# 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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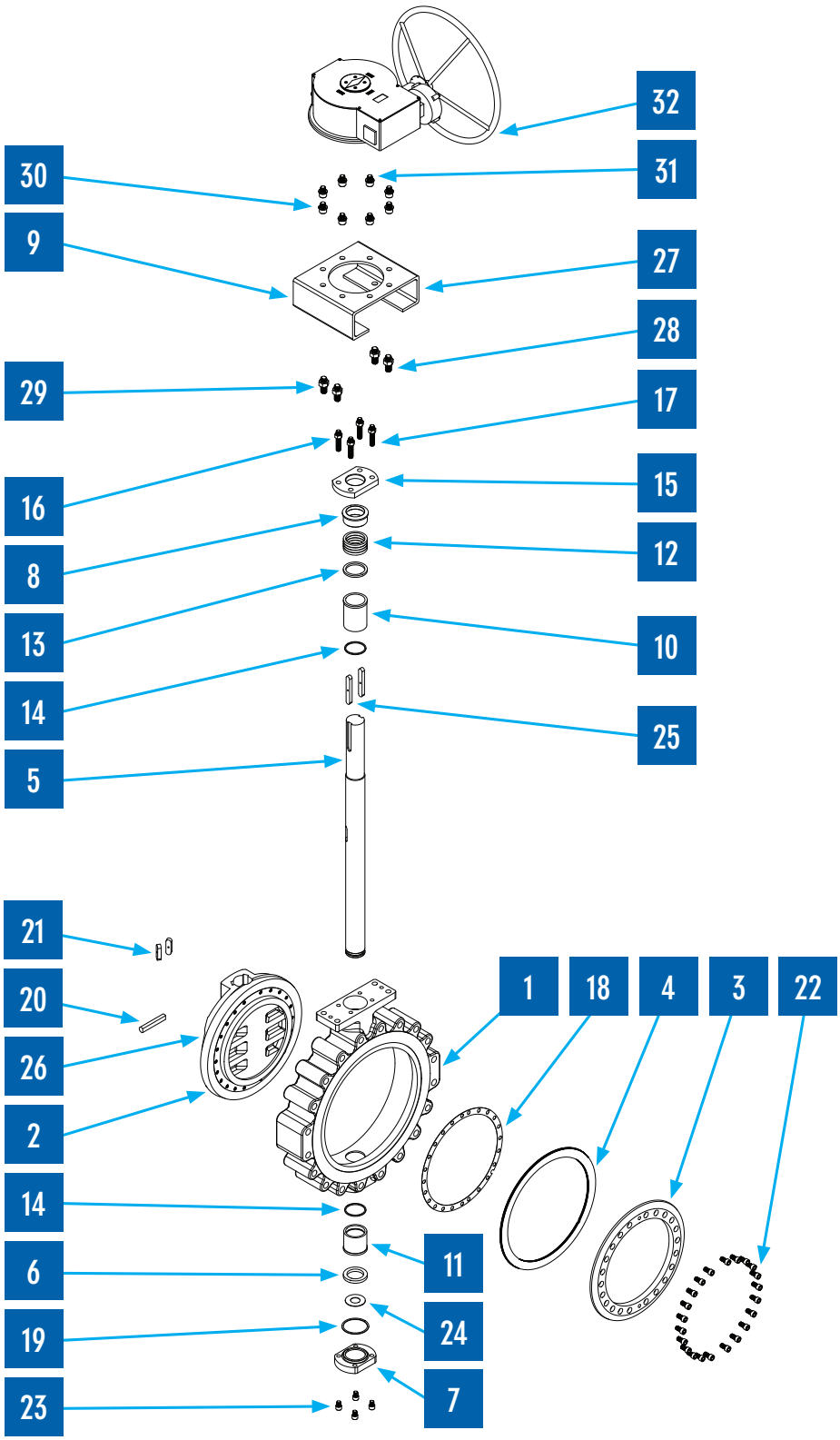
⚠ State of California Prop 65 Warning: Cancer and Reproductive Harm. For more information visit www.p65warnings.ca.gov.

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 – Long 14 to 24 Inches
# ASME Class 150
# Per API 609

| 14"-24" CLASS 150 LONG | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Valve Size | | Valve Dimensions | | | | | | | |
| | | A | B | C | D | ØE B.C. | F Hole | G | H |
| 14 | in | 19.88 | 22.36 | 11.34 | 3.06 | 18.75 | 12 x 1-8 UNC-2B | 15.00 | 4.92 |
| | mm | 505.0 | 568.0 | 288.0 | 77.7 | 476.2 | | 381.0 | 125.0 |
| 16 | in | 21.38 | 23.86 | 12.56 | 3.33 | 21.25 | 16 x 1-8 UNC-2B | 15.98 | 5.12 |
| | mm | 543.0 | 606.0 | 319.0 | 84.6 | 539.8 | | 406.0 | 130.0 |
| 18 | in | 22.91 | 25.71 | 13.86 | 4.16 | 22.75 | 16 x 1-1/8-8 UN-2B | 17.01 | 5.51 |
| | mm | 582.0 | 653.0 | 352.0 | 105.7 | 577.8 | | 432.0 | 140.0 |
| 20 | in | 24.61 | 28.78 | 15.12 | 4.95 | 25.00 | 20 x 1-1/8-8 UN-2B | 17.99 | 5.91 |
| | mm | 625.0 | 731.0 | 384.0 | 125.7 | 635.0 | | 457.0 | 150.0 |
| 24 | in | 27.60 | 31.30 | 17.56 | 6.13 | 29.50 | 20 x 1-1/4-8 UN-2B | 20.00 | 6.50 |
| | mm | 701.0 | 795.0 | 446.0 | 155.7 | 749.3 | | 508.0 | 165.0 |

