

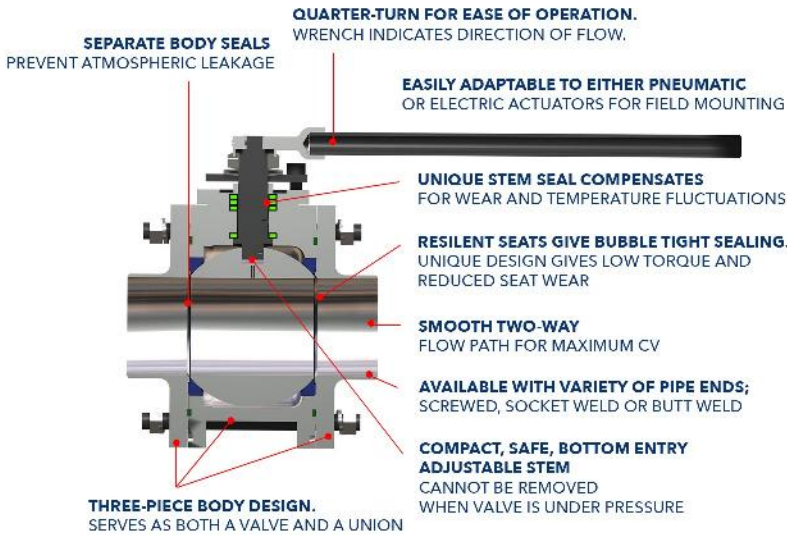
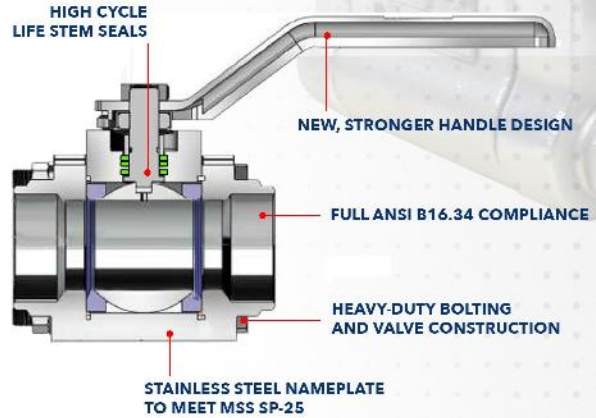


HIGH PERFORMANCE 3PCS BODY BALL VALVE



16i

| | | |
|-----------------|---|-----------|
| Body | A351-CF8M | A216-WCB |
| Solid Ball | A351-CF8M | A351-CF8M |
| End Body | A351-CF8M | A216-WCB |
| Seat | PTFE MULTIFILL DELRIN PEEK INOX | |
| Body Seal | PTFE MULTIFILL DELRIN PEEK INOX | |
| Stem Seal | PTFE MULTIFILL DELRIN PEEK INOX | |
| Operated | Lever Oval T Handle Gear | |
| Pressure Rating | PN 64 PN 100 | |
| Size | DN 15 - DN 50 | |
| Port | Full Reduce Bore | |
| Mounting Pad | ISO 5211 | |
| Fire Safe | Certify API 607 | |
| Marking | CE Marking | |



26i

| | | |
|-----------------|---|-----------|
| Body | A351-CF8M | A216-WCB |
| Solid Ball | A351-CF8M | A351-CF8M |
| End Body | A351-CF8M | A216-WCB |
| Seat | PTFE MULTIFILL DELRIN PEEK INOX | |
| Body Seal | PTFE MULTIFILL DELRIN PEEK INOX | |
| Stem Seal | PTFE MULTIFILL DELRIN PEEK INOX | |
| Operated | Lever Oval T Handle Gear | |
| Pressure Rating | PN 64 PN 100 | |
| Size | DN 15 - DN 50 | |
| Port | Full Reduce Bore | |
| Mounting Pad | ISO 5211 | |
| Fire Safe | Certify API 607 | |
| Marking | CE Marking | |

