

Series GD double seated globe control valves

Metso double seated globe valves are economical high-performance control valves designed to provide the best possible control accuracy and wide rangeability with the all inherent benefits of double seated linear control valves.

Standard units are equipped with spring diaphragm actuators and ND9000[®] intelligent valve controllers for precise flow control, extended operational life and performance monitoring on-line.

Construction

- Suitable for gas, liquid and steam
- Temperature limits -30 ... +280 °C with standard construction and over +280 °C and under -30 °C with extension bonnet
- Compact construction
- Selection of different Cv and characteristics
- Both V-port trim and contoured trim available
- Both metal and soft seat available depending from the application
- Option for bellows seal for toxic or other application where no leak is allowed
- Wide material selection for different applications
- Both flanged and butt weld end connection styles available for different applications
- Extension bonnet design for wider temperature range
- Rugged one piece body structure to minimize the leak paths and makes the valve insensitive to pipe



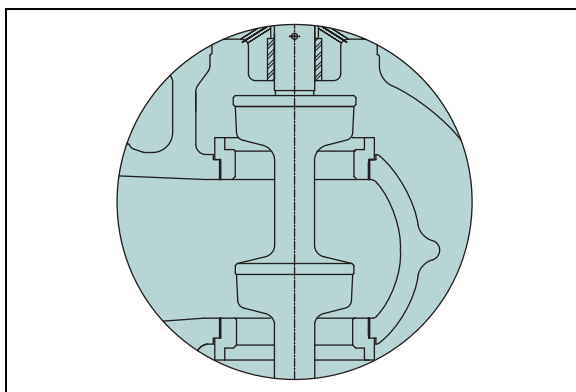
Accurate control

- ND9000 digital valve controller for auto-calibration and accurate control
- Accurate and sensitive diaphragm and piston actuators

Easy maintenance

- Quick change trim and top entry construction for easy in-line maintenance
- Valve assembly is easy and self guiding
- ND9000 digital valve controller with online diagnostics enables performance follow up and predictive maintenance
- Efficient asset management with Neles FieldCare open architecture software and excellent networking capabilities

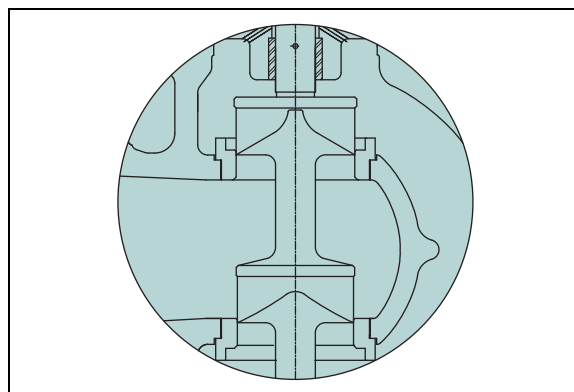
Different trim designs



Series GD, Contoured plug trim

Series GD, standard double seated contoured plug offers a smooth flow profile.

The contoured plug shape defines the flow path through the valve and the flow characteristics of the valve (linear, equal percentage, modified equal percentage or others). The trim is most suited to low pressure drop application and is used in the majority of control applications.



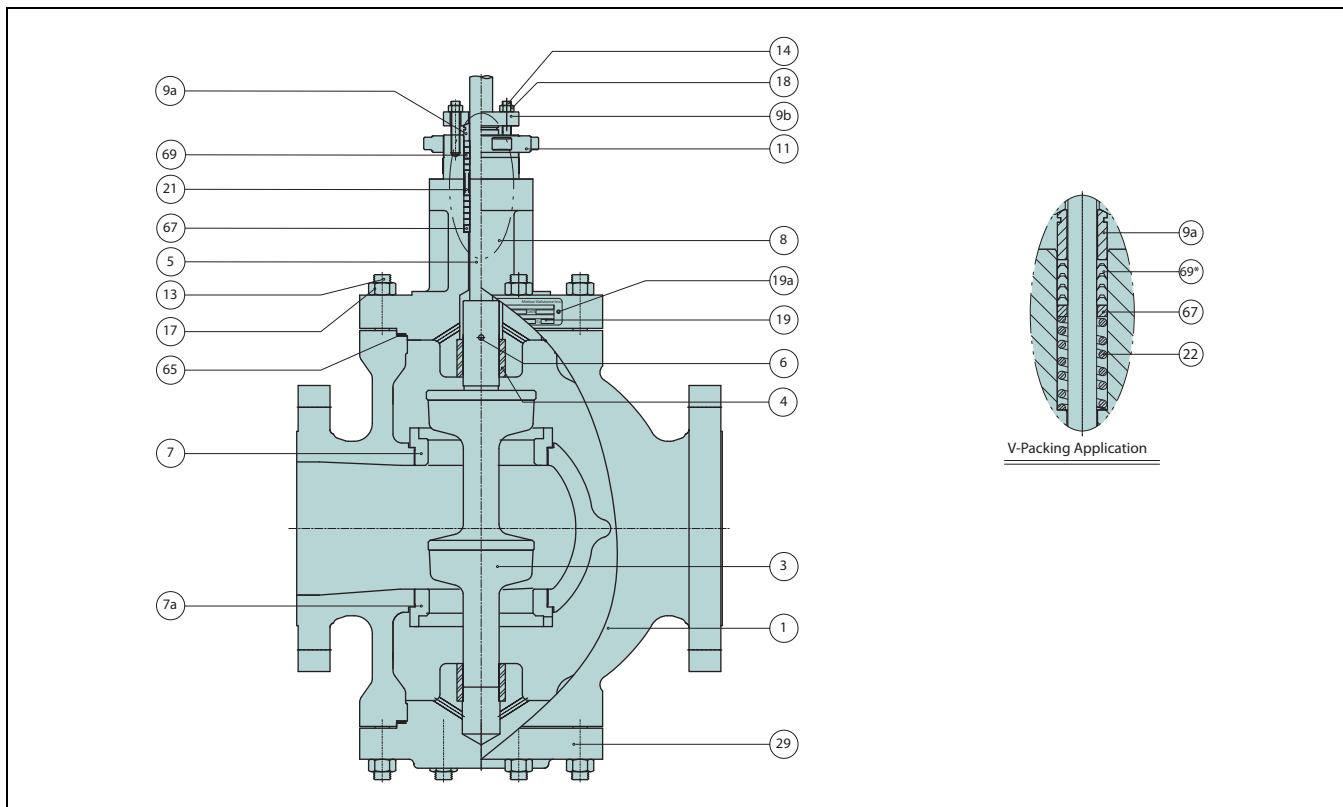
Series GD, V-port plug trim

The V-port plug trim design is additional plug guided with top and bottom guided construction, capable of handling high pressure drops.

The high F_L V-port gives excellent resistance to cavitation on high pressure drop applications.

The V-port plug shape defines the flow path through the valve and the flow characteristics of the valve (linear, equal percentage, modified equal percentage or others).

Components and materials



Body materials : Carbon steel or alloy steel

| Part no. | Description | Material |
|----------|----------------------|----------------------------------|
| 1 | Body | A216 WCB / Alloy steel available |
| 3 | Plug | 410 stainless steel |
| 4 | Guide Bushing | 440C stainless steel |
| 5 | Stem | 17-4PH + HCr |
| 6 | Plug Pin | 316 stainless steel |
| 7 | Seat Ring | 410 stainless steel |
| 7a | Seat Ring | 410 stainless steel |
| 8 | Bonnet | A216 WCB / Alloy steel available |
| 9a | Gland | 304 stainless steel |
| 9b | Gland Flange | A351 CF8 |
| 11 | Yoke Nut | A351 CF8 |
| 13 | Stud | A193 Gr.B7 |
| 14 | Stud | A193 Gr.B8 |
| 17 | Hexagon Nut | A194 Gr.2H |
| 18 | Hexagon Nut | A194 Gr.8 |
| 19 | Identification Plate | 304 stainless steel |
| 19a | Rivet | 304 stainless steel |
| 21 | Lantern Ring | 304 stainless steel |
| 22 | Packing Spring | 304 stainless steel |
| 29 | Bottom Plate | A216 WCB / Alloy steel available |
| 65 | Body Gasket | S/W Gasket, 316 SS + Graphite |
| 67 | Packing Spacer | 304 stainless steel |
| 69* | V-Ring Set | PTFE |
| 69 | Packing Ring | PTFE + Carbon Fiber, Graphite |

- Note.
1. Plug/Seat Hard Facing (Cobalt based alloy) & Soft Seat are available
 2. Materials description
 316 SS : ASTM A276 TP316 or JIS 316 St. Steel
 410 SS : ASTM A276 TP410 or JIS 410 St. Steel
 420 SS : ASTM A276 TP420 or JIS 420 St. Steel
 440C SS : ASTM A276 TP440C or JIS 440C St. Steel
 17-4PH : ASTM A564 630 (H1100) or JIS 630 (H1100) St. Steel
 3. Above standard materials to be applicable depending on specific service conditions, other optional materials contact Metso Automation.
 4. Optional materials to meet to requirements of NACE MR 01-75 are available

