TØV Bill of Materials
14 to 24 Inches
ASME Class 150 & 300
Per API 609

	Part Description	Material		Specification
		TOXXCS48G3XX (Carbon Steel)	TOXXSS48G3XX (Stainless Steel)	
1	Body	Carbon Steel w/Stellite 21 Seat Overlay		ASTM A216, WCB
			Stainless Steel w/Stellite 21 Seat Overlay	ASTM A351, CF8M
2	Disc	Stainless Steel		ASTM A351, CF8M
3	Disc Seat Retainer	Stainless Steel		ASTM A182, F316
4	Seal Ring*	Stainless Steel/Graphite Laminate		ASTM A182, F51/GRAPHITE LAMINATE
5	Stem	Stainless Steel		17-4PH
6	Stem Limit Block	Stainless Steel		ASTM A276, TY. 316, NITRIDED
7	Bottom Cap	Carbon Steel		ASTM A105
			Stainless Steel	ASTM A182, F316
8	Packing Gland	Stainless Steel		ASTM A276, TY. 316
9	Adapter Bracket	Carbon Steel		AISI 1020
10	Top Bearing	Stainless Steel		ASTM A276, TY. 316 NITRIDED
11	Bottom Bearing	Stainless Steel		ASTM A276, TY. 316 NITRIDED
12	Packing*	Graphite		Commercial
13	Packing Washer	Stainless Steel		ASTM A276, TY. 316
14	Bearing Seal	Graphite		Commercial
15	Packing Gland Retainer	Carbon Steel		ASTM A216, WCB
			Stainless Steel	ASTM A351, CF8M
16	Nut, Packing Gland	Carbon Steel		ASTM A194, Gr. 2HM
			Stainless Steel	ASTM A453, 660
17	Stud, Packing Gland	Carbon Steel		ASTM A193, Gr. B7M
			Stainless Steel	ASTM A453, 660
18	Seal*	Graphite/Stainless Steel TY. 304		Commercial
19	Seal, Bottom Cap*	Graphite/Stainless Steel TY. 304		Commercial
20	Wedge, Disc/Stem	Stainless Steel		17-4PH
21	Key, Disc	Stainless Steel		Commercial
22	SHCS, Retainer	Stainless Steel		ASTM A453, 660
23	SHCS, Bottom Cap	Carbon Steel		ASTM A193, Gr. B7M
			Stainless Steel	ASTM A453, 660
24	Thrust Ring	Inconel		Inconel X-750
25	Key, Stem	Carbon Steel		Commercial
26	Key, Seat Alignment	Stainless Steel		Commercial
27	Key, Bracket Alignment	Stainless Steel		Commercial
28	Stud, Adapter Bracket	Carbon Steel		ASTM A193, Gr. B7M
			Stainless Steel	ASTM A453, 660
29	Nut, Adapter Bracket	Carbon Steel		ASTM A194, Gr. 2HM
			Stainless Steel	ASTM A453, 660
30	Lock Washer, Gear Operator	Stainless Steel		Commercial
31	SHCS, Gear Operator	Carbon Steel		ASTM A193, Gr. B7M
			Stainless Steel	ASTM A453, 660
32	Gear Operator	Ductile Iron		ASTM A536

