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TECHNICAL DATASHEET
ASME Design
(Metric Version)

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



Crane®FKX 9000 Features and Benefits

Crane®FKX 9000 Next Generation Triple Offset Valves

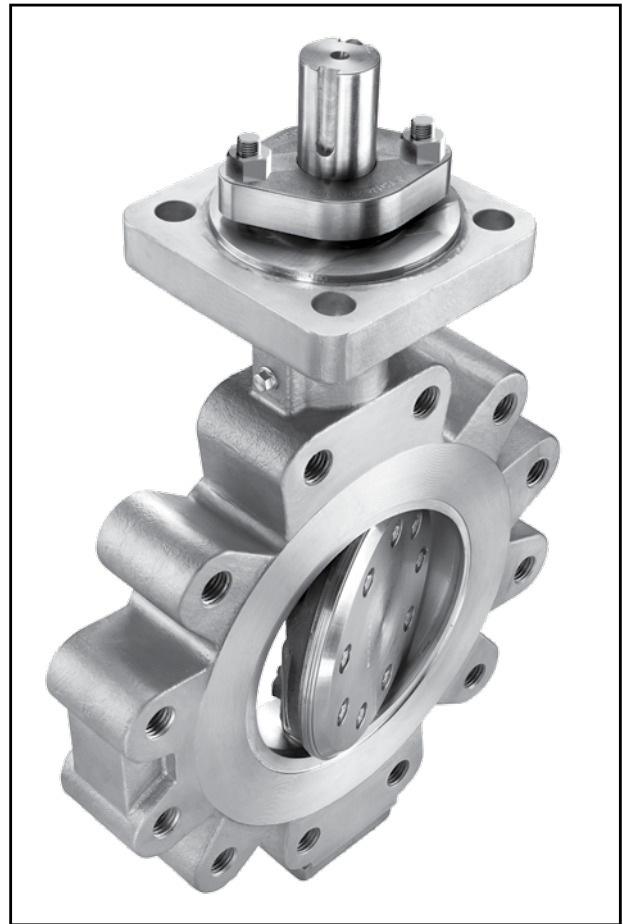
Crane’s new cast TOV design offers best-in-class in-line seal design and world-leading fugitive emissions package. Additional features such as a graphite-free seal ring and pressure tight bearing protection enhance service in severe or abrasive applications.

STANDARD FEATURES INCLUDE:

- 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:










- Monitoring Port
- Flushing Port
- Live-loaded packing
- Low emissions packing for ISO 15848-Class AH (<50ppm), EPA Method 21 & TA-Luft compliance
- Pressure-tight bearing protector



Product Range

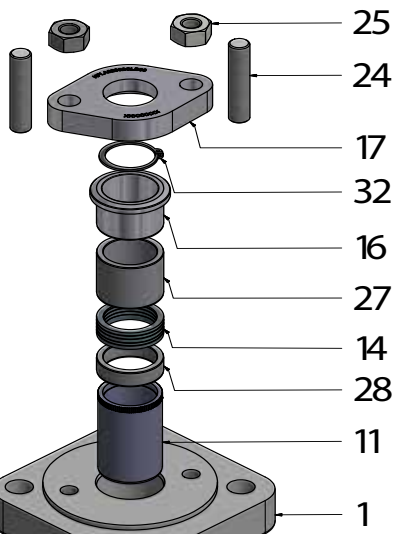
Size	Class	Body Design	Face-to-face Dimension	Body Material
3"-48" DN 80-1200	Class 150-300	Lug Double Flanged, Short Pattern Double Flanged, Long Pattern	API 609 EN558-1 ISO 5752 ASME B16.10	WCB / 1.0619 CF8M / 1.4408

Crane[®] FKX 9000 Body Designs

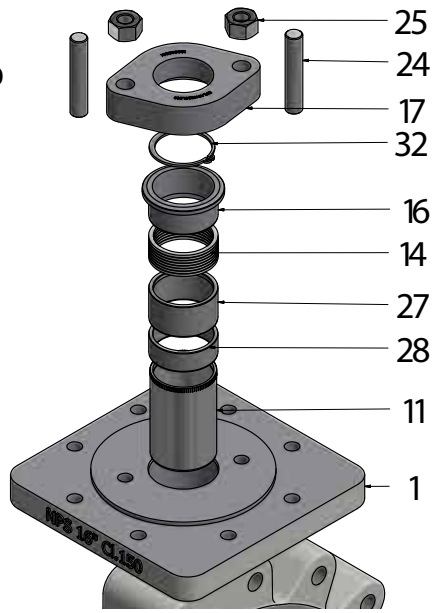
	Lug Design	Double Flanged Short Pattern Design	Double Flanged Long Pattern Design
Front View - Shaft side			
Side View			
Top View			

Exploded View Standard Design

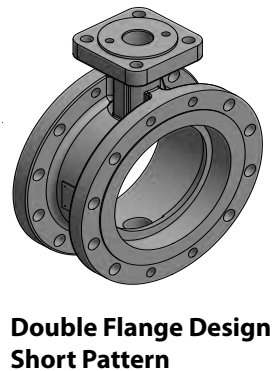
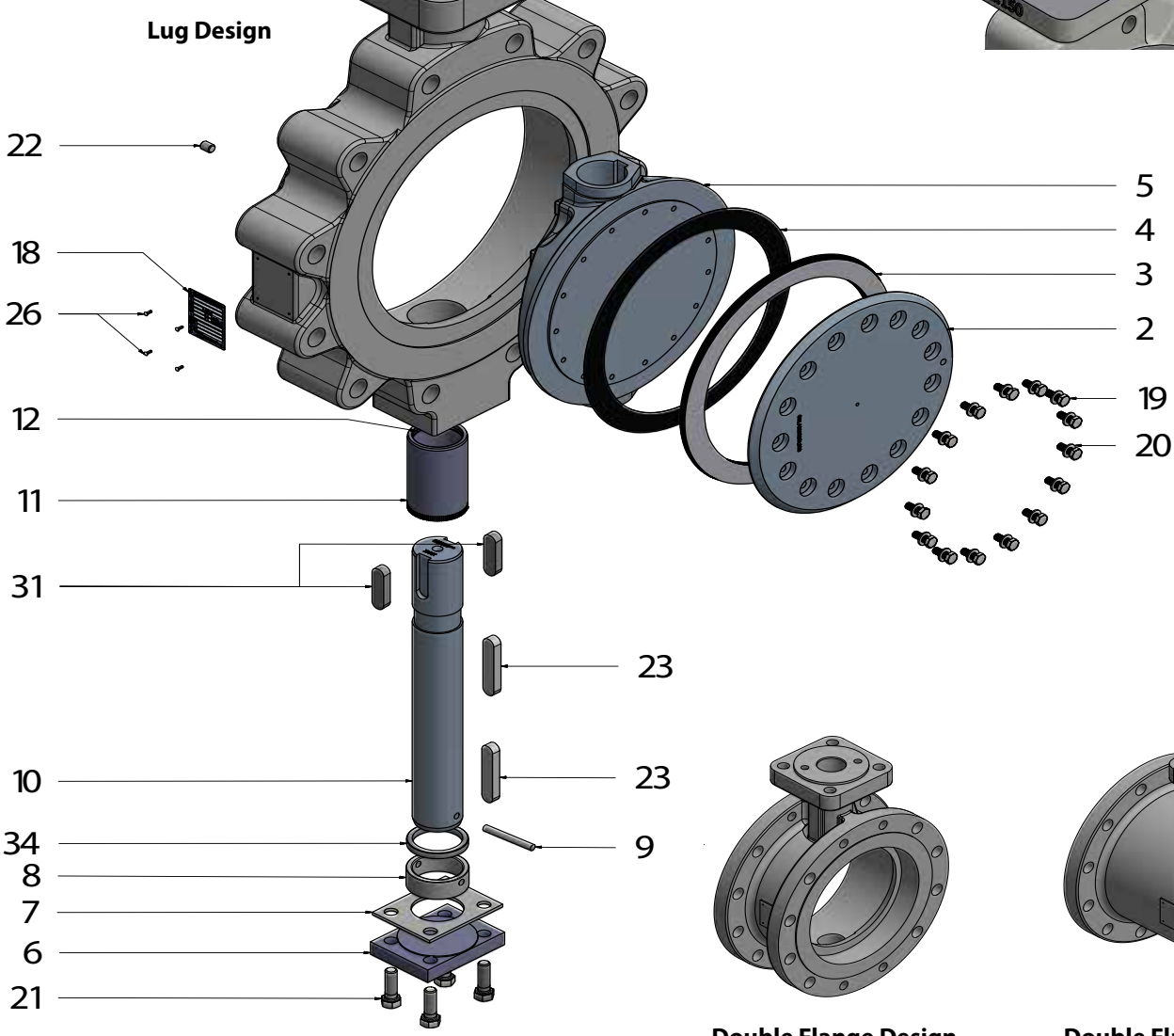
Size
3"-14"
DN 80-350



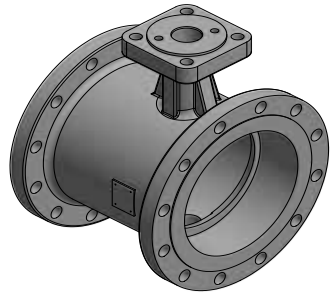
Size
16"-24"
DN 400-600



Lug Design



Double Flange Design Short Pattern



Double Flange Design Long Pattern

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
34	Thrust ring		A582 Gr. 303 hardened	1.4305 hardened	A582 Gr. 303 hardened	1.4305 hardened
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

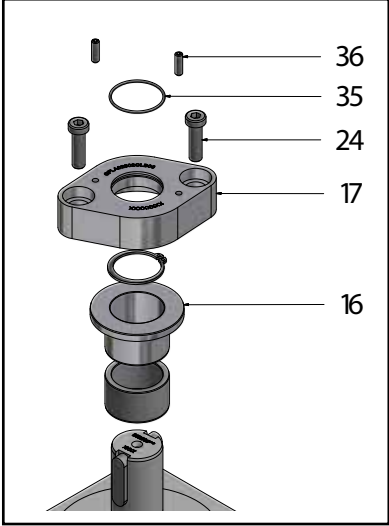
Chemical Gland Flange Design

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			

DSK = Disc Sealing Kit

SBK = Shaft Bearing Kit

BGK = Body Gasket Kit



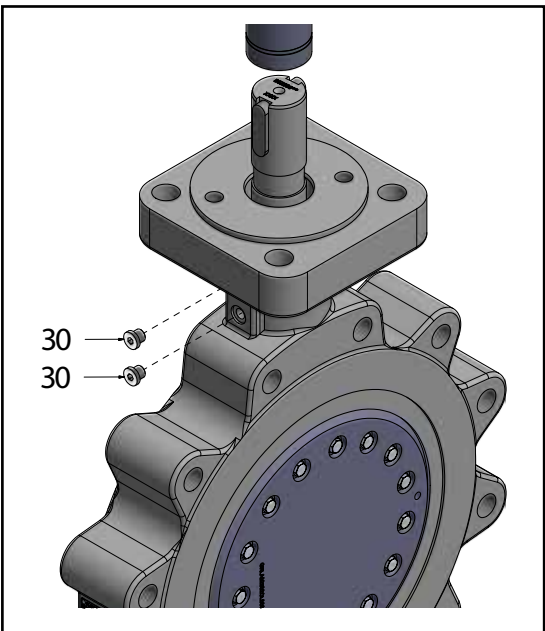
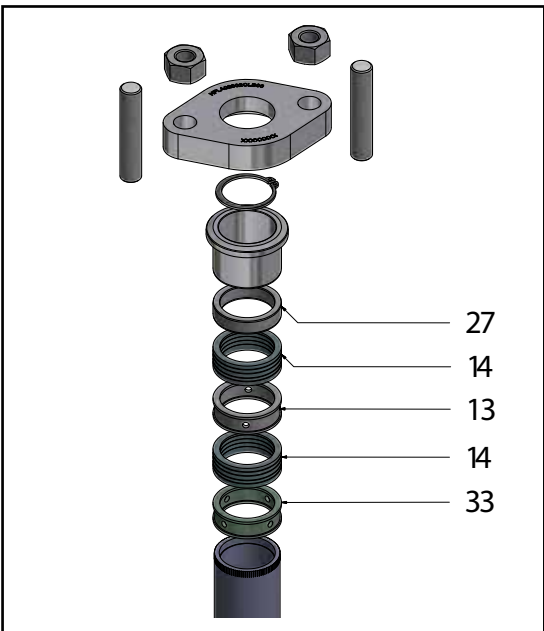
Dual Packing Design

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

DSK = Disc Sealing Kit

SBK = Shaft Bearing Kit

BGK = Body Gasket Kit



Exploded View Optional Designs

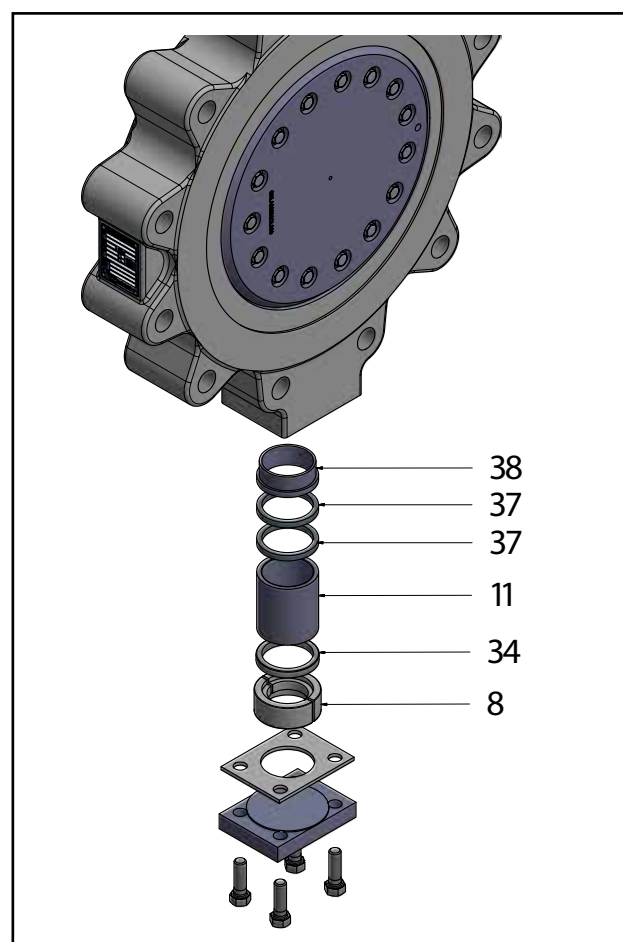
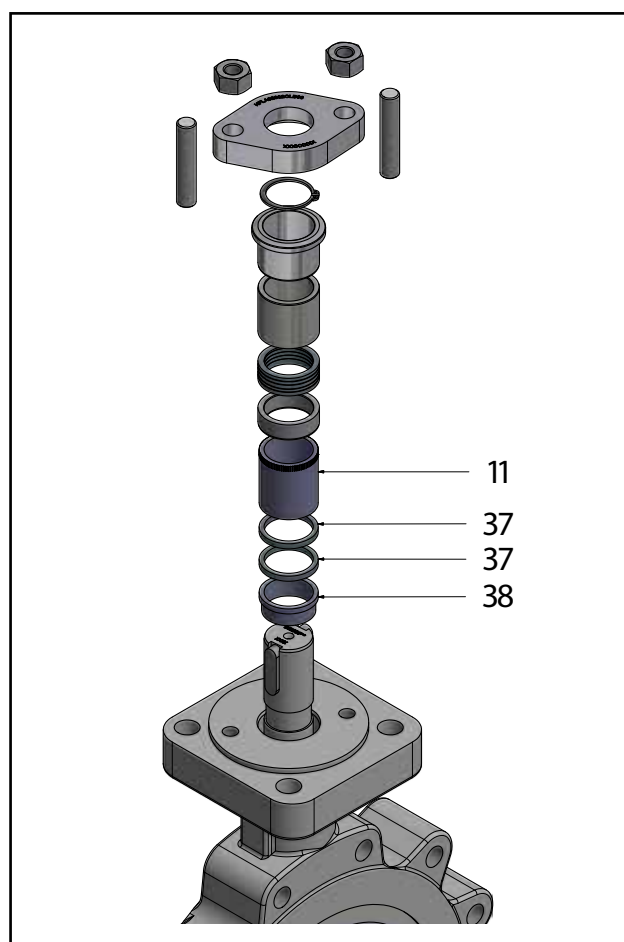
Pressure Tight Bearing Design

