"	F25	F16	MFXTR1F16V046A
			F25	MFXTR1F25V055A
			F30	MFXTR1F30V075A
350	14"	F30	F25	MFXUR1F25V055A
			F30	MFXUR1F30V075A
			F35	MFXUR1F35R120A
400	16"	F30	F25	MFXVR1F25V055A
			F30	MFXVR1F30V075A
			F35	MFXVR1F35R120A
450	18"	F35	F30	MFXWR1F30V075A
			F35	MFXWR1F35R120A
			F40	MFXWR1F40R160A
500	20"	F35	F30	MFXXR1F30V075A
			F35	MFXXR1F35R120A
			F40	MFXXR1F40R160A
600	24"	F40	F30	MFXYR1F30V075A
			F35	MFXYR1F35R120A
			F40	MFXYR1F40R160A
			F48	MFXYR1F48R180A

DN	NPS	ISO 5211		Mounting Kit
		Valve	Actuator	Item Number
700	28"	F48	F35	MFXZR1F35R120A
			F40	MFXZR1F40R160A
			F48	MFXZR1F48R180A
750	30"	F48	F35	MFX1R1F35R120A
			F40	MFX1R1F40R160A
			F48	MFX1R1F48R180A
800	32"	F48	F35	MFX2R1F35R120A
			F40	MFX2R1F40R160A
			F48	MFX2R1F48R180A
900	36"	F60	F40	MFX3R1F40R160A
			F48	MFX3R1F48R180A
			F60	MFX3R1F60R250A

Crane®FKX 9000 Gears and Actuators

Gears

Gear boxes are for manual actuation of valves. They provide a travel of 90° for simple on/off applications. The self-jamming worm gear prevents involuntary movements. Several accessories can be equipped like a padlock, chainwheel and limit switches.



Rack & Pinion Actuators

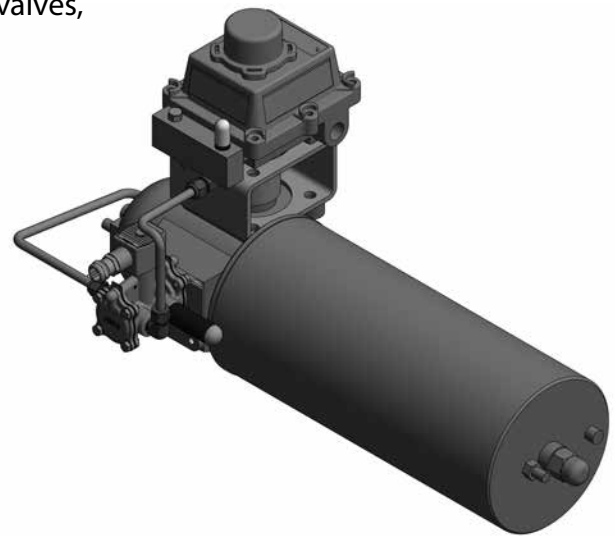
Rack & Pinion actuators are pneumatic actuators. The linear movement of the air pressure operated pistons will be transferred by racks over a centric pinion into a rotation. These actuators are the most common ones for the most on/off and control applications. The torque range depends on the air pressure and is limited. Rack & Pinion actuators are available as double acting actuators and single acting spring return actuators for safety reasons. Several accessories can be equipped like solenoid valves, smart positioners, limit switches, etc.



Crane®FKX 9000 Gears and Actuators

Scotch & Yoke Actuators

Scotch & Yoke are available as pneumatic or hydraulic actuators. The linear movement of the pressure operated piston will be transferred into a rotation by a yoke. These actuators can be used for on/off application and the special torque characteristic make them ideal for control applications. They have an increased torque range compared to Rack & Pinion actuators. Scotch & Yoke actuators are available as double acting actuators and single acting spring return actuators for safety reasons. Several accessories can be equipped like solenoid valves, smart positioners, limit switches, etc.



Electric Actuators

Electric actuators are mostly a combination of a gear box and an electrical motor. Electric power will generate a torque which operates the valve. These actuators are flexible and economical. They can be installed where no air supply is available. Several electrical accessories like special control units to make them smart and bus interfaces can be equipped.





