

PREM CHEM BALL VALVES

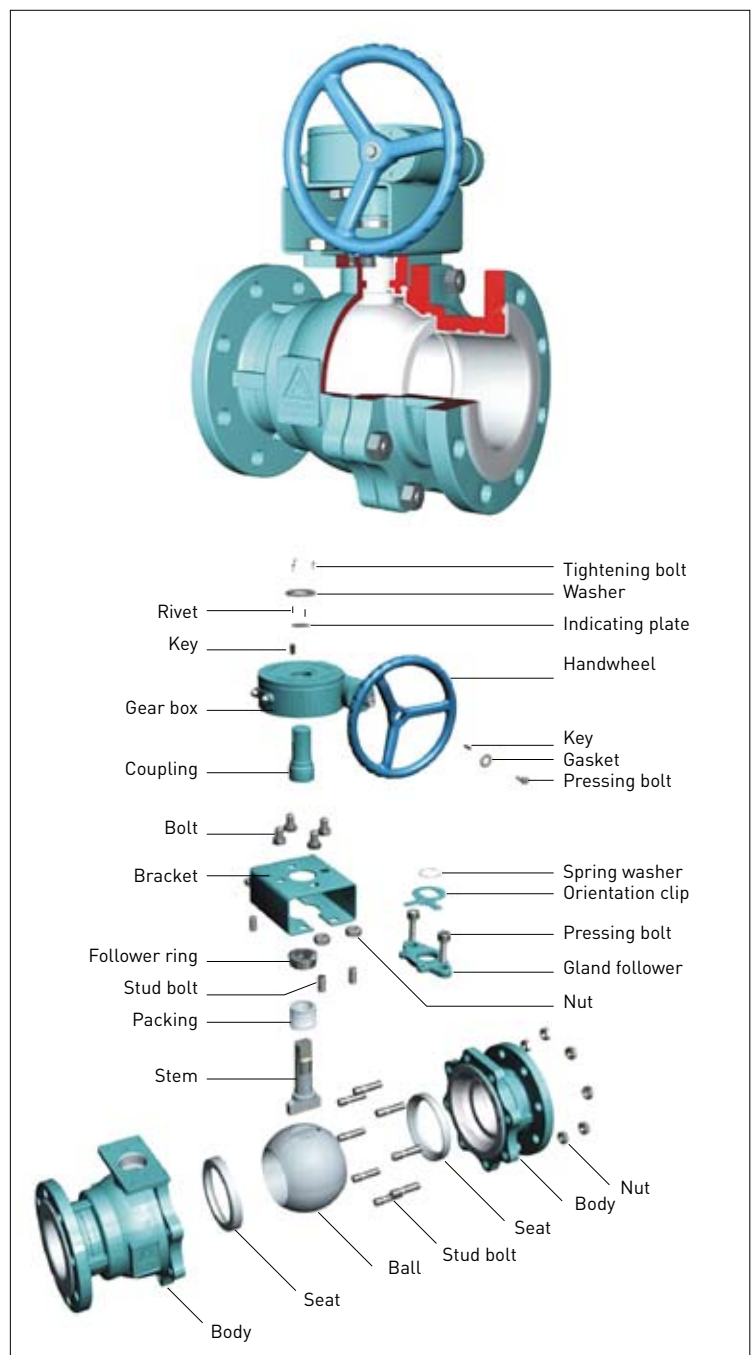


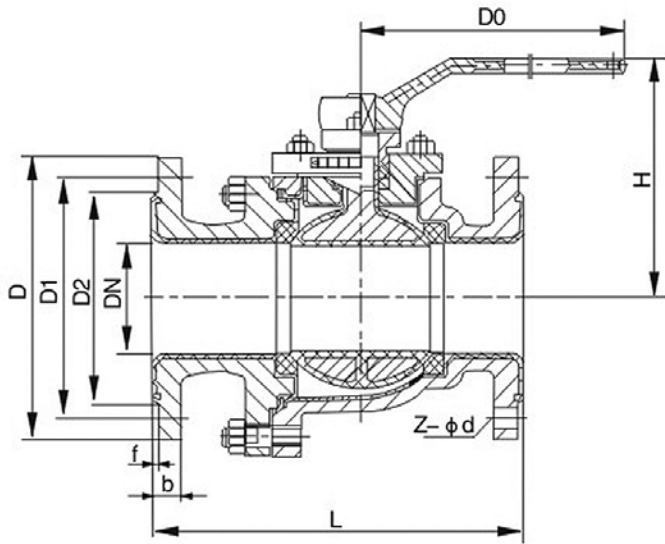
DESIGN STANDARDS:
GB1237, API608, API6D

Ball valves are one of the most common valves used in the Petrochemical Industry due to their tight shut-off ability, ease of operation and choice of different material to suit various chemical applications. Fluoroplastic lined ball valves became popular as high alloy material became more expensive and less readily available.

CHARACTERISTICS OF PREMACHEM BALL VALVES:

- Two-piece and three-piece configuration.
- Full bore floating ball design.
- Compact design and easy maintenance
- The addition of Teflon liner provides easier operation and high chemical resistance.
- Available with Lever, Gearbox, Pneumatic actuator, Electric actuator.





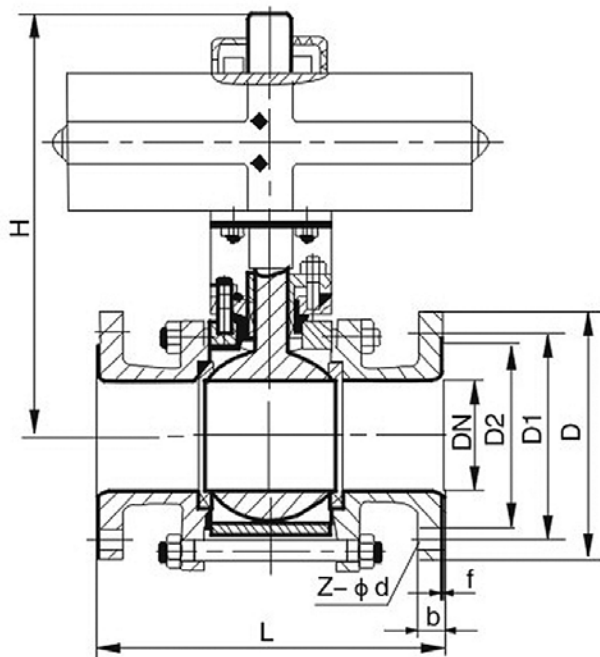
17. Q41F₃, F₄₆
Flange type lever operated ball valve (straight 2pc type)

Standard

| | |
|-------------------------|-----------------------------------|
| Design | GB 12237 |
| Face to Face | JB 1686 (DN32~150) Q/DFL 02-99 |
| Flange dimension | JB78/JB79 |
| Test | GB/T 13927 |
| Symbol | GB 12220 |
| Supply | GB/T 12252 |

Flange type ball valve (2PC, 3PC)

- Pressure: DN1.0~2.5(Mpa)
- Size: DN15~400(mm)



