

Neles™ Top-guided globe valve Series GU

Neles™ series GU globe valves are top-guided, single seat and contoured trim providing superior control performance and high reliability in wide range of applications. Standard units are equipped with Neles diaphragm actuators and valve controllers for precise flow control, extended operation life and performance monitoring online.

Construction

- Compact and lightweight construction
- Wide variety of trims with different Cv and characteristics
- Both metal and soft seats are available depending on the application
- Optional bellows seal for toxic or other applications where no stem seal leakage is allowed
- Wide material selection for different applications
- Many end connection styles available for different applications
- Valve with dimensions specified by EN/DIN standard
- Extension bonnet design for wide temperature range

Accurate control

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

Wide range of applications

- Suitable for gas, liquid and steam
- Temperature limits -29 ... +425 °C / (-20 ... +797 °F) with standard bonnet construction and over +425 °C (+797 °F) and under -29 °C / (-20 °F) with extended bonnets
- Tendril™ multi-hole trim for high pressure drop and cavitation applications
- Micro trim for small flow and/or to get rid of the stability problems in high pressure drop application
- Inherently characterized trims offered in equal percentage, linear and quick op



Safety and quality

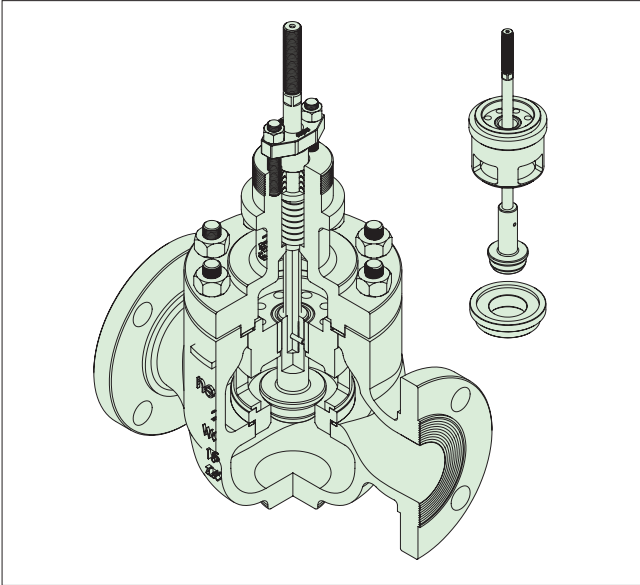
- Rugged one piece body to minimize the leak paths and makes the valve less prone to pipe stress
- Strictly tested to ensure specified performance with quality assurance systems in accordance to ISO 9001
- Certified ISO 15848 fugitive emissions
- Certified CE/PED & ATEX, TSG & EAC (GOST-R)
- Certified SIL (Safety Integrity Level) in accordance to IEC61508

Easy maintenance

- Quick change trim and top entry construction for easy in-line maintenance
- Self guiding components for easy valve assembly
- Flow characteristics can be easily changed with interchangeable trim components
- Neles digital valve controller with online diagnostics enables performance follow up and predictive maintenance
- Efficient asset management with any FDT frame application and excellent networking capabilities

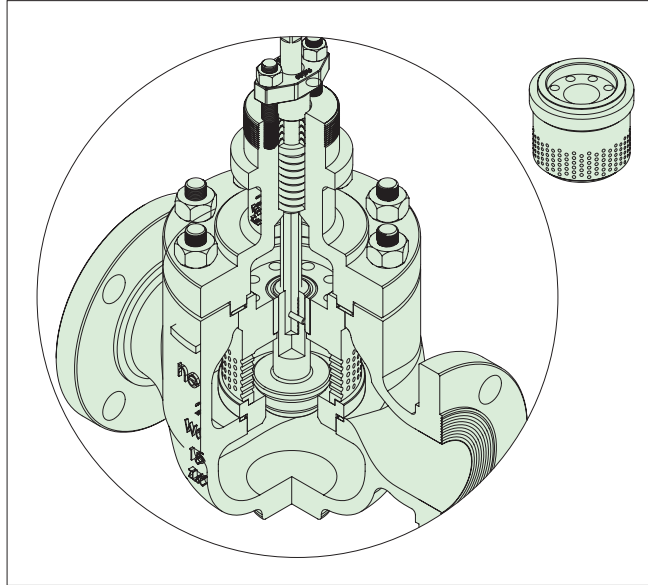
Different trim designs

Contoured trim



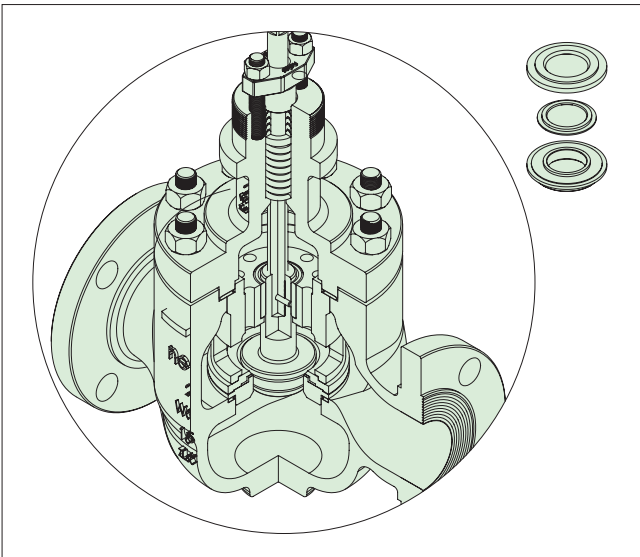
Quick change, general contoured trim
Quick change, general contoured plug offers a smooth flow profile. The trim is most suited to low pressure drop application and is used in the majority of control applications.