Crane®FKX 9000 Product Configuration

Product Line	Valve Type	Material Group
Crane FKX 9000-	XNLG-	AAB1-

Valve Type					
Size		Pressure		Body Style	
C	Value	C	Value	C	Value
L	3"	N	cl.150	LG	Lug type (API 609 table 3 category B)
M	4"	P	cl.300	DS	Double flanged - short pattern (ISO5752 series 13)
P	6"	R	cl.600	DL	Double flanged - long pattern (ASME B16.10, long pattern)
R	8"				
S	10"				
T	12"				
U	14"				
V	16"				
W	18"				
X	20"				
Y	24"				
Z	28"				
1	30"				
2	32"				
3	36"				
4	40"				
5	42"				
7	48"				

Material Group					
Body Material		Disc Material		Shaft Material	
C	Value	C	Value	C	Value
A	ASTM A216 Gr. WCB Carbon steel	A	ASTM A216 Gr. WCB Carbon steel	A	ASTM A564 Gr. 630 17-4 PH, double heat treated
B	ASTM A351 Gr. CF8M Stainless steel	P	ASTM A216 Gr. WCB nickel plated Carbon steel	B	ASTM A276 Gr. 431 Stainless steel
C	ASTM A995 Gr. 5A Superduplex	B	ASTM A351 Gr. CF8M Stainless steel	D	ASTM A182 Gr. F51 Duplex
R	ASTM A995 Gr. 6A Superduplex	C	ASTM A995 Gr. 5A Superduplex	G	ASTM A182 Gr. F55
E	ASTM A352 Gr. LCB Low temperature carbon steel	R	ASTM A995 Gr. 6A Superduplex	E	ASTM A453 Gr. 660 for high temperatures
F	ASTM A352 Gr. LCC Low temperature carbon steel	E	ASTM A352 Gr. LCB Low temperature carbon steel	F	ASTM A276 Gr. XM-19 Nitronic 50
G	ASTM A217 Gr. WC6 Low alloy steel	F	ASTM A352 Gr. LCC Low temperature carbon steel	M	ASTM B865 Monel K500
L	ASTM A351 Gr. CT15C Inconel 800H	G	ASTM A217 Gr. WC6 Low alloy steel	T	ASTM UNS N06022 Hastelloy C22
J	ASTM A494 Gr. CY40 Inconel 600	L	ASTM A351 Gr. CT15C Inconel 800H	X	Other
K	ASTM A351 Gr. CN7M Alloy 20	J	ASTM A494 Gr. CY40 Inconel 600		
T	ASTM A494 Gr. CX2MW Hastelloy C22	K	ASTM A351 Gr. CN7M Alloy 20		
M	ASTM A494 Gr. M35-1 Monel 400	T	ASTM A494 Gr. CX2MW Hastelloy C22		
N	ASTM A351 Gr. CF3M Stainless Steel	M	ASTM A494 Gr. M35-1 Monel 400		
X	Other	N	ASTM A351 Gr. CF3M Stainless Steel		
		X	Other		

Crane® FKX 9000 How to Order

Flange Type	Gland / Packing / Top Work	Actuation Group
A-	1AA-	F-

Seal ring on disc and Seat	
C	Value
1	ASTM A240 UNS S31803/ graphite, laminated, Seat: Stellite 21
2	ASTM A240 UNS S31803, laminated w/o graphite, Seat: Stellite 21
4	Hastelloy C276/graphite, laminated, Seat: Stellite 21
5	Hastelloy C276, laminated w/o graphite + Stellite 21
6	ASTM A240 UNS S31803/ PTFE, laminated, Seat: Stellite 21
7	Hastelloy C276/PTFE, laminated, Seat: Stellite 21
X	Other

Flange Type	
Flange Face	
C	Value
A	Raised face RF acc. ANSI B16.5 (3"-24") Raised face RF acc. B 16.47, series A (28"-48")
B	Raised face RF acc. B 16.47, series B (28"-48")
6	Flat face FF acc. ANSI B16.5 (3"-24") Flat face FF acc. ANSI B16.47, series A (28"-48")
7	Flat face FF acc. ANSI B16.47, series B (28"-48")
L	Large groove facing LGF acc. ANSI B16.5 (3"-24")
X	Other

Gland / Packing / Top Work Options					
Gland Packing		Packing Box Options		Gland Flange	
C	Value	C	Value	C	Value
1	Standard graphite packing (FE class BH/TA-Luft)	A	Single packing	A	Standard design
2	Superior performance graphite packing (FE class AH)	F	Single packing with flushing port	B	Chemical design
3	Reinforced PTFE packing (non-FE / EN12266 A / API598)	G	Single packing with pressure tight bearing	C	Gland flange - live loaded
4	Industrial packing (non-FE / non TA-Luft/ EN12266 A / API598)	R	Single packing with monitoring port and pressure tight bearing protector		
X	Other	M	Dual packing with monitoring port		
		P	Dual packing with monitoring and flushing port		
		X	Other		

Actuation Group	
Actuation	
C	Value
F	Psie shaft
G	Gear
Y	Scotch Yoke
R	Rack & Pinion
E	Electric
H	Hydraulic
X	Other

C = Code no.



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