Features and Advantages

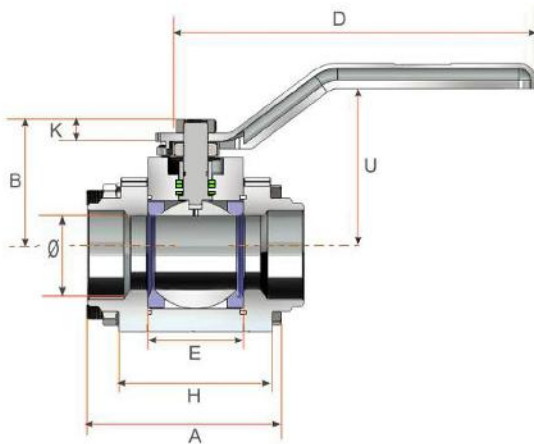
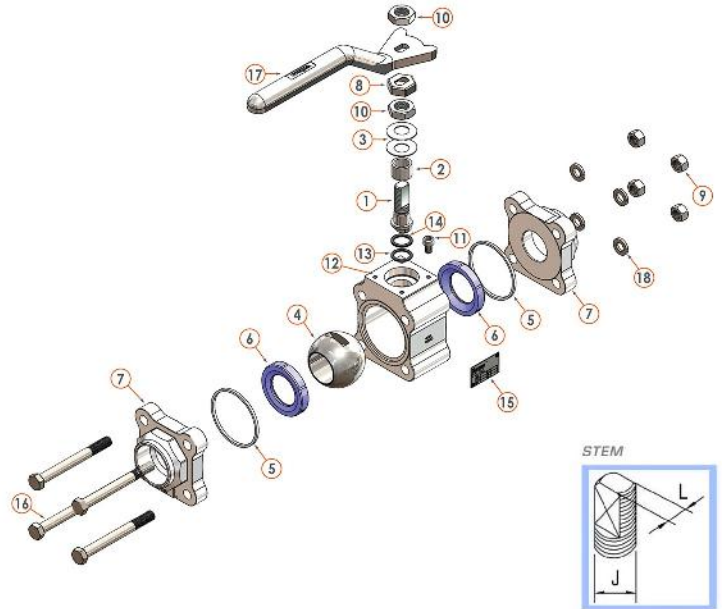
- ▶ Switzerland Ball Valve design proven in Oleochemical & Refinery more than 40 years and continues
- ▶ Manufacture with CNC Torque & Machine to ensure precision in every movement
- ▶ Sealing material from origin powder ensure long life cycle service
- ▶ Various seat material to handle variagated areas
- ▶ in house casting & machining to fulfill customer delivery times
- ▶ 100% in house tested API 598

Valvulas Worcester de México SA de CV
 is a company with more than 50 year of experience manufacturing ball valves.
 Established in Mexico City and proud of its "Valtaco" brand.

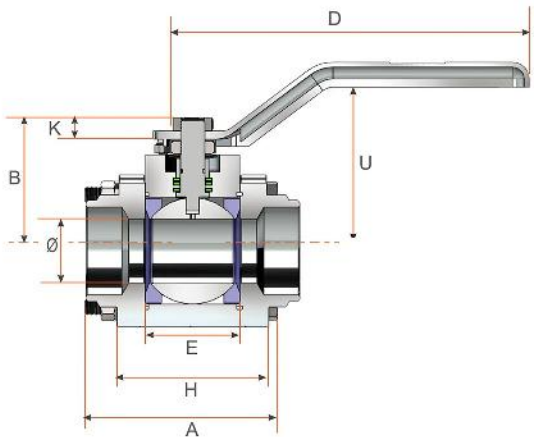
Our series 15i is a High Quality Forged Steel
 and our series 26 is a High Performance Cast Steel Ball Valves.
 We encourage you to test our valve on your field.

Specification is subject to change without prior notice

| No. | Material | 16 44 | 16 66 |
|-----|---|----------|-----------|
| 1 | Stem | | 316 |
| 2 | ISO Separator | | 304 |
| 3 | N3 Belleville washer | | 304 |
| 4 | Ball | | 316 |
| 5 | Body Seal | | PTFE |
| 6 | Seat with Angle | | R-PTFE |
| 7 | Machined lid | A216 WCB | A351 CF8M |
| 8 | Retaining cap | | 304 |
| 9 | Screw nut body | | 304 |
| 10 | Retaining cap | | 304 |
| 11 | Allen Screw | | A216 WCB |
| 12 | ISO Body with Top | A216 WCB | A351 CF8M |
| 13 | Lower Stem Seal | | MULTIFILL |
| 14 | Top stem seal | | 316 |
| 15 | Valtaco Nameplate | | 304 |
| 16 | Hex head screw to attach caps with bodies | | |
| 17 | Handle | | 316 |
| 18 | Pressure Washer | | 304 |


