

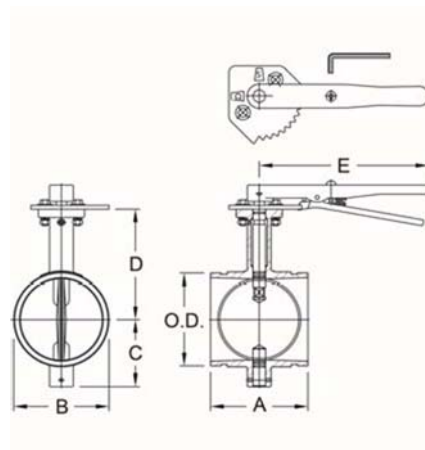
MODEL SJ-300N BUTTERFLY VALVE

The Model SJ-300N Butterfly Valve is a grooved-end tight shut-off valve designed, manufactured and tested to MSS SP-67. The valve can be shipped either with a 10-position lever handle with a locking device (SJ-300N-L) or with a worm gear operator (SJ-300N-W). The valve consists of epoxy powder coated ductile iron body and EPDM or Nitrile (NBR) rubber encapsulated dual-seal disc. The SJ-300N is UL classified in accordance with NSF/ANSI 61 and NSF/ANSI 372 for cold potable water service to temperature 73.4°F (23°C).

End-to-end dimensions: MSS SP-67 Table 4
 End connections: Grooved ends to ANSI/AWWA C-606
 Pressure rating: 300 psi / 2.1 MPa (non-shock cold water)
 Max. service temperature:
 73.4°F / 23°C (EPDM) – Potable water service
 200°F / 93°C (EPDM)* – General service
 (*Please refer to the material's note on last page.)



MODEL SJ-300N-L BUTTERFLY VALVE WITH LEVER HANDLE



Model SJ-300N-L Butterfly Valve with Lever Handle

| Nominal Size | Pipe O.D. | Max. Working Pressure (CWP)* | Dimensions | | | | | Operating Torque | Weight † |
|--------------|-----------|------------------------------|------------|------|------|------|-------|------------------|----------|
| | | | A | B | C | D | E | | |
| in | in | PSI | in | in | in | in | in | Lbs-in | Lbs |
| mm | mm | Bar | mm | mm | mm | mm | mm | Nm | Kgs |
| 2 | 2.375 | 300 | 3.19 | 2.52 | 2.48 | 4.17 | 7.56 | 80 | 6.8 |
| 50 | 60.3 | 20 | 81 | 64 | 63 | 106 | 192 | 9 | 3.1 |
| 2½ | 2.875 | 300 | 3.82 | 3.11 | 2.68 | 4.37 | 7.56 | 120 | 8.2 |
| 65 | 73.0 | 20 | 97 | 79 | 68 | 111 | 192 | 14 | 3.7 |
| 76.1 mm | 3.000 | 300 | 3.82 | 3.11 | 2.68 | 4.37 | 7.56 | 120 | 8.4 |
| | 76.1 | 20 | 97 | 79 | 68 | 111 | 192 | 14 | 3.8 |
| 3 | 3.500 | 300 | 3.82 | 3.62 | 2.99 | 4.96 | 7.56 | 160 | 9.0 |
| 80 | 88.9 | 20 | 97 | 92 | 76 | 126 | 192 | 18 | 4.1 |
| 4 | 4.500 | 300 | 4.57 | 4.65 | 3.50 | 5.32 | 10.24 | 450 | 11.4 |
| 100 | 114.3 | 20 | 116 | 118 | 89 | 135 | 260 | 51 | 5.2 |
| 139.7 mm | 5.500 | 300 | 5.83 | 5.71 | 4.02 | 6.61 | 10.24 | 700 | 16.9 |
| | 139.7 | 20 | 148 | 145 | 102 | 168 | 260 | 79 | 7.7 |