Item	Description	Spare Part Kit	Carbon Steel		Stainless Steel	
			ASTM	DIN	ASTM	DIN
8	Ring, devided		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
34	Thrust ring		A582 Gr. 303 hardened	1.4305 hardened	A582 Gr. 303 hardened	1.4305 hardened
37	Packing-ring	SBK	Graphite			
38	Support ring		A582 Gr. 303	1.4305	A582 Gr. 303	1.4305

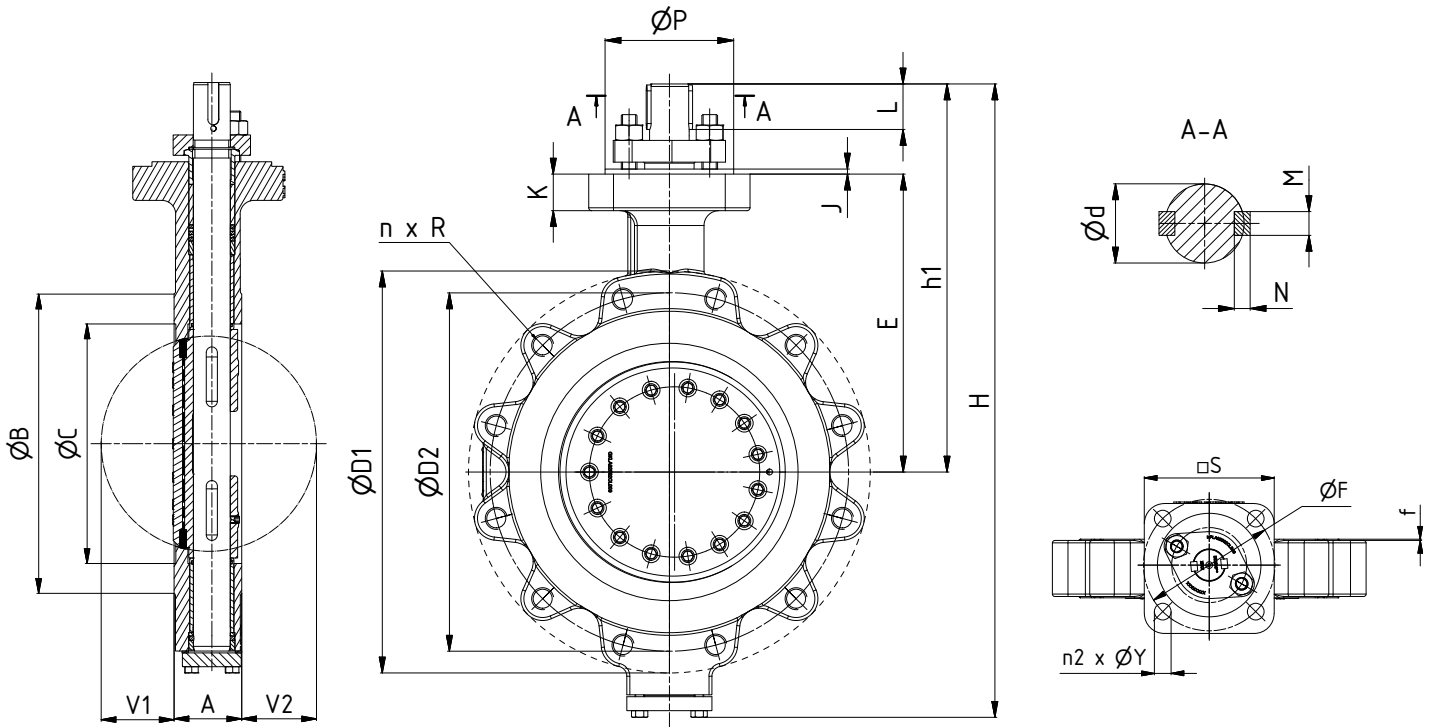
DSK = Disc Sealing Kit

SBK = Shaft Bearing Kit

BGK = Body Gasket Kit



Lug Design Dimensions and Weights Class 150



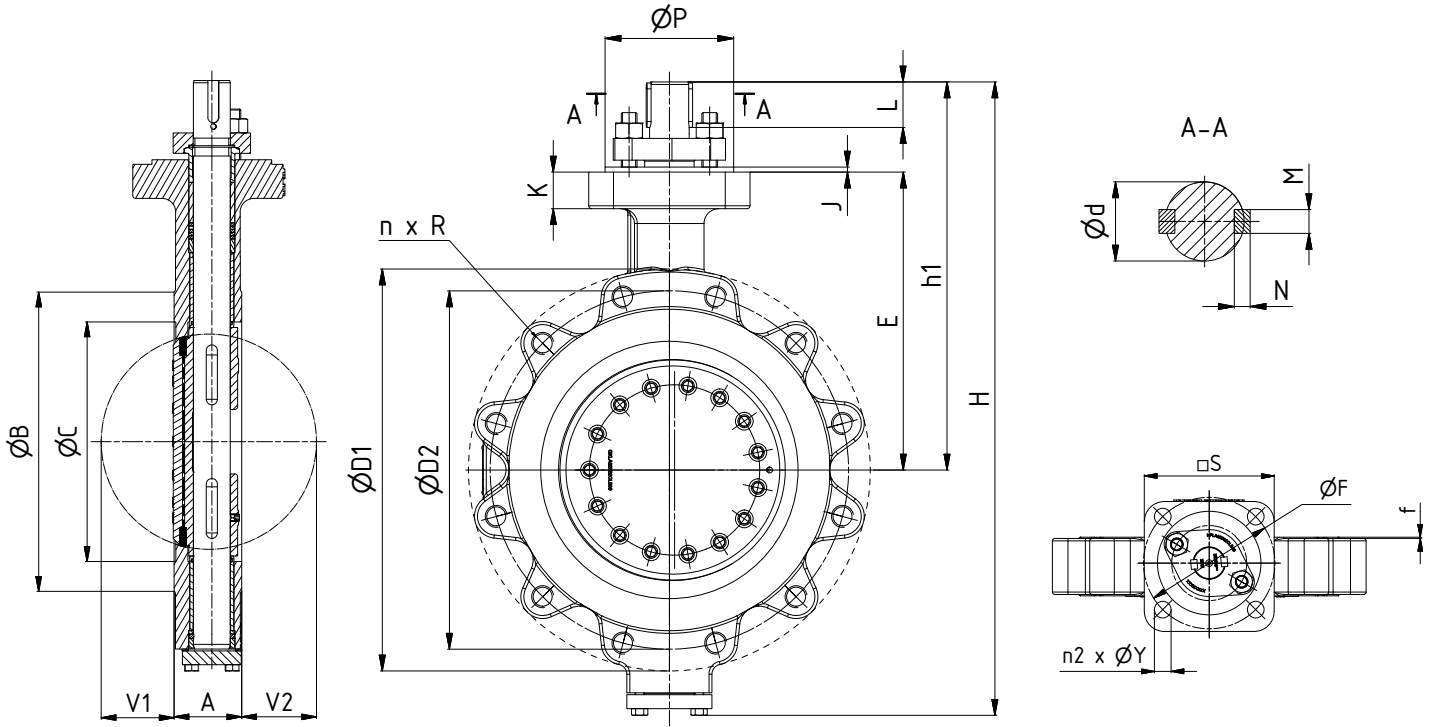
DN	NPS	Dimensions (mm)										
		A	ØC	H	h1	E	ØD1	ØD2	n	R	ØB	f
80	3"	48	80	382	245	176	190	152	4	5/8"-11UNC	127	2
100	4"	54	108	408	256	186	230	191	8	5/8"-11 UNC	157	2
150	6"	57	160	490	302	227	280	241	8	3/4"-10UNC	216	2
200	8"	64	210	570	355	264	345	299	8	3/4"-10UNC	270	2
250	10"	71	260	640	392	301	405	362	12	7/8"-9UNC	324	2
300	12"	81	302	747	436	342	485	432	12	7/8"-9UNC	381	2
350	14"	92	344	811	478	369	535	476	12	1"-8 UNC	413	2
400	16"	102	386	939	545	408	595	540	16	1"-8UNC	470	2
450	18"	114	430	1052	605	465	635	578	16	1 1/8"-8UN	533	2
500	20"	127	484	1125	646	493	700	635	20	1 1/8" -8UN	584	2
600	24"	154	584	1272	722	570	815	749	20	1 1/4" -8UN	692	2

Lug Design Dimensions and Weights Class 150

DN	NPS	Dimensions (mm)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	115	85	125	4	13	19	3	20	25	6	6
100	4"	F12	115	85	125	4	13	18	3	24	29	8	7
150	6"	F14	135	100	140	4	19	26	4	32	37	10	8
200	8"	F16	160	130	165	4	21	30	5	40	46	12	9
250	10"	F16	163	130	165	4	21	37	5	40	46	12	8
300	12"	F16	170	130	165	4	23	35	5	45	52	14	9
350	14"	F16	160	130	165	4	21	30	5	55	58	16	10
400	16"	F25	285	200	254	8	17	33	5	65	72	18	16
450	18"	F25	270	200	254	8	17	33	5	70	80	20	12
500	20"	F25	270	200	254	8	17	33	5	75	90	20	12
600	24"	F30	330	230	298	8	21	38	5	90	103	25	12

DN	NPS	Dimensions (mm)		Weights (kg)
		V1	V2	
80	3"	4	17	11
100	4"	12	28	16
150	6"	29	50	26
200	8"	53	66	41
250	10"	71	89	60
300	12"	90	111	91
350	14"	100	125	123
400	16"	115	141	189
450	18"	134	155	238
500	20"	158	169	298
600	24"	183	214	483

Lug Design Dimensions and Weights Class 300



DN	NPS	Dimensions (mm)										
		A	$\varnothing C$	H	h1	E	$\varnothing D1$	$\varnothing D2$	n	R	$\varnothing B$	f
80	3"	48	80	382	245	176	210	168	8	3/4"-10UNC	127	2
100	4"	54	108	423	271	201	255	200	8	3/4"-10 UNC	157	2
150	6"	59	160	504	316	240	320	270	12	3/4"-10 UNC	216	2
200	8"	73	210	589	374	283	380	330	12	7/8"-9UNC	270	2
250	10"	83	260	659	411	320	445	387	16	1"- 8UNC	324	2
300	12"	92	302	766	455	362	520	451	16	1 1/8"- 7UNC	381	2
350	14"	117	344	844	510	401	585	514	20	1 1/8"-8 UN	413	2
400	16"	133	386	974	580	443	650	572	20	1 1/4"- 8UN	470	2
450	18"	149	430	1082	635	495	711	629	24	1 1/4"-8 UN	533	2
500	20"	159	484	1153	674	521	775	686	24	1 1/4" 8 UN	584	2
600	24"	181	584	1307	757	605	915	813	24	1 1/2" - 8UN	692	2

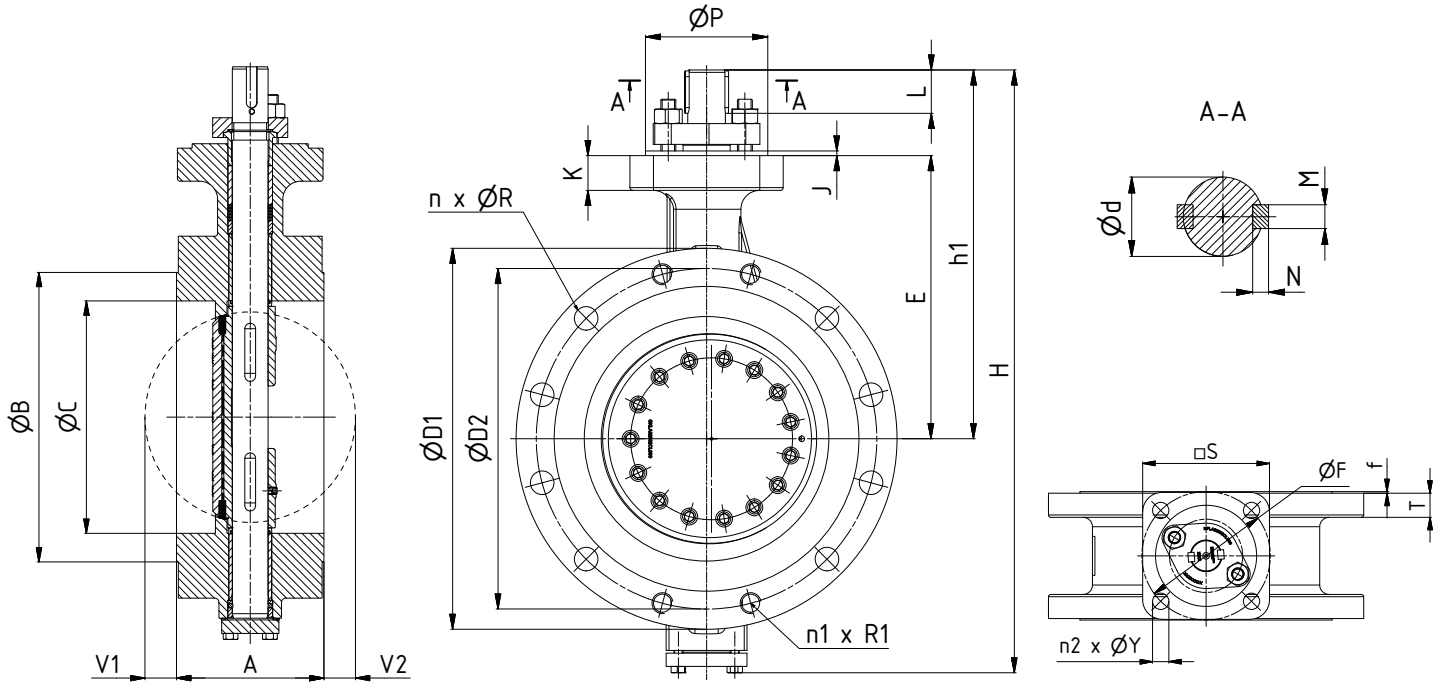
Lug Design Dimensions and Weights Class 300

DN	NPS	Dimensions (mm)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	115	85	125	4	13	19	3	20	25	6	6
100	4"	F12	115	85	125	4	13	18	3	24	29	8	7
150	6"	F14	135	100	140	4	19	27	4	32	37	10	8
200	8"	F16	160	130	165	4	21	30	5	40	46	12	9
250	10"	F16	163	130	165	4	21	37	5	40	46	12	8
300	12"	F16	170	130	165	4	23	35	5	45	52	14	9
350	14"	F16	160	130	165	4	23	30	5	55	58	16	10
400	16"	F25	270	200	254	8	17	34	5	65	72	18	16
450	18"	F25	270	200	254	8	17	33	5	70	80	20	12
500	20"	F25	270	200	254	8	17	33	5	75	90	20	12
600	24"	F30	330	230	298	8	21	38	5	90	103	25	12

DN	NPS	Dimensions (mm)		Weights (kg)
		V1	V2	
80	3"	4	17	13
100	4"	12	28	18
150	6"	29	50	32
200	8"	50	62	52
250	10"	71	80	77
300	12"	91	100	118
350	14"	95	106	183
400	16"	106	119	280
450	18"	124	132	379
500	20"	143	152	435
600	24"	180	190	699