Tendril (multi-hole) trim



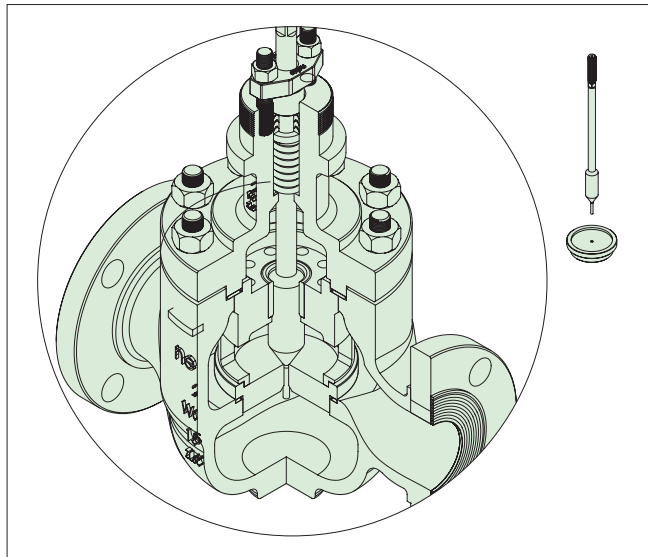
Tendril trim
Tendril is a multi-hole trim where the flow is divided through multiple holes in which pressure progressively reduces while passing through the trim. This gives excellent resistance to cavitation and reduces noise in high pressure drop applications.

Contoured soft seat trim



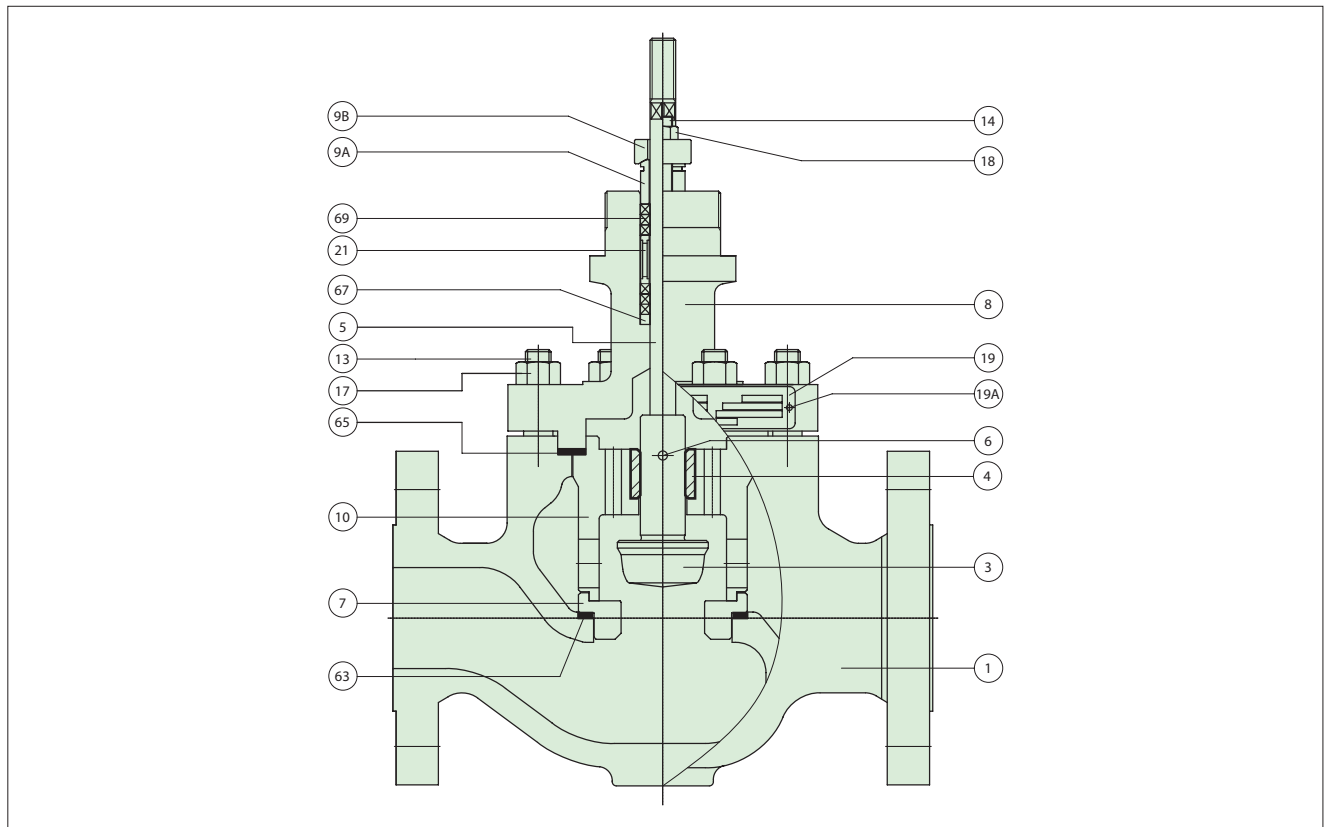
Soft seat trim
An alteration of the standard contoured trim is the soft seated option. The seat ring is manufactured with a clamped on shroud which locks the soft seated ring in position. When the soft face contacts the seating point it deforms the softer ring ensuring a high degree of closure. The soft seated trim is used on applications where bubble tight shut off is required.