Full Bore DN 8 - 40 (1/4" - 1 1/2")

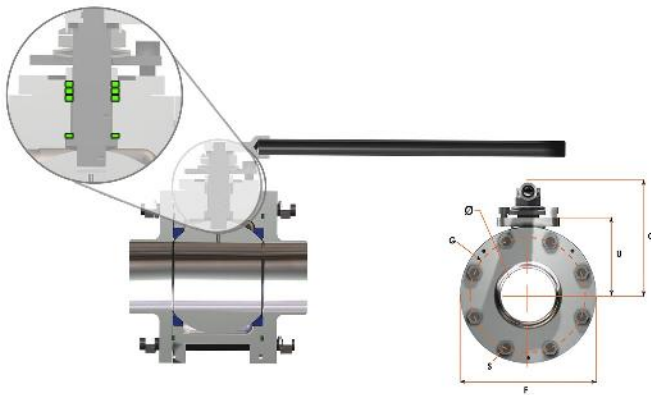
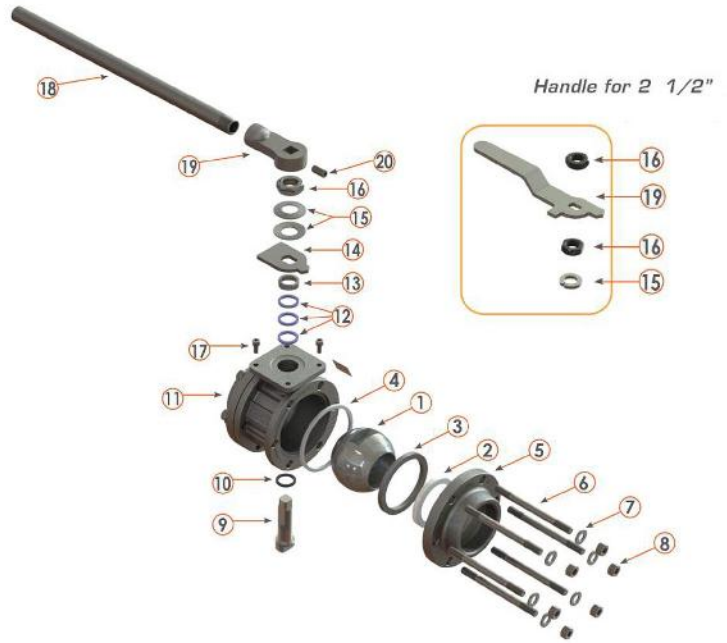
| Full Bore DN 8 - 40 (1/4" - 1 1/2") | | | | | | | | | | | | | | |
|-------------------------------------|-------------|-------|-------------|-------|-------------|-------|--------------|-------|--------------|-------|-------------|-------|-------------|-------|
| DN | 8 | | 10 | | 15 | | 20 | | 25 | | 32 | | 40 | |
| SIZE | 1/4" | | 3/8" | | 1/2" | | 3/4" | | 1" | | 1 1/4" | | 1 1/2" | |
| BW Sch05 | - | - | - | - | 18 | 0.71 | 23.4 | 0.92 | 30.1 | 1.185 | 38.9 | 1.530 | 45 | 1.770 |
| BW Sch10 | 17.1 | .674 | 17.1 | .674 | 17.1 | .674 | 22.5 | 0.884 | 27.9 | 1.097 | 36.6 | 1.442 | 42.7 | 1.682 |
| BW Sch40 | 15.8 | .622 | 15.8 | .622 | 15.8 | .622 | 20.9 | 0.824 | 26.6 | 1.049 | 35.1 | 1.380 | 40.9 | 1.610 |
| BW Sch80 | 13.9 | .546 | 13.9 | .546 | 18.8 | .742 | 24.3 | .957 | 32.5 | 1.278 | 38.1 | 1.500 | 49.3 | 1.939 |
| SW | 17.5 | .690 | 21.7 | .855 | 21.72 | 0.855 | 27.06 | 1.065 | 33.78 | 1.330 | 42.54 | 1.675 | 48.64 | 1.915 |
| Ø | 11.2 | 0.438 | 11.2 | 0.438 | 14.3 | .563 | 20.57 | .810 | 25.4 | 1.000 | 36.75 | 1.250 | 38.1 | 1.500 |
| A | 63.3 | 2.61 | 63.3 | 2.61 | 71.8 | 2.83 | 94.5 | 3.72 | 107.18 | 4.22 | 115.8 | 4.56 | 127.3 | 5.01 |
| C | 72.0 | 2.83 | 72.0 | 2.83 | 75.2 | 2.96 | 96.8 | 3.89 | 123.9 | 4.88 | 108.9 | 4.29 | 138.9 | 5.46 |