Model SJ-300N-L Butterfly Valve with Lever Handle

| Nominal Size | Pipe O.D. | Max. Working Pressure (CWP)* | Dimensions | | | | | Operating Torque | Weight [‡] |
|--------------|-----------|------------------------------|------------|-------|------|-------|-------|------------------|---------------------|
| | | | A | B | C | D | E | | |
| in | in | PSI | in | in | in | in | in | Lbs-in | Lbs |
| mm | mm | Bar | mm | mm | mm | mm | mm | Nm | Kgs |
| 5 | 5.563 | 300 | 5.83 | 5.71 | 4.02 | 6.61 | 10.24 | 700 | 16.9 |
| 125 | 141.3 | 20 | 148 | 145 | 102 | 168 | 260 | 79 | 7.7 |
| 165.1 mm | 6.500 | 300 | 5.83 | 6.77 | 4.49 | 7.24 | 10.24 | 900 | 20.2 |
| | 165.1 | 20 | 148 | 172 | 114 | 184 | 260 | 102 | 9.2 |
| 6 | 6.625 | 300 | 5.83 | 6.77 | 4.49 | 7.24 | 10.24 | 900 | 20.2 |
| 150 | 168.3 | 20 | 148 | 172 | 114 | 184 | 260 | 102 | 9.2 |
| 200 JIS | 8.516 | 300 | 5.24 | 8.74 | 5.51 | 8.19 | 10.24 | 1200 | 26.8 |
| | 216.3 | 20 | 133 | 222 | 140 | 208 | 260 | 136 | 12.2 |
| 8 | 8.625 | 300 | 5.24 | 8.74 | 5.51 | 8.19 | 10.24 | 1200 | 26.8 |
| 200 | 219.1 | 20 | 133 | 222 | 140 | 208 | 260 | 136 | 12.2 |
| 10 | 10.750 | 300 | 6.25 | 10.86 | 6.69 | 9.25 | 14.02 | 1800 | 48.4 |
| 250 | 273.0 | 20 | 159 | 276 | 170 | 235 | 356 | 204 | 22.0 |
| 12 | 12.750 | 300 | 6.53 | 12.87 | 8.07 | 10.24 | 14.02 | 2500 | 73.7 |
| 300 | 323.9 | 20 | 165 | 327 | 205 | 260 | 356 | 282 | 33.5 |

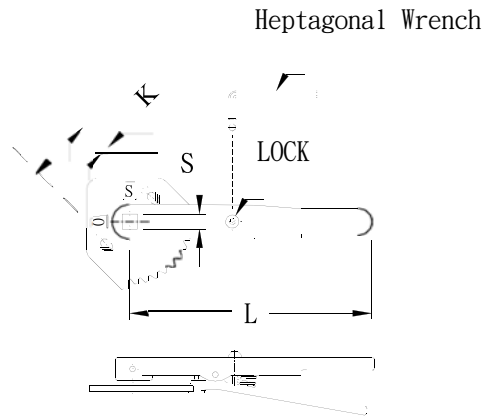
* Working pressure is based on connection with roll- or cut-grooved standard wall carbon steel pipe.

‡ The weight includes the lever handle.

Notes: The torque values are based on liquid applications. For dry or non-lubricating applications add a 25% service factor to the above values.

10 - POSITION INDICATOR AND LEVER

| 10-Position Indicator and Lever | | | | |
|---------------------------------|------------|----------|------------|-------|
| Nominal Size | PCD (dia.) | K (dia.) | S (square) | L |
| in | in | mm | in | in |
| mm | mm | mm | mm | mm |
| 2 | 2.75 | M8 | 0.39 | 7.56 |
| 50 | 70 | M8 | 10 | 192 |
| 2½ | 2.75 | M8 | 0.39 | 7.56 |
| 65 | 70 | M8 | 10 | 192 |
| 3 | 2.75 | M8 | 0.39 | 7.56 |
| 80 | 70 | M8 | 10 | 192 |
| 4 | 2.75 | M8 | 0.47 | 10.24 |
| 100 | 70 | M8 | 12 | 260 |
| 5 | 2.75 | M8 | 0.47 | 10.24 |
| 125 | 70 | M8 | 12 | 260 |
| 6 | 2.75 | M8 | 0.63 | 10.24 |
| 150 | 70 | M8 | 16 | 260 |
| 8 | 2.75 | M8 | 0.63 | 10.24 |
| 200 | 70 | M8 | 16 | 260 |
| 10 | 4.00 | M10 | 0.94 | 14.02 |
| 250 | 102 | M10 | 24 | 356 |
| 12 | 4.00 | M10 | 0.94 | 14.02 |
| 300 | 102 | M10 | 24 | 356 |