Micro trim



Micro trim
The micro trim design is seat guided construction, capable of handling high pressure drops, without instability problems. This trim design has an inherent characteristic of linear, and has excellent rangeability. It is an ideal selection for the control of very low flow rates. Please contact Valmet for micro trim applications.

Components & materials



Body material: Carbon steel or alloy steel

| Part no. | Description | Material |
|----------|----------------------|--------------------------------|
| 1 | BODY | ASTM A216 GR WCB |
| 2 | PLUG SET | 410 SS / 630 SS |
| 3* | PLUG | 410 STAINLESS STEEL |
| 4 | GUIDE BUSHING | 440C STAINLESS STEEL |
| 5* | STEM | 630 STAINLESS STEEL + HCr |
| 6* | PLUG PIN | 316 STAINLESS STEEL |
| 7 | SEAT RING | 410 STAINLESS STEEL |
| 8 | BONNET | ASTM A216 GR WCB |
| 9A | GLAND | 304 STAINLESS STEEL |
| 9B | GLAND FLANGE | A351 CF8 |
| 10 | RETAINER | 630 STAINLESS STEEL |
| 13 | STUD | A193 Gr.B7 M |
| 14 | STUD | A193 Gr.B8M |
| 17 | HEXAGON NUT | A194 Gr.2HM |
| 18 | HEXAGON NUT | A194 Gr.8M |
| 19 | IDENTIFICATION PLATE | 304 STAINLESS STEEL |
| 19A | RIVET | 304 STAINLESS STEEL |
| 21 | LANTERN RING | 304 STAINLESS STEEL |
| 63 | SEAT GASKET | S/W GASKET, 316L SS + GRAPHITE |
| 65 | BODY GASKET | S/W GASKET, 316L SS + GRAPHITE |
| 67 | PACKING SPACER | 304 STAINLESS STEEL |
| 69 | PACKING RING | PTFE + CARBON FIBER |

Note.

- Plug/Seat hard facing (Cobalt based alloy) & Soft seat are available
- Materials description
 316 SS : ASTM A276 gr. 316 or JIS 316 stainless steel
 440C SS : ASTM A276 gr.440C or JIS 440C stainless steel
 410 SS : ASTM A276 gr. 410 or JIS 410 stainless steel
 630 SS : ASTM A564 630 (H1100) or JIS 630 (H1100) St. Steel
- Above standard materials to be applicable depending on specific service conditions. Other optional materials to consult Valmet
- Optional materials to meet to requirements of NACE MR 01-75 are available
- The materials are subject to change as equivalent depending on detail design
- The part no. 3*, 5*, 6* are delivered as a set with part no. 2
- The identification plate is attached to the body when only the bare stem valve is required. And the identification plate is attached to the actuator yoke when the completed valve and actuator is delivered

Body material: Stainless steel

| Material | Spare |
|--------------------------------|-------|
| ASTM A351 GR CF8M | |
| 316 SS / 316 SS | Cat 3 |
| 316 STAINLESS STEEL | |
| 316 + COBALT BASED ALLOY | |
| 316 STAINLESS STEEL + HCr | |
| 316 STAINLESS STEEL | |
| 316 STAINLESS STEEL | Cat 3 |
| ASTM A351 GR CF8M | |
| 304 STAINLESS STEEL | |
| A351 CF8 | |
| A351 CF8M | Cat 3 |
| A193 Gr. B8M | |
| A193 Gr. B8M | |
| A194 Gr. 8M | |
| A194 Gr. 8M | |
| 304 STAINLESS STEEL | |
| 304 STAINLESS STEEL | |
| 304 STAINLESS STEEL | |
| S/W GASKET, 316L SS + GRAPHITE | Cat 1 |
| S/W GASKET, 316L SS + GRAPHITE | Cat 1 |
| 304 STAINLESS STEEL | |
| PTFE + CARBON FIBER | Cat 1 |

Note.