| D | 150 | 5.91 | 150 | 5.91 | 150 | 5.91 | 175 | 6.89 | 175 | 6.89 | 200 | 7.87 | 200 | 7.87 |
| E | 20.6 | .813 | 20.6 | .813 | 24.6 | .969 | 31.7 | 1.25 | 41.3 | 1.625 | 48.5 | 1.910 | 56.3 | 2.218 |
| F | 44.5 | 1.75 | 44.5 | 1.75 | 50.8 | 2.00 | 60.2 | 2.37 | 66.8 | 2.62 | 81 | 3.19 | 91 | 3.58 |
| G | 15.9 | 1.75 | 15.9 | 1.75 | 19.1 | 0.750 | 22.2 | 0.875 | 25.4 | 1.000 | 28.6 | 1.125 | 33.3 | 1.313 |
| H | 40.1 | 1.58 | 40.1 | 1.58 | 47 | 1.85 | 56 | 2.20 | 62.6 | 2.65 | 78.2 | 3.08 | 88 | 3.46 |
| J | 3/8 | | 3/8 | | 3/8 | | 7/16 | | 7/16 | | 9/16 | | 9/16 | |
| K | 10.6 | .420 | 10.6 | .420 | 12.4 | .490 | 9.1 | .36 | 10.9 | .431 | 11.9 | .47 | 11.9 | 0.47 |
| L | 5.5 | 0.22 | 5.5 | 0.22 | 5.5 | 0.22 | 7.5 | 0.30 | 7.5 | 0.30 | 8.7 | 0.34 | 8.7 | 0.34 |
| M | 29.4 | 1.156 | 29.4 | 1.156 | 31.9 | 1.25 | 34.8 | 1.57 | 44.7 | 1.76 | 68.3 | 2.69 | 58 | 2.28 |
| P | 25.4 | 1.00 | 25.4 | 1.00 | 25.4 | 1.00 | 29.7 | 1.17 | 29.7 | 1.17 | 35.3 | 1.39 | 35 | 1.38 |
| S | 1/4"-28 UNF | | 1/4"-28 UNF | | 1/4"-28 UNF | | 5/16"-24 UNF | | 5/16"-24 UNF | | 3/8"-24 UNF | | 3/8"-24 UNF | |
| U | 60.7 | 2.39 | 60.7 | 2.39 | 64.0 | 2.52 | 87.9 | 3.46 | 97.5 | 3.84 | 97.5 | 3.84 | 98 | 3.86 |
| V | M5 | | M5 | | M5 | | M5 | | M5 | | M6 | | M6 | |
| ISO TOP | N/A | | N/A | | N/A | | F04 | | F04 | | F05 | | F05 | |
| kg | 0.8 | | 0.8 | | 1.0 | | 1.50 | | 2.32 | | 3.84 | | 5.62 | |
| lb | 1.76 | | 1.76 | | 2.21 | | 3.3 | | 3.74 | | 5.01 | | 11.06 | |