18. Q641F₃, F₄₆
Flange type pneumatic operated ball valve (3 piece type)

Basic type

| | | | |
|-----------------------|--------------------------------------|------------------|--------------------------------------|
| Lever operated | Q41F ₃ (Fully lined) | Pneumatic | Q641F ₃ (Fully lined) |
| | Q41F ₄₆ (Fully lined) | | Q641F ₄₆ (Fully lined) |
| Gear operated | Q341F ₃ (Fully lined) | Electric | Q941F ₃ (Fully lined) |
| | Q341F ₄₆ (Fully lined) | | Q941F ₄₆ (Fully lined) |



Main Parts Material Specifications

Table A9

| No. | Name | Grey Cast Iron | Cast Steel | Stainless Steel | | Low Carbon Stainless Steel | |
|-----|---------------|---|------------|-----------------|------------------------|----------------------------|----------------|
| | | Z | C | P | R | P _L | R _L |
| 1 | Body | HT250 | WCB | CF8 | CF8M | CF3 | CF3M |
| 2 | Ball | WCB | 35 | CF8 | CF8M | CF3 | CF3M |
| 3 | Lining/seat | PTFE(F ₄) PCTFE(F ₃) FEP(F ₄₆) PFA PO | | | | | |
| 4 | Packing cover | HT250 | WCB | CF8 | CF8M | CF3 | CF3M |
| 5 | Packing | PTFE (F ₄) | | | PTFE (F ₄) | | |
| 6 | Bolt | 35 | 35 | 1Cr17Ni2 | 1Cr17Ni2 | 1Cr18Ni9 | 1Cr18Ni9 |
| 7 | Nut | 45 | 45 | 0Cr18Ni9 | 0Cr18Ni9 | 0Cr18Ni9 | 0Cr18Ni9 |
| 8 | Lever | WCC | WCC | WCC | WCC | WCC | WCC |