Double Flanged, Short Pattern Design

Dimensions and Weights Class 150



DN	NPS	Dimensions (mm)													
		A	ØC	H	h1	E	ØD1	ØD2	n	R	n1	R1	ØB	T	f
80	3"	114	80	382	245	176	190	152	4	19	-	-	127	23	2
100	4"	127	108	408	256	186	230	191	4	19	4	5/8"-11 UNC	157	24	2
150	6"	140	160	490	302	227	280	241	4	22	4	3/4" - 10UNC	216	25	2
200	8"	152	210	570	355	264	345	299	4	22	4	3/4"-10UNC	270	32	2
250	10"	165	260	640	392	301	405	362	8	25	4	7/8"-9UNC	324	33	2
300	12"	178	302	747	436	342	485	432	8	25	4	7/8"- 9UNC	381	33	2
350	14"	190	344	811	478	369	535	476	8	29	4	4x 1"-8 UNC	413	36	2
400	16"	216	386	939	545	408	595	540	12	29	4	1"- 8UNC	470	40	2
450	18"	222	430	1052	605	465	635	578	12	32	4	1 1/8"-8 UN	533	41	2
500	20"	229	484	1125	646	493	700	635	16	32	4	1 1/8" 8UN	584	44	2
600	24"	267	584	1272	722	570	815	749	16	35	4	1 1/4" - 8UN	692	51	2
700	28"	292	686	1340	806	640	925	864	24	35	4	1 1/4-8 UN	800	70	2
750	30"	318	737	1410	846	670	985	914	24	35	4	1 1/4-8 UN	857	73	2
800	32"	318	787	1497	895	705	1060	978	24	41	4	1 1/2-8 UN	914	79	2
900	36"	330	889	1631	964	760	1170	1086	28	41	4	1 1/2-8 UN	1022	89	2
1000	40"	410	991	1807	1074	845	1290	1200	32	41	4	1 1/2-8 UN	1124	89	2
1050	42"	410	1041	1877	1119	865	1345	1257	32	41	4	1 1/2-8 UN	1194	95	2
1200	48"	470	1194	2075	1227	955	1510	1422	40	41	4	1 1/2-8 UN	1359	106	2

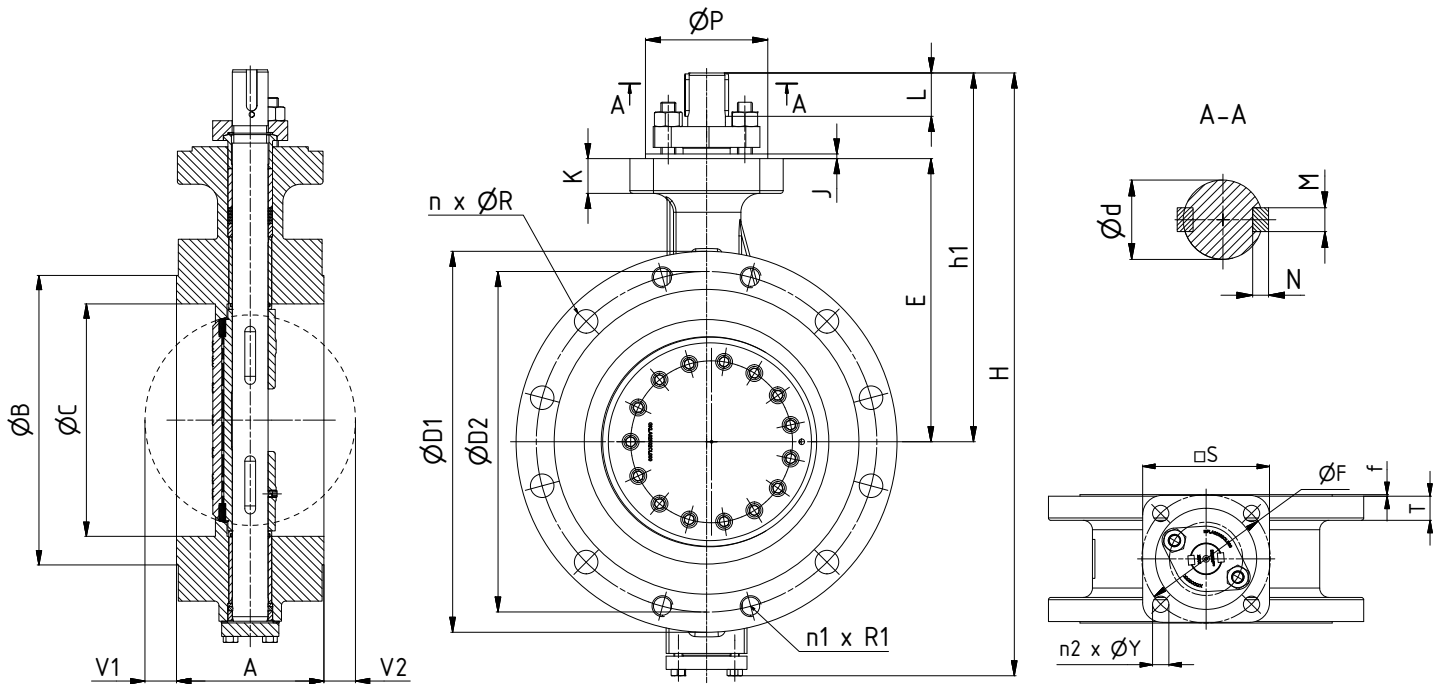
Double Flanged, Short Pattern Design Dimensions and Weights Class 150

DN	NPS	Dimensions (mm)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	115	85	125	4	13	19	3	20	25	6	6
100	4"	F12	115	85	125	4	13	18	3	24	29	8	7
150	6"	F14	135	100	140	4	19	26	4	32	37	10	8
200	8"	F16	160	130	165	4	21	30	5	40	46	12	9
250	10"	F16	163	130	165	4	21	37	5	40	46	12	8
300	12"	F16	170	130	165	4	23	35	5	45	52	14	9
350	14"	F16	160	130	165	4	21	30	5	55	58	16	10
400	16"	F25	285	200	254	8	17	34	5	65	72	18	16
450	18"	F25	270	200	254	8	17	33	5	70	80	20	12
500	20"	F25	270	200	254	8	17	33	5	75	90	20	12
600	24"	F30	330	230	298	8	21	38	5	90	103	25	12
700	28"	F30	350	230	298	8	22	39	5	80	100	22	14
750	30"	F30	350	230	298	8	22	39	5	80	110	22	14
800	32"	F30	350	230	298	8	22	39	5	90	125	25	14
900	36"	F35	415	260	356	8	33	44	5	100	140	28	16
1000	40"	F35	415	260	356	8	33	44	5	110	160	28	16
1050	42"	F40	475	300	406	8	39	49	10	110	180	28	16
1200	48"	F40	475	300	406	8	39	49	10	130	200	32	18

DN	NPS	Dimensions (mm)		Weights (kg)
		V1	V2	
80	3"	-	-	16
100	4"	-	-	23
150	6"	-	6	35
200	8"	11	23	60
250	10"	30	39	82
300	12"	48	57	120
350	14"	58	67	158
400	16"	66	79	230
450	18"	88	96	284
500	20"	110	118	344
600	24"	139	148	540
700	28"	176	187	660
750	30"	186	198	790
800	32"	210	222	950
900	36"	253	267	1280
1000	40"	258	274	1630
1050	42"	283	300	1850
1200	48"	326	345	2590

Double Flanged, Short Pattern Design

Dimensions and Weights Class 300



DN	NPS	Dimensions (mm)													
		A	ØC	H	h1	E	ØD1	ØD2	n	R	n1	R1	ØB	T	f
80	3"	114	80	382	245	176	210	168	4	22	4	3/4"-10UNC	127	28	2
100	4"	127	108	408	256	186	255	200	4	22	4	3/4"-10 UNC	157	32	2
150	6"	140	160	490	302	227	320	270	8	22	4	3/4"-10 UNC	216	36	2
200	8"	152	210	570	355	264	380	330	8	25	4	7/8"-9UNC	270	43	2
250	10"	165	260	640	392	301	445	387	12	29	4	1"-8UNC	324	50	2
300	12"	178	302	747	436	342	520	451	12	32	4	1 1/8" - 8UN	381	52	2
350	14"	190	344	811	478	369	585	514	16	32	4	1 1/8"-8 UN	413	55	2
400	16"	216	386	939	545	408	650	572	16	35	4	1 1/4" - 8UN	470	60	2
450	18"	222	430	1052	605	465	711	629	20	35	4	1 1/4"-8 UN	533	62	2
500	20"	229	484	1125	646	493	775	686	20	35	4	1 1/4-8 UN	584	65	2
600	24"	267	584	1272	722	570	915	813	20	42	4	1 1/2" - 8UN	692	73	2
700	28"	292	686	1555	947	715	1035	940	24	44	4	1 5/8-8 UN	800	84	2
750	30"	318	737	1635	1002	745	1090	997	24	48	4	1 3/4-8 UN	857	91	2
800	32"	318	787	1699	1031	775	1150	1054	24	51	4	1 7/8-8 UN	914	97	2
900	36"	330	889	1863	1135	840	1270	1168	28	54	4	2-8 UN	1022	103	2

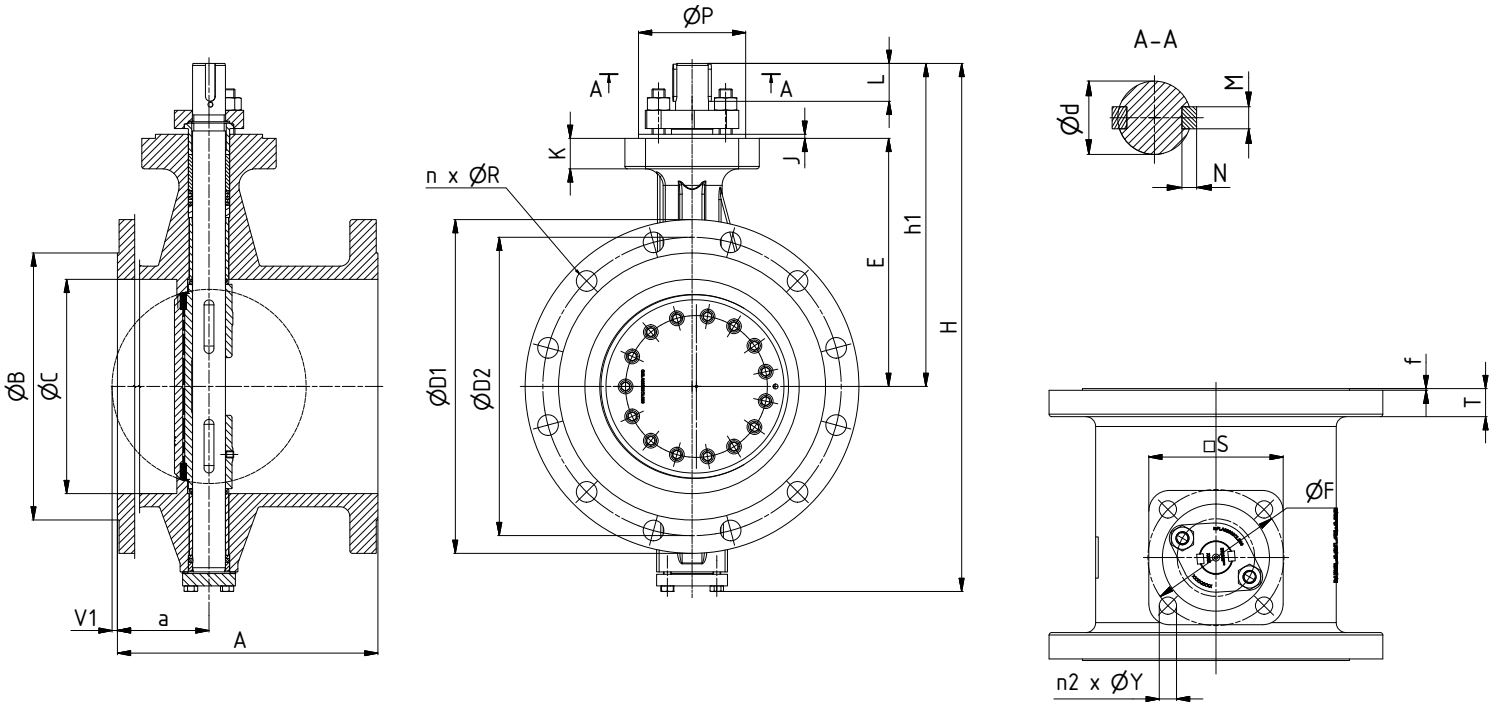
Double Flanged, Short Pattern Design Dimensions and Weights Class 300

DN	NPS	Dimensions (mm)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	115	85	125	4	13	19	3	20	25	6	6
100	4"	F12	115	85	125	4	13	18	3	24	29	8	7
150	6"	F14	135	100	140	4	19	26	4	32	37	10	8
200	8"	F16	160	130	165	4	21	30	5	40	46	12	9
250	10"	F16	163	130	165	4	21	37	5	40	46	12	8
300	12"	F16	170	130	165	4	23	35	5	45	52	14	9
350	14"	F16	160	130	165	4	21	30	5	55	58	16	10
400	16"	F25	270	200	254	8	17	34	5	65	72	18	16
450	18"	F25	270	200	254	8	17	33	5	70	80	20	12
500	20"	F25	270	200	254	8	17	33	5	75	90	20	12
600	24"	F30	330	230	298	8	21	38	5	90	103	25	12
700	28"	F35	415	260	356	8	33	44	5	110	160	28	16
750	30"	F40	475	300	406	8	39	49	10	110	180	28	16
800	32"	F40	475	300	406	8	39	49	10	120	180	32	18
900	36"	F40	475	300	406	8	39	49	10	130	220	32	18

DN	NPS	Dimensions (mm)		Weights (kg)
		V1	V2	
80	3"	-	-	21
100	4"	-	-	31
150	6"	-	6	53
200	8"	11	23	80
250	10"	30	39	114
300	12"	48	57	168
350	14"	58	67	220
400	16"	66	79	307
450	18"	88	96	387
500	20"	110	118	478
600	24"	139	148	728
700	28"	177	186	1140
750	30"	187	197	1370
800	32"	210	222	1570
900	36"	253	267	2020

Double Flanged, Long Pattern Design

Dimensions and Weights Class 150



DN	NPS	Dimensions (mm)											T	f
		A	a	ØC	H	h1	E	ØD1	ØD2	n	R	ØB		
80	3"	203	102	80	382	245	176	190	152	4	19	127	23	2
100	4"	229	100	108	408	256	186	230	191	8	19	157	24	2
150	6"	267	78	160	490	302	227	280	241	8	22	216	26	2
200	8"	292	105	210	570	355	264	345	299	8	22	270	32	2
250	10"	330	125	260	640	392	301	405	362	12	25	324	34	2
300	12"	356	150	302	747	436	342	485	432	12	25	381	32	2
350	14"	381	155	344	811	478	369	535	476	12	29	413	36	2
400	16"	406	174	386	939	545	408	595	540	16	29	470	39	2
450	18"	432	180	430	1052	605	465	635	578	16	32	533	40	2
500	20"	457	143	484	1125	646	493	700	635	20	32	584	43	2
600	24"	508	230	584	1272	722	570	815	749	20	35	692	50	2
700	28"	610	289	686	1340	806	640	925	864	28	35	800	70	2
750	30"	610	292	737	1410	846	670	985	914	28	35	857	73	2
800	32"	660	304	787	1497	895	705	1060	978	28	41	914	79	2
900	36"	711	351	889	1617	950	760	1170	1086	32	41	1022	89	2