Body materials : Stainless steel

| Part no. | Description | Material |
|----------|----------------------|----------------------------------|
| 1 | Body | A351 CF8M |
| 3 | Plug | 316 stainless steel |
| 4 | Guide Bushing | 316 SS + Cobalt based alloy |
| 5 | Stem | 316 stainless steel + HCr |
| 6 | Plug Pin | 316 stainless steel |
| 7 | Seat Ring | 316 stainless steel |
| 7a | Seat Ring | 316 stainless steel |
| 8 | Bonnet | A351 CF8M |
| 9a | Gland | 304 stainless steel |
| 9b | Gland Flange | A351 CF8 |
| 11 | Yoke Nut | A351 CF8 |
| 13 | Stud | A193 Gr.B8(M) |
| 14 | Stud | A193 Gr.B8 |
| 17 | Hexagon Nut | A194 Gr.8(M) |
| 18 | Hexagon Nut | A194 Gr.8 |
| 19 | Identification Plate | 304 stainless steel |
| 19a | Rivet | 304 stainless steel |
| 21 | Lantern Ring | 304 stainless steel |
| 22 | Packing Spring | 304 stainless steel |
| 29 | Bottom Plate | A216 WCB / Alloy steel available |
| 65 | Body Gasket | S/W Gasket, 316 SS + Graphite |
| 67 | Packing Spacer | 304 stainless steel |
| 69* | V-Ring Set | PTFE |
| 69 | Packing Ring | PTFE + Carbon Fiber, Graphite |

- Note.
1. Plug/Seat Hard Facing (Cobalt based alloy) & Soft Seat are available
 2. Materials description
 316 SS : ASTM A276 TP316 or JIS 316 St. Steel
 420 SS : ASTM A276 TP420 or JIS 420 St. Steel
 3. Above standard materials to be applicable depending on specific service conditions, other optional materials contact Metso Automation.
 4. Cryogenic application : ASTM A320 B8M & 8M for Studs (13) and Nuts (17)
 5. Optional materials to meet to requirements of NACE MR 01-75 are available

GD, Applications guide

Temperature range & seat leakage class with different bonnet & seat applications

| Valve Size DN / Inch | ASME Rating | Seat Type | Temperature Range (°C) | | Seat Leakage class (ANSI B 16.104) | |
|-------------------------|------------------|---------------|------------------------|---------------------|---------------------------------------|----------|
| | | | Standard Bonnet | Extension Bonnet | Standard | Optional |
| 50 / 2 ~ 400 / 16 | 150 ~ 600 | Metal Seat | -30 ~ +260 | -198 ~ +425 | II | |
| | | Soft Seat | -30 ~ +232 | -198 ~ +232 | | *V |
| 50 / 2 ~ 400 / 16 | 900 ~ 1500 | Metal Seat | -30 ~ +260 | -198 ~ +450 | II | |

*Optional leakage class V is available with soft seat. Standard leakage class is II.

Temperature range with different body and stud/nut materials

| Body, Bonnet Material | Stud, Nut Material | Temp. Range (°C) | Sign |
|--|---------------------------------------|------------------|------|
| Carbon steel (WCB, A105) | ASTM A193-B7 STUD ASTM A194-2H NUT | -30 ~ +425 | A |
| Stainless steel (CF3, CF8,CF3M, CF8M) | ASTM A193-B7 STUD ASTM A194-2H NUT | -46 ~ +450 | A |
| | ASTM A193-B8 STUD ASTM A194-8 NUT | -198 ~ +450 | B |
| Cr.Mo. Steel (WC6, F11, WC9, F22, C12A, F91) | ASTM A193-B16 STUD ASTM A194-4 NUT | -30 ~ +450 | * |

*Please contact Metso Automation.

Trim materials

| GD, Trim | | | Temp. Range (°C) | Sign |
|-----------------------|--------------|-----------------------|------------------|------------|
| Plug | Stem | Seat | | |
| 410 SS | 17-4PH + HCr | 410 SS | -30 ~ +425 | P1XBCS2P1X |
| 316 SS | 316 SS + HCr | 316 SS | -198 ~ +425 | T6XTCS2T6X |
| 316 SS + Cobalt based | 316 SS + HCr | 316 SS + Cobalt based | -198 ~ +425 | T6ATCS2T6A |
| 420 J2 | 17-4PH + HCr | 420 J2 | -30 ~ +425 | * |
| 316 SS | 316 SS + HCr | 316 SS + PTFE | -198 ~ +425 | * |
| 17-4PH | 17-4PH + HCr | 410 SS | -30 ~ +425 | * |
| Inconel 718 | Inconel 718 | F91 | -30 ~ +425 | * |
| Inconel 625, 718, 750 | | | -198 ~ +450 | * |

*Please contact Metso Automation.

Gasket applications

| Body, Bonnet Material | Gasket Material | Temp. Range (°C) | Sign |
|---|---|---------------------|------|
| Carbon steel WCB, A105 | S/W (Spiral Wound) 316SS + Graphite | -30 ~ +425 | S |
| Stainless steel CF8, CF8M, CF3, CF3M | S/W (Spiral Wound) 316SS + Graphite | -198 ~ +425 | S |
| | S/W (Spiral Wound) 316SS + PTFE | -198 ~ +232 | L |
| Cr.Mo. Steel WC6, WC9, F22, C12A, F91 | S/W (Spiral Wound) 316SS + Graphite + Non Asbestos | -30 ~ +450 | H |
| | S/W (Spiral Wound) 316SS + Graphite + Mica (special Hi-Temp. max 950) | | * |

*Please contact Metso Automation.

Packing Applications

| Packing Applications | Temp (°C) | Sign |
|--|-------------|------|
| PTFE V-Ring | -198 ~ +232 | T |
| Graphite with Mold + Braided | -198 ~ +400 | F |
| PTFE + Carbon Fiber (Braided TEF + Graphite) | -198 ~ +260 | G |
| Hi-Graphite with Mold + Braided | -198 ~ +593 | * |
| RTFE V-Ring | -40 ~ +260 | * |
| RTFE V-Ring + Metal | -40 ~ +350 | * |

*Please contact Metso Automation.

Flow direction

Flow to between the plug.

Rated Cv and Trim Table (Globe double seated, Top & Bottom guided, Series GD)

| Sign | TRIM TYPE | Sign | TRIM CHARACTERISTIC | Sign | Description | RATED Cv | | | | | | | | | |
|--------|-------------------------------|------------------|--|----------|-----------------------------------|---|----------|----------|----------|----------|-----------|-----------|------------|------------|--|
| | | | | | | Body Size | | | | | | | | | |
| | | | | | | 2" (Srk) | 3" (Srk) | 4" (Srk) | 6" (Srk) | 8" (Srk) | 10" (Srk) | 12" (Srk) | 14" (Srk) | 16" (Srk) | |
| A V | Contoured type V-port type | L E M Q | Linear Equal % Modified EQ% Quick-Opening | FC 1A | Full Capacity 1-Step reduction | 50 (20) | 115 (40) | 200 (40) | 455 (50) | 750 (60) | 1250 (80) | 1630 (90) | 2220 (120) | 2980 (120) | |
| | | | | | | 20 (20) | 48 (40) | 81 (40) | 184 (50) | 300 (60) | 500 (80) | 660 (90) | 900 (120) | 1210 (120) | |
| | | | | | | Contact Metso Automation for Cv details | | | | | | | | | |
| Y | Special Trim Type | Y | Special | YY | Special | Contact Metso Automation for Cv details | | | | | | | | | |

* Rated Cv is applied differently depending on the trim type & trim characteristic.

* Srk. means the valve stroke.

* Optional Rated Cv to meet to specific Cv available (Up to 24"), please contact Metso Automation.