Dimensions and weights

Table B23

| Size | | Standard | | | | | | | Reference | | |
|-------------|------------|----------|-----|----------------|----------------|---|----|---------|-----------|-----|-------|
| Dn (mm) | NPS (inch) | L | D | D ₁ | D ₂ | f | b | Z-ød | Do | H | W(kg) |
| PN1.0 (MPa) | | | | | | | | | | | |
| 15 | ½ | 140 | 95 | 65 | 45 | 2 | 14 | 4-ø14 | 120 | 80 | 2.5 |
| 20 | ¾ | 140 | 105 | 75 | 55 | 2 | 16 | 4-ø14 | 140 | 90 | 3 |
| 25 | 1 | 150 | 115 | 85 | 65 | 2 | 16 | 4-ø14 | 160 | 100 | 4.5 |
| 32 | 1¼ | 165 | 135 | 100 | 78 | 2 | 18 | 4-ø18 | 160 | 110 | 5.7 |
| 40 | 1½ | 180 | 145 | 110 | 85 | 3 | 18 | 4-ø18 | 200 | 120 | 7 |
| 50 | 2 | 200 | 160 | 125 | 100 | 3 | 20 | 4-ø18 | 250 | 135 | 9.5 |
| 65 | 2½ | 220 | 180 | 145 | 120 | 3 | 20 | 4-ø18 | 300 | 145 | 15 |
| 80 | 3 | 250 | 195 | 160 | 135 | 3 | 22 | 4/8-ø18 | 350 | 185 | 19 |
| 100 | 4 | 280 | 215 | 180 | 155 | 3 | 22 | 8-ø18 | 240 | 195 | 33 |
| 125 | 5 | 320 | 245 | 210 | 185 | 3 | 24 | 8-ø18 | 500 | 210 | 58 |
| 150 | 6 | 360 | 280 | 240 | 210 | 3 | 24 | 8-ø23 | 200* | 450 | 93 |
| 200 | 8 | 457 | 335 | 295 | 265 | 3 | 26 | 8-ø23 | 240* | 490 | 155 |
| 250 | 10 | 533 | 390 | 350 | 320 | 3 | 28 | 12-ø23 | 240* | 550 | 210 |
| 300 | 12 | 610 | 440 | 400 | 368 | 4 | 28 | 12-ø23 | 320* | 600 | 220 |
| 350 | 14 | 686 | 500 | 460 | 428 | 4 | 30 | 16-ø23 | 320* | 675 | 245 |
| 400 | 16 | 762 | 565 | 515 | 782 | 4 | 32 | 16-ø25 | 360* | 780 | 260 |