- Plug/Seat hard facing (Cobalt based alloy) & Soft seat are available
- Materials description
 316 SS : ASTM A276 gr. 316 or JIS 316 stainless steel
- Above standard materials to be applicable depending on specific service conditions. Other optional materials to consult Valmet
- Cryogenic application: ASTM A320 B8M & 8M for studs(13) and nuts(17)
- Optional materials to meet to requirements of NACE MR 01-75 are available
- The materials are subject to change as equivalent depending on detail design
- The part no. 3*, 5*, 6* are delivered as a set with part no. 2
- The identification plate is attached to the body when only the bare stem valve is required. And the identification plate is attached to the actuator yoke when the completed valve and actuator is delivered.

GU, Application guide

GU, Temperature range and seat leakage class with different bonnet and seat application

| Valve size DN / Inch | ASME rating | Seat type | Temperature range (°C) | | Seat leakage class (ANSI B 16.104) | |
|----------------------|----------------|-----------|------------------------|------------------|------------------------------------|----------|
| | | | General bonnet | Extension bonnet | Standard | Optional |
| 15/0.5... 150/6 | 150... 600 | Metal | -29...+425 | -109...+593 | IV | V |
| | | Soft | -29...+232 | -109...+232 | VI | |
| 15 / 1/2... 80/3 | 900... 2500 | Metal | -29...+425 | -109...+593 | IV | V |

Temperature range with different body and stud/nut materials

| Body, bonnet material | Stud bolt, nut material | Temp. range, (°C) | Sign |
|---------------------------------------|--|-------------------|------|
| Carbon steel (WCB, A105) | ASTM A193-B7M STUD / ASTM A194-2HM NUT | -29...+425 | G |
| Cr-Mo steel(WC6, WC9) | A193 gr. B16 STUD A194 gr. 7 NUT | -29...+593 | H |
| Stainless steel (CF3, CF8,CF3M, CF8M) | ASTM A193-B8M / ASTM A194 -8M NUT | -196...+425 | D |

Trim materials

| GU, Trim | | | | Temperature range (°C) | Sign |
|--|--------------|---------------------------------|--------------|------------------------|----------------------------|
| Plug | Stem | Seat | Retainer | | |
| 410 SS | 630 SS + HCr | 410 SS | 630 SS | -29...+425 | P1XBCS1R1X |
| 316 SS | 316 SS + HCr | 316 SS | 316 SS | -196...+425 | T6XTCS1T6X |
| 316 SS + Cobalt based alloy | 316 SS + HCr | 316 SS + Cobalt based alloy | 316 SS | -196...+425 | T6ATCS1T6A |
| 316SS + Full cobalt based alloy | 316SS + HCr | 316SS + Full cobalt based alloy | CF8M / 316SS | -196...+425 | T6ATCS1T6A.....E (Sign 19) |
| 316SS + Full cobalt based alloy (both plug & plug guide) | XM-19 | 316SS + Full cobalt based alloy | CF8M / 316SS | -196...+593 | T6ATCS1T6A.....H (sign 19) |
| 420 J2 | XM-19 | 420 J2 | 420 J2 | -10...+540 | P2XVXS1P2X |
| 316 SS | 316 SS + HCr | 316 SS + PTFE | 316 SS | -49...+232 | * |
| Inconel 718 | XM-19 | F91 | F91 | -29...+593 | * |
| Inconel 625, 718, 750 | | | | -196...+593 | |

*Please contact Valmet

Gasket applications

| Body, bonnet material | Gasket material | Temp. range (°C) | Sign |
|---------------------------------------|---|------------------|------|
| Carbon steel WCB, A105 | S/W (Spiral wound) 316L SS + Graphite | -29...+425 | S |
| Stainless steel CF8, CF8M, CF3, CF3M | S/W (Spiral wound) 316L SS + Graphite | -56...+425 | S |
| | S/W (Spiral wound) 316L SS + PTFE | -196...+232 | L |
| Cr.Mo. Steel WC6, WC9, F22, C12A, F91 | S/W (Spiral wound)316L SS + High Graphite | -29...+593 | H |

Please contact Valmet

Packing applications

| Packing material | Temp (°C) | Pressure class | Sign |
|--|-------------|----------------|------|
| PTFE + Carbon Fiber (Braided TEF + Graphite), standard | -196...+260 | Up to CL900 | G |
| PTFE V-Ring | - 49...+232 | Up to CL600 | T |
| Graphite (with Mold + Braided) | -56...+400 | Up to CL2500 | F* |
| Hi-Graphite (with Mold + Braided) | -56...+593 | Up to CL2500 | H |

*Graphite packing with low emission, live loaded construction can be applicable up to +450 °C

Flow direction

| Fluid media | Flow to open | Flow to close |
|-------------|--------------|---------------|
| Liquid | o | * |
| Steam Gas | o | * |