GD series Cv vs travel

GD - V-port Type

ANSI Class : 150# ~ 1500#

Size : 2" ~ 16"

Flow Characteristic : EQ-%

| Valve Travel [%] | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|------------------|-----|--------------|--------------|-----------------|--------|-----|----------|-------|-------|-------|-------|-------|-------|--------|--------|------|
| F _L | | Full Bore | | | | | 0.96 | 0.96 | 0.96 | 0.96 | 0.95 | 0.94 | 0.94 | 0.93 | 0.91 | 0.9 |
| | | Reduced Bore | | | | | 0.96 | 0.96 | 0.95 | 0.94 | 0.93 | 0.92 | 0.91 | 0.9 | 0.89 | 0.88 |
| Valve Size | | Orifice Dia. | | | Travel | | Rated Cv | | | | | | | | | |
| Inch | mm | Sign | Full Bore mm | Reduced Bore mm | Inch | mm | | | | | | | | | | |
| 2 | 50 | FC | 52.0 | 49.0 | 0.8 | 20 | 1.5 | 2.2 | 3.2 | 4.8 | 7.1 | 10.5 | 15.5 | 22.9 | 33.8 | 50 |
| | | 1A | 38.0 | 35.0 | | | 0.6 | 0.9 | 1.3 | 1.9 | 2.8 | 4.2 | 6.2 | 9.1 | 13.5 | 20 |
| 3 | 80 | FC | 68.0 | 65.0 | 1.6 | 40 | 3.4 | 5.0 | 7.4 | 11.0 | 16.3 | 24.0 | 35.6 | 52.6 | 77.8 | 115 |
| | | 1A | 49.0 | 46.0 | | | 1.4 | 2.1 | 3.1 | 4.6 | 6.8 | 10.0 | 14.8 | 22 | 32.5 | 48 |
| 4 | 100 | FC | 90.0 | 87.0 | 1.6 | 40 | 5.9 | 8.7 | 12.9 | 19.1 | 28.3 | 41.8 | 61.8 | 91.5 | 135.2 | 200 |
| | | 1A | 62.0 | 59.0 | | | 2.4 | 3.5 | 5.2 | 7.7 | 11.5 | 16.9 | 25.0 | 37.0 | 54.8 | 81 |
| 6 | 150 | FC | 135.0 | 132.0 | 2.0 | 50 | 13.5 | 19.9 | 29.4 | 43.5 | 64.3 | 95.2 | 140.7 | 208.1 | 307.7 | 455 |
| | | 1A | 90.0 | 87.0 | | | 5.4 | 8.0 | 11.9 | 17.6 | 26.0 | 38.5 | 56.9 | 84.1 | 124.4 | 184 |
| 8 | 200 | FC | 182.0 | 179.0 | 2.4 | 60 | 22.2 | 32.8 | 48.5 | 71.7 | 106.1 | 156.8 | 231.9 | 343 | 507.2 | 750 |
| | | 1A | 120.0 | 117.0 | | | 8.9 | 13.1 | 19.4 | 28.7 | 42.4 | 62.7 | 92.8 | 137.2 | 202.9 | 300 |
| 10 | 250 | FC | 224.0 | 220.0 | 3.1 | 80 | 37.0 | 54.7 | 80.8 | 119.5 | 176.8 | 261.4 | 386.6 | 571.6 | 845.3 | 1250 |
| | | 1A | 135.0 | 131.0 | | | 14.8 | 21.9 | 32.3 | 47.8 | 70.7 | 104.6 | 154.6 | 228.7 | 338.1 | 500 |
| 12 | 300 | FC | 268.0 | 264.0 | 3.5 | 90 | 48.2 | 71.3 | 105.4 | 155.9 | 230.5 | 340.9 | 504.1 | 745.4 | 1102.3 | 1630 |
| | | 1A | 164.0 | 160.0 | | | 19.5 | 28.9 | 42.7 | 63.1 | 93.3 | 138 | 204.1 | 301.8 | 446.3 | 660 |
| 14 | 350 | FC | 312.0 | 308.0 | 4.7 | 120 | 65.7 | 97.1 | 143.6 | 212.3 | 314 | 464.3 | 686.5 | 1015.2 | 1501.3 | 2220 |
| | | 1A | 188.0 | 184.0 | | | 26.6 | 39.4 | 58.2 | 86.1 | 127.3 | 188.2 | 278.3 | 411.6 | 608.6 | 900 |
| 16 | 400 | FC | 358.0 | 354.0 | 4.7 | 120 | 88.1 | 130.3 | 192.7 | 285 | 421.4 | 623.2 | 921.6 | 1362.8 | 2015.2 | 2980 |
| | | 1A | 219.0 | 215.0 | | | 35.8 | 52.9 | 78.3 | 115.7 | 171.1 | 253 | 374.2 | 553.3 | 818.3 | 1210 |

NOTE
 Cv: Valve flow coefficient
 F_L: Liquid pressure recovery factor
 FC: Full Capacity 1A: 1-Step reduction.

GD - Contoured Type

ANSI Class : 150# ~ 1500#

Size : 2" ~ 16"

Flow Characteristic : LINEAR

| Valve Travel [%] | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|------------------|-----|--------------|--------------|-----------------|--------|-----|----------|-------|-------|--------|--------|--------|--------|--------|--------|------|
| F _L | | Full Bore | | | | | 0.63 | 0.64 | 0.65 | 0.7 | 0.77 | 0.85 | 0.9 | 0.9 | 0.89 | 0.88 |
| | | Reduced Bore | | | | | 0.63 | 0.64 | 0.65 | 0.7 | 0.75 | 0.8 | 0.82 | 0.82 | 0.81 | 0.88 |
| Valve Size | | Orifice Dia. | | | Travel | | Rated Cv | | | | | | | | | |
| Inch | mm | Sign | Full Bore mm | Reduced Bore mm | Inch | mm | | | | | | | | | | |
| 2 | 50 | FC | 52 | 49 | 0.8 | 20 | 4.9 | 9.8 | 14.7 | 19.6 | 24.5 | 29.4 | 34.3 | 39.2 | 44.1 | 50 |
| | | 1A | 38 | 35 | | | 2.0 | 3.9 | 5.9 | 7.8 | 9.8 | 11.8 | 13.7 | 15.7 | 17.6 | 20 |
| 3 | 80 | FC | 68 | 65 | 1.6 | 40 | 11.3 | 22.6 | 33.8 | 45.1 | 56.4 | 67.6 | 78.9 | 90.2 | 101.5 | 115 |
| | | 1A | 49 | 46 | | | 4.7 | 9.4 | 14.1 | 18.8 | 23.5 | 28.2 | 32.9 | 37.6 | 42.3 | 48 |
| 4 | 100 | FC | 90 | 87 | 1.6 | 40 | 19.6 | 39.2 | 58.8 | 78.4 | 98.0 | 117.6 | 137.2 | 156.8 | 176.4 | 200 |
| | | 1A | 62 | 59 | | | 8.0 | 15.9 | 23.8 | 31.8 | 39.7 | 47.6 | 55.6 | 63.5 | 71.5 | 81 |
| 6 | 150 | FC | 135 | 132 | 2 | 50 | 44.7 | 89.3 | 133.9 | 178.5 | 223.0 | 267.6 | 312.2 | 356.8 | 401.4 | 455 |
| | | 1A | 90 | 87 | | | 18.1 | 36.1 | 54.1 | 72.2 | 90.2 | 108.2 | 126.3 | 144.3 | 162.3 | 184 |
| 8 | 200 | FC | 182 | 179 | 2.4 | 60 | 73.7 | 147.2 | 220.7 | 294.2 | 367.7 | 441.2 | 514.7 | 588.2 | 661.7 | 750 |
| | | 1A | 120 | 117 | | | 29.5 | 58.9 | 88.3 | 117.7 | 147.1 | 176.5 | 205.9 | 235.3 | 264.7 | 300 |
| 10 | 250 | FC | 224 | 220 | 3.1 | 80 | 122.8 | 245.3 | 367.8 | 490.3 | 612.8 | 735.3 | 857.8 | 980.3 | 1102.8 | 1250 |
| | | 1A | 135 | 131 | | | 49.1 | 98.1 | 147.1 | 196.1 | 245.1 | 294.1 | 343.1 | 392.1 | 441.1 | 500 |
| 12 | 300 | FC | 268 | 264 | 3.5 | 90 | 160.1 | 319.8 | 479.5 | 639.3 | 799.0 | 958.8 | 1118.5 | 1278.2 | 1438.0 | 1630 |
| | | 1A | 164 | 160 | | | 64.8 | 129.5 | 194.2 | 258.9 | 323.5 | 388.2 | 452.9 | 517.6 | 582.3 | 660 |
| 14 | 350 | FC | 312 | 308 | 4.7 | 120 | 218.0 | 435.6 | 653.1 | 870.7 | 1088.2 | 1305.8 | 1523.4 | 1740.9 | 1958.5 | 2220 |
| | | 1A | 188 | 184 | | | 88.4 | 176.6 | 264.8 | 353 | 441.2 | 529.4 | 617.6 | 705.8 | 794.0 | 900 |
| 16 | 400 | FC | 358 | 354 | 4.7 | 120 | 292.1 | 584.7 | 876.7 | 1168.8 | 1460.8 | 1752.8 | 2044.9 | 2336.9 | 2629.0 | 2980 |
| | | 1A | 219 | 215 | | | 118.8 | 237.4 | 356.0 | 474.6 | 593.1 | 711.7 | 830.3 | 948.9 | 1067.5 | 1210 |