Dimensions and weights

| Size | | Standard | | | | | | | Reference | | |
|------------|---------------|----------|-----|----------------|----------------|---|----|--------|-----------|-----|-------|
| Dn (mm) | NPS (inch) | L | D | D ₁ | D ₂ | f | b | Z-ød | Do | H | W(kg) |
| | | | | | | | | | | | |
| 15 | ½ | 140 | 95 | 65 | 45 | 2 | 14 | 4-ø14 | 120 | 80 | 2.5 |
| 20 | ¾ | 140 | 105 | 75 | 55 | 2 | 16 | 4-ø14 | 140 | 90 | 3 |
| 25 | 1 | 150 | 115 | 85 | 65 | 2 | 16 | 4-ø14 | 160 | 100 | 4.5 |
| 32 | 1¼ | 165 | 135 | 100 | 78 | 2 | 18 | 4-ø18 | 160 | 110 | 5.7 |
| 40 | 1½ | 180 | 145 | 110 | 85 | 3 | 18 | 4-ø18 | 200 | 120 | 7 |
| 50 | 2 | 200 | 160 | 125 | 100 | 3 | 20 | 4-ø18 | 250 | 135 | 9.5 |
| 65 | 2½ | 220 | 180 | 145 | 120 | 3 | 20 | 4-ø18 | 300 | 145 | 15 |
| 80 | 3 | 250 | 195 | 160 | 135 | 3 | 22 | 8-ø18 | 350 | 185 | 19 |
| 100 | 4 | 280 | 215 | 180 | 155 | 3 | 24 | 8-ø18 | 240 | 195 | 33 |
| 125 | 5 | 320 | 245 | 210 | 185 | 3 | 26 | 8-ø18 | 500 | 210 | 58 |
| 150 | 6 | 360 | 280 | 240 | 210 | 3 | 28 | 8-ø23 | 200* | 450 | 93 |
| 200 | 8 | 457 | 335 | 295 | 265 | 3 | 30 | 12-ø23 | 240* | 490 | 155 |
| 250 | 10 | 533 | 405 | 355 | 320 | 3 | 32 | 12-ø25 | 240* | 550 | 210 |
| 300 | 12 | 610 | 460 | 410 | 375 | 4 | 34 | 12-ø25 | 280* | 600 | 220 |
| 350 | 14 | 686 | 520 | 470 | 435 | 4 | 38 | 16-ø25 | 320* | 675 | 245 |
| 400 | 16 | 762 | 580 | 525 | 485 | 4 | 40 | 16-ø30 | 360* | 780 | 260 |

Dimensions and weights

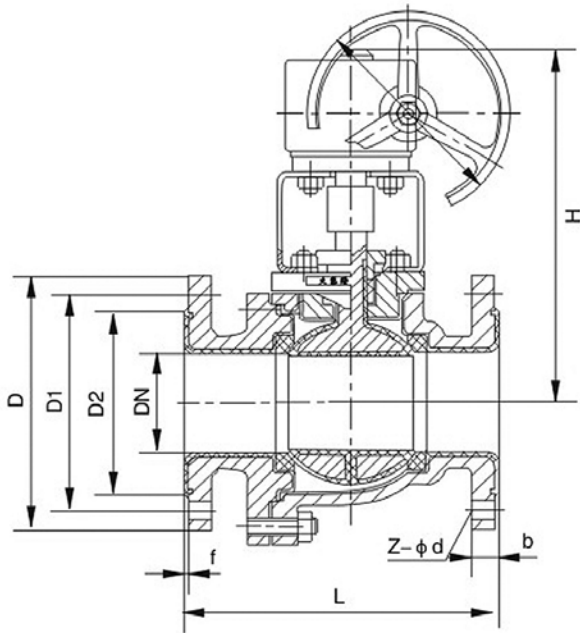
| Size | | Standard | | | | | | | Reference | | |
|------------|---------------|----------|-----|----------------|----------------|---|----|--------|-----------|-----|-------|
| Dn (mm) | NPS (inch) | L | D | D ₁ | D ₂ | f | b | Z-ød | Do | H | W(kg) |
| | | | | | | | | | | | |
| 15 | ½ | 140 | 95 | 65 | 45 | 2 | 16 | 4-ø14 | 120 | 80 | 2.5 |
| 20 | ¾ | 140 | 105 | 75 | 55 | 2 | 16 | 4-ø14 | 140 | 90 | 3 |
| 25 | 1 | 150 | 115 | 85 | 65 | 2 | 16 | 4-ø14 | 160 | 100 | 4.5 |
| 32 | 1¼ | 165 | 135 | 100 | 78 | 2 | 18 | 4-ø18 | 160 | 110 | 5.7 |
| 40 | 1½ | 180 | 145 | 110 | 85 | 3 | 18 | 4-ø18 | 200 | 120 | 7 |
| 50 | 2 | 200 | 160 | 125 | 100 | 3 | 20 | 4-ø18 | 250 | 135 | 9.5 |
| 65 | 2½ | 220 | 180 | 145 | 120 | 3 | 22 | 8-ø18 | 300 | 145 | 15 |
| 80 | 3 | 250 | 195 | 160 | 135 | 3 | 22 | 8-ø18 | 300 | 185 | 19 |
| 100 | 4 | 280 | 230 | 190 | 160 | 3 | 24 | 8-ø23 | 200* | 195 | 33 |
| 125 | 5 | 320 | 270 | 220 | 188 | 3 | 28 | 8-ø25 | 200* | 210 | 58 |
| 150 | 6 | 360 | 300 | 250 | 218 | 3 | 30 | 8-ø25 | 200* | 450 | 93 |
| 200 | 8 | 457 | 360 | 310 | 278 | 3 | 34 | 12-ø25 | 240* | 495 | 155 |
| 250 | 10 | 533 | 425 | 370 | 332 | 3 | 36 | 12-ø30 | 280* | 555 | 210 |
| 300 | 12 | 610 | 485 | 430 | 390 | 4 | 40 | 16-ø30 | 320* | 605 | 230 |
| 350 | 14 | 686 | 550 | 490 | 448 | 4 | 44 | 16-ø34 | 320* | 685 | 250 |