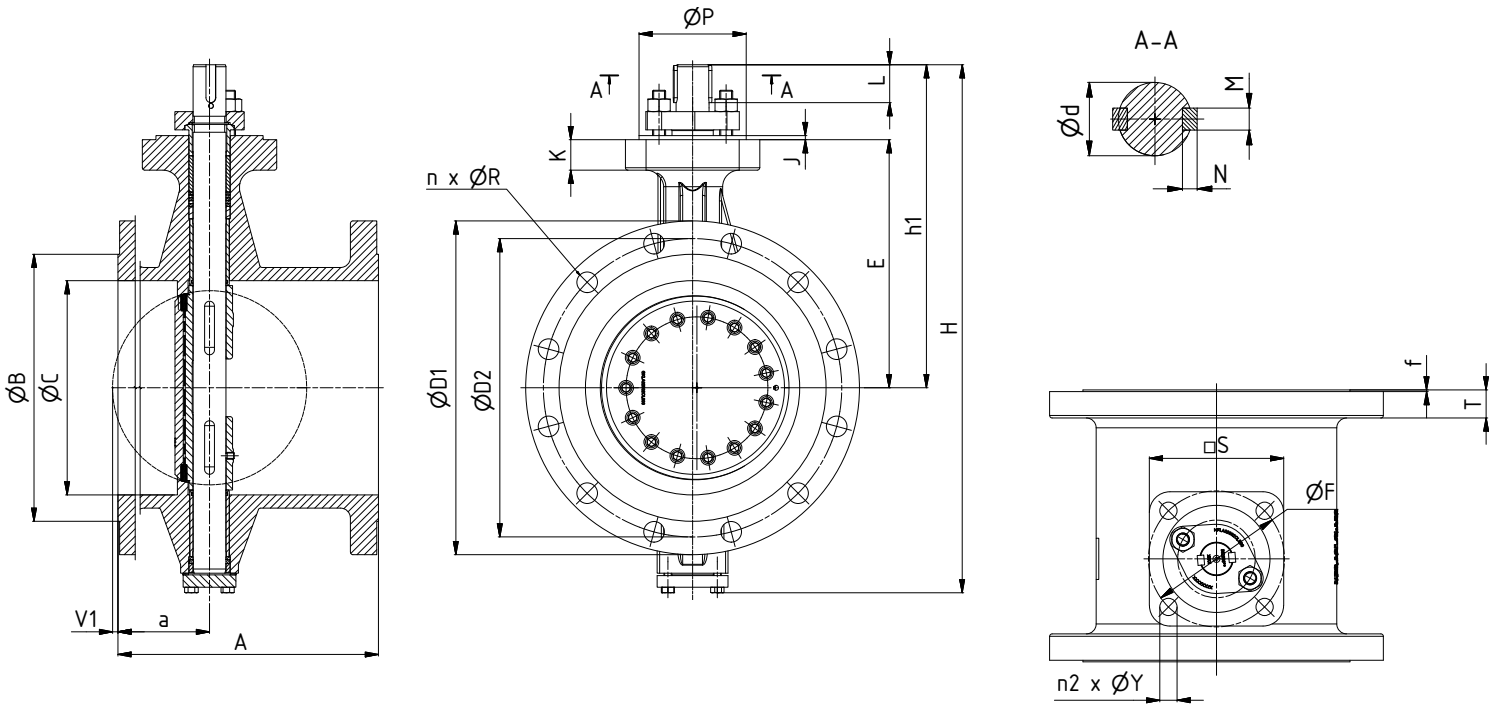
Double Flanged, Long Pattern Design Dimensions and Weights Class 150

DN	NPS	Dimensions (mm)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	115	85	125	4	13	19	3	20	25	6	6
100	4"	F12	115	85	125	4	13	18	3	24	29	8	7
150	6"	F14	135	100	140	4	19	26	4	32	37	10	8
200	8"	F16	160	130	165	4	21	30	5	40	46	12	9
250	10"	F16	163	130	165	4	21	37	5	40	46	12	8
300	12"	F16	170	130	165	4	23	35	5	45	52	14	9
350	14"	F16	160	130	165	4	21	30	5	55	58	16	10
400	16"	F25	285	200	254	8	17	33,5	5	65	72	18	16
450	18"	F25	270	200	254	8	17	33	5	70	80	20	12
500	20"	F25	270	200	254	8	17	33	5	75	90	20	12
600	24"	F30	330	230	298	8	21	38	5	90	103	25	12
700	28"	F35	415	260	356	8	33	44	5	110	160	28	16
750	30"	F40	475	300	406	8	39	49	10	110	180	28	16
800	32"	F40	475	300	406	8	39	49	10	120	180	32	18
900	36"	F40	475	300	406	8	39	49	10	130	220	32	18

DN	NPS	Dimensions (mm)		Weights (kg)
		V1	V2	
80	3"	-	-	18
100	4"	-	-	25
150	6"	-	-	41
200	8"	-	-	72
250	10"	-	-	101
300	12"	-	-	143
350	14"	-	-	187
400	16"	-	-	264
450	18"	19	-	337
500	20"	81	-	419
600	24"	42	-	648
700	28"	33	12	830
750	30"	53	39	960
800	32"	65	25	1180
900	36"	67	72	1620

Double Flanged, Long Pattern Design

Dimensions and Weights Class 300



DN	NPS	Dimensions (mm)										T	f	
		A	a	Ø C	H	h1	E	Ø D1	Ø D2	n	R			Ø B
80	3"	282	102	80	382	245	176	210	168	8	22	127	28	2
100	4"	305	100	108	408	256	186	255	200	8	22	157	32	2
150	6"	403	78	160	490	302	227	320	270	12	22	216	36	2
200	8"	418	105	210	570	355	264	380	330	12	25	270	43	2
250	10"	457	125	260	640	392	301	445	387	16	29	324	50	2
300	12"	502	150	302	747	436	342	520	451	16	32	381	46	2
350	14"	762	155	344	811	478	369	585	514	20	32	413	54	2
400	16"	838	174	386	939	545	408	650	572	20	35	470	58	2
450	18"	914	180	430	1052	605	465	711	629	24	35	533	61	2
500	20"	991	143	484	1125	646	493	775	686	24	35	584	63	2
600	24"	1143	230	584	1272	722	570	915	813	24	42	692	72	2
700	28"	1346	351	686	1555	947	715	1035	940	28	44	800	84	2
750	30"	1397	387	737	1635	1002	745	1090	997	28	48	857	91	2
800	32"	1524	393	787	1699	1031	775	1150	1054	28	51	914	97	2
900	36"	1727	410	889	1863	1135	840	1270	1168	32	54	1022	103	2

Double Flanged, Long Pattern Design Dimensions and Weights Class 300

DN	NPS	Dimensions (mm)											
		ISO 5211	S (sq.)	Ø P	Ø F	n2	Ø Y	K	J	Ø d	L	M	N
80	3"	F12	115	85	125	4	13	19	3	20	25	6	6
100	4"	F12	115	85	125	4	13	18	3	24	29	8	7
150	6"	F14	135	100	140	4	19	26	4	32	37	10	8
200	8"	F16	160	130	165	4	21	30	5	40	46	12	9
250	10"	F16	163	130	165	4	21	37	5	40	46	12	8
300	12"	F16	170	130	165	4	23	35	5	45	52	14	9
350	14"	F16	160	130	165	4	21	30	5	55	58	16	10
400	16"	F25	270	200	254	8	17	33,5	5	65	72	18	16
450	18"	F25	270	200	254	8	17	33	5	70	80	20	12
500	20"	F25	270	200	254	8	17	33	5	75	90	20	12
600	24"	F30	330	230	298	8	21	38	5	90	103	25	12
700	28"	F35	415	260	356	8	33	44	5	110	160	28	16
750	30"	F40	475	300	406	8	39	49	10	110	180	28	16
800	32"	F40	475	300	406	8	39	49	10	120	180	32	18
900	36"	F40	475	300	406	8	39	49	10	130	220	32	18

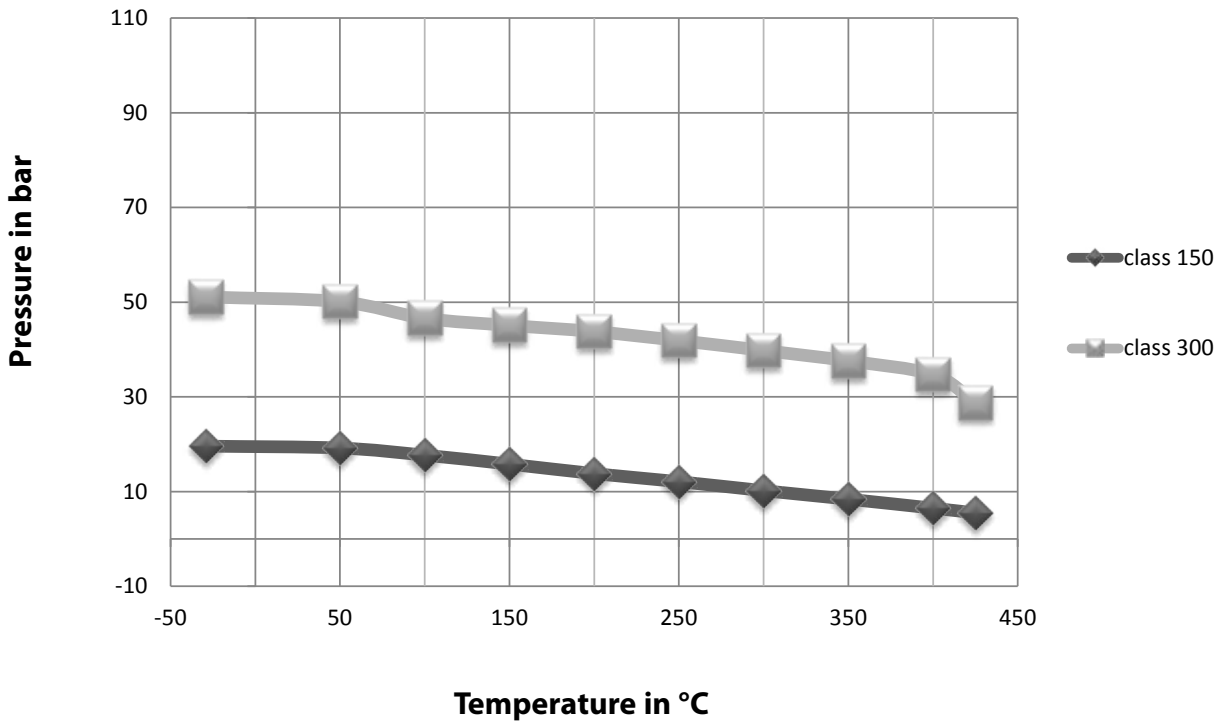
DN	NPS	Dimensions (mm)		Weights (kg)
		V1	V2	
80	3"	-	-	23
100	4"	-	-	36
150	6"	-	-	67
200	8"	-	-	103
250	10"	-	-	148
300	12"	-	-	213
350	14"	-	-	315
400	16"	-	-	426
450	18"	-	-	568
500	20"	32	-	736
600	24"	-	-	1130
700	28"	-	-	1910
750	30"	-	-	2280
800	32"	-	-	2690
900	36"	9	-	3680

Crane® FKX 9000 Pressure/Temperature Ratings for Steel

Temperature	Max working pressure ASME class 150	Max working pressure ASME class 300
	ASTM A216 Gr. WCB*	
°C	bar	
-29	19,6	51,1
50	19,2	50,1
100	17,7	46,6
150	15,8	45,1
200	13,8	43,8
250	12,1	41,9
300	10,2	39,8
350	8,4	37,6
400	6,5	34,7
425	5,5	28,8
500	2,8	28,2
538	1,4	25,2

*according ASME B16.34 - Material Group 1.1

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

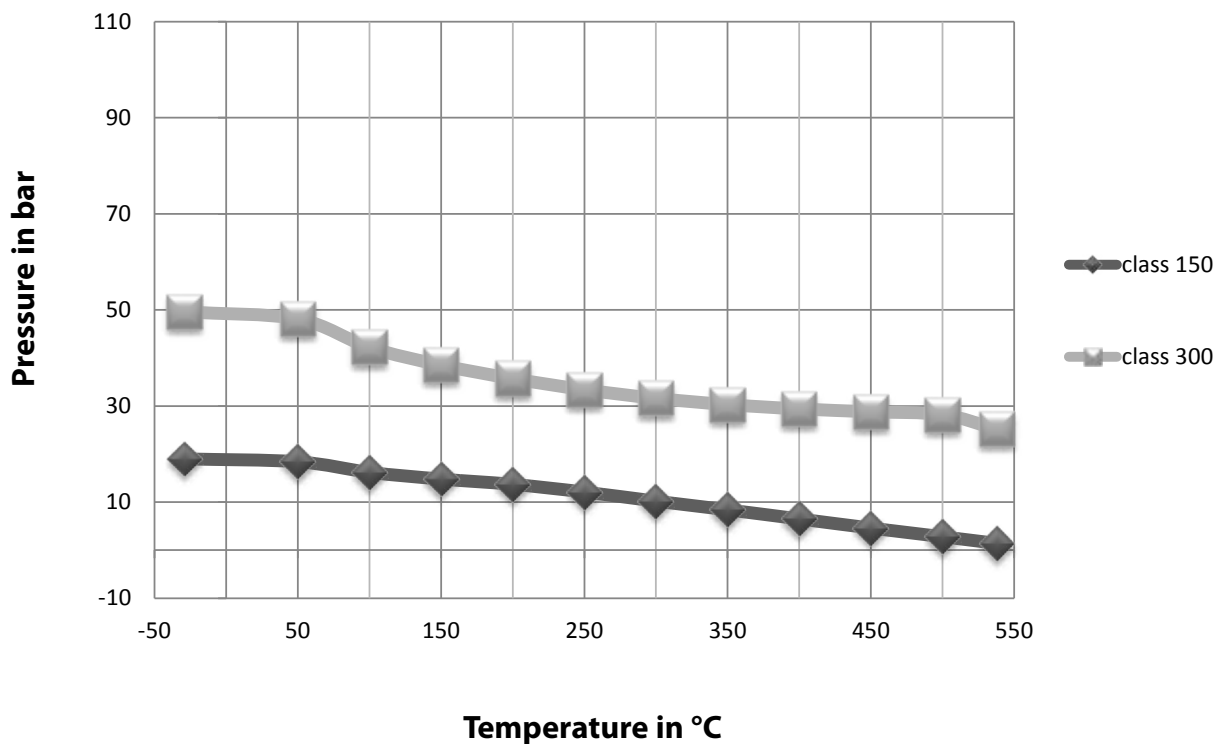


Crane®FKX 9000 Pressure/Temperature Ratings for Stainless Steel

Temperature	Max working pressure ASME class 150	Max working pressure ASME class 300
	ASTM A351 Gr. CF8M *	
°C	bar	
-29	19,0	49,6
50	18,4	48,1
100	16,2	42,2
150	14,8	38,5
200	13,7	35,7
250	12,1	33,4
300	10,2	31,6
350	8,4	30,3
400	6,5	29,4
450	4,6	28,8
500	2,8	28,2
538	1,4	25,2

*according ASME B16.34 - Material Group 2.2

Pressure & Temperature ASTM A351 Gr. CF8M



Standard Packing Torque Values for On/Off Applications

Uni-Directional - Pressure from shaft side

DN	NPS	Δp [bar]	Torque (Nm) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	47	46	47	56	46	47
		15	83	54	47	57	54	56
		20	95	56	48	57	56	59
		50	167	70	49	59	70	77
100	4"	0	64	64	64	77	64	64
		15	128	77	65	79	77	84
		20	149	82	66	79	82	91
		50	277	108	69	83	108	131
150	6"	0	108	107	108	129	107	108
		15	311	153	111	133	153	168
		20	379	168	112	135	168	188
		50	787	259	119	143	259	309
200	8"	0	197	196	197	236	196	197
		15	497	268	203	244	268	335
		20	597	292	206	247	292	382
		50	1197	437	219	262	437	659
250	10"	0	199	197	199	238	197	199
		15	607	298	205	246	298	420
		20	743	331	207	249	331	493
		50	1560	533	221	265	533	935
300	12"	0	250	246	250	300	246	250
		15	803	388	259	311	388	611
		20	988	436	262	315	436	731
		50	2095	720	281	337	720	1453
350	14"	0	368	362	368	442	362	368
		15	1230	591	385	462	591	938
		20	1517	667	391	469	667	1128
		50	3241	1126	425	510	1126	2267
400	16"	0	511	500	511	613	500	511
		15	1818	858	539	647	858	1365
		20	2253	977	549	658	977	1650
		50	4866	1692	605	726	1692	3358
450	18"	0	909	892	909	1090	892	909
		15	2215	1262	944	1133	1262	2074
		20	2651	1385	956	1147	1385	2463
		50	5265	2126	1026	1232	2126	4794
500	20"	0	1050	1026	1050	1261	1026	1050
		15	2744	1512	1094	1313	1512	2638
		20	3308	1674	1108	1330		

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 including safety of S=1,25.
 For on/off applications.