*Please contact Valmet

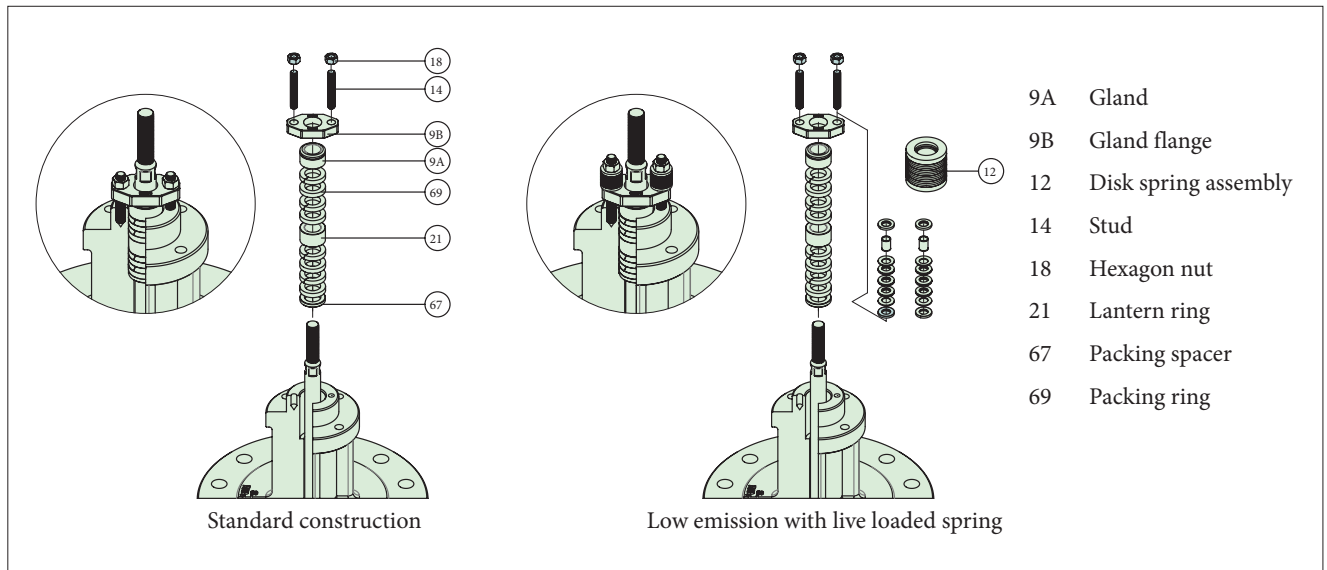
Cv ratio 50: 1
Flow characteristics Equal percentage, linear and quick open

GU, Ratings & end connetions

| Valve size DN / Inch" | GU, ASME ratings | | | | | | | |
|-----------------------|------------------|-----|----|----|------------------|-----|----|----|
| | Class 150 - 600 | | | | Class 900 - 2500 | | | |
| | RF | RTJ | SW | BW | RF | RTJ | SW | BW |
| 25 / 1 | O | O | O | | O | O | O | |
| 40 / 1-1/2 | O | O | O | | O | O | O | |
| 50 / 2 | O | O | O | | O | O | O | O |
| 80 / 3 | O | O | | O | | | | |
| 100 / 4 | O | O | | O | | | | |

Note1. RF:Raised Face, RTJ: Ring Joint, SW:Socket Weld, BW: Butt Weld

Packing constructions



Rated Cv and trim table (Globe single seat, unbalanced type, series GU)