*When flange to PN1.0MPa, DN80, JB78, screw hole Z=4, t other parameter z=8

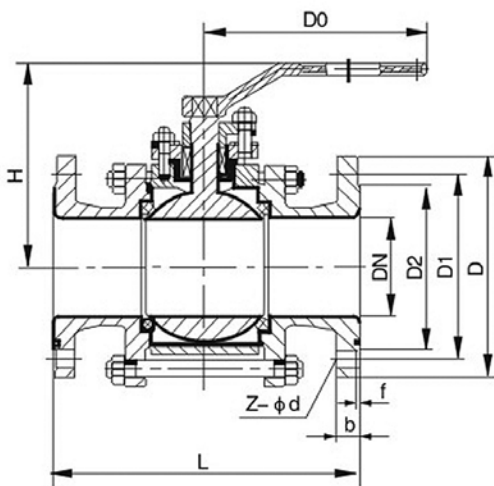


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19. Q341F₃F₄₆
Flange type G.O. ball valve (straight 2pc type)



20. Q41F₃F₄₆
Flange type lever operated ball valve (straight 3pc type)

Standard

| | |
|------------------|---------------------|
| Design | API 608/API 6D |
| Face to Face | ANSI B16.10 |
| Flange dimension | ANSI B 16.5 (300lb) |
| Test | API 598 |
| Symbol | MSS SP-25 |
| Supply | API 6D |

Flange type ball valves (2PC, 3PC)

- Design to API standard:
- Pressure (pound) ANSI 150lb~300lb
- Size (inch) NPS 1/2~20

Basic type

| | | | |
|----------------|--------------------------------------|-----------|--------------------------------------|
| Lever operated | Q41F ₃ (Fully lined) | Pneumatic | Q641F ₃ (Fully lined) |
| | Q41F ₄₆ (Fully lined) | | Q641F ₄₆ (Fully lined) |
| Gear operated | Q341F ₃ (Fully lined) | Electric | Q941F ₃ (Fully lined) |
| | Q341F ₄₆ (Fully lined) | | Q941F ₄₆ (Fully lined) |

Main Parts Material Specifications

Table A10

| No. | Name | Grey Cast Iron | Cast Steel | Stainless Steel | | Low Carbon Stainless Steel | |
|-----|---------------|--|------------|------------------------|-----------|----------------------------|----------------|
| | | Z | C | P | R | P _L | R _L |
| 1 | Body Cover | A126 Ci135A | A216 WCB | A351 CF8 | A351 CF8M | A351 CF3 | A351 CF3M |
| 2 | Ball | WCB | WCB | CF8 | CF8M | CF3 | CF3M |
| 3 | Lining/seat | PTFE(F ₄) PCTFE(F ₃) FEP(F ₄₆) PFA(F ₄) PO | | | | | |
| 4 | Packing cover | A126 Ci135A | A216 WCB | A351 CF8 | A351 CF8M | A351 CF3 | A351 CF3M |
| 5 | Packing | PTFE (F ₄) | | PTFE (F ₄) | | | |
| 6 | Bolt | A193 B7 | A193 B7 | A193 B8M | A193 B7 | A193 B7 | A193 B8M |
| 7 | Nut | A194 2H | A194 2H | A194 8 | A194 2H | A194 2H | A194 8 |
| 8 | Lever | A216 WCC | A216 WCC | A216 WCC | A216 WCC | A216 WCC | A216 WCC |