Reduced Bore DN 15 - 50 (1/2" - 2")

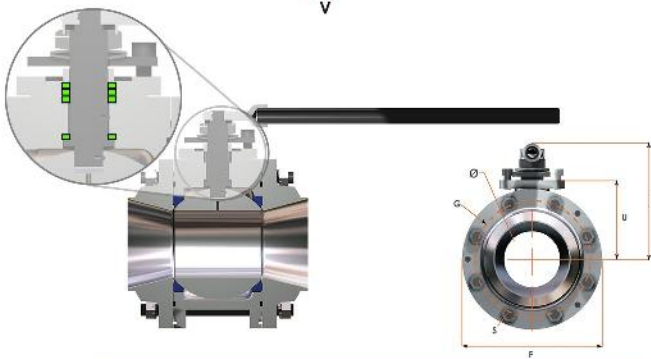
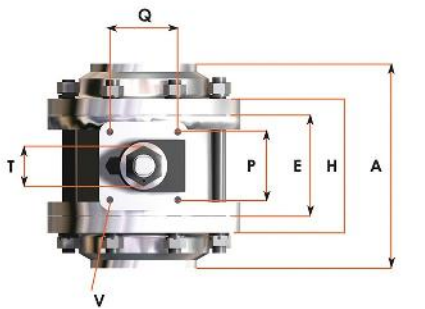
| Reduced Bore DN 15 - 50 (1/2" - 2") | | | | | | | | | | | | | | |
|-------------------------------------|-------------|-------|-------------|-------|--------------|-------|--------------|-------|-------------|-------|-------------|-------|-------------|-------|
| DN | 15 | | 20 | | 25 | | 32 | | 40 | | 50 | | 50 | |
| SIZE | 1/2" | | 3/4" | | 1" | | 1 1/4" | | 1 1/2" | | 2" | | 2" | |
| BW Sch05 | 18 | 0.710 | 23.4 | 0.920 | 30.1 | 1.185 | 38.9 | 1.530 | 45 | 1.770 | 57 | 2.245 | 57 | 2.245 |
| BW Sch10 | 17.1 | 0.674 | 22.5 | 0.884 | 27.9 | 1.097 | 36.6 | 1.442 | 42.7 | 1.682 | 54.8 | 2.157 | 54.8 | 2.157 |
| BW Sch40 | 15.8 | 0.622 | 20.9 | 0.824 | 26.6 | 1.049 | 35.1 | 1.380 | 40.9 | 1.610 | 52.5 | 2.067 | 52.5 | 2.067 |
| BW Sch80 | 13.9 | 0.546 | 20.9 | 0.824 | 24.3 | 0.957 | 32.5 | 1.278 | 38.1 | 1.500 | 49.3 | 1.939 | 49.3 | 1.939 |
| SW | 21.72 | 0.855 | 18.8 | 0.742 | 33.78 | 1.330 | 42.54 | 1.675 | 48.64 | 1.915 | 61.11 | 2.406 | 61.11 | 2.406 |
| Ø | 11.1 | .438 | 27.06 | 1.065 | 20.7 | .813 | 24.5 | 1.00 | 31.75 | 1.25 | 38.1 | 1.50 | 38.1 | 1.50 |
| A | 63.3 | 2.61 | 14.3 | .563 | 94.5 | 3.72 | 107.18 | 4.22 | 115.8 | 4.56 | 127.3 | 5.01 | 127.3 | 5.01 |
| C | 72.0 | 2.83 | 44.9 | 1.77 | 54.6 | 2.15 | 59.2 | 2.33 | 72.9 | 2.87 | 77.7 | 3.06 | 77.7 | 3.06 |
| D | 150 | 5.91 | 75.2 | 2.96 | 98.8 | 3.89 | 123.9 | 4.88 | 109 | 4.29 | 138.7 | 5.46 | 138.7 | 5.46 |
| E | 20.65 | 0.813 | 150 | 5.91 | 175 | 6.89 | 175 | 6.89 | 200 | 7.87 | 200 | 7.87 | 200 | 7.87 |
| F | 44.5 | 1.75 | 24.6 | .969 | 60.2 | 2.37 | 41.3 | 1.625 | 81 | 3.19 | 91 | 3.58 | 91 | 3.58 |
| G | 15.9 | 0.625 | 50.8 | 2.00 | 22.2 | 0.875 | 25.4 | 1.000 | 28.6 | 1.125 | 33.3 | 1.313 | 33.3 | 1.313 |
| H | 40.1 | 1.58 | 19.1 | 0.750 | 56 | 2.20 | 62.6 | 2.65 | 78.2 | 3.08 | 88 | 3.46 | 88 | 3.46 |
| J | 3/8 | | 3/8 | | 7/16 | | 7/16 | | 9/16 | | 9/16 | | 9/16 | |
| K | 10.6 | .420 | 12.4 | 0.49 | 9.1 | .36 | 10.9 | .431 | 11.9 | 0.47 | 11.9 | 0.47 | 11.9 | 0.47 |
| L | 5.5 | 0.22 | 5.5 | 0.22 | 7.5 | 0.30 | 7.5 | 0.30 | 8.7 | 0.34 | 8.7 | 0.34 | 8.7 | 0.34 |
| M | 29.4 | 1.156 | 31.9 | 1.25 | 34.8 | 1.57 | 44.7 | 1.76 | 68.3 | 2.69 | 57.15 | 2.25 | 57.15 | 2.25 |
| P | 25.4 | 1.00 | 25.4 | 1.00 | 29.7 | 1.17 | 29.7 | 1.17 | 35.3 | 1.39 | 35.3 | 1.39 | 35.3 | 1.39 |
| S | 1/4"-28 UNF | | 1/4"-28 UNF | | 5/16"-24 UNF | | 5/16"-24 UNF | | 3/8"-24 UNF | | 3/8"-24 UNF | | 3/8"-24 UNF | |
| U | 60.7 | 2.39 | 64.0 | 2.52 | 87.9 | 3.46 | 97.5 | 3.84 | 97.5 | 3.84 | 98 | 3.86 | 98 | 3.86 |
| V | M5 | | M5 | | M5 | | M5 | | M5 | | M6 | | M6 | |
| ISO TOP | N/A | | N/A | | F04 | | F04 | | F05 | | F05 | | F05 | |
| kg | 0.80 | | 1.00 | | 1.70 | | 2.32 | | 3.84 | | 5.02 | | 5.02 | |
| lb | 1.76 | | 2.21 | | 3.74 | | 5.01 | | 8.47 | | 11.06 | | 11.06 | |