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

DN	NPS	Δp [bar]	Torque (Nm) Class 150					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	1593	1500	1593	1912	1500	1593
		10	4884	2462	1628	1954	2462	3967
		15	6529	2943	1646	1975	2943	5154
		20	8175	3424	1664	1996	3424	6341
750	30"	0	1645	1526	1645	1974	1526	1645
		10	5056	2533	1680	2016	2533	4367
		15	6762	3037	1698	2037	3037	5728
		20	8468	3541	1715	2058	3541	7089
800	32"	0	2085	1929	2085	2502	1929	2085
		10	6650	3294	2135	2562	3294	5585
		15	8932	3976	2160	2592	3976	7335
		20	11214	4658	2185	2622	4658	9085
900	36"	0	2700	2442	2700	3240	2442	2700
		10	8760	4288	2769	3323	4288	7700
		15	11790	5212	2803	3364	5212	10200
		20	14820	6135	2838	3405	6135	12700
1000	40"	0	3924	3536	3924	4709	3536	3924
		10	12852	6294	4015	4818	6294	10673
		15	17315	7674	4061	4873	7674	14048
		20	21779	9053	4107	4928	9053	17423
1050	42"	0	4083	3615	4083	4900	3615	4083
		10	14457	6834	4174	5009	6834	11555
		15	19644	8444	4220	5064	8444	15291
		20	24831	10054	4266	5119	10054	19026
1200	48"	0	7466	6641	7466	8959	6641	7466
		10	23317	11668	7617	9140	11668	19154
		15	31243	14182	7693	9231	14182	24998
		20	39169	16696	7768	9322	16696	30841

DN	NPS	Δp [bar]	Torque (Nm) Class 300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	3419	3283	3419	4103	3283	3419
		10	7227	4433	3510	4212	4433	6734
		15	9131	5008	3556	4267	5008	8391
		20	11035	5582	3602	4322	5582	10049
		50	22460	9031	3876	4651	9031	19994
750	30"	0	3469	3309	3469	4163	3309	3469
		10	7707	4594	3561	4273	4594	7261
		15	9826	5237	3607	4328	5237	9156
		20	11945	5880	3652	4383	5880	11052
		50	24657	9736	3927	4712	9736	22425
800	32"	0	4179	3959	4179	5014	3959	4179
		10	9691	5648	4297	5157	5648	8904
		15	12447	6492	4357	5228	6492	11266
		20	15203	7336	4416	5299	7336	13629
		50	31739	12402	4772	5727	12402	27804
900	36"	0	5042	4712	5042	6051	4712	5042
		15	16479	8265	5269	6323	8265	14890
		20	20291	9450	5344	6413	9450	18172
		50	43165	16556	5797	6957	16556	37867

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 including safety of S=1,25.
 For on/off applications.

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

DN	NPS	Δp [bar]	Torque (Nm) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	56	56	56	67	56	56
		15	99	64	57	68	64	67
		20	114	67	57	69	67	70
		50	200	84	59	71	84	92
100	4"	0	77	77	77	92	77	77
		15	154	93	79	94	93	101
		20	179	98	79	95	98	109
		50	332	130	83	99	130	157
150	6"	0	129	129	129	155	129	129
		15	374	183	133	160	183	202
		20	455	202	135	162	202	226
		50	944	311	143	171	311	370
200	8"	0	236	235	236	283	235	236
		15	596	322	244	293	322	402
		20	716	351	247	296	351	458
		50	1437	525	262	315	525	790
250	10"	0	238	236	238	286	236	238
		15	728	357	246	295	357	503
		20	892	398	249	299	398	592
		50	1872	640	265	318	640	1122
300	12"	0	300	296	300	360	296	300
		15	964	466	311	373	466	733
		20	1186	523	315	378	523	877
		50	2514	864	337	405	864	1743
350	14"	0	442	434	442	530	434	442
		15	1476	709	462	555	709	1125
		20	1821	801	469	563	801	1353
		50	3890	1352	510	612	1352	2720
400	16"	0	613	600	613	736	600	613
		15	2181	1029	647	776	1029	1638
		20	2704	1172	658	790	1172	1980
		50	5840	2031	726	872	2031	4029
450	18"	0	1090	1070	1090	1308	1070	1090
		15	2659	1514	1133	1359	1514	2489
		20	3181	1663	1147	1376	1663	2955
		50	6318	2551	1232	1478	2551	5752
500	20"	0	1261	1231	1261	1513	1231	1261
		15	3292	1815	1313	1575	1815	3165
		20	3969	2009	1330	1596	2009	3800
		50	8033	3176	1435	1721	3176	7609
600	24"	0	2265	2197	2265	2718	2197	2265
		15	6018	3302	2355	2826	3302	5621
		20	7269	3671	2385	2862	3671	6740
		50	14775	5882	2565	3078	5882	13454

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
 including safety of S=1,5.
 For control applications.

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

DN	NPS	Δp [bar]	Torque (Nm) Class 150					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	1912	1800	1912	2294	1800	1912
		10	5861	2954	1954	2345	2954	4761
		15	7835	3532	1975	2370	3532	6185
		20	9810	4109	1996	2395	4109	7609
750	30"	0	1974	1831	1974	2368	1831	1974
		10	6068	3040	2016	2419	3040	5240
		15	8115	3645	2037	2444	3645	6874
		20	10162	4249	2058	2470	4249	8507
800	32"	0	2502	2315	2502	3002	2315	2502
		10	7980	3952	2562	3075	3952	6702
		15	10718	4771	2592	3111	4771	8802
		20	13457	5589	2622	3147	5589	10902
900	36"	0	3240	2930	3240	3888	2930	3240
		10	10512	5146	3323	3987	5146	9240
		15	14148	6254	3364	4037	6254	12241
		20	17784	7362	3405	4086	7362	15241
1000	40"	0	4709	4243	4709	5650	4243	4709
		10	15422	7553	4818	5782	7553	12808
		15	20779	9208	4873	5848	9208	16858
		20	26135	10863	4928	5914	10863	20907
1050	42"	0	4900	4338	4900	5879	4338	4900
		10	17348	8201	5009	6011	8201	13866
		15	23572	10133	5064	6077	10133	18349
		20	29797	12064	5119	6143	12064	22832
1200	48"	0	8959	7969	8959	10751	7969	8959
		10	27981	14002	9140	10969	14002	22984
		15	37491	17018	9231	11077	17018	29997
		20	47002	20035	9322	11186	20035	37010

DN	NPS	Δp [bar]	Torque (Nm) Class 300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	4103	3940	4103	4923	3940	4103
		10	8672	5319	4212	5055	5319	8081
		15	10957	6009	4267	5121	6009	10070
		20	13242	6699	4322	5187	6699	12058
		50	26952	10837	4651	5582	10837	23992
750	30"	0	4163	3970	4163	4996	3970	4163
		10	9248	5513	4273	5128	5513	8713
		15	11791	6284	4328	5194	6284	10987
		20	14334	7055	4383	5259	7055	13262
		50	29589	11683	4712	5655	11683	26910
800	32"	0	5014	4751	5014	6017	4751	5014
		10	11629	6777	5157	6188	6777	10684
		15	14936	7790	5228	6274	7790	13519
		20	18243	8804	5299	6359	8804	16354
		50	38087	14883	5727	6872	14883	33364
900	36"	0	6051	5654	6051	7261	5654	6051
		15	19775	9918	6323	7587	9918	17868
		20	24350	11340	6413	7696	11340	21807
		50	51798	19867	6957	8348	19867	45440

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
 including safety of S=1,5.
 For control applications.

Standard Packing Torque Values for On/Off Applications

Bi-Directional - Pressure from shaft and disc side

DN	NPS	Δp [bar]	Torque (Nm) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	47	46	47	56	46	106
		15	83	54	47	57	54	106
		20	95	56	48	57	56	111
		50	167	70	49	59	70	207
100	4"	0	64	64	64	77	64	145
		15	128	77	65	79	77	149
		20	149	82	66	79	82	178
		50	277	108	69	83	108	349
150	6"	0	108	107	108	129	107	378
		15	311	153	111	133	153	378
		20	379	168	112	135	168	442
		50	787	259	119	143	259	942
200	8"	0	197	196	197	236	196	556
		15	497	268	203	244	268	636
		20	597	292	206	247	292	782
		50	1197	437	219	262	437	1660
250	10"	0	199	197	199	238	197	1025
		15	607	298	205	246	298	1025
		20	743	331	207	249	331	1025
		50	1560	533	221	265	533	2261
300	12"	0	250	246	250	300	246	1451
		15	803	388	259	311	388	1451
		20	988	436	262	315	436	1451
		50	2095	720	281	337	720	3098
350	14"	0	368	362	368	442	362	1751
		15	1230	591	385	462	591	1781
		20	1517	667	391	469	667	2252
		50	3241	1126	425	510	1126	5077
400	16"	0	511	500	511	613	500	2312
		15	1818	858	539	647	858	2523
		20	2253	977	549	658	977	3193
		50	4866	1692	605	726	1692	7217
450	18"	0	909	892	909	1090	892	2930
		15	2215	1262	944	1133	1262	3098
		20	2651	1385	956	1147	1385	3828
		50	5265	2126	1026	1232	2126	8208
500	20"	0	1050	1026	1050	1261	1026	3172
		15	2744	1512	1094	1313	1512	3855
		20	3308	1674	1108	1330	1674	4790
		50	6694	2647	1195	1435	2647	10400
600	24"	0	1887	1831	1887	2265	1831	4573
		15	5015	2752	1962	2355	2752	6646
		20	6057	3059	1987	2385	3059	8232
		50	12313	4902	2138	2565	4902	17749

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
 including safety of S=1,25.
 For on/off applications.

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

DN	NPS	Δp [bar]	Torque (Nm) Class 150					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	1593	1500	1593	1912	1500	4877
		10	4884	2462	1628	1954	2462	6514
		15	6529	2943	1646	1975	2943	8974
		20	8175	3424	1664	1996	3424	11435
750	30"	0	1645	1526	1645	1974	1526	5843
		10	5056	2533	1680	2016	2533	7399
		15	6762	3037	1698	2037	3037	10276
		20	8468	3541	1715	2058	3541	13154
800	32"	0	2085	1929	2085	2502	1929	8225
		10	6650	3294	2135	2562	3294	9341
		15	8932	3976	2160	2592	3976	12969
		20	11214	4658	2185	2622	4658	16598
900	36"	0	2700	2442	2700	3240	2442	10450
		10	8760	4288	2769	3323	4288	13110
		15	11790	5212	2803	3364	5212	18314
		20	14820	6135	2838	3405	6135	23519
1000	40"	0	3924	3536	3924	4709	3536	13985
		10	12852	6294	4015	4818	6294	18191
		15	17315	7674	4061	4873	7674	25325
		20	21779	9053	4107	4928	9053	32458
1050	42"	0	4083	3615	4083	4900	3615	15477
		10	14457	6834	4174	5009	6834	20345
		15	19644	8444	4220	5064	8444	28476
		20	24831	10054	4266	5119	10054	36606
1200	48"	0	7466	6641	7466	8959	6641	24726
		10	23317	11668	7617	9140	11668	32417
		15	31243	14182	7693	9231	14182	44893
		20	39169	16696	7768	9322	16696	57368

DN	NPS	Δp [bar]	Torque (Nm) Class 300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	3419	3283	3419	4103	3283	7765
		10	7227	4433	3510	4212	4433	8948
		15	9131	5008	3556	4267	5008	11713
		20	11035	5582	3602	4322	5582	14477
		50	22460	9031	3876	4651	9031	31065
750	30"	0	3469	3309	3469	4163	3309	11324
		10	7707	4594	3561	4273	4594	11324
		15	9826	5237	3607	4328	5237	13514
		20	11945	5880	3652	4383	5880	16863
		50	24657	9736	3927	4712	9736	36953
800	32"	0	4179	3959	4179	5014	3959	11663
		10	9691	5648	4297	5157	5648	12510
		15	12447	6492	4357	5228	6492	16676
		20	15203	7336	4416	5299	7336	20842
		50	31739	12402	4772	5727	12402	45836
900	36"	0	5042	4712	5042	6051	4712	14701
		15	16479	8265	5269	6323	8265	23270
		20	20291	9450	5344	6413	9450	29346
		50	43165	16556	5797	6957	16556	65800

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
 including safety of S=1,25.
 For on/off applications.

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

DN	NPS	Δp [bar]	Torque (Nm) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	56	56	56	67	56	127
		15	99	64	57	68	64	127
		20	114	67	57	69	67	133
		50	200	84	59	71	84	249
100	4"	0	77	77	77	92	77	174
		15	154	93	79	94	93	179
		20	179	98	79	95	98	214
		50	332	130	83	99	130	419
150	6"	0	129	129	129	155	129	453
		15	374	183	133	160	183	453
		20	455	202	135	162	202	530
		50	944	311	143	171	311	1131
200	8"	0	236	235	236	283	235	667
		15	596	322	244	293	322	763
		20	716	351	247	296	351	939
		50	1437	525	262	315	525	1992
250	10"	0	238	236	238	286	236	1230
		15	728	357	246	295	357	1230
		20	892	398	249	299	398	1230
		50	1872	640	265	318	640	2713
300	12"	0	300	296	300	360	296	1741
		15	964	466	311	373	466	1741
		20	1186	523	315	378	523	1741
		50	2514	864	337	405	864	3718
350	14"	0	442	434	442	530	434	2101
		15	1476	709	462	555	709	2137
		20	1821	801	469	563	801	2702
		50	3890	1352	510	612	1352	6093
400	16"	0	613	600	613	736	600	2774
		15	2181	1029	647	776	1029	3027
		20	2704	1172	658	790	1172	3832
		50	5840	2031	726	872	2031	8660
450	18"	0	1090	1070	1090	1308	1070	3516
		15	2659	1514	1133	1359	1514	3718
		20	3181	1663	1147	1376	1663	4594
		50	6318	2551	1232	1478	2551	9849
500	20"	0	1261	1231	1261	1513	1231	3807
		15	3292	1815	1313	1575	1815	4626
		20	3969	2009	1330	1596	2009	5748
		50	8033	3176	1435	1721	3176	12479
600	24"	0	2265	2197	2265	2718	2197	5488
		15	6018	3302	2355	2826	3302	7975
		20	7269	3671	2385	2862	3671	9878
		50	14775	5882	2565	3078	5882	21298

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
 including safety of S=1,5.
 For control applications.

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

DN	NPS	Δp [bar]	Torque (Nm) Class 150					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	1912	1800	1912	2294	1800	5852
		10	5861	2954	1954	2345	2954	7817
		15	7835	3532	1975	2370	3532	10769
		20	9810	4109	1996	2395	4109	13722
750	30"	0	1974	1831	1974	2368	1831	7012
		10	6068	3040	2016	2419	3040	8879
		15	8115	3645	2037	2444	3645	12332
		20	10162	4249	2058	2470	4249	15784
800	32"	0	2502	2315	2502	3002	2315	9870
		10	7980	3952	2562	3075	3952	11210
		15	10718	4771	2592	3111	4771	15563
		20	13457	5589	2622	3147	5589	19917
900	36"	0	3240	2930	3240	3888	2930	12540
		10	10512	5146	3323	3987	5146	15732
		15	14148	6254	3364	4037	6254	21977
		20	17784	7362	3405	4086	7362	28223
1000	40"	0	4709	4243	4709	5650	4243	16781
		10	15422	7553	4818	5782	7553	21829
		15	20779	9208	4873	5848	9208	30390
		20	26135	10863	4928	5914	10863	38950
1050	42"	0	4900	4338	4900	5879	4338	18573
		10	17348	8201	5009	6011	8201	24414
		15	23572	10133	5064	6077	10133	34171
		20	29797	12064	5119	6143	12064	43928
1200	48"	0	8959	7969	8959	10751	7969	29671
		10	27981	14002	9140	10969	14002	38901
		15	37491	17018	9231	11077	17018	53871
		20	47002	20035	9322	11186	20035	68842

DN	NPS	Δp [bar]	Torque (Nm) Class 300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	4103	3940	4103	4923	3940	9318
		10	8672	5319	4212	5055	5319	10738
		15	10957	6009	4267	5121	6009	14055
		20	13242	6699	4322	5187	6699	17373
		50	26952	10837	4651	5582	10837	37278
750	30"	0	4163	3970	4163	4996	3970	13589
		10	9248	5513	4273	5128	5513	13589
		15	11791	6284	4328	5194	6284	16217
		20	14334	7055	4383	5259	7055	20235
		50	29589	11683	4712	5655	11683	44343
800	32"	0	5014	4751	5014	6017	4751	13996
		10	11629	6777	5157	6188	6777	15012
		15	14936	7790	5228	6274	7790	20011
		20	18243	8804	5299	6359	8804	25010
		50	38087	14883	5727	6872	14883	55004
900	36"	0	6051	5654	6051	7261	5654	17641
		15	19775	9918	6323	7587	9918	27924
		20	24350	11340	6413	7696	11340	35215
		50	51798	19867	6957	8348	19867	78961

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
 including safety of S=1,5.
 For control applications.