*Included in repair part kits

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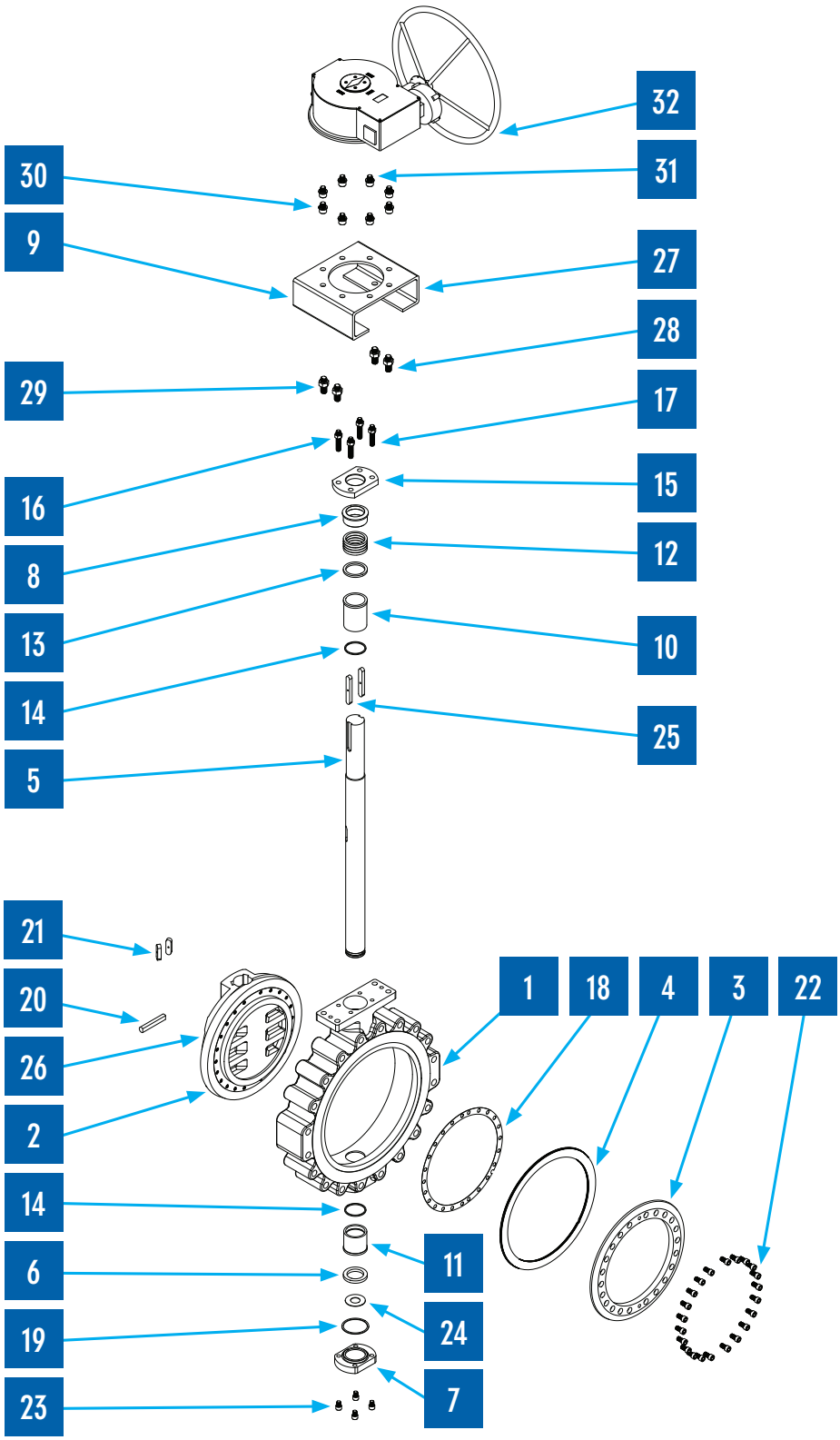
MILWAUKEE VALVE

TØV Bill of Materials
14 to 24 Inches
ASME Class 150 & 300
Per API 609

Part	Description
1	Body
2	Disc
3	Disc Seat Retainer
4	Seal Ring*
5	Stem
6	Stem Limit Block
7	Bottom Cap
8	Packing Gland
9	Adapter Bracket
10	Top Bearing
11	Bottom Bearing
12	Packing*
13	Packing Washer
14	Bearing Seal
15	Packing Gland Retainer
16	Nut, Packing Gland
17	Stud, Packing Gland
18	Seal*
19	Seal, Bottom Cap*
20	Wedge, Disc/Stem
21	Key, Disc
22	SHCS, Retainer
23	SHCS, Bottom Cap
24	Thrust Ring
25	Key, Stem
26	Key, Seat Alignment**
27	Key, Bracket Alignment**
28	Stud, Adapter Bracket
29	Nut, Adapter Bracket
30	Lock Washer, Gear Operator
31	SHCS, Gear Operator
32	Gear Operator

*Included in repair part kits
**Not shown



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MILWAUKEE VALVE

TØV Dimensions – Short 14 to 24 Inches
ASME Class 300
Per API 609

14"-24" CLASS 300 SHORT									
Valve Size		Valve Dimensions							
		A	B	C	D	ØE B.C.	F Hole	G	H
14	in	21.46	25.00	12.60	3.77	20.25	20 x 1-1/8-8 UN-2B	7.48	3.74
	mm	545.0	635.0	320.0	95.8	514.4		190.0	95.0
16	in	23.66	27.36	13.98	4.16	22.50	20 x 1-1/4-8 UN-2B	8.50	4.25
	mm	601.0	695.0	355.0	105.7	571.5		216.0	108.0
18	in	25.67	29.70	15.12	4.95	24.75	24 x 1-1/4-8 UN-2B	8.74	4.37
	mm	652.0	754.5	384.0	125.7	628.6		222.0	111.0
20	in	29.41	33.44	17.01	6.13	27.00	24 x 1-1/4-8 UN-2B	9.02	4.51
	mm	747.0	849.5	432.0	155.7	685.8		229.0	114.5
24	in	32.28	37.68	19.57	7.70	32.00	24 x 1-1/2-8 UN-2B	10.51	5.26
	mm	820.0	957.0	497.0	195.6	812.8		267.0	133.5