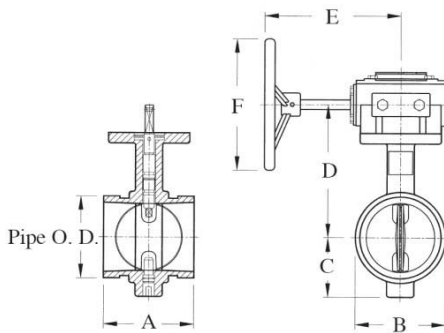


MODEL SJ-300N-W BUTTERFLY VALVE WITH GEAR OPERATOR

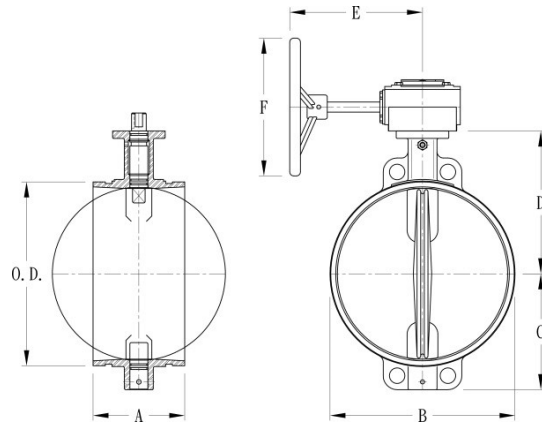
The Model SJ-300N can be equipped with a worm gear operator. The ISO 5211 mounting pad allows for the mounting of power actuators.



SJ-300N-W
w/gear operator



Size: 2" ~ 12"



Size: 14" ~ 24"

Model SJ-300N-W Butterfly Valve with Gear Operator

| Nominal Size | Pipe O.D. | Max. Working Pressure (CWP)* | Dimensions | | | | | | Weight# |
|--------------|-----------|------------------------------|------------|------|------|------|------|------|---------|
| | | | A | B | C | D | E | F | |
| in | in | PSI | in | in | in | in | in | in | Lbs |
| mm | mm | Bar | mm | mm | mm | mm | mm | mm | Kgs |
| 2 | 2.375 | 300 | 3.19 | 2.52 | 2.48 | 4.17 | 6.00 | 6.00 | 13.6 |
| 50 | 60.3 | 20 | 81 | 64 | 63 | 106 | 152 | 152 | 6.2 |
| 2½ | 2.875 | 300 | 3.82 | 3.11 | 2.68 | 4.37 | 6.00 | 6.00 | 14.3 |
| 65 | 73.0 | 20 | 97 | 79 | 68 | 111 | 152 | 152 | 6.5 |
| 76.1 mm | 3.000 | 300 | 3.82 | 3.11 | 2.68 | 4.37 | 6.00 | 6.00 | 14.3 |
| | 76.1 | 20 | 97 | 79 | 68 | 111 | 152 | 152 | 6.5 |
| 3 | 3.500 | 300 | 3.82 | 3.62 | 2.99 | 4.96 | 6.00 | 6.00 | 16.0 |
| 80 | 88.9 | 20 | 97 | 92 | 76 | 126 | 152 | 152 | 7.3 |
| 4 | 4.500 | 300 | 4.57 | 4.65 | 3.50 | 5.32 | 6.00 | 6.00 | 19.1 |
| 100 | 114.3 | 20 | 116 | 118 | 89 | 135 | 152 | 152 | 8.7 |
| 139.7 mm | 5.500 | 300 | 5.83 | 5.71 | 4.02 | 6.61 | 6.00 | 6.00 | 21.8 |
| | 139.7 | 20 | 148 | 145 | 102 | 168 | 152 | 152 | 9.9 |
| 5 | 5.563 | 300 | 5.83 | 5.71 | 4.02 | 6.61 | 6.00 | 6.00 | 21.8 |
| 125 | 141.3 | 20 | 148 | 145 | 102 | 168 | 152 | 152 | 9.9 |
| 165.1 mm | 6.500 | 300 | 5.83 | 6.77 | 4.49 | 7.24 | 6.00 | 6.00 | 25.0 |
| | 165.1 | 20 | 148 | 172 | 114 | 184 | 152 | 152 | 11.4 |
| 6 | 6.625 | 300 | 5.83 | 6.77 | 4.49 | 7.24 | 6.00 | 6.00 | 25.3 |
| 150 | 168.3 | 20 | 148 | 172 | 114 | 184 | 152 | 152 | 11.5 |