Dual Packing Torque Values for On/Off Applications

Uni-Directional - Pressure from shaft side

DN	NPS	Δp [bar]	Torque (Nm) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	74	74	74	88	74	74
		15	110	81	74	89	81	83
		20	122	83	75	90	83	86
		50	194	98	76	92	98	104
100	4"	0	103	103	103	124	103	103
		15	167	116	105	125	116	123
		20	188	121	105	126	121	130
		50	316	148	108	129	148	170
150	6"	0	177	177	177	213	177	177
		15	381	222	181	217	222	237
		20	449	237	182	218	237	258
		50	856	329	188	226	329	378
200	8"	0	332	331	332	399	331	332
		15	633	404	339	407	404	471
		20	733	428	341	410	428	517
		50	1333	573	354	425	573	794
250	10"	0	334	332	334	401	332	334
		15	743	433	341	409	433	555
		20	879	467	343	412	467	629
		50	1695	669	356	428	669	1071
300	12"	0	421	418	421	506	418	421
		15	975	560	431	517	560	782
		20	1160	608	434	521	608	903
		50	2267	892	453	543	892	1624
350	14"	0	625	618	625	749	618	625
		15	1487	848	642	770	848	1194
		20	1774	924	647	777	924	1384
		50	3498	1383	682	818	1383	2524
400	16"	0	869	858	869	1043	858	869
		15	2176	1216	898	1077	1216	1723
		20	2612	1335	907	1088	1335	2008
		50	5225	2051	964	1156	2051	3716
450	18"	0	1574	1557	1574	1888	1557	1574
		15	2880	1927	1609	1931	1927	2739
		20	3316	2050	1621	1945	2050	3128
		50	5930	2791	1691	2030	2791	5459
500	20"	0	1814	1789	1814	2177	1789	1814
		15	3507	2276	1857	2229	2276	3401
		20	4071	2438	1872	2246	2438	3930
		50	7457	3410	1959	2351	3410	7105
600	24"	0	3261	3205	3261	3914	3205	3261
		15	6389	4126	3337	4004	4126	6059
		20	7432	4433	3362	4034	4433	6991
		50	13687	6276	3512	4214	6276	12586

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 including safety of S=1,25.
 For on/off applications.

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

DN	NPS	Δp [bar]	Torque (Nm) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
750	30"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
800	32"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
900	36"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
1000	40"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
1050	42"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
1200	48"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-

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 including safety of S=1,25.
 For on/off applications.

Dual Packing Torque Values for Control Applications

Uni-Directional - Pressure from shaft side

DN	NPS	Δp [bar]	Torque (Nm) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	88	88	88	106	88	88
		15	132	97	89	107	97	99
		20	146	100	90	108	100	103
		50	233	117	92	110	117	124
100	4"	0	124	124	124	149	124	124
		15	200	140	125	151	140	148
		20	226	145	126	151	145	156
		50	379	177	129	155	177	204
150	6"	0	213	212	213	255	212	213
		15	457	267	217	260	267	285
		20	538	285	218	262	285	309
		50	1027	394	226	271	394	454
200	8"	0	399	398	399	479	398	399
		15	759	485	407	488	485	565
		20	879	514	410	491	514	621
		50	1600	688	425	510	688	953
250	10"	0	401	399	401	481	399	401
		15	891	520	409	491	520	666
		20	1054	560	412	494	560	755
		50	2034	803	428	513	803	1285
300	12"	0	506	502	506	607	502	506
		15	1170	672	517	620	672	939
		20	1392	729	521	625	729	1083
		50	2721	1070	543	652	1070	1949
350	14"	0	749	742	749	899	742	749
		15	1784	1017	770	924	1017	1433
		20	2129	1109	777	932	1109	1661
		50	4198	1660	818	982	1660	3028
400	16"	0	1043	1030	1043	1252	1030	1043
		15	2611	1459	1077	1293	1459	2068
		20	3134	1602	1088	1306	1602	2410
		50	6270	2461	1156	1388	2461	4459
450	18"	0	1888	1868	1888	2266	1868	1888
		15	3457	2312	1931	2317	2312	3287
		20	3979	2461	1945	2334	2461	3753
		50	7116	3349	2030	2436	3349	6550
500	20"	0	2177	2147	2177	2612	2147	2177
		15	4208	2731	2229	2675	2731	4081
		20	4886	2925	2246	2696	2925	4716
		50	8949	4092	2351	2821	4092	8526
600	24"	0	3914	3846	3914	4696	3846	3914
		15	7667	4951	4004	4805	4951	7270
		20	8918	5320	4034	4841	5320	8389
		50	16424	7531	4214	5057	7531	15103

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
 including safety of S=1,5.
 For control applications.

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

DN	NPS	Δp [bar]	Torque (Nm) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
750	30"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
800	32"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
900	36"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
1000	40"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
1050	42"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
1200	48"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-

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
 including safety of S=1,5.
 For control applications.

Dual Packing Torque Values for On/Off Applications

Bi-Directional - Pressure from shaft and disc side

DN	NPS	Δp [bar]	Torque (Nm) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	74	74	74	88	74	106
		15	110	81	74	89	81	122
		20	122	83	75	90	83	138
		50	194	98	76	92	98	234
100	4"	0	103	103	103	124	103	145
		15	167	116	105	125	116	189
		20	188	121	105	126	121	217
		50	316	148	108	129	148	388
150	6"	0	177	177	177	213	177	378
		15	381	222	181	217	222	428
		20	449	237	182	218	237	511
		50	856	329	188	226	329	1012
200	8"	0	332	331	332	399	331	556
		15	633	404	339	407	404	772
		20	733	428	341	410	428	918
		50	1333	573	354	425	573	1796
250	10"	0	334	332	334	401	332	1025
		15	743	433	341	409	433	1025
		20	879	467	343	412	467	1159
		50	1695	669	356	428	669	2396
300	12"	0	421	418	421	506	418	1451
		15	975	560	431	517	560	1451
		20	1160	608	434	521	608	1561
		50	2267	892	453	543	892	3270
350	14"	0	625	618	625	749	618	1751
		15	1487	848	642	770	848	2037
		20	1774	924	647	777	924	2508
		50	3498	1383	682	818	1383	5334
400	16"	0	869	858	869	1043	858	2312
		15	2176	1216	898	1077	1216	2881
		20	2612	1335	907	1088	1335	3552
		50	5225	2051	964	1156	2051	7575
450	18"	0	1574	1557	1574	1888	1557	2930
		15	2880	1927	1609	1931	1927	3763
		20	3316	2050	1621	1945	2050	4493
		50	5930	2791	1691	2030	2791	8873
500	20"	0	1814	1789	1814	2177	1789	3172
		15	3507	2276	1857	2229	2276	4619
		20	4071	2438	1872	2246	2438	5554
		50	7457	3410	1959	2351	3410	11163
600	24"	0	3261	3205	3261	3914	3205	4573
		15	6389	4126	3337	4004	4126	8020
		20	7432	4433	3362	4034	4433	9606
		50	13687	6276	3512	4214	6276	19123

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
 including safety of S=1,25.
 For on/off applications.

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

DN	NPS	Δp [bar]	Torque (Nm) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
750	30"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
800	32"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
900	36"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
1000	40"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
1050	42"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
1200	48"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-

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
 including safety of S=1,25.
 For on/off applications.

Dual Packing Torque Values for Control Applications

Bi-Directional - Pressure from shaft and disc side

DN	NPS	Δp [bar]	Torque (Nm) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
80	3"	0	88	88	88	106	88	127
		15	132	97	89	107	97	146
		20	146	100	90	108	100	166
		50	233	117	92	110	117	281
100	4"	0	124	124	124	149	124	174
		15	200	140	125	151	140	226
		20	226	145	126	151	145	260
		50	379	177	129	155	177	465
150	6"	0	213	212	213	255	212	453
		15	457	267	217	260	267	513
		20	538	285	218	262	285	613
		50	1027	394	226	271	394	1214
200	8"	0	399	398	399	479	398	667
		15	759	485	407	488	485	926
		20	879	514	410	491	514	1101
		50	1600	688	425	510	688	2155
250	10"	0	401	399	401	481	399	1230
		15	891	520	409	491	520	1230
		20	1054	560	412	494	560	1391
		50	2034	803	428	513	803	2876
300	12"	0	506	502	506	607	502	1741
		15	1170	672	517	620	672	1741
		20	1392	729	521	625	729	1873
		50	2721	1070	543	652	1070	3924
350	14"	0	749	742	749	899	742	2101
		15	1784	1017	770	924	1017	2445
		20	2129	1109	777	932	1109	3010
		50	4198	1660	818	982	1660	6401
400	16"	0	1043	1030	1043	1252	1030	2774
		15	2611	1459	1077	1293	1459	3457
		20	3134	1602	1088	1306	1602	4262
		50	6270	2461	1156	1388	2461	9090
450	18"	0	1888	1868	1888	2266	1868	3516
		15	3457	2312	1931	2317	2312	4516
		20	3979	2461	1945	2334	2461	5392
		50	7116	3349	2030	2436	3349	10647
500	20"	0	2177	2147	2177	2612	2147	3807
		15	4208	2731	2229	2675	2731	5542
		20	4886	2925	2246	2696	2925	6664
		50	8949	4092	2351	2821	4092	13396
600	24"	0	3914	3846	3914	4696	3846	5488
		15	7667	4951	4004	4805	4951	9624
		20	8918	5320	4034	4841	5320	11527
		50	16424	7531	4214	5057	7531	22947

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
 including safety of S=1,5.
 For control applications.

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

DN	NPS	Δp [bar]	Torque (Nm) Class 150-300					
			BTO	RUN	ETO	BTC	RUN	ETC
700	28"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
750	30"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
800	32"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
900	36"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
1000	40"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
1050	42"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-
1200	48"	0	-	-	-	-	-	-
		15	-	-	-	-	-	-
		20	-	-	-	-	-	-
		50	-	-	-	-	-	-

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
 including safety of S=1,5.
 For control applications.



Crane® FKX 9000 Maximum Allowable Stem Torque

Maximum Allowable Stem Torque Class 150

DN	NPS	MAST (Nm)				
		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"	347	347	347	460	316
100	4"	657	492	657	752	399
150	6"	1696	1272	1696	2049	1032
200	8"	2864	2864	2864	3790	2477
250	10"	3707	3054	3707	4904	2477
300	12"	5224	4217	5224	6794	3420
350	14"	7963	7858	7963	10536	6374
400	16"	11482	11482	11482	15191	10462
450	18"	13268	13268	13268	17554	13268
500	20"	16585	16585	16585	21943	16585
600	24"	29023	29023	29023	38400	29023
700	28"	33960	25470	33960	40541	20659
750	30"	33960	25470	33960	41036	20659
800	32"	50522	37891	50522	57717	30734
900	36"	69304	51978	69304	79881	42160
1000	40"	95241	71430	95241	111561	57938
1050	42"	95241	71430	95241	115083	57938
1200	48"	161102	120827	161102	182950	98004

Maximum Allowable Stem Torque Class 300

DN	NPS	MAST (Nm)				
		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"	347	347	347	460	316
100	4"	657	492	657	752	399
150	6"	1696	1272	1696	2049	1032
200	8"	2864	2864	2864	3790	2477
250	10"	3707	3054	3707	4904	2477
300	12"	5224	4217	5224	6794	3420
350	14"	7963	7858	7963	10536	6374
400	16"	11482	11482	11482	15191	10462
450	18"	13268	13268	13268	17554	13268
500	20"	16585	16585	16585	21943	16585
600	24"	29023	29023	29023	38400	29023
700	28"	84388	71430	84388	84388	57938
750	30"	91767	71430	91767	91767	57938
800	32"	123399	92568	123399	123399	75084
900	36"	161102	120827	161102	164784	98004

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

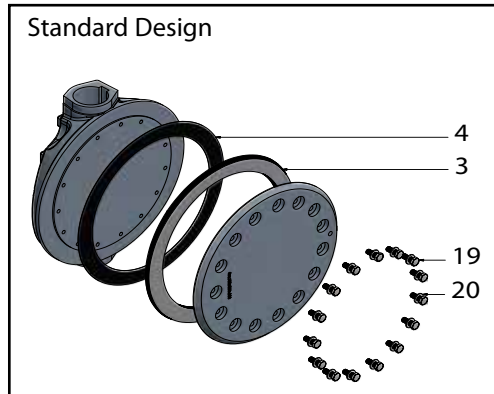
DN	NPS	Opening Angle															
		90°		80°		70°		60°		50°		40°		30°		20°	
		Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv	Kv	Cv
80	3"	102	119	98	114	79	92	59	69	44	51	32	37	21	24	12	14
100	4"	195	227	187	217	150	174	113	131	84	98	60	70	41	48	23	27
150	6"	560	651	538	626	431	501	325	378	241	280	174	202	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

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		
Class 150-300		Standard (00) 19=A2-70, 20=1.4923/1.4122	Nace (NA) 19=1.4462, 20=Inconel 718	High temperature (HT) 19=1.4980, 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=A2-70, 20=1.4923/1.4122	Nace (NA) 19=1.4462, 20=Inconel 718	High temperature (HT) 19=1.4980, 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=A2-70, 20=1.4923/1.4122	Nace (NA) 19=1.4462, 20=Inconel 718	High temperature (HT) 19=1.4980, 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
1000	40"	FKX-DSK-4P-100	FKX-DSK-4P-1NA	FKX-DSK-4P-1HT
1050	42"	FKX-DSK-5P-100	FKX-DSK-5P-1NA	FKX-DSK-5P-1HT
1200	48"	FKX-DSK-7P-100	FKX-DSK-7P-1NA	FKX-DSK-7P-1HT

Spare Part Kits Disc Sealing Kit (DSK)

DN	NPS	Laminated Seal Design ASTM A240 UNS S31803, laminated w/o graphite		
Class 150-300		Standard (00) 19=A2-70, 20=1.4923/1.4122	Nace (NA) 19=1.4462, 20=Inconel 718	High temperature (HT) 19=1.4980, 20=Inconel 718
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		Standard (00) 19=A2-70, 20=1.4923/1.4122	Nace (NA) 19=1.4462, 20=Inconel 718	High temperature (HT) 19=1.4980, 20=Inconel 718
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		Standard (00) 19=A2-70, 20=1.4923/1.4122	Nace (NA) 19=1.4462, 20=Inconel 718	High temperature (HT) 19=1.4980, 20=Inconel 718
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
1000	40"	FKX-DSK-4P-200	FKX-DSK-4P-2NA	FKX-DSK-4P-2HT
1050	42"	FKX-DSK-5P-200	FKX-DSK-5P-2NA	FKX-DSK-5P-2HT
1200	48"	FKX-DSK-7P-200	FKX-DSK-7P-2NA	FKX-DSK-7P-2HT