NOTE
 Cv: Valve flow coefficient
 F_L: Liquid pressure recovery factor
 FC: Full Capacity 1A: 1-Step reduction

GD Allowable Pressure Drops

Actuator(VDD / VDR / VCC)

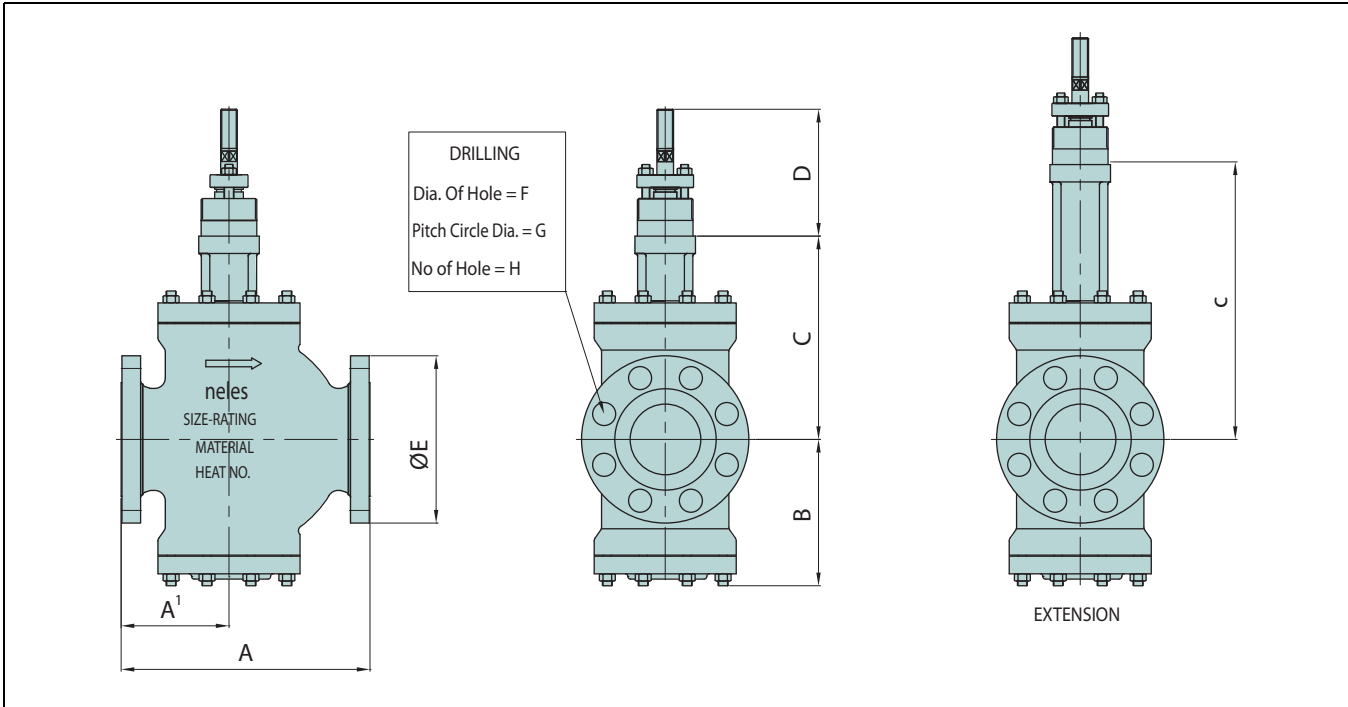
UNIT : bar

| Valve Size | | Travel | | Rated Cv | Actuator Size | VD, Air To Open (Reverse) | | | VD, Air To Close (Direct) | | | VC, Double Act. | |
|------------|-----|--------|-----|----------|------------------|---------------------------|---------------|-----------------|---------------------------|---------------|-----------------|-----------------|-----------------|
| Inch | mm | Inch | mm | | | Spring Range | Supply Press. | Allow.Pr. Drops | Spring Range | Supply Press. | Allow.Pr. Drops | Supply Press. | Allow.Pr. Drops |
| 2" | 50 | 0.8 | 20 | 50 | #29 (VD) | 0.8 ~ 2.6 | 3.2 | 40 | 0.8 ~ 2.6 | 3.2 | 48 | | |
| | | | | | #37 (VD) | 0.8 ~ 2.6 | 3.2 | 75 | 0.8 ~ 2.6 | 3.2 | 78 | | |
| | | | | | #48 (VD) | 0.8 ~ 2.6 | 3.2 | 130 | 0.8 ~ 2.6 | 3.2 | 145 | | |
| | | | | | #55 (VD) | 0.8 ~ 2.6 | 3.2 | 175 | 0.8 ~ 2.6 | 3.2 | 210 | | |
| 3" | 80 | 1.6 | 40 | 115 | #37 (VD) | 0.8 ~ 2.6 | 3.2 | 52 | 0.8 ~ 2.6 | 3.2 | 68 | | |
| | | | | | #48 (VD) | 0.8 ~ 2.6 | 3.2 | 105 | 0.8 ~ 2.6 | 3.2 | 118 | | |
| | | | | | #55 (VD) | 0.8 ~ 2.6 | 3.2 | 140 | 0.8 ~ 2.6 | 3.2 | 160 | | |
| 4" | 100 | 1.6 | 40 | 200 | #37 (VD) | 0.8 ~ 2.6 | 3.2 | 36 | 0.8 ~ 2.6 | 3.2 | 56 | | |
| | | | | | #48 (VD) | 0.8 ~ 2.6 | 3.2 | 63 | 0.8 ~ 2.6 | 3.2 | 100 | | |
| | | | | | #55 (VD) | 0.8 ~ 2.6 | 3.2 | 105 | 0.8 ~ 2.6 | 3.2 | 145 | | |
| 6" | 150 | 2 | 50 | 455 | #48 (VD) | 0.8 ~ 2.6 | 3.2 | 52 | 0.8 ~ 2.6 | 3.2 | 64 | | |
| | | | | | #55 (VD) | 0.8 ~ 2.6 | 3.2 | 75 | 0.8 ~ 2.6 | 3.2 | 86 | | |
| | | | | | #30 (VC) | | | | | | | 5.0 | 180 |
| 8" | 200 | 2.4 | 60 | 750 | #48 (VD) | 0.8 ~ 2.6 | 3.2 | 38 | 0.8 ~ 2.6 | 3.2 | 45 | | |
| | | | | | #55 (VD) | 0.8 ~ 2.6 | 3.2 | 54 | 0.8 ~ 2.6 | 3.2 | 62 | | |
| | | | | | #30 (VC) | | | | | | | 5.0 | 110 |
| 10" | 250 | 3.1 | 80 | 1250 | #55 (VD) | 0.8 ~ 2.6 | 3.2 | 30 | 0.8 ~ 2.6 | 3.2 | 48 | | |
| | | | | | #30 (VC) | | | | | | | 5.0 | 90 |
| | | | | | #40 (VC) | | | | | | | 5.0 | 150 |
| | | | | | #50 (VC) | | | | | | | 5.0 | 200 |
| 12" | 300 | 3.5 | 90 | 1630 | #30 (VC) | | | | | | | 5.0 | 65 |
| | | | | | #40 (VC) | | | | | | | 5.0 | 110 |
| | | | | | #50 (VC) | | | | | | | 5.0 | 150 |
| 14" | 350 | 4.7 | 120 | 2220 | #30 (VC) | | | | | | | 5.0 | 25 |
| | | | | | #40 (VC) | | | | | | | 5.0 | 40 |
| | | | | | #50 (VC) | | | | | | | 5.0 | 64 |
| 16" | 400 | 4.7 | 120 | 2980 | #30 (VC) | | | | | | | 5.0 | 23 |
| | | | | | #40 (VC) | | | | | | | 5.0 | 36 |
| | | | | | #50 (VC) | | | | | | | 5.0 | 58 |

NOTE

1. VDD: Fail open, air to close (Direct) Multi-Spring Diaphragm Actuator
2. VDR: Fail close, air to open (Reverse) Multi-Spring Diaphragm Actuator
3. VCC: Springless double acting cylinder actuator
4. See actuator bulletin 6DA20EN for more information about the actuators.