Model SJ-300N-W Butterfly Valve with Gear Operator

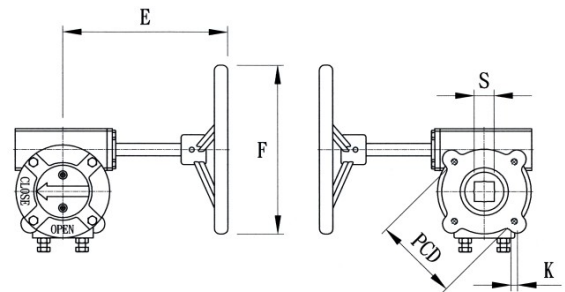
| Nominal Size | Pipe O.D. | Max. Working Pressure (CWP)* | Dimensions | | | | | | Weight# |
|--------------|-----------------|------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| | | | A | B | C | D | E | F | |
| in mm | in mm | PSI Bar | in mm | in mm | in mm | in mm | in mm | in mm | Lbs Kgs |
| 200 JIS | 8.516 216.3 | 300 20 | 5.24 133 | 8.74 222 | 5.51 140 | 8.19 208 | 6.00 152 | 6.00 152 | 31.9 14.5 |
| 8 | 8.625 219.1 | 300 20 | 5.24 133 | 8.74 222 | 5.51 140 | 8.19 208 | 6.00 152 | 6.00 152 | 32.0 14.5 |
| 10 | 10.750 273.0 | 300 20 | 6.25 159 | 10.86 276 | 6.69 170 | 9.25 235 | 8.00 203 | 8.00 203 | 59.4 27.0 |
| 12 | 12.750 323.9 | 300 20 | 6.53 165 | 12.87 327 | 8.07 205 | 10.24 260 | 8.00 203 | 8.00 203 | 73.7 33.5 |
| 14 | 14.000 355.6 | 300 20 | 7.00 178 | 14.37 365 | 8.82 224 | 10.86 276 | 9.53 242 | 12.00 306 | 130.0 59.0 |
| 16 | 16.000 406.4 | 300 20 | 7.00 178 | 16.38 416 | 9.76 248 | 11.89 302 | 9.53 242 | 12.00 306 | 147.4 67.0 |
| 18 | 18.000 457.2 | 300 20 | 8.00 203 | 18.50 470 | 11.14 283 | 13.78 350 | 9.53 242 | 12.00 306 | 189.2 86.0 |
| 20 | 20.000 508.0 | 300 20 | 8.50 216 | 20.75 527 | 12.36 314 | 15.08 383 | 11.40 290 | 16.20 412 | 292.6 133.0 |
| 22 | 22.000 559.0 | 300 20 | 9.25 235 | 22.75 578 | 13.48 343 | 16.81 427 | 11.40 290 | 16.20 412 | 324.1 147.0 |
| 24 | 24.000 609.6 | 300 20 | 10.00 254 | 24.76 629 | 14.49 368 | 17.83 453 | 11.40 290 | 16.20 412 | 352.0 160.0 |

* Working pressure is based on connection with roll- or cut-grooved standard wall carbon steel pipe.
 ‡ The weight includes the worm gear operator.

WORM GEAR OPERATOR

Worm Gear Operator

| Nominal Size | E | F (dia.) | PCD (dia.) | K | S (square □ or round ○) | Wt. |
|--------------|-------|----------|------------|-----|-------------------------|------|
| | | | | | | |
| 2 | 6.00 | 6.00 | 2.75 | M8 | □ 0.39 | 9.0 |
| 50 | 152 | 152 | 70 | M8 | 10.0 | 4.1 |
| 2½ | 6.00 | 6.00 | 2.75 | M8 | □ 0.39 | 9.0 |
| 65 | 152 | 152 | 70 | M8 | 10.0 | 4.1 |
| 3 | 6.00 | 6.00 | 2.75 | M8 | □ 0.39 | 9.0 |
| 80 | 152 | 152 | 70 | M8 | 10.0 | 4.1 |
| 4 | 6.00 | 6.00 | 2.75 | M8 | □ 0.47 | 9.0 |
| 100 | 152 | 152 | 70 | M8 | 12.0 | 4.1 |
| 5 | 6.00 | 6.00 | 2.75 | M8 | □ 0.47 | 9.0 |
| 125 | 152 | 152 | 70 | M8 | 12.0 | 4.1 |
| 6 | 6.00 | 6.00 | 2.75 | M8 | □ 0.63 | 9.0 |
| 150 | 152 | 152 | 70 | M8 | 16.0 | 4.1 |
| 8 | 6.00 | 6.00 | 2.75 | M8 | □ 0.63 | 9.0 |
| 200 | 152 | 152 | 70 | M8 | 16.0 | 4.1 |
| 10 | 8.00 | 8.00 | 4.02 | M10 | □ 0.94 | 12.3 |
| 250 | 203 | 203 | 102 | M10 | 24.0 | 5.6 |
| 12 | 8.00 | 8.00 | 4.02 | M10 | □ 0.94 | 12.3 |
| 300 | 203 | 203 | 102 | M10 | 24.0 | 5.6 |
| 14 | 9.53 | 12.00 | 4.90 | M12 | □ 0.94 | 32.8 |
| 350 | 242 | 306 | 125 | M12 | 24.0 | 14.9 |
| 16 | 9.53 | 12.00 | 4.90 | M16 | ○ 1.44 | 32.8 |
| 400 | 242 | 306 | 125 | M16 | 36.6 | 14.9 |
| 18 | 9.53 | 12.00 | 5.50 | M16 | ○ 1.625 | 32.8 |
| 450 | 242 | 306 | 140 | M16 | 41.28 | 14.9 |
| 20 | 11.40 | 16.20 | 6.50 | M20 | ○ 2.04 | 67.1 |
| 500 | 290 | 412 | 165 | M20 | 51.9 | 30.5 |
| 22 | 11.40 | 16.20 | 6.50 | M20 | ○ 2.04 | 67.1 |
| 550 | 290 | 412 | 165 | M20 | 51.9 | 30.5 |
| 24 | 11.40 | 16.20 | 6.50 | M20 | ○ 2.04 | 67.1 |
| 600 | 290 | 412 | 165 | M20 | 51.9 | 30.5 |