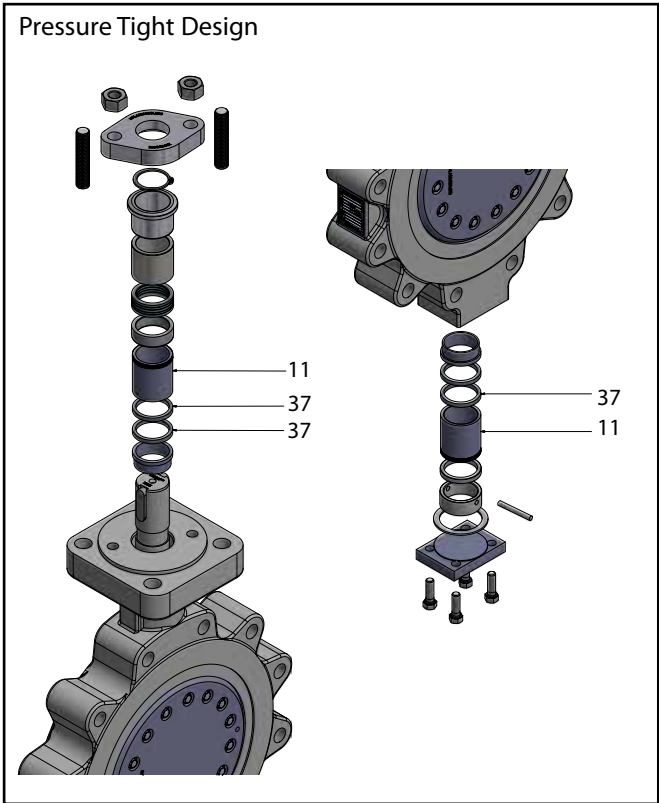
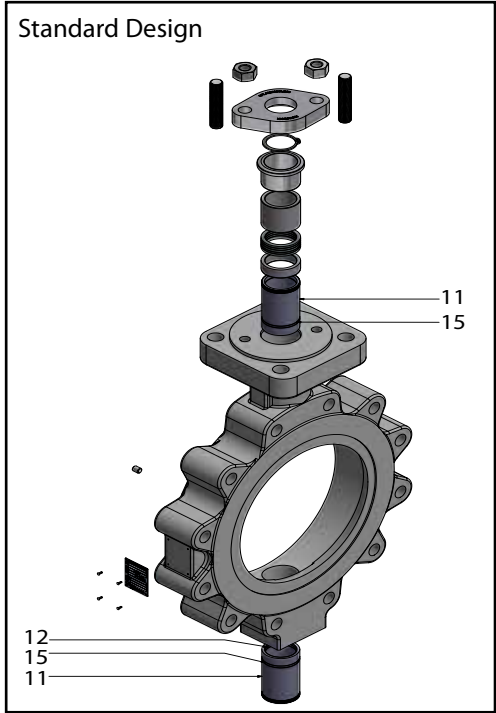
Spare Part Kits Shaft Bearing Kit (SBK)

Shaft Bearing Kit (SBK)

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

*Standard bearing design only
 **Pressure tight bearing design only

DN	NPS	Shaft Bearing Design ASTM A582 Gr. 303 coated	
Class 150-300		Standard (00)	Pressure Tight (PT)
80	3"	FKX-SBK-LP-000	FKX-SBK-LP-0PT
100	4"	FKX-SBK-MP-000	FKX-SBK-MP-0PT
150	6"	FKX-SBK-PP-000	FKX-SBK-PP-0PT
200	8"	FKX-SBK-RP-000	FKX-SBK-RP-0PT
250	10"	FKX-SBK-SP-000	FKX-SBK-SP-0PT
300	12"	FKX-SBK-TP-000	FKX-SBK-TP-0PT
350	14"	FKX-SBK-UP-000	FKX-SBK-UP-0PT
400	16"	FKX-SBK-VP-000	FKX-SBK-VP-0PT
450	18"	FKX-SBK-WP-000	FKX-SBK-WP-0PT
500	20"	FKX-SBK-XP-000	FKX-SBK-XP-0PT
600	24"	FKX-SBK-YP-000	FKX-SBK-YP-0PT
Class 150		Standard (00)	Pressure Tight (PT)
700	28"	FKX-SBK-ZN-000	FKX-SBK-ZN-0PT
750	30"	FKX-SBK-1N-000	FKX-SBK-1N-0PT
800	32"	FKX-SBK-2N-000	FKX-SBK-2N-0PT
900	36"	FKX-SBK-3N-000	FKX-SBK-3N-0PT
1000	40"	FKX-SBK-4N-000	FKX-SBK-4N-0PT
1050	42"	FKX-SBK-5N-000	FKX-SBK-5N-0PT
1200	48"	FKX-SBK-7N-000	FKX-SBK-7N-0PT
Class 300		Standard (00)	Pressure Tight (PT)
700	28"	FKX-SBK-ZP-000	FKX-SBK-ZP-0PT
750	30"	FKX-SBK-1P-000	FKX-SBK-1P-0PT
800	32"	FKX-SBK-2P-000	FKX-SBK-2P-0PT
900	36"	FKX-SBK-3P-000	FKX-SBK-3P-0PT
1000	40"	FKX-SBK-4P-000	FKX-SBK-4P-0PT
1050	42"	FKX-SBK-5P-000	FKX-SBK-5P-0PT
1200	48"	FKX-SBK-7P-000	FKX-SBK-7P-0PT



Spare Part Kits Body Gasket Kit (BGK)

Body Gasket Kit (BGK)

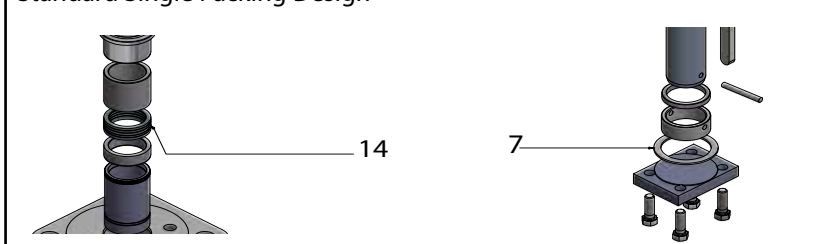
Item	Designation
7	Cover Gasket
14	Packing
35*	O-Ring

*Chemical gland flange design only

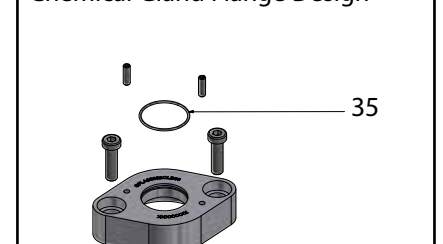
DN	NPS	Single Packing Standard Design	
Class 150-300		Standard (A)	Chemical (B)
80	3"	FKX-BGK-LP-S1A	FKX-BGK-LP-S1B
100	4"	FKX-BGK-MP-S1A	FKX-BGK-MP-S1B
150	6"	FKX-BGK-PP-S1A	FKX-BGK-PP-S1B
200	8"	FKX-BGK-RP-S1A	FKX-BGK-RP-S1B
250	10"	FKX-BGK-SP-S1A	FKX-BGK-SP-S1B
300	12"	FKX-BGK-TP-S1A	FKX-BGK-TP-S1B
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
1000	40"	FKX-BGK-4P-S1A	FKX-BGK-4P-S1B
1050	42"	FKX-BGK-5P-S1A	FKX-BGK-5P-S1B
1200	48"	FKX-BGK-7P-S1A	FKX-BGK-7P-S1B

DN	NPS	Single Packing Fugitive Emission Design	
Class 150-300		Standard (A)	Chemical (B)
80	3"	FKX-BGK-LP-S2A	FKX-BGK-LP-S2B
100	4"	FKX-BGK-MP-S2A	FKX-BGK-MP-S2B
150	6"	FKX-BGK-PP-S2A	FKX-BGK-PP-S2B
200	8"	FKX-BGK-RP-S2A	FKX-BGK-RP-S2B
250	10"	FKX-BGK-SP-S2A	FKX-BGK-SP-S2B
300	12"	FKX-BGK-TP-S2A	FKX-BGK-TP-S2B
350	14"	FKX-BGK-UP-S2A	FKX-BGK-UP-S2B
400	16"	FKX-BGK-VP-S2A	FKX-BGK-VP-S2B
450	18"	FKX-BGK-WP-S2A	FKX-BGK-WP-S2B
500	20"	FKX-BGK-XP-S2A	FKX-BGK-XP-S2B
600	24"	FKX-BGK-YP-S2A	FKX-BGK-YP-S2B
Class 150		Standard (A)	Chemical (B)
700	28"	FKX-BGK-ZN-S2A	FKX-BGK-ZN-S2B
750	30"	FKX-BGK-1N-S2A	FKX-BGK-1N-S2B
800	32"	FKX-BGK-2N-S2A	FKX-BGK-2N-S2B
900	36"	FKX-BGK-3N-S2A	FKX-BGK-3N-S2B
1000	40"	FKX-BGK-4N-S2A	FKX-BGK-4N-S2B
1050	42"	FKX-BGK-5N-S2A	FKX-BGK-5N-S2B
1200	48"	FKX-BGK-7N-S2A	FKX-BGK-7N-S2B
Class 300		Standard (A)	Chemical (B)
700	28"	FKX-BGK-ZP-S2A	FKX-BGK-ZP-S2B
750	30"	FKX-BGK-1P-S2A	FKX-BGK-1P-S2B
800	32"	FKX-BGK-2P-S2A	FKX-BGK-2P-S2B
900	36"	FKX-BGK-3P-S2A	FKX-BGK-3P-S2B
1000	40"	FKX-BGK-4P-S2A	FKX-BGK-4P-S2B
1050	42"	FKX-BGK-5P-S2A	FKX-BGK-5P-S2B
1200	48"	FKX-BGK-7P-S2A	FKX-BGK-7P-S2B

Standard Single Packing Design

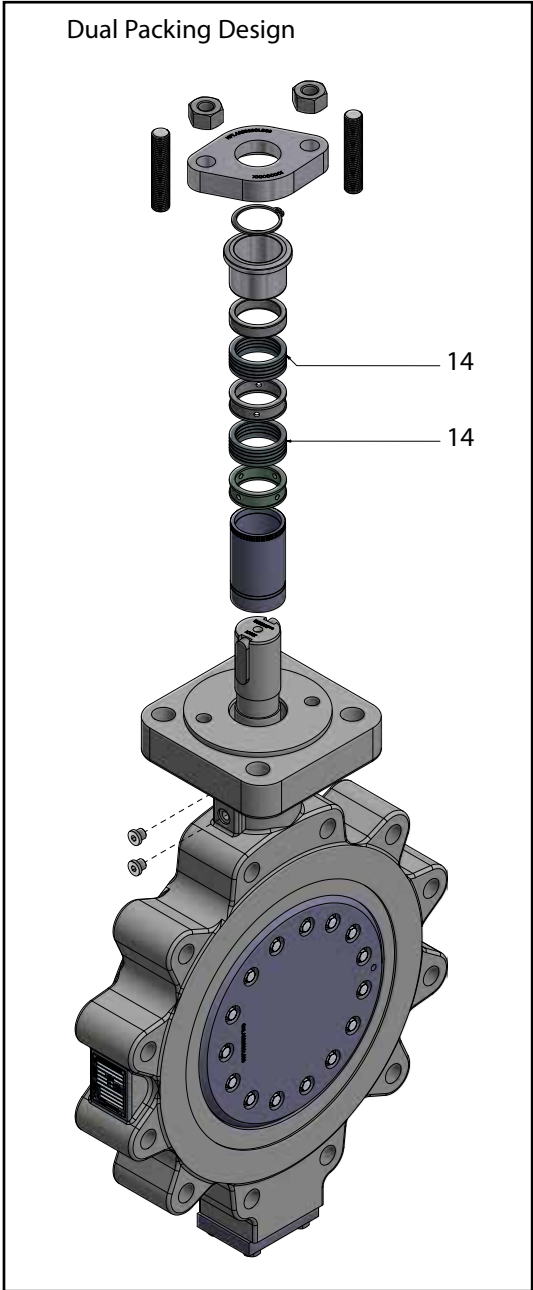


Chemical Gland Flange Design



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
1000	40"	FKX-BGK-4P-D1A	FKX-BGK-4P-D1B
1050	42"	FKX-BGK-5P-D1A	FKX-BGK-5P-D1B
1200	48"	FKX-BGK-7P-D1A	FKX-BGK-7P-D1B

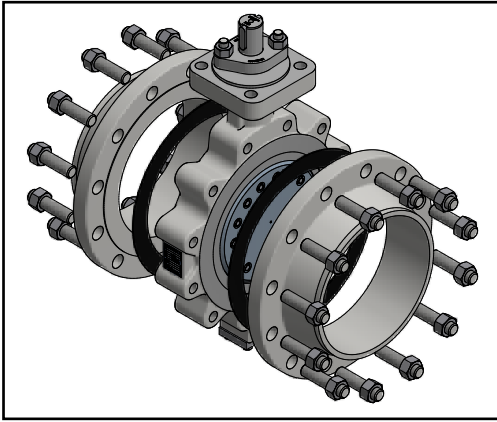


Spare Part Kits **Body Gasket Kit (BGK)**

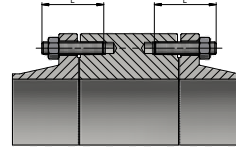
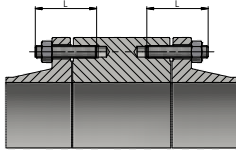
DN	NPS	Dual Packing Fugitive Emission Design	
Class 150-300		Standard (A)	Chemical (B)
80	3"	FKX-BGK-LP-D2A	FKX-BGK-LP-D2B
100	4"	FKX-BGK-MP-D2A	FKX-BGK-MP-D2B
150	6"	FKX-BGK-PP-D2A	FKX-BGK-PP-D2B
200	8"	FKX-BGK-RP-D2A	FKX-BGK-RP-D2B
250	10"	FKX-BGK-SP-D2A	FKX-BGK-SP-D2B
300	12"	FKX-BGK-TP-D2A	FKX-BGK-TP-D2B
350	14"	FKX-BGK-UP-D2A	FKX-BGK-UP-D2B
400	16"	FKX-BGK-VP-D2A	FKX-BGK-VP-D2B
450	18"	FKX-BGK-WP-D2A	FKX-BGK-WP-D2B
500	20"	FKX-BGK-XP-D2A	FKX-BGK-XP-D2B
600	24"	FKX-BGK-YP-D2A	FKX-BGK-YP-D2B
Class 150		Standard (A)	Chemical (B)
700	28"	FKX-BGK-ZN-D2A	FKX-BGK-ZN-D2B
750	30"	FKX-BGK-1N-D2A	FKX-BGK-1N-D2B
800	32"	FKX-BGK-2N-D2A	FKX-BGK-2N-D2B
900	36"	FKX-BGK-3N-D2A	FKX-BGK-3N-D2B
1000	40"	FKX-BGK-4N-D2A	FKX-BGK-4N-D2B
1050	42"	FKX-BGK-5N-D2A	FKX-BGK-5N-D2B
1200	48"	FKX-BGK-7N-D2A	FKX-BGK-7N-D2B
Class 300		Standard (A)	Chemical (B)
700	28"	FKX-BGK-ZP-D2A	FKX-BGK-ZP-D2B
750	30"	FKX-BGK-1P-D2A	FKX-BGK-1P-D2B
800	32"	FKX-BGK-2P-D2A	FKX-BGK-2P-D2B
900	36"	FKX-BGK-3P-D2A	FKX-BGK-3P-D2B
1000	40"	FKX-BGK-4P-D2A	FKX-BGK-4P-D2B
1050	42"	FKX-BGK-5P-D2A	FKX-BGK-5P-D2B
1200	48"	FKX-BGK-7P-D2A	FKX-BGK-7P-D2B

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
 Stud bolts according ASME B18.2.1
 Heavy hex nuts according to AMSE B18.2.2



Class 150

DN	NPS	Thread Size	Threaded Hole			Threaded Hole in Shaft Area		
			Quantity Screws	Length L	Quantity Nuts	Quantity Screws	Length L	Quantity Nuts
80	3"	5/8"-11UNC	8	2 4/5"	8	-	Not Applicable	-
100	4"	5/8"-11UNC	16	2 8/9"	16	-	Not Applicable	-
150	6"	3/4"-10UNC	8	3 1/9"	8	-	Not Applicable	-
200	8"	3/4"-10UNC	16	3 1/2"	16	-	Not Applicable	-
250	10"	7/8"-9UNC	24	3 4/5"	24	-	Not Applicable	-
300	12"	7/8"-9UNC	24	4"	24	-	Not Applicable	-
350	14"	1"-8UNC	24	4 2/5"	24	-	Not Applicable	-
400	16"	1"-8UNC	24	4 2/5"	24	8	4 2/5"	8
450	18"	1 1/8"-8UN	24	4 4/5"	24	8	4 3/5"	8
500	20"	1 1/8"-8UN	32	5"	32	8	4 2/7"	8
600	24"	1 1/4"-8UN	32	5 2/5"	32	8	5 1/5"	8