Valve dimensions



150 # / 300 # / 600 #

(UNIT: mm)

| Dimension Size | A | | | A' | | | B | | C | | D | | E | | | F | | | G | | | H | | | Weight (kg) | | |
|-------------------|------|------|------|------|------|------|--------|-----|-----|--------|------|------|------|------|------|------|-------|-------|-------|------|------|------|------|------|-------------|------|------|
| | 150# | 300# | 600# | 150# | 300# | 600# | COMMON | STD | EXT | COMMON | 150# | 300# | 600# | 150# | 300# | 600# | 150# | 300# | 600# | 150# | 300# | 600# | 150# | 300# | 600# | 150# | 300# |
| 2" | 254 | 267 | 286 | 117 | 124 | 133 | 152.4 | 178 | 295 | 110 | 150 | 165 | 165 | 19.1 | 19.1 | 19.1 | 120.7 | 127 | 127 | 4 | 8 | 8 | 39 | 42 | 52 | | |
| 3" | 298 | 318 | 337 | 140 | 149 | 159 | 198.1 | 222 | 330 | 115 | 190 | 210 | 210 | 19.1 | 22.2 | 22.2 | 152.4 | 168.3 | 168.3 | 4 | 8 | 8 | 85 | 87 | 94 | | |
| 4" | 353 | 368 | 394 | 167 | 175 | 187 | 205.7 | 248 | 380 | 140 | 230 | 255 | 275 | 19.1 | 22.2 | 25.4 | 190.5 | 200 | 215.9 | 8 | 8 | 8 | 120 | 124 | 134 | | |
| 6" | 451 | 439 | 508 | 194 | 205 | 222 | 284.5 | 340 | 430 | 150 | 280 | 320 | 355 | 22.2 | 22.2 | 28.6 | 241.3 | 269.9 | 292.1 | 8 | 12 | 12 | 222 | 234 | 288 | | |
| 8" | 543 | 568 | 610 | 217 | 230 | 251 | 340.4 | 451 | 490 | 150 | 345 | 380 | 420 | 22.2 | 25.4 | 31.8 | 298.5 | 330.2 | 349.2 | 8 | 12 | 12 | 436 | 462 | 532 | | |
| 10" | 625 | 660 | 705 | 252 | 270 | 292 | 375.9 | 488 | 600 | 150 | 405 | 445 | 510 | 25.4 | 28.6 | 34.9 | 362 | 387.4 | 431.8 | 12 | 16 | 16 | 635 | 684 | 783 | | |
| 12" | 730 | 768 | 813 | 286 | 305 | 327 | 452.1 | 543 | 660 | 150 | 485 | 520 | 560 | 25.4 | 31.8 | 34.9 | 431.8 | 450.8 | 489 | 12 | 16 | 20 | 1041 | 1098 | 1173 | | |
| 14" | 851 | 889 | 933 | 330 | 349 | 371 | 546.1 | 616 | 740 | 210 | 535 | 585 | 605 | 28.6 | 31.8 | 38.1 | 476.3 | 514.4 | 527 | 12 | 20 | 20 | 1346 | 1484 | 1508 | | |
| 16" | 899 | 937 | 981 | 399 | 419 | 438 | 566.4 | 692 | 820 | 220 | 595 | 650 | 685 | 28.6 | 34.9 | 41.3 | 539.8 | 571.5 | 603.2 | 16 | 20 | 20 | 1587 | 1679 | 1825 | | |

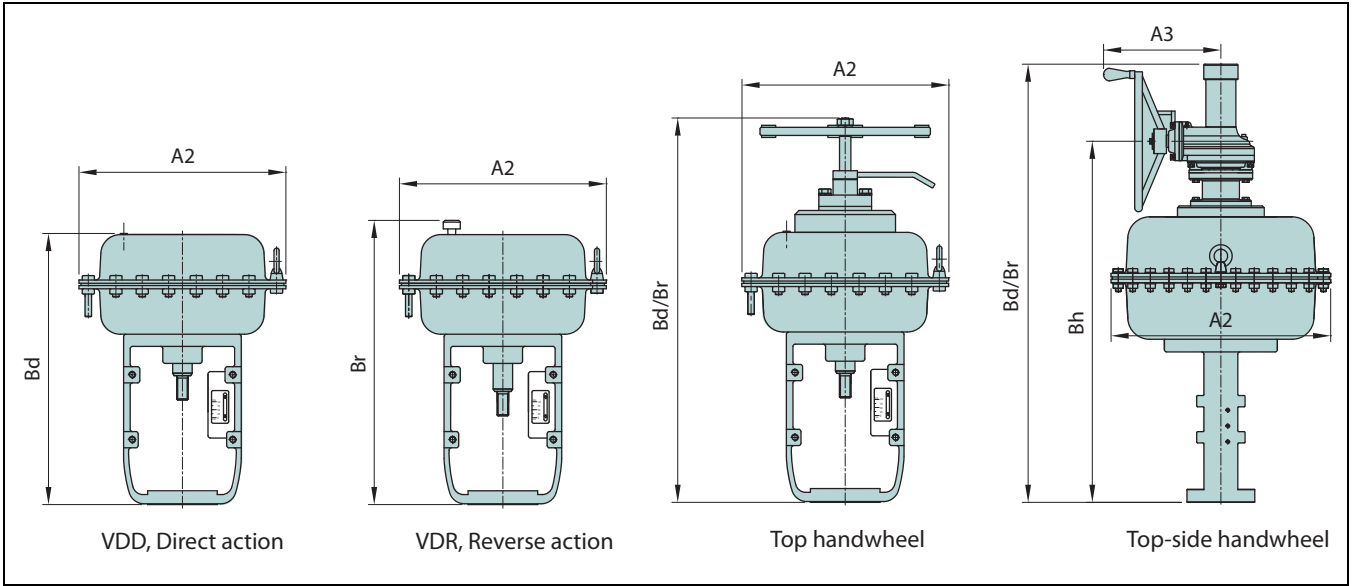
900 # / 1500 #

(UNIT: mm)

| Dimension Size | A | | A' | | B | | C | | D | | E | | F | | G | | H | | Weight (kg) | |
|-------------------|------|-------|------|-------|--------|-----|-----|--------|------|-------|------|-------|-------|-------|------|-------|------|-------|-------------|-------|
| | 900# | 1500# | 900# | 1500# | COMMON | STD | EXT | COMMON | 900# | 1500# | 900# | 1500# | 900# | 1500# | 900# | 1500# | 900# | 1500# | 900# | 1500# |
| 2" | 311 | 311 | 149 | 149 | 152.4 | 208 | 400 | 110 | 215 | 215 | 25.4 | 25.4 | 165.1 | 165.1 | 8 | 8 | 87 | 87 | | |
| 3" | 387 | 406 | 181 | 191 | 198.1 | 258 | 430 | 115 | 240 | 265 | 25.4 | 31.8 | 190.5 | 203.2 | 8 | 8 | 195 | 212 | | |
| 4" | 464 | 483 | 219 | 229 | 205.7 | 350 | 450 | 150 | 290 | 310 | 31.8 | 34.9 | 235 | 241.3 | 8 | 8 | 293 | 306 | | |
| 6" | 530 | 610 | 240 | 279 | 284.5 | 393 | 500 | 150 | 380 | 395 | 31.8 | 38.1 | 317.5 | 317.5 | 12 | 12 | 636 | 648 | | |
| 8" | 708 | 765 | 324 | 353 | 340.4 | 480 | 600 | 150 | 470 | 485 | 38.1 | 44.5 | 393.7 | 393.7 | 12 | 12 | 838 | 985 | | |
| 10" | 829 | 905 | 384 | 422 | 375.9 | 518 | 650 | 150 | 545 | 585 | 38.1 | 50.8 | 469.9 | 482.6 | 16 | 12 | 1098 | 1308 | | |
| 12" | 895 | 1026 | 397 | 449 | 452.1 | 680 | 800 | 150 | 610 | 675 | 38.1 | 54 | 533.4 | 571.5 | 20 | 16 | 1357 | 1426 | | |