| 20. Sign | Trim type | 21. Sign | Trim characteristic | 22. Sign | Description | Rated Cv | | | | | | | | | | | |
|-------------|--------------|-------------|---------------------|-------------|----------------------------|--|----------------------------|------------|-----------|-----------|----------|----------|----------|----------|----------|--|--|
| | | | | | | Body size and stroke | | | | | | | | | | | |
| | | | | | | 0.5" Str. | 0.75" Str. | 1" Str. | 1.5" Str. | 2" Str. | 3" Str. | 4" Str. | 6" Str. | | | | |
| A | General plug | L | Linear | FC | General / Full capacity | 7 (20) | 9 (20) | 13.5 (20) | 28 (20) | 49 (20) | 100 (40) | 190 (40) | 295 (60) | | | | |
| | | | | E | Equal % | 1A | General / 1-Step reduction | 4 (20) | 5.5 (20) | 8.5 (20) | 16 (20) | 28 (20) | 70 (40) | 120 (40) | 165 (60) | | |
| | | | | | 2A | General / 2-Step reduction | 2.3 (20) | 3 (20) | 5.4 (20) | 10.5 (20) | 17 (20) | 42 (40) | 72 (40) | 85 (60) | | | |
| | | | | | 3A | General / 3-Step reduction | 1.5 (20) | 2 (20) | 3.1 (20) | 6 (20) | 10 (20) | 25 (40) | 42 (40) | 50 (60) | | | |
| | | | | | 4A | General / 4-Step reduction | 0.8 (20) | 1.2 (20) | 2 (20) | 4 (20) | | | | | | | |
| | | | | | 5A | General / 5-Step reduction | 0.5 (20) | 0.7 (20) | 1.2 (20) | 2.2 (20) | | | | | | | |
| | | | | | 6A | General / 6-Step reduction | 0.3 (20) | 0.4 (20) | 0.8 (20) | 1.2 (20) | | | | | | | |
| | | | | | FT | Tendril / Full capacity | 7 (20) | 9 (20) | 13.5 (20) | 28 (20) | 49 (20) | 100 (40) | 190 (40) | IQI (60) | | | |
| | | | | | 1T | Tendril / 1-Step reduction | 4 (20) | 5.5 (20) | 8.5 (20) | 16 (20) | 28 (20) | 70 (40) | 120 (40) | IQI (60) | | | |
| | | | | | 2T | Tendril / 2-Step reduction | 2.3 (20) | 3 (20) | 5.4 (20) | 10.5 (20) | 17 (20) | 42 (40) | 72 (40) | IQI (60) | | | |
| | | | | | 3T | Tendril / 3-Step reduction | 1.5 (20) | 2 (20) | 3.1 (20) | 6 (20) | 10 (20) | 25 (40) | 42 (40) | IQI (60) | | | |
| | | | | | 4T | Tendril / 4-Step reduction | 0.8 (20) | 1.2 (20) | 2 (20) | 4 (20) | | | | | | | |
| | | | | | 5T | Tendril / 5-Step reduction | 0.5 (20) | 0.7 (20) | 1.2 (20) | 2.2 (20) | | | | | | | |
| | | | | | 6T | Tendril / 6-Step reduction | 0.3 (20) | 0.4 (20) | 0.8 (20) | 1.2 (20) | | | | | | | |
| C | Micro plug | L | Linear | FC | General / Full capacity | 0.1 (20) | 0.1 (20) | 0.1 (20) | | | | | | | | | |
| | | | | 1A | General / 1-Step reduction | 0.06 (20) | 0.06 (20) | 0.06 (20) | | | | | | | | | |
| | | | | 2A | General / 2-Step reduction | 0.03 (20) | 0.03 (20) | 0.03 (20) | | | | | | | | | |
| | | | | 3A | General / 3-Step reduction | 0.01 (20) | 0.01 (20) | 0.01 (20) | | | | | | | | | |
| | | | | 4A | General / 4-Step reduction | 0.006 (20) | 0.006 (20) | 0.006 (20) | | | | | | | | | |
| | | | | 5A | General / 5-Step reduction | 0.003 (20) | 0.003 (20) | 0.003 (20) | | | | | | | | | |
| Y | Special | Y | Special | YY | Special | Please contact sales office for more information | | | | | | | | | | | |

- Rated Cv is different depending on trim type and characteristic.
- Str. : valve stroke length (mm). It should be matched with actuator stroke length.

GU Series Cv vs Travel (General contoured)

ANSI Class: 150# - 1500

Size: 1/2" - 6"