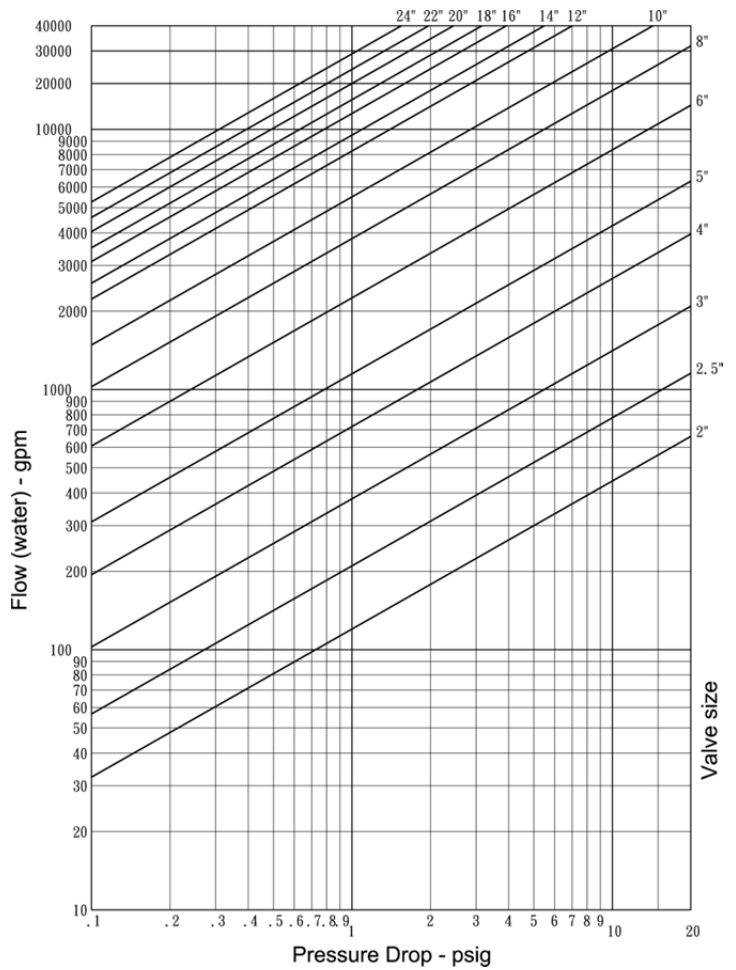


Flow Data

Equivalent length and C_v values for flow of water are shown below (water temperature at +68°F or +20°C)

| Nominal Size | Equivalent Length on Sch. 40 pipe* | C _v Values |
|--------------|------------------------------------|-----------------------|
| in | Feet (Meter) | |
| 2 | 4.7 (1.4) | 120 |
| 2½ | 5.2 (1.6) | 210 |
| 3 | 5.5 (1.7) | 380 |
| 4 | 6.8 (2.1) | 720 |
| 5 | 8.5 (2.6) | 1150 |
| 6 | 7.4 (2.3) | 2000 |
| 8 | 9.2 (2.8) | 3800 |
| 10 | 13.5 (4.1) | 5500 |
| 12 | 15.1 (4.6) | 8250 |
| 14 | 19.6 (6.0) | 9500 |
| 16 | 21.8 (6.6) | 13000 |
| 18 | 23.8 (7.3) | 16000 |
| 20 | 27.3 (8.3) | 20000 |
| 22 | 30.5 (9.3) | 24000 |
| 24 | 33.7 (10.3) | 29000 |

*At 15 feet/sec. (4.6m/s) velocity of water.