Dimensions and weights

Table B24

| Size | | Standard | | | | | | | Reference | | |
|------------|---------------|----------|-----|----------------|----------------|---|----|--------|-----------|-----|-------|
| Dn (mm) | NPS (inch) | L | D | D ₁ | D ₂ | f | b | Z-ød | Do | H | W(kg) |
| | | | | | | | | | | | |
| 15 | ½ | 108 | 89 | 60.5 | 35 | 2 | 12 | 4-ø15 | 120 | 80 | 2.5 |
| 20 | ¾ | 117 | 98 | 70 | 43 | 2 | 12 | 4-ø15 | 140 | 90 | 3 |
| 25 | 1 | 127 | 108 | 79.5 | 51 | 2 | 12 | 4-ø15 | 160 | 100 | 4.5 |
| 32 | 1¼ | 140 | 117 | 89 | 64 | 2 | 13 | 4-ø15 | 160 | 110 | 5.7 |
| 40 | 1½ | 165 | 127 | 98.5 | 73 | 3 | 15 | 4-ø15 | 200 | 120 | 9.5 |
| 50 | 2 | 178 | 152 | 120.5 | 92 | 2 | 16 | 4-ø19 | 250 | 135 | 15 |
| 65 | 2½ | 190 | 178 | 139.5 | 105 | 2 | 18 | 4-ø19 | 300 | 145 | 19 |
| 80 | 3 | 203 | 190 | 152.5 | 127 | 2 | 19 | 4-ø19 | 350 | 185 | 30 |
| 100 | 4 | 229 | 229 | 190.5 | 157 | 2 | 24 | 8-ø19 | 400 | 195 | 58 |
| 125 | 5 | 254 | 254 | 216 | 186 | 2 | 24 | 8-ø22 | 500 | 210 | 93 |
| 150 | 6 | 394 | 279 | 241.5 | 216 | 2 | 26 | 8-ø22 | 200* | 450 | 155 |
| 200 | 8 | 457 | 343 | 398.5 | 270 | 2 | 29 | 8-ø22 | 240* | 490 | 210 |
| 250 | 10 | 533 | 406 | 362 | 324 | 2 | 31 | 12-ø25 | 280* | 550 | 295 |
| 300 | 12 | 610 | 483 | 432 | 381 | 2 | 32 | 12-ø25 | 320* | 605 | 305 |
| 350 | 14 | 686 | 533 | 476 | 413 | 2 | 35 | 12-ø29 | 320* | 685 | 325 |
| 400 | 16 | 762 | 597 | 540 | 470 | 2 | 37 | 16-ø29 | 360* | 785 | 325 |

Dimensions and weights

Table B25

| Size | | Standard | | | | | | | Reference | | |
|------------|---------------|----------|-----|----------------|----------------|---|----|--------|-----------|-----|-------|
| Dn (mm) | NPS (inch) | L | D | D ₁ | D ₂ | f | b | Z-ød | Do | H | W(kg) |
| | | | | | | | | | | | |
| 15 | ½ | 140 | 95 | 66.5 | 35 | 2 | 15 | 4-ø15 | 140 | 90 | 3 |
| 20 | ¾ | 152 | 117 | 82.5 | 43 | 2 | 16 | 4-ø19 | 140 | 100 | 4 |
| 25 | 1 | 165 | 124 | 89 | 51 | 2 | 18 | 4-ø19 | 160 | 120 | 6 |
| 32 | 1¼ | 178 | 13 | 98.5 | 64 | 2 | 19 | 4-ø19 | 200 | 135 | 8 |
| 40 | 1½ | 190 | 156 | 114.5 | 73 | 2 | 21 | 4-ø22 | 250 | 150 | 11 |
| 50 | 2 | 216 | 165 | 127 | 92 | 2 | 23 | 8-ø19 | 300 | 165 | 17 |
| 65 | 2½ | 241 | 190 | 179 | 105 | 2 | 26 | 8-ø22 | 350 | 180 | 23 |
| 80 | 3 | 283 | 210 | 168.5 | 127 | 2 | 29 | 8-ø22 | 350 | 195 | 33 |
| 100 | 4 | 305 | 254 | 200 | 157 | 2 | 32 | 8-ø22 | 400 | 215 | 63 |
| 125 | 5 | 381 | 279 | 235 | 186 | 2 | 35 | 8-ø22 | 500 | 240 | 115 |
| 150 | 6 | 403 | 318 | 270 | 216 | 2 | 37 | 12-ø22 | 200* | 460 | 165 |
| 200 | 8 | 502 | 381 | 330 | 270 | 2 | 42 | 12-ø25 | 240* | 495 | 225 |
| 250 | 10 | 568 | 445 | 387.5 | 324 | 2 | 48 | 16-ø29 | 380* | 560 | 298 |
| 300 | 12 | 648 | 521 | 451 | 381 | 2 | 51 | 16-ø32 | 320* | 610 | 305 |