Flow characteristic: LINEAR

| Valve travel [%] | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | |
|------------------|-----|------------------|------|-------|--------|----|----------|-------|-------|--------|--------|--------|--------|--------|--------|-------|------|
| F _L | | | | | | | 0.93 | 0.93 | 0.92 | 0.92 | 0.91 | 0.91 | 0.91 | 0.90 | 0.90 | 0.90 | 0.90 |
| Valve size | | Orifice diameter | | | Travel | | Rated Cv | | | | | | | | | | |
| Inch | mm | Sign | Inch | mm | Inch | mm | | | | | | | | | | | |
| 1/2" | 15 | FC | 0.6 | 15.7 | 0.8 | 20 | 0.53 | 1.27 | 1.95 | 2.66 | 3.38 | 4.09 | 4.76 | 5.51 | 6.67 | 7.0 | |
| | | 1A | 0.4 | 11.0 | | | 0.36 | 0.74 | 1.23 | 1.61 | 1.99 | 2.37 | 2.72 | 3.05 | 3.41 | 4.0 | |
| | | 2A | 0.3 | 8.0 | | | 0.28 | 0.53 | 0.79 | 1.07 | 1.32 | 1.52 | 1.71 | 1.88 | 2.03 | 2.3 | |
| | | 3A | 0.3 | 6.4 | | | 0.19 | 0.36 | 0.52 | 0.67 | 0.82 | 0.97 | 1.15 | 1.28 | 1.38 | 1.5 | |
| | | 4A | 0.3 | 6.4 | | | 0.09 | 0.17 | 0.25 | 0.32 | 0.40 | 0.47 | 0.54 | 0.61 | 0.68 | 0.8 | |
| | | 5A | 0.3 | 6.4 | | | 0.06 | 0.11 | 0.15 | 0.20 | 0.25 | 0.30 | 0.35 | 0.40 | 0.45 | 0.5 | |
| 3/4" | 20 | FC | 0.7 | 17.2 | 0.8 | 20 | 0.85 | 1.68 | 2.57 | 3.31 | 4.04 | 4.74 | 5.43 | 6.18 | 7.61 | 9.0 | |
| | | 1A | 0.5 | 13.0 | | | 0.35 | 0.82 | 1.40 | 2.17 | 2.78 | 3.39 | 3.98 | 4.53 | 5.03 | 5.5 | |
| | | 2A | 0.4 | 9.0 | | | 0.29 | 0.74 | 1.08 | 1.40 | 1.73 | 2.13 | 2.37 | 2.60 | 2.80 | 3.0 | |
| | | 3A | 0.3 | 7.2 | | | 0.24 | 0.44 | 0.63 | 0.81 | 0.99 | 1.16 | 1.32 | 1.47 | 1.62 | 2.0 | |
| | | 4A | 0.3 | 6.4 | | | 0.13 | 0.24 | 0.36 | 0.48 | 0.60 | 0.72 | 0.84 | 0.96 | 1.08 | 1.2 | |
| | | 5A | 0.3 | 6.4 | | | 0.08 | 0.15 | 0.22 | 0.28 | 0.35 | 0.42 | 0.49 | 0.56 | 0.63 | 0.7 | |
| 1" | 25 | FC | 0.9 | 22.3 | 0.8 | 20 | 1.29 | 2.62 | 4.02 | 5.42 | 6.83 | 8.13 | 8.90 | 10.25 | 11.93 | 13.5 | |
| | | 1A | 0.6 | 15.0 | | | 0.77 | 1.54 | 2.31 | 3.15 | 3.92 | 4.68 | 5.42 | 6.12 | 7.00 | 8.5 | |
| | | 2A | 0.5 | 11.5 | | | 0.46 | 0.94 | 1.43 | 1.94 | 2.46 | 3.02 | 3.52 | 4.00 | 4.44 | 5.4 | |
| | | 3A | 0.4 | 9.0 | | | 0.28 | 0.56 | 0.86 | 1.16 | 1.47 | 1.77 | 2.07 | 2.36 | 2.66 | 3.1 | |
| | | 4A | 0.3 | 7.2 | | | 0.18 | 0.37 | 0.57 | 0.78 | 0.99 | 1.20 | 1.41 | 1.61 | 1.79 | 2.0 | |
| | | 5A | 0.3 | 6.4 | | | 0.11 | 0.23 | 0.35 | 0.47 | 0.59 | 0.71 | 0.83 | 0.95 | 1.07 | 1.2 | |
| 1-1/2" | 40 | FC | 1.2 | 30.0 | 0.8 | 20 | 2.64 | 5.38 | 8.46 | 11.77 | 15.22 | 18.77 | 21.56 | 24.09 | 26.50 | 28.0 | |
| | | 1A | 0.8 | 21.5 | | | 1.63 | 3.16 | 4.70 | 6.25 | 7.90 | 9.52 | 11.12 | 12.68 | 14.18 | 16.0 | |
| | | 2A | 0.6 | 16.0 | | | 0.95 | 1.89 | 2.86 | 3.86 | 4.88 | 5.88 | 6.90 | 7.92 | 8.86 | 10.5 | |
| | | 3A | 0.5 | 12.5 | | | 0.57 | 1.13 | 1.72 | 2.33 | 2.96 | 3.58 | 4.19 | 4.78 | 5.33 | 6.0 | |
| | | 4A | 0.4 | 10.0 | | | 0.37 | 0.74 | 1.14 | 1.54 | 1.96 | 2.38 | 2.79 | 3.18 | 3.55 | 4.0 | |
| | | 5A | 0.3 | 7.0 | | | 0.19 | 0.38 | 0.57 | 0.78 | 0.99 | 1.19 | 1.40 | 1.60 | 1.78 | 2.2 | |
| 2" | 50 | FC | 1.7 | 43.9 | 0.8 | 20 | 4.13 | 9.24 | 14.48 | 19.71 | 25.09 | 30.56 | 35.97 | 40.01 | 44.64 | 49.0 | |
| | | 1A | 1.3 | 33.4 | | | 2.27 | 4.97 | 7.88 | 10.94 | 13.72 | 16.51 | 19.28 | 22.03 | 24.97 | 28.0 | |
| | | 2A | 0.8 | 21.5 | | | 1.26 | 2.76 | 4.37 | 6.05 | 7.77 | 9.53 | 11.23 | 12.73 | 14.32 | 17.0 | |
| | | 3A | 0.6 | 16.0 | | | 0.82 | 1.78 | 2.80 | 3.86 | 4.93 | 5.98 | 7.01 | 7.98 | 8.89 | 10.0 | |
| 3" | 80 | FC | 2.8 | 72.0 | 1.5 | 40 | 9.96 | 21.06 | 32.40 | 42.65 | 52.98 | 63.70 | 76.67 | 86.07 | 91.15 | 100.0 | |
| | | 1A | 1.9 | 47.0 | | | 5.35 | 11.64 | 18.74 | 26.58 | 33.66 | 40.46 | 47.18 | 53.74 | 60.34 | 70.0 | |
| | | 2A | 1.3 | 34.0 | | | 3.47 | 7.21 | 11.20 | 15.38 | 19.69 | 24.06 | 28.45 | 31.99 | 35.66 | 42.0 | |
| | | 3A | 1.0 | 25.0 | | | 2.17 | 4.47 | 6.86 | 9.32 | 11.81 | 14.29 | 16.73 | 19.08 | 21.29 | 25.0 | |
| 4" | 100 | FC | 3.6 | 91.5 | 1.5 | 40 | 12.67 | 27.12 | 47.27 | 66.04 | 85.99 | 106.88 | 127.85 | 147.47 | 167.93 | 190.0 | |
| | | 1A | 2.4 | 60.0 | | | 7.32 | 15.77 | 25.33 | 36.43 | 51.05 | 63.30 | 75.78 | 88.32 | 103.94 | 120.0 | |
| | | 2A | 1.7 | 43.0 | | | 7.02 | 13.84 | 20.64 | 27.41 | 34.07 | 43.44 | 50.85 | 57.09 | 63.09 | 72.0 | |
| | | 3A | 1.3 | 32.0 | | | 4.03 | 8.16 | 12.45 | 16.82 | 21.18 | 25.44 | 29.51 | 33.31 | 37.67 | 42.0 | |
| 6" | 150 | FC | 4.5 | 115.0 | 2.4 | 60 | 28.43 | 57.15 | 86.05 | 112.26 | 136.07 | 159.16 | 181.59 | 212.57 | 263.12 | 295.0 | |
| | | 1A | 3.0 | 75.0 | | | 16.09 | 32.01 | 47.67 | 63.09 | 78.18 | 93.11 | 105.76 | 117.42 | 137.91 | 165.0 | |
| | | 2A | 1.8 | 46.5 | | | 8.78 | 17.43 | 25.90 | 34.15 | 42.13 | 49.78 | 57.07 | 63.94 | 71.49 | 85.0 | |
| | | 3A | 1.4 | 35.5 | | | 4.32 | 9.07 | 14.14 | 19.45 | 24.88 | 30.32 | 35.64 | 40.72 | 45.42 | 50.0 | |