Valve Torque Requirements

These torque values were derived from test data with non-lubricated valves in water, non-pressurized at ambient temperatures.

| Model SJ-300N-W Torque Requirements | | | | | |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|
| Nominal Size | Torque | Nominal Size | Torque | Nominal Size | Torque |
| in mm | In-Lbs Nm | in mm | In-Lbs Nm | in mm | In-Lbs Nm |
| 2 50 | 80 9 | 6 150 | 900 102 | 16 400 | 4000 452 |
| 2½ 65 | 120 14 | 8 200 | 1200 136 | 18 450 | 5500 622 |
| 3 80 | 160 18 | 10 250 | 1800 203 | 20 500 | 8000 904 |
| 4 100 | 450 51 | 12 300 | 2500 283 | 22 550 | 8750 989 |
| 5 125 | 700 79 | 14 350 | 3000 339 | 24 550 | 9500 1074 |

Note: The torque values are based on liquid applications. For dry or non-lubricating applications add a 25% service factor to the above values.

MATERIAL SPECIFICATIONS

• Valve Body & Disc:

Ductile Iron to ASTM A536, Gr. 65-45-12 and or to ASTM A395, Gr. 65-45-15.

• Valve Body Coating:

Epoxy powder coating, black color, meets NSF/ANSI 61 and NSF/ANSI 372, for use in +73.4°F (+23°C) cold potable water system.

• Disc Encapsulation:

Grade E-pw EPDM (Color code: Double Green stripe) certified under NSF/ANSI 61 and NSF/ANSI 372 for cold potable water service to +73.4°F (+23°C). Also good for services for water with acid, water with chlorine, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals.

Not recommended for petroleum oils, minerals oils, solvents and aromatic hydrocarbons.

- Grade "E" EPDM** (Color code: Green stripe) Good for cold & hot water up to +200°F (+93°C). Also good for services for water with acid, water with chlorine, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals. **Not recommended for petroleum oils, minerals oils, solvents and aromatic hydrocarbons.**

Maximum Temperature Range: -30°F (-34°C) to +200°F (+93°C)*.

*EPDM seat for water services are not recommended for steam services unless valves or components are accessible for frequent replacement.

- Grade T Nitrile (NBR):** (Color code: Orange stripe) Grade T Nitrile is recommended for petroleum products, vegetable oils, mineral oils and air with vapors. Maximum Temperature Range: -20°F (-29°C) to +180°F (+82°C).

- Other options: Grade "O" - Fluoroelastomer.
Grade "V" - Neoprene.

For additional details contact **Shurjoint**.

• Upper & Lower Shafts:

Stainless steel Type 410.

• Stem Seals:

O-Ring, EPDM.

• Lever Handle:

Ductile Iron to ASTM A536, Gr. 65-45-12 and or to ASTM A395 Gr. 65-45-15. Blackpainted.

General Notes:

- **Maximum Working Pressure (CWP)** listed is the maximum cold water pressure for general piping services tested to ASTM F 1476 and or AWWA C606 methods. Figures listed are based on roll- or cut-grooved standard wall carbon steel pipe. For other pipe schedules or pipe materials, contact **Shurjoint** for additional information.
- **Listed and or Approved Pressures** are pressure ratings for fire protection systems, tested and approved by various approval bodies. Please always refer to the latest approval data posted on the **Shurjoint** website.
- **Field Joint Test:** For one time only the system may be tested hydrostatically at 1½ times the maximum working pressure listed (AWWA C606 5.2.3).
- **Warning:** Piping systems must always be depressurized and drained before attempting disassembly and or removal of any components.
- **The 10 Year Limited Warranty** applies to manufacturing defects only and does not cover severe service/temperature applications or wear parts.
- **Shurjoint** reserves the right to change specifications, designs and or standard without notice and without incurring any obligations.