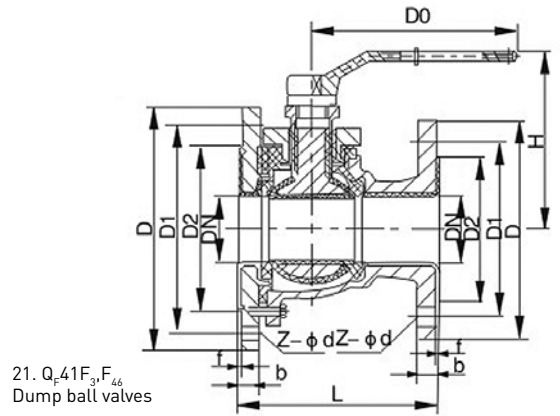


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Flange type dump ball valves (Fully lined)

- Type: Q_F41F₃, F₄₆
- Pressure: PN1.6 (MPa)
- Size: DN15~250 (mm)
- Length: Q/DFL03-99 (DFL STD)
- Flange: JB78
- Body material see table A9
- The numerator in chart refers to valve size and flange size
- The denominator refers to the bigger flange's size



Dimensions and weights

Table B26

| Size Dn (mm) | Standard | | | | | | | Reference | | |
|--------------------|----------|---------|----------------|----------------|-------|---------------|---------------|-----------|-----|-------|
| | L | D | D ₁ | D ₂ | f | b | Z-φd | Do | H | W(kg) |
| PN1.0 (MPa) | | | | | | | | | | |
| 15/20 | Length | 95/105 | 65/75 | 45/55 | 2/2 | 14/16 | 4-φ14/4-φ14 | 120 | 80 | 2.5 |
| 15/25 | | 95/115 | 65/85 | 45/65 | 2/2 | 14/16 | 4-φ14/4-φ14 | 120 | 80 | 2.8 |
| 15/32 | | 95/135 | 65/100 | 45/78 | 2/2 | 14/18 | 4-φ14/4-φ18 | 120 | 80 | 3.0 |
| 20/25 | | 105/115 | 75/85 | 55/65 | 2/2 | 16/16 | 4-φ14/ 4-φ14 | 140 | 90 | 3.5 |
| 20/32 | | 105/135 | 75/100 | 55/78 | 2/2 | 16/18 | 4-φ14/ 4-φ18 | 140 | 90 | 3.8 |
| 20/40 | | 105/145 | 75/110 | 55/85 | 2/3 | 16/18 | 4-φ14/ 4-φ18 | 140 | 90 | 4.2 |
| 32/40 | | 135/145 | 100/110 | 78/85 | 2/3 | 18/18 | 4-φ18/4-φ18 | 160 | 110 | 5.7 |
| 32/50 | | 135/160 | 100/125 | 78/100 | 2/3 | 18/20 | 4-φ18/4-φ18 | 160 | 110 | 6.2 |
| 32/65 | | 135/180 | 100/145 | 78/120 | 2/3 | 18/20 | 4-φ18/ 4-φ18 | 160 | 110 | 6.8 |
| 40/50 | | 145/160 | 110/125 | 85/100 | 3/3 | 18/20 | 4-φ18/4-φ18 | 200 | 120 | 7.2 |
| 40/65 | | 145/180 | 110/145 | 85/120 | 3/3 | 18/20 | 4-φ18/4-φ18 | 200 | 120 | 7.8 |
| 40/80 | | 145/195 | 110/160 | 85/135 | 3/3 | 18/22 | 4-φ18/4/8-φ18 | 200 | 120 | 8.0 |
| 50/65 | | 160/180 | 125/145 | 100/120 | 3/3 | 20/20 | 4-φ18/4-φ18 | 250 | 135 | 9.5 |
| 50/80 | | 160/195 | 125/160 | 100/135 | 3/3 | 20/22 | 4-φ18/4/8-φ18 | 250 | 135 | 10.5 |
| 50/100 | | 160/215 | 125/180 | 100/155 | 3/3 | 20/22 | 4-φ18/8-φ18 | 250 | 135 | 12.1 |