Specification is subject to change without prior notice

| No. | Material | 2666 | 2644 |
|-----|------------------|----------------|----------------------|
| 1 | Ball | CF8M, AISI 316 | |
| 2 | Seat | MULTIFILL | |
| 3 | Centering Ring | CF8M | WCB |
| 4 | Seal | RPTFE | |
| 5 | End | CF8M | WCB |
| 6 | Stud | AISI 304 | AISI 1040, AISI 1060 |
| 7 | Lock Washer | AISI 304 | AISI 1040, AISI 1060 |
| 8 | Hex Nut | A-194-2HM | SAE J429 Gr.5 |
| 9 | Stem | AISI 316 | |
| 10 | Thrust Bearing | MULTIFILL | |
| 11 | Body | CF8M | WCB |
| 12 | Stem Seal | MULTIFILL | |
| 13 | Stem Follower | AISI 304, 316 | C1040, 1060 |
| 14 | Stop Plate | AISI 304, 316 | C1010, 1020 |
| 15 | BelleVile Washer | AISI 304 | AISI 1040, AISI 1060 |
| 16 | Retaining Nut | A-194-2HM | SAE J429 Gr.5 |
| 17 | Stop Screw | AISI 304 | SAE J429 Gr.5 |
| 18 | Lever | A-249-TP316 | A-106 |
| 19 | Handle | CF8M | WCB |
| 20 | Retention Screw | AISI 304 | SAE J429 Gr.5 |



Full Bore DN 50-100 (2" - 4")

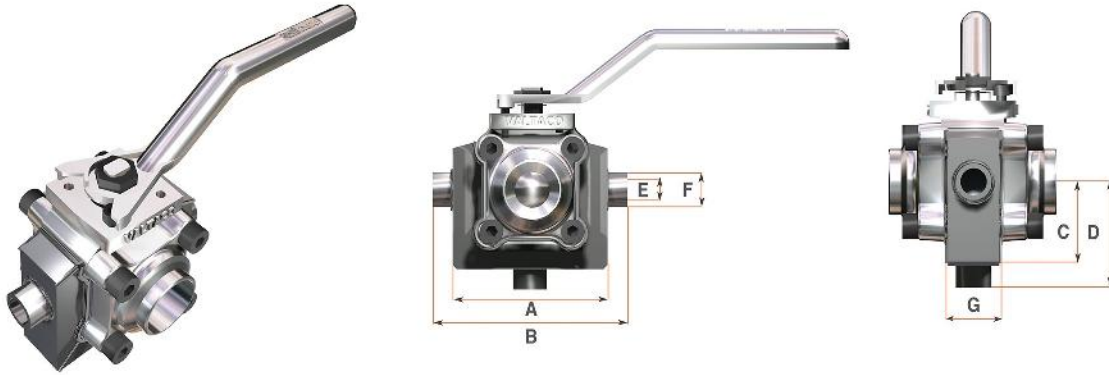


Reduced Bore DN 65-150 (2 1/2" - 6")