Actuators dimensions

VD Diaphragm actuators



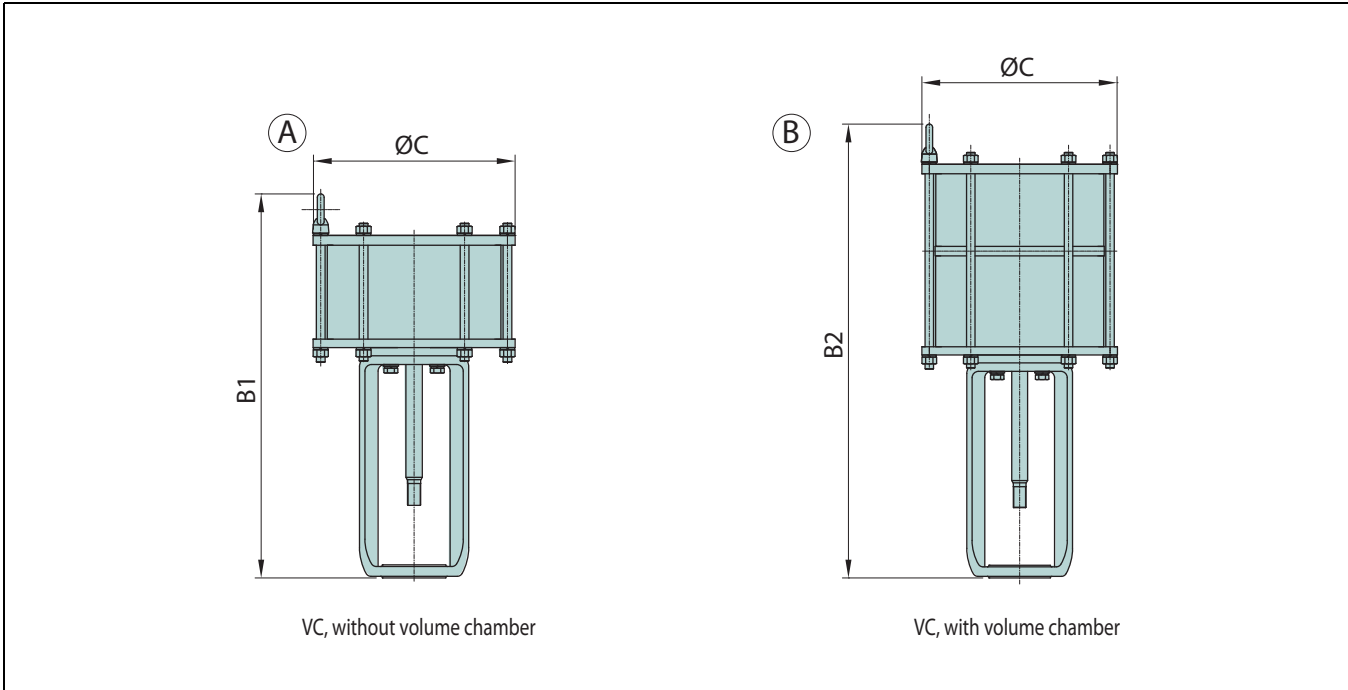
(UNIT: mm)

| Without handwheel | | | | | With handwheel | | | | | |
|-------------------|-----|-----|-----|-------------|----------------|------|------|-----|-----|-------------|
| Size | A2 | Bd | Br | Weight (kg) | A2 | Bd | Br | A3 | Bh | Weight (kg) |
| #25 | 255 | 333 | 358 | 10 | 255 | 473 | 440 | - | - | 13 |
| #29 | 295 | 370 | 397 | 19 | 295 | 576 | 529 | - | - | 25 |
| #37 | 375 | 450 | 475 | 37 | 375 | 660 | 614 | - | - | 46 |
| #48 | 486 | 632 | 654 | 92 | 486 | 1053 | 1053 | 335 | 847 | 112 |
| #55 | 566 | 675 | 700 | 116 | 566 | 1106 | 1106 | 335 | 915 | 145 |

NOTE:

1. "Br" refers to reverse acting actuator, VDR
2. "Bd" refers to direct acting actuator, VDD

VC actuators without handwheel

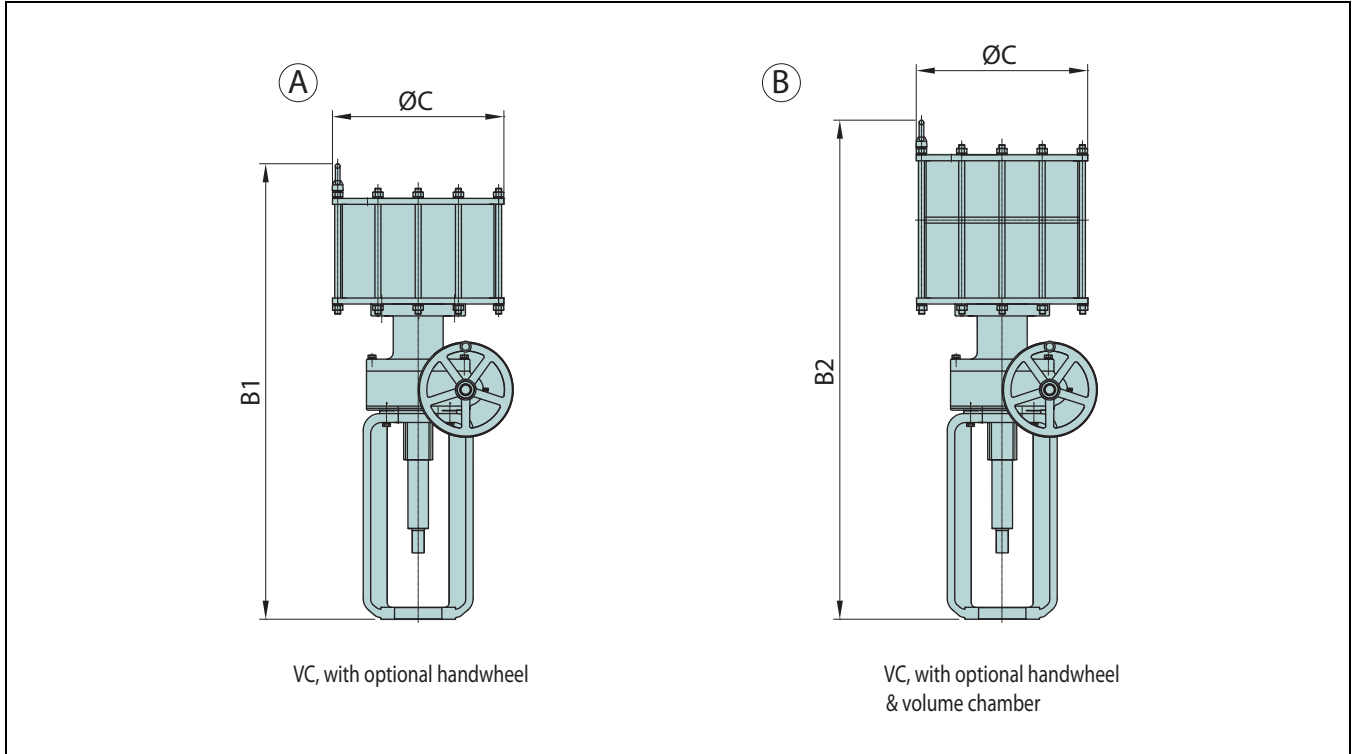


(UNIT: mm)

| #30 | | | | | #40 | | | | | #50 | | | | |
|--------|----------|-------|-------------|-----|--------|----------|-------|-------------|-----|--------|----------|-------|-------------|-----|
| Stroke | B1 B2 | Ø C | Weight (kg) | | Stroke | B1 B2 | Ø C | Weight (kg) | | Stroke | B1 B2 | Ø C | Weight (kg) | |
| | | | (A) | (B) | | | | (A) | (B) | | | | (A) | (B) |
| 40 | 590 | Ø 370 | 92 | 116 | 40 | 625 | Ø 460 | 118 | 149 | 40 | 625 | Ø 560 | 150 | 188 |
| | 680 | | | | | 920 | | | | | 920 | | | |
| 50 | 610 | Ø 370 | 97 | 122 | 50 | 645 | Ø 460 | 123 | 156 | 50 | 645 | Ø 560 | 156 | 195 |
| | 700 | | | | | 940 | | | | | 940 | | | |
| 70 | 650 | Ø 370 | 102 | 128 | 70 | 685 | Ø 460 | 127 | 160 | 70 | 685 | Ø 560 | 162 | 202 |
| | 740 | | | | | 950 | | | | | 950 | | | |
| 80 | 670 | Ø 370 | 107 | 134 | 80 | 705 | Ø 460 | 132 | 166 | 80 | 705 | Ø 560 | 168 | 210 |
| | 760 | | | | | 970 | | | | | 970 | | | |
| 100 | 710 | Ø 370 | 113 | 141 | 100 | 745 | Ø 460 | 135 | 170 | 100 | 745 | Ø 560 | 175 | 218 |
| | 800 | | | | | 1010 | | | | | 1010 | | | |
| 120 | 750 | Ø 370 | 119 | 147 | 120 | 785 | Ø 460 | 139 | 175 | 120 | 785 | Ø 560 | 181 | 226 |
| | 840 | | | | | 1030 | | | | | 1030 | | | |
| 150 | 845 | Ø 370 | 119 | 147 | 150 | 845 | Ø 460 | 144 | 181 | 150 | 845 | Ø 560 | 188 | 233 |
| | 1090 | | | | | 1090 | | | | | 1090 | | | |
| 160 | 865 | Ø 370 | 119 | 147 | 160 | 865 | Ø 460 | 148 | 186 | 160 | 865 | Ø 560 | 195 | 242 |
| | 1110 | | | | | 1110 | | | | | 1110 | | | |
| 170 | 885 | Ø 370 | 119 | 147 | 170 | 885 | Ø 460 | 155 | 194 | 170 | 885 | Ø 560 | 202 | 250 |
| | 1130 | | | | | 1130 | | | | | 1130 | | | |
| 180 | 905 | Ø 370 | 119 | 147 | 180 | 905 | Ø 460 | 159 | 199 | 180 | 905 | Ø 560 | 209 | 259 |
| | 1150 | | | | | 1150 | | | | | 1150 | | | |