| 14"-24" CLASS 150 LONG | | | | | | | |
|---|---|---|---|---|---|---|---|
| Valve Size | | Disc Dimensions | | Gear Dimensions | | | |
| | | J Intrusion | K Chord Diameter | N | P | ØQ | Weight (lbs.) |
| 14 | in | 1.40 | 7.80 | 1.81 | 15.35 | 19.69 | 456 |
| | mm | 35.5 | 198.2 | 46.0 | 390.0 | 500.0 | |
| 16 | in | 2.24 | 10.43 | 1.81 | 15.35 | 19.69 | 595 |
| | mm | 57.0 | 265.0 | 46.0 | 390.0 | 500.0 | |
| 18 | in | 2.87 | 12.53 | 3.15 | 15.75 | 23.62 | 765 |
| | mm | 73.0 | 318.3 | 80.0 | 400.0 | 600.0 | |
| 20 | in | 3.29 | 13.92 | 2.36 | 17.72 | 23.62 | 1090 |
| | mm | 83.5 | 353.7 | 60.0 | 450.0 | 600.0 | |
| 24 | in | 4.74 | 18.16 | 6.89 | 19.29 | 23.62 | 1514 |
| | mm | 120.5 | 461.3 | 175.0 | 490.0 | 600.0 | |

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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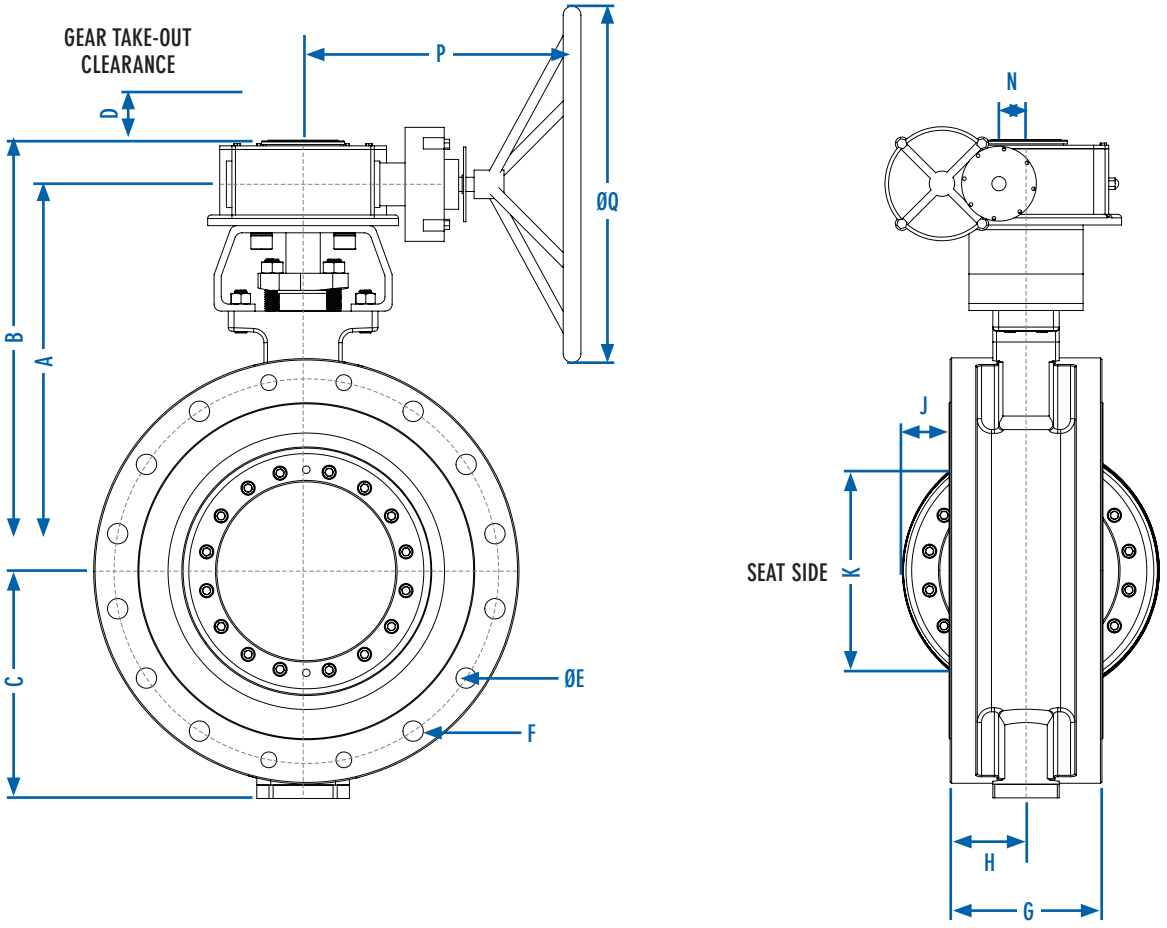
MILWAUKEE VALVE

# TØV Dimensions – Long 14 to 24 Inches
# ASME Class 150
# Per API 609

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