| Full Bore DN 50-100 (2" - 4") | | | | |
|-------------------------------|-------------|-----------|------------|--------------|
| DN | 50 | 65 | 80 | 100 |
| SIZE | 2" | 2 1/2" | 3" | 4" |
| BW Sch05 | 57 | 68.8 | 84.7 | 110.1 |
| BW Sch10 | 54.8 | 66.9 | 82.8 | 108.2 |
| BW Sch40 | 52.5 | 62.7 | 77.9 | 102.3 |
| SW | 62 | 74.7 | 90.7 | 116.1 |
| Ø | 50.8 | 63.5 | 82.6 | 111.1 |
| A | 151 | 178 | 219 | 298 |
| C | 104 | 147 | 162 | 228 |
| D | 187 | 324 | 324 | 728 |
| E | 67 | 83 | 108 | 146 |
| F | 148 | 165 | 206 | 289 |
| G | 129 | 141 | 175 | 238 |
| H | 98 | 118 | 143 | 187 |
| J | 3/4"-16 UNF | 1"-14UNS | 1"-14UNS | 1 1/2"-14UNF |
| L | 12.1 | 18.8 | 18.8 | 28.4 |
| M | 18.8 | 18.8 | 18.8 | 28.4 |
| P | 49.5 | 72.1 | 72.1 | 81 |
| Q | 49.5 | 72.1 | 72.1 | 81 |
| S | 7/16-14UNC | 1/2-13UNC | 9/16-12UNC | 3/4-12UNC |
| T | 45 | 57 | 57 | 47 |
| U | 78 | 101 | 116 | 157 |
| V | M8 | M10 | M10 | M12 |
| kg | 11 | 17 | 28 | 80 |

| Reduce Bore DN 65-150 (2 1/2" - 6") | | | | |
|-------------------------------------|-------------|-----------|------------|--------------|
| DN | 65 | 80 | 100 | 150 |
| SIZE | 2 1/2" | 3" | 4" | 6" |
| BW Sch05 | 68.8 | 84.7 | 110.1 | 162.7 |
| BW Sch10 | 66.9 | 82.8 | 108.2 | 161.5 |
| BW Sch40 | 62.7 | 77.9 | 102.3 | 154.1 |
| SW | 74.7 | 90.7 | 116.1 | 170.7 |
| Ø | 50.8 | 63.5 | 82.6 | 111.1 |
| A | 151 | 178 | 219 | 298 |
| C | 104 | 147 | 162 | 228 |
| D | 187 | 324 | 324 | 728 |
| E | 67 | 83 | 108 | 146 |
| F | 148 | 165 | 206 | 289 |
| G | 129 | 141 | 175 | 238 |
| H | 98 | 118 | 143 | 187 |
| J | 3/4"-16 UNF | 1"-14UNS | 1"-14UNS | 1 1/2"-14UNF |
| L | 12.1 | 18.8 | 18.8 | 28.4 |
| M | 18.8 | 18.8 | 18.8 | 28.4 |
| P | 49.5 | 72.1 | 72.1 | 81 |
| Q | 49.5 | 72.1 | 72.1 | 81 |
| S | 7/16-14UNC | 1/2-13UNC | 9/16-12UNC | 3/4-12UNC |
| T | 45 | 57 | 57 | 47 |
| U | 78 | 101 | 116 | 157 |
| V | M8 | M10 | M10 | M12 |
| kg | 11 | 17 | 28 | 80 |