14"-24" CLASS 300 SHORT									
Valve Size		Disc Dimensions				Gear Dimensions			
		J Intrusion	K Chord Diameter	L Intrusion	M Chord Diameter	N	P	ØQ	Weight (lbs.)
14	in	2.58	10.01	2.22	9.46	5.91	19.29	23.62	762
	mm	65.5	254.1	56.5	240.3	150.0	490.0	600.0	
16	in	3.11	11.84	2.76	11.31	6.89	19.29	23.62	1049
	mm	79.0	300.6	70.0	287.4	175.0	490.0	600.0	
18	in	4.04	14.16	3.68	13.72	6.89	22.05	31.50	1263
	mm	102.5	359.7	93.5	348.4	175.0	560.0	800.0	
20	in	4.69	15.81	4.33	15.41	8.17	22.05	31.50	1668
	mm	119.0	401.7	110.0	391.3	207.5	560.0	800.0	
24	in	5.98	19.66	5.63	19.27	8.17	24.61	31.50	2456
	mm	152.0	499.3	143.0	489.6	207.5	625.0	800.0	

NOTES:
1. Face-to-face dimensions are in strict accordance with ASME B16.10.
2. Flange/end connections are in strict accordance with ASME B16.5.

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MILWAUKEE VALVE

TØV Dimensions – Short 14 to 24 Inches
ASME Class 300
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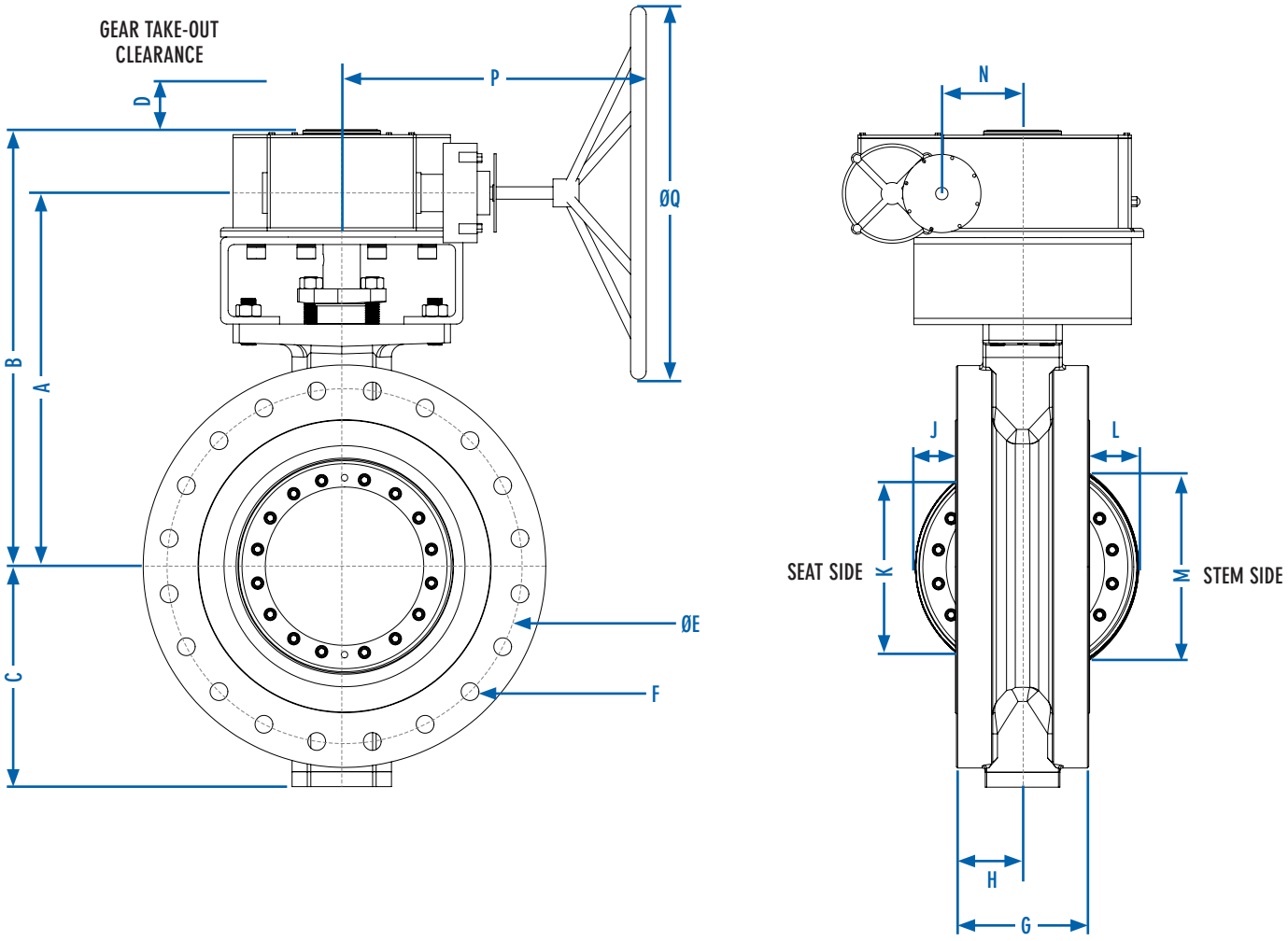

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