| 65/80 | | 180/195 | 145/160 | 120/135 | 3/3 | 20/22 | 4-φ18/8-φ18 | 300 | 145 | 15 |
| 65/100 | | 180/215 | 145/180 | 120/155 | 3/3 | 20/22 | 4-φ18/4/8-φ18 | 300 | 145 | 16.5 |
| 65/125 | | 180/245 | 145/210 | 120/185 | 3/3 | 20/24 | 4-φ18/8-φ18 | 300 | 145 | 17.1 |
| 80/100 | | 195/215 | 160/180 | 135/155 | 3/3 | 22/22 | 4/8-φ18/8-φ18 | 350 | 185 | 19 |
| 80/125 | | 195/245 | 160/210 | 135/185 | 3/3 | 22/24 | 4/8-φ18/8-φ18 | 350 | 185 | 23 |
| 80/150 | | 195/280 | 160/240 | 135/210 | 3/3 | 22/24 | 4/8-φ18/8-φ23 | 350 | 185 | 25 |
| 100/125 | | 215/245 | 180/210 | 155/185 | 3/3 | 22/24 | 8-φ18/8-φ18 | 400 | 195 | 33 |
| 100/150 | | 215/280 | 180/240 | 155/210 | 3/3 | 22/24 | 8-φ18/8-φ23 | 400 | 195 | 35 |
| 100/200 | | 215/335 | 180/295 | 155/265 | 3/3 | 22/26 | 8-φ18/8-φ23 | 400 | 195 | 38 |
| 125/150 | | 245/280 | 210/240 | 185/210 | 3/3 | 24/24 | 8-φ18/8-φ23 | 500 | 210 | 58 |
| 125/200 | | 245/335 | 210/295 | 185/265 | 3/3 | 24/26 | 8-φ18/8-φ23 | 500 | 210 | 62 |
| 125/250 | | 245/390 | 210/350 | 185/320 | 3/3 | 24/28 | 8-φ18/12-φ23 | 500 | 210 | 71 |
| 150/200 | | 280/335 | 240/295 | 210/265 | 3/3 | 24/26 | 8-φ23/18-φ23 | 200* | 450 | 93 |
| 150/250 | 280/390 | 240/350 | 210/320 | 3/3 | 24/28 | 8-φ23/12-φ23 | 200* | 450 | 105 | |
| 150/300 | 280/440 | 240/400 | 210/368 | 3/3 | 24/28 | 8-φ23/12-φ23 | 200* | 450 | 122 | |
| 200/250 | 335/390 | 295/350 | 265/320 | 3/3 | 26/28 | 8-φ23/12-φ23 | 240* | 490 | 155 | |
| 200/300 | 335/440 | 295/400 | 265/368 | 3/4 | 26/28 | 8-φ23/12-φ23 | 240* | 490 | 167 | |
| 200/350 | 335/500 | 295/460 | 265/428 | 3/4 | 26/30 | 8-φ23/16-φ23 | 240* | 490 | 198 | |
| 250/300 | 390/440 | 350/400 | 320/368 | 3/4 | 28/28 | 12-φ23/12-φ23 | 240* | 550 | 210 | |
| 250/350 | 390/500 | 350/460 | 320/428 | 3/4 | 28/30 | 12-φ23/16-φ23 | 240* | 550 | 225 | |
| 250/400 | 390/565 | 350/515 | 320/482 | 3/4 | 28/32 | 12-φ23/16-φ25 | 240* | 550 | 240 | |

*When flange to PN1.0MPa, DN80, JB78, screw hole Z=4, t other parameter z=8. Please re-confirm the two flange's sizes before signing contract.