Specification is subject to change without prior notice



Max. Pressure for Heating Jacket 20 bar

Heating Jacket 15i - DN 8 - 50

| DN | NPS | Dimension | | | | | | | | | | | | | |
|------|-------------|-----------|------|-----|------|----|------|----|------|------|----|------|----|------|--|
| | | mm | inch | mm | inch | mm | inch | mm | inch | inch | mm | inch | mm | inch | |
| 8-15 | 1/4" - 1/2" | A | A | B | B | C | C | D | D | E | F | F | G | G | |
| | | 62 | 2.44 | 81 | 3.19 | 30 | 1.18 | 40 | 1.57 | 1/8" | 14 | 0.55 | 18 | 0.7 | |
| 20 | 3/4" | 70 | 2.76 | 90 | 3.54 | 35 | 1.38 | 45 | 1.77 | 1/4" | 18 | 0.71 | 20 | 0.8 | |
| 25 | 1" | 83 | 3.27 | 105 | 4.13 | 42 | 1.65 | 53 | 2.09 | 1/4" | 18 | 0.71 | 28 | 1.1 | |
| 32 | 1 1/4" | 93 | 3.66 | 116 | 4.57 | 46 | 1.81 | 58 | 2.28 | 3/8" | 22 | 0.87 | 36 | 1.4 | |
| 40 | 1 1/2" | 107 | 4.21 | 130 | 5.12 | 53 | 2.09 | 65 | 2.56 | 3/8" | 22 | 0.87 | 40 | 1.6 | |
| 50 | 2" | 117 | 4.61 | 140 | 5.51 | 58 | 2.28 | 70 | 2.76 | 1/2" | 22 | 0.87 | 48 | 1.9 | |

How to Order Chart

| | | | | | |
|-----------|----------|-----------|-----------|-------------|-------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| 16 | i | 66 | PR | BSPP | RRCC |

| | | |
|---|-----------------|--|
| 1 | Model | 16 (Size : 3/8" - 2") 26 (Size : 2.5" - 6") |
| 2 | Special Feature | i : Standard AF : Fire Safe HM : Jacketed |
| 3 | Body Material | 66 : A351 CF8M 44 : A216-WCB |
| 4 | Port | PR : Reduce Bore PT : Full Bore |

| | | |
|---|-----------------|---------------------------------|
| 5 | Connection | BSPP BSPT NPT BW SW |
| 6 | Seats | R PTFE |
| | Body Seals | R PTFE |
| | Inferior Washer | C MULTIFIL |
| | Stem Seal | C MULTIFIL |

TECHNICAL DATA (Seat Materials)

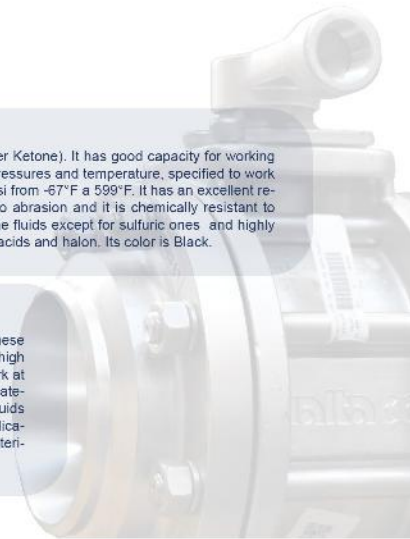
C **MULTIFIL**
Made of PTFE filled with glass, carbon and graphite, it is specified to work at 1500 psi from -248°F a 500°F. It also has larger life cycle than other materials. These seats are grayish brown color.

D **DELTRIN (LUBETAL)**
It is a material for high pressures, specified to work up to 6000 psi. The temperature range is from -67°F to 180°F. This material should not be used for oxygen services. It is made of "DuPont Acetal Homopolymer" and filled with PTFE and glass fiber. Its color is "bone-white".

P **PEEK**
(Poly Ether Ketone). It has good capacity for working at high pressures and temperature, specified to work at 6000 psi from -67°F a 599°F. It has an excellent resistance to abrasion and it is chemically resistant to most of the fluids except for sulfuric ones and highly oxidizing acids and halon. Its color is Black.

R **PTFE**
It is specified to work at 1500 psi from -49°F a 446°F. These seats are made from glass and reinforced PTFE. These seats are harder than virgin PTFE and have higher pressure-temperature ratings. Chemical resistance is the same as virgin Teflon (except for hot Strong caustics). These seats come in blue in order to distinguish them.

I **INOXIDABLE / STAINLESS PTFE**
Made of virgin PTFE and stainless steel resin. These seats have very good capacity for working at high pressures and temperatures. It is specified to work at 3000 psi from -320°F to 662°F. It is an excellent material for seats in steam applications and thermal fluids (hot oil) and it is a good material for difficult applications. It also has a larger life cycle than other materials and a very good resistance to abrasion.



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