ANSI Class: 150# - 1500#

Size: 1/2" - 6"

Flow characteristic: EQ%

| Valve travel [%] | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|------------------|-----|------------------|------|-------|--------|----|----------|------|-------|-------|-------|-------|--------|--------|--------|-------|
| F _L | | | | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.92 | 0.92 | 0.91 | 0.91 | 0.90 |
| Valve size | | Orifice diameter | | | Travel | | Rated Cv | | | | | | | | | |
| Inch | mm | Sign | Inch | mm | Inch | mm | | | | | | | | | | |
| 1/2" | 15 | FC | 0.6 | 15.7 | 0.8 | 20 | 0.16 | 0.36 | 0.56 | 0.89 | 1.38 | 2.16 | 3.42 | 4.84 | 6.44 | 7.0 |
| | | 1A | 0.4 | 11.0 | | | 0.06 | 0.16 | 0.31 | 0.49 | 0.78 | 1.46 | 2.17 | 2.88 | 3.53 | 4.0 |
| | | 2A | 0.3 | 8.0 | | | 0.08 | 0.16 | 0.23 | 0.34 | 0.59 | 0.94 | 1.37 | 1.70 | 2.01 | 2.3 |
| | | 3A | 0.3 | 6.4 | | | 0.05 | 0.09 | 0.14 | 0.20 | 0.35 | 0.56 | 0.82 | 1.11 | 1.33 | 1.5 |
| | | 4A | 0.3 | 6.4 | | | 0.02 | 0.04 | 0.06 | 0.08 | 0.16 | 0.28 | 0.41 | 0.54 | 0.66 | 0.8 |
| | | 5A | 0.3 | 6.4 | | | 0.01 | 0.02 | 0.04 | 0.05 | 0.10 | 0.17 | 0.25 | 0.33 | 0.41 | 0.5 |
| | | 6A | 0.3 | 6.4 | | | 0.01 | 0.01 | 0.02 | 0.03 | 0.06 | 0.11 | 0.15 | 0.20 | 0.25 | 0.3 |
| 3/4" | 20 | FC | 0.7 | 17.2 | 0.8 | 20 | 0.24 | 0.45 | 0.67 | 1.07 | 1.85 | 2.93 | 4.02 | 5.23 | 7.13 | 9.0 |
| | | 1A | 0.5 | 13.0 | | | 0.06 | 0.20 | 0.40 | 0.67 | 1.11 | 1.79 | 2.79 | 3.71 | 4.74 | 5.5 |
| | | 2A | 0.4 | 9.0 | | | 0.05 | 0.17 | 0.28 | 0.45 | 0.78 | 1.20 | 1.80 | 2.35 | 2.72 | 3.0 |
| | | 3A | 0.3 | 7.2 | | | 0.04 | 0.09 | 0.15 | 0.21 | 0.41 | 0.68 | 1.00 | 1.30 | 1.67 | 2.0 |
| | | 4A | 0.3 | 6.4 | | | 0.03 | 