NOTE:
 B1 : without volume chamber
 B2 : with volume chamber

VC actuators with handwheel



(UNIT: mm)

| Stroke | #30 | | | | Stroke | #40 | | | | Stroke | #50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------|----------|-------|-------------|-----|--------|----------|-------|-------------|-----|--------|----------|-------|-------------|-----|-----|-------|-----|-----|-----|------|-------|-------|-----|-----|------|-------|-------|-----|------|------|-----|-----|-------|-----|------|------|------|-------|-----|-----|-----|------|-------|-------|-----|------|------|-------|-------|-------|-----|------|-----|------|-------|-----|------|------|------|-------|-----|-----|------|------|-------|-----|-------|-----|------|-------|------|-------|-----|------|-----|------|-------|-----|------|------|------|-------|-----|-------|-----|------|-------|------|-------|-----|------|-------|------|-------|-----|------|------|------|-------|-----|------|-----|------|-------|------|-------|-----|------|-------|------|-------|-----|------|-----|------|-------|-----|------|-----|------|-------|-----|-----|-----|------|-------|------|-------|-----|------|-----|------|-------|-----|------|-----|------|-------|-----|-----|-----|------|-------|-----|-----|--|------|-----|------|-------|-----|------|-----|------|-------|-----|-----|-----|------|-------|-----|-----|--|------|--|--|--|--|------|-----|------|-------|-----|-----|
| | B1 B2 | Ø C | Weight (kg) | | | B1 B2 | Ø C | Weight (kg) | | | B1 B2 | Ø C | Weight (kg) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | (A) | (B) | | | | (A) | (B) | | | | (A) | (B) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 910 | Ø 370 | 120 | 144 | 40 | 1080 | Ø 460 | 158 | 189 | 40 | 1080 | Ø 560 | 190 | 228 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1020 | | | | | 1210 | | | | | 50 | | | | 920 | Ø 370 | 125 | 150 | 50 | 1090 | Ø 460 | 163 | 196 | 50 | 1090 | Ø 560 | 196 | 235 | 1040 | 1230 | 70 | 940 | Ø 370 | 130 | 156 | 70 | 1110 | Ø 460 | 167 | 200 | 70 | 1110 | Ø 560 | 202 | 242 | 1080 | 1270 | 80 | 950 | Ø 370 | 135 | 162 | 80 | 1120 | Ø 460 | 172 | 206 | 80 | 1120 | Ø 560 | 208 | 250 | 1100 | 1290 | 100 | 970 | Ø 370 | 141 | 169 | 100 | 1140 | Ø 460 | 175 | 210 | 100 | 1140 | Ø 560 | 215 | 258 | 1140 | 1330 | 120 | 990 | Ø 370 | 147 | 175 | 120 | 1160 | Ø 460 | 179 | 215 | 120 | 1160 | Ø 560 | 221 | 266 | 1180 | 1370 | | | | | | 150 | 1190 | Ø 460 | 184 | 221 | 150 | 1190 | Ø 560 | 228 | 273 | | | | | | | 1430 | | | | | | 160 | 1200 | Ø 460 | 188 | 226 | 160 | 1200 | Ø 560 | 235 | 282 | | | | | | | 1450 | | | | | | 170 | 1210 | Ø 460 | 195 | 234 | 170 | 1210 | Ø 560 | 242 | 290 | | | | | | | 1470 | | | | | | 180 | 1220 | Ø 460 | 199 | 239 |
| 50 | 920 | Ø 370 | 125 | 150 | 50 | 1090 | Ø 460 | 163 | 196 | 50 | | 1090 | Ø 560 | 196 | 235 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1040 | | | | | 1230 | | | | | 70 | 940 | | | | Ø 370 | 130 | 156 | 70 | 1110 | Ø 460 | 167 | 200 | 70 | 1110 | Ø 560 | 202 | 242 | 1080 | 1270 | 80 | 950 | Ø 370 | 135 | 162 | 80 | 1120 | Ø 460 | 172 | 206 | 80 | 1120 | Ø 560 | 208 | 250 | 1100 | 1290 | 100 | 970 | Ø 370 | 141 | 169 | 100 | 1140 | Ø 460 | 175 | 210 | 100 | 1140 | Ø 560 | 215 | 258 | 1140 | 1330 | 120 | 990 | Ø 370 | 147 | 175 | 120 | 1160 | Ø 460 | 179 | 215 | 120 | 1160 | Ø 560 | 221 | 266 | 1180 | 1370 | | | | | | 150 | 1190 | Ø 460 | 184 | 221 | 150 | 1190 | Ø 560 | 228 | 273 | | | | | | | 1430 | | | | | | 160 | 1200 | Ø 460 | 188 | 226 | 160 | 1200 | Ø 560 | 235 | 282 | | | | | | | 1450 | | | | | | 170 | 1210 | Ø 460 | 195 | 234 | 170 | 1210 | Ø 560 | 242 | 290 | | | | | | | 1470 | | | | | | 180 | 1220 | Ø 460 | 199 | 239 | 180 | 1220 | Ø 560 | 249 | 299 | | | | | | | 1490 | | | | | |
| 70 | 940 | Ø 370 | 130 | 156 | 70 | 1110 | Ø 460 | 167 | 200 | 70 | | 1110 | Ø 560 | 202 | 242 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1080 | | | | | 1270 | | | | | 80 | 950 | | | | Ø 370 | 135 | 162 | 80 | 1120 | Ø 460 | 172 | 206 | 80 | 1120 | Ø 560 | 208 | 250 | 1100 | 1290 | 100 | 970 | Ø 370 | 141 | 169 | 100 | 1140 | Ø 460 | 175 | 210 | 100 | 1140 | Ø 560 | 215 | 258 | 1140 | 1330 | 120 | 990 | Ø 370 | 147 | 175 | 120 | 1160 | Ø 460 | 179 | 215 | 120 | 1160 | Ø 560 | 221 | 266 | 1180 | 1370 | | | | | | 150 | 1190 | Ø 460 | 184 | 221 | 150 | 1190 | Ø 560 | 228 | 273 | | | | | | | 1430 | | | | | | 160 | 1200 | Ø 460 | 188 | 226 | 160 | 1200 | Ø 560 | 235 | 282 | | | | | | | 1450 | | | | | | 170 | 1210 | Ø 460 | 195 | 234 | 170 | 1210 | Ø 560 | 242 | 290 | | | | | | | 1470 | | | | | | 180 | 1220 | Ø 460 | 199 | 239 | 180 | 1220 | Ø 560 | 249 | 299 | | | | | | | 1490 | | | | | | | | | | | | | | | | | | | | | | |
| 80 | 950 | Ø 370 | 135 | 162 | 80 | 1120 | Ø 460 | 172 | 206 | 80 | | 1120 | Ø 560 | 208 | 250 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1100 | | | | | 1290 | | | | | 100 | 970 | | | | Ø 370 | 141 | 169 | 100 | 1140 | Ø 460 | 175 | 210 | 100 | 1140 | Ø 560 | 215 | 258 | 1140 | 1330 | 120 | 990 | Ø 370 | 147 | 175 | 120 | 1160 | Ø 460 | 179 | 215 | 120 | 1160 | Ø 560 | 221 | 266 | 1180 | 1370 | | | | | | 150 | 1190 | Ø 460 | 184 | 221 | 150 | 1190 | Ø 560 | 228 | 273 | | | | | | | 1430 | | | | | | 160 | 1200 | Ø 460 | 188 | 226 | 160 | 1200 | Ø 560 | 235 | 282 | | | | | | | 1450 | | | | | | 170 | 1210 | Ø 460 | 195 | 234 | 170 | 1210 | Ø 560 | 242 | 290 | | | | | | | 1470 | | | | | | 180 | 1220 | Ø 460 | 199 | 239 | 180 | 1220 | Ø 560 | 249 | 299 | | | | | | | 1490 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | 970 | Ø 370 | 141 | 169 | 100 | 1140 | Ø 460 | 175 | 210 | 100 | | 1140 | Ø 560 | 215 | 258 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1140 | | | | | 1330 | | | | | 120 | 990 | | | | Ø 370 | 147 | 175 | 120 | 1160 | Ø 460 | 179 | 215 | 120 | 1160 | Ø 560 | 221 | 266 | 1180 | 1370 | | | | | | 150 | 1190 | Ø 460 | 184 | 221 | 150 | 1190 | Ø 560 | 228 | 273 | | | | | | | 1430 | | | | | | 160 | 1200 | Ø 460 | 188 | 226 | 160 | 1200 | Ø 560 | 235 | 282 | | | | | | | 1450 | | | | | | 170 | 1210 | Ø 460 | 195 | 234 | 170 | 1210 | Ø 560 | 242 | 290 | | | | | | | 1470 | | | | | | 180 | 1220 | Ø 460 | 199 | 239 | 180 | 1220 | Ø 560 | 249 | 299 | | | | | | | 1490 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | 990 | Ø 370 | 147 | 175 | 120 | 1160 | Ø 460 | 179 | 215 | 120 | | 1160 | Ø 560 | 221 | 266 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1180 | | | | | 1370 | | | | | | | | | | | | | 150 | 1190 | Ø 460 | 184 | 221 | 150 | 1190 | Ø 560 | 228 | 273 | | | | | | | 1430 | | | | | | 160 | 1200 | Ø 460 | 188 | 226 | 160 | 1200 | Ø 560 | 235 | 282 | | | | | | | 1450 | | | | | | 170 | 1210 | Ø 460 | 195 | 234 | 170 | 1210 | Ø 560 | 242 | 290 | | | | | | | 1470 | | | | | | 180 | 1220 | Ø 460 | 199 | 239 | 180 | 1220 | Ø 560 | 249 | 299 | | | | | | | 1490 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 150 | 1190 | Ø 460 | 184 | 221 | 150 | 1190 | Ø 560 | 228 | 273 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 1430 | | | | | | | | | | | | | 160 | 1200 | Ø 460 | 188 | 226 | 160 | 1200 | Ø 560 | 235 | 282 | | | | | | | 1450 | | | | | | 170 | 1210 | Ø 460 | 195 | 234 | 170 | 1210 | Ø 560 | 242 | 290 | | | | | | | 1470 | | | | | | 180 | 1220 | Ø 460 | 199 | 239 | 180 | 1220 | Ø 560 | 249 | 299 | | | | | | | 1490 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 160 | 1200 | Ø 460 | 188 | 226 | 160 | 1200 | Ø 560 | 235 | 282 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 1450 | | | | | | | | | 170 | 1210 | Ø 460 | 195 | 234 | 170 | 1210 | Ø 560 | 242 | 290 | | | | | | | 1470 | | | | | | 180 | 1220 | Ø 460 | 199 | 239 | 180 | 1220 | Ø 560 | 249 | 299 | | | | | | | 1490 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 170 | 1210 | Ø 460 | 195 | 234 | 170 | 1210 | Ø 560 | 242 | 290 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 1470 | | | | | | | | | 180 | 1220 | Ø 460 | 199 | 239 | 180 | 1220 | Ø 560 | 249 | 299 | | | | | | | 1490 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 180 | 1220 | Ø 460 | 199 | 239 | 180 | 1220 | Ø 560 | 249 | 299 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 1490 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NOTE:
 B1 : without volume chamber
 B2 : with volume chamber