Lug Design

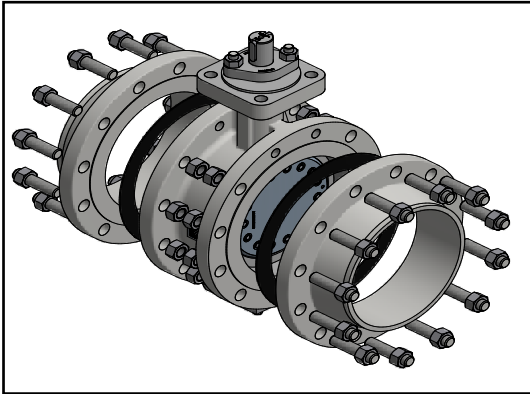
Flange Bolting Class 300

Class 300

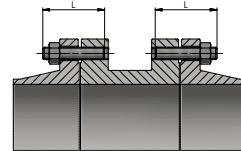
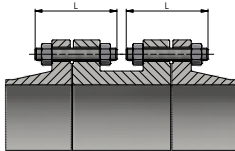
DN	NPS	Thread Size	Threaded Hole			Threaded Hole in Shaft Area		
			Quantity Screws	Length L	Quantity Nuts	Quantity Screws	Length L	Quantity Nuts
80	3"	3/4"-10UNC	8	3 1/9"	8	-	Not Applicable	-
100	4"	3/4"-10UNC	16	3 2/5"	16	-	Not Applicable	-
150	6"	3/4"-10UNC	16	3 1/2"	16	8	3 2/5"	8
200	8"	7/8"-9UNC	24	4 1/5"	24	-	Not Applicable	-
250	10"	1"-8UNC	24	4 8/9"	24	8	4 1/5"	8
300	12"	1 1/8"-8UN	24	5 2/7"	24	8	4 2/3"	8
350	14"	1 1/8"-8UN	32	5 8/9"	32	8	4 3/5"	8
400	16"	1 1/4"-8UN	32	6"	32	8	5 "	8
450	18"	1 1/4"-8UN	40	6 1/5"	40	8	5 "	8
500	20"	1 1/4"-8UN	40	6 1/2"	40	8	5 2/5"	8
600	24"	1 1/2"-8UN	40	7 2/5"	40	8	6 "	8

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
 Stud bolts according ASME B18.2.1
 Heavy hex nuts according to AMSE B18.2.2



Class 150

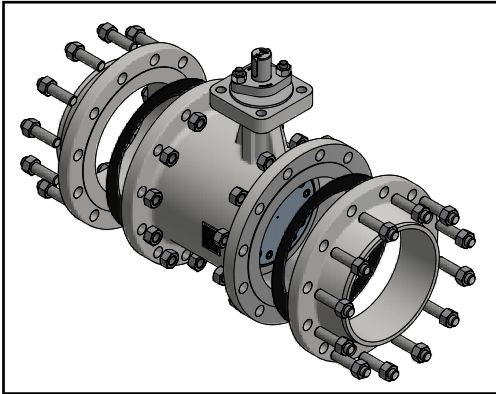
DN	NPS	Thread Size	Through Hole			Threaded Hole in Shaft Area		
			Quantity Screws	Length L	Quantity Nuts	Quantity Screws	Length L	Quantity Nuts
80	3"	5/8"-11UNC	8	3 8/9"	16	-	-	-
100	4"	5/8"-11UNC	8	3 8/9"	16	8	3 "	8
150	6"	3/4"-10UNC	16	4"	16	8	3 1/9"	8
200	8"	3/4"-10UNC	16	4 3/5"	16	8	3 3/5"	8
250	10"	7/8"-9UNC	16	5"	32	8	3 4/5"	8
300	12"	7/8"-9UNC	16	5"	32	8	3 8/9"	8
350	14"	1"-8UNC	16	5 3/5"	32	8	4 2/7"	8
400	16"	1"-8UNC	24	5 2/3"	48	8	4 2/5"	8
450	18"	1 1/8"-8UN	24	6 1/5"	48	8	4 4/5"	8
500	20"	1 1/8"-8UN	32	6 1/2"	64	8	5 "	8
600	24"	1 1/4"-8UN	32	7"	64	8	5 1/2"	8
700	28"	1 1/4"-8 UN	24	9"	48	4	7"	4
750	30"	1 1/4"-8 UN	24	9"	48	4	7"	4
800	32"	1 1/2"-8 UN	24	11"	48	4	8"	4
900	36"	1 1/2"-8 UN	28	11"	56	4	8"	4
1000	40"	1 1/2"-8 UN	32	11"	64	4	8"	4
1050	42"	1 1/2"-8 UN	32	12"	64	4	8"	4
1200	48"	1 1/2"-8 UN	40	13"	80	4	9"	4

Double Flanged, Short Pattern Design Flange Bolting Class 300

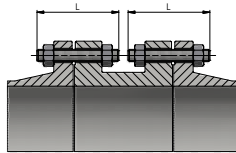
Class 300

DN	NPS	Thread Size	Through Hole			Threaded Hole in Shaft Area		
			Quantity Screws	Length L	Quantity Nuts	Quantity Screws	Length L	Quantity Nuts
80	3"	3/4"-10UNC	8	4 1/2"	16	8	3 1/2"	8
100	4"	3/4"-10UNC	8	4 4/5"	16	8	3 4/5"	8
150	6"	3/4"-10UNC	16	4 8/9"	32	8	4 "	8
200	8"	7/8"-9UNC	16	5 4/5"	32	8	4 3/5"	8
250	10"	1"-8UNC	24	6 3/5"	48	8	5 2/7"	8
300	12"	1 1/8"-8UN	24	7"	48	8	5 2/3"	8
350	14"	1 1/8"-8UN	32	7 2/7"	64	8	5 8/9"	8
400	16"	1 1/4"-8UN	32	7 4/5"	64	8	6 2/7"	8
450	18"	1 1/4"-8UN	40	8"	80	8	6 1/2"	8
500	20"	1 1/4"-8UN	40	8 2/7"	80	8	6 4/5"	8
600	24"	1 1/2"-8UN	40	9 2/7"	80	8	7 1/2"	8
700	28"	1 5/8"-8 UN	24	11"	48	4	8"	4
750	30"	1 3/4"-8 UN	24	12"	48	4	9"	4
800	32"	1 7/8"-8 UN	24	13"	48	4	9"	4
900	36"	2"-8 UN	28	14"	56	4	10"	4

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
 Stud bolts 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
80	3"	5/8"-11UNC	8	3 8/9"	16
100	4"	5/8"-11UNC	16	3 8/9"	32
150	6"	3/4"-10UNC	16	4"	32
200	8"	3/4"-10UNC	16	4 3/5"	32
250	10"	7/8"-9UNC	24	5"	48
300	12"	7/8"-9UNC	24	5"	48
350	14"	1"-8UNC	24	5 3/5"	4
400	16"	1"-8UNC	32	5 2/3"	64
450	18"	1 1/8"-8UN	32	6 1/5"	64
500	20"	1 1/8"-8UN	40	6 2/5"	80
600	24"	1 1/4"-8UN	40	7"	80
700	28"	1 1/4"-8 UN	28	9"	56
750	30"	1 1/4"-8 UN	28	9"	56
800	32"	1 1/2"-8 UN	28	11"	56
900	36"	1 1/2"-8 UN	32	11"	64

Double Flanged, Long Pattern Design Flange Bolting Class 300

Class 300

DN	NPS	Thread Size	Through Hole		
			Quantity Screws	Length L	Quantity Nuts
80	3"	3/4"-10UNC	16	4 1/2"	32
100	4"	3/4"-10UNC	16	4 4/5"	32
150	6"	3/4"-10UNC	24	4 8/9"	48
200	8"	7/8"-9UNC	24	5 4/5"	48
250	10"	1"-8UNC	32	6 3/5"	64
300	12"	1 1/8"-8UN	32	7 "	64
350	14"	1 1/8"-8UN	40	7 2/7"	80
400	16"	1 1/4"-8UN	40	7 2/3"	80
450	18"	1 1/4"-8UN	48	8 "	98
500	20"	1 1/4"-8UN	47	8 2/7"	94
600	24"	1 1/2"-8UN	48	9 2/7"	96
700	28"	1 5/8"-8 UN	28	11"	56
750	30"	1 3/4"-8 UN	28	12"	56
800	32"	1 7/8"-8 UN	28	13"	56
900	36"	2"-8 UN	32	14"	64

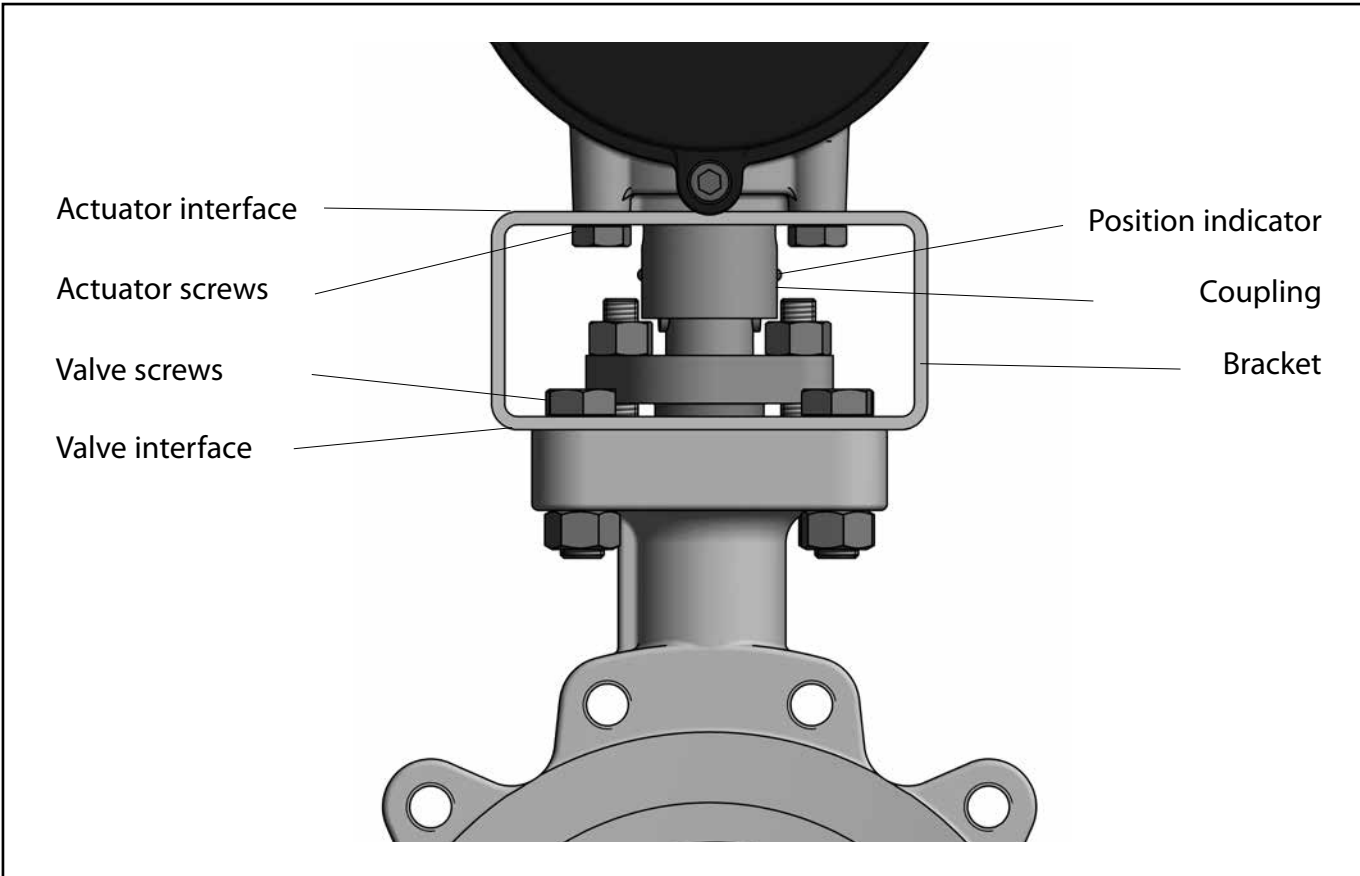
Crane[®] FKX 9000 Mounting Kits

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
- Actuator screws
- Position indicator



Crane®FKX 9000 Mounting Kits Class 150

DN	NPS	ISO 5211		Mounting Kit
Class 150		Valve	Actuator	Item Number
80	3"	F12	F07	MFXMLP1F07V017A
			F10	MFXMLP1F10V022A
			F12	MFXMLP1F12V027A
			F14	MFXMLP1F14V036A
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
			F14	MFXUP1F14V036A
350	14"	F16	F16	MFXUP1F16V046A
			F25	MFXUP1F25V055A
			F12	MFXVP1F12V027A
400	16"	F25	F14	MFXVP1F14V036A
			F16	MFXVP1F16V046A
			F25	MFXVP1F25V055A
			F30	MFXVP1F30V075A
			F16	MFXWP1F16V046A
450	18"	F25	F25	MFXWP1F25V055A
			F30	MFXWP1F30V075A
			F14	MFXXP1F14V036A
500	20"	F25	F16	MFXXP1F16V046A
			F25	MFXXP1F25V055A
			F30	MFXXP1F30V075A
			F16	MFXYP1F16V046A
600	24"	F30	F25	MFXYP1F25V055A
			F30	MFXYP1F30V075A

DN	NPS	ISO 5211		Mounting Kit
Class 150		Valve	Actuator	Item Number
700	28"	F30	F16	MFXZN3F16V046A
			F25	MFXZN3F25V055A
			F30	MFXZN3F30V075A
			F35	MFXZN3F35R120A
750	30"	F30	F16	MFX1N3F16V046A
			F25	MFX1N3F25V055A
			F30	MFX1N3F30V075A
			F35	MFX1N3F35R120A
800	32"	F30	F16	MFX2N3F16V046A
			F25	MFX2N3F25V055A
			F30	MFX2N3F30V075A
			F35	MFX2N3F35R120A
900	36"	F35	F25	MFX3N3F25V055A
			F30	MFX3N3F30V075A
			F35	MFX3N3F35R120A
			F40	MFX3N3F40R160A
			F25	MFX4N3F25V055A
1000	40"	F35	F30	MFX4N3F30V075A
			F35	MFX4N3F35R120A
			F40	MFX4N3F40R160A
			F30	MFX5N3F30V075A
1050	42"	F40	F35	MFX5N3F35R120A
			F40	MFX5N3F40R160A
			F48	MFX5N3F48R180A
1200	48"	F40	F30	MFX7N3F30V075A
			F35	MFX7N3F35R120A
			F40	MFX7N3F40R160A
			F48	MFX7N3F48R180A



Crane®FKX 9000 Mounting Kits Class 300

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	MFYYP1F16V046A
			F25	MFYYP1F25V055A
			F30	MFYYP1F30V075A

DN	NPS	ISO 5211		Mounting Kit
		Valve	Actuator	Item Number
700	28"	F35	F25	MFZP3F25V055A
			F30	MFZP3F30V075A
			F35	MFZP3F35R120A
			F40	MFZP3F40R160A
750	30"	F40	F30	MF1P3F30V075A
			F35	MF1P3F35R120A
			F40	MF1P3F40R160A
			F48	MF1P3F48R180A
800	32"	F40	F30	MF2P3F30V075A
			F35	MF2P3F35R120A
			F40	MF2P3F40R160A
			F48	MF2P3F48R180A
900	36"	F40	F30	MF3P3F30V075A
			F35	MF3P3F35R120A
			F40	MF3P3F40R160A
			F48	MF3P3F48R180A

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.



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 ChemPharma & Energy

Crane ChemPharma & Energy
4526 Research Forest Drive, Suite 400
The Woodlands
Texas 77381, U.S.A.
Tel.: +1 936 271 6500
Fax: +1 936 271 6510

Friedrich Krombach GmbH
Armaturenwerke
Marburger Str. 364
57223 Kreuztal, Germany
Tel: +49 2732 520 00
Fax: +49 2732 520 100

www.cranecpe.com



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