HOW TO ORDER

Globe double seated, Top & Bottom guided, Series GD

| | | | | | | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. | 21. | 22. |
| GD | 02 | C | W | A | J2 | X | P1 | X | BC | S2 | P1 | X | S | F | X | S | A | X | A | L | FC |

| 1. | VALVE SERIES | |
|----|--|--|
| GD | Globe double seated, top & bottom guided | |

| 2. | BODY SIZE | | | |
|----|--------------|----|--------------|--|
| 02 | 2" / DN 50 | 03 | 3" / DN 80 | |
| 04 | 4" / DN 100 | 06 | 6" / DN 150 | |
| 08 | 8" / DN 200 | 10 | 10" / DN 250 | |
| 12 | 12" / DN 300 | 14 | 14" / DN 350 | |
| 16 | 16" / DN 400 | YY | Special | |

| 3. | PRESSURE RATING | | | |
|----|-----------------|---|----------------|--|
| C | ASME class 150 | D | ASME class 300 | |
| F | ASME class 600 | G | ASME class 900 | |
| H | ASME class 1500 | Y | Special | |

| 4. | END CONNECTION | |
|----|-------------------------------|--|
| W | Flanged RF, ASME B16.5 | |
| V | Socket welding, ASME B16.11 | |
| Q | Butt welding, ASME B16.25 | |
| Z | Ring joint flange, ASME B16.5 | |
| Y | Special | |

| 5. | BONNET CONSTRUCTION | |
|----|---------------------|--------------------------------------|
| | Bonnet Type | Actuator Connection |
| A | Standard | Standard actuator size |
| B | Standard | Applicable for VD_48/55 (3",4" only) |
| E | Extension | Standard actuator size |
| F | Extension | Applicable for VD_48/55 (3",4" only) |
| Y | Special | Special |

| 6. | BODY & BONNET MATERIAL | | | |
|----|------------------------|----|----------|--|
| J2 | A216 WCB | S4 | A351 CF8 | |
| S6 | A351 CF8M | S9 | A351 CF3 | |
| S1 | A351 CF3M | YY | Special | |

| 7. | BEARINGS (TRUNNION / THRUST BEARING) | |
|----|--------------------------------------|--|
| X | Not Applicable | |
| Y | Special | |

TRIM CONSTRUCTIONS

| 8. | PLUG MATERIAL | |
|----|---------------|-----------------------------------|
| | Material | Description |
| P1 | 410 SS | Standard for carbon steel body |
| T6 | 316 SS | Standard for stainless steel body |
| YY | Special | Special materials |

| 9. | PLUG APPLICATION | |
|----|--------------------|--|
| X | Not applicable | |
| A | Cobalt based alloy | |
| Y | Special | |

| 10. | STEM MATERIAL | |
|-----|---------------|-----------------------------------|
| | Material | Description |
| BC | 17-4PH + HCr | Standard for carbon steel body |
| TC | 316 SS + HCr | Standard for stainless steel body |
| YY | Special | Special materials |

| 11. | SEAT TYPE | |
|-----|-------------------|--|
| S2 | Double metal seat | |
| YY | Special | |

| 12. | SEAT MATERIAL | |
|-----|---------------|-----------------------------------|
| | Seat | Description |
| P1 | 410 SS | Standard for carbon steel body |
| T6 | 316 SS | Standard for stainless steel body |
| YY | Special | Special materials |

| 13. | SEAT APPLICATION | |
|-----|--------------------|--|
| X | Not applicable | |
| A | Cobalt based alloy | |
| Y | Special | |

OTHERS

| 14. | PACKING TYPE | | | |
|-----|----------------|---|--------------|--|
| S | Standard | B | Bellows seal | |
| D | Double packing | Y | Special | |

| 15. | PACKING MATERIAL | | | |
|-----|------------------|---|---------------------|--|
| T | PTFE V-ring | G | PTFE + Carbon fiber | |
| F | Graphite | Y | Special | |

| 16. | SEALS MATERIAL | | | |
|-----|----------------|--|---|---------|
| X | Not applicable | | Y | Special |

| 17. | GASKET MATERIAL | | | |
|-----|---|--|--|--|
| S | Standard, S/W gasket type, 316 SS + Graphite | | | |
| H | S/W gasket type, 316 SS + Graphite for high temp. | | | |
| L | S/W gasket type, 316 SS + PTFE | | | |
| Y | Special | | | |

| 18. | STUD / NUT MATERIAL | | | |
|-----|---------------------|--|--|--|
| A | A193 B7 / A194 2H | | | |
| B | A193 B8 / A194 8 | | | |
| Y | Special | | | |

| 19. | OPTIONS | | | |
|-----|----------------|--|---|---------|
| X | Not applicable | | Y | Special |

TRIM TYPE & RATED Cv

| 20. Sign | TRIM TYPE | 21. Sign | TRIM CHARACTERISTIC | 22. Sign | RATED Cv | | | | | | | | | | |
|-------------|-------------------|------------------|------------------------|-------------|------------------|---|----------|----------|----------|----------|-----------|-----------|------------|------------|--|
| | | | | | Description | Body Size | | | | | | | | | |
| | | | | | | 2" (Srk) | 3" (Srk) | 4" (Srk) | 6" (Srk) | 8" (Srk) | 10" (Srk) | 12" (Srk) | 14" (Srk) | 16" (Srk) | |
| A V | Contoured type | L E M Q | Linear | FC | Full capacity | 50 (20) | 115 (40) | 200 (40) | 455 (50) | 750 (60) | 1250 (80) | 1630 (90) | 2220 (120) | 2980 (120) | |
| | V-port type | | Equal % | 1A | 1-Step reduction | 20 (20) | 48 (40) | 81 (40) | 184 (50) | 300 (60) | 500 (80) | 660 (90) | 900 (120) | 1210 (120) | |
| Y | Special Trim Type | Y | Special | YY | Special | Contact Metso Automation for Cv details | | | | | | | | | |

* Optional rated Cv to meet to specific Cv are available, please contact Metso Automation.

* Srk. means the valve stroke

Subject to change without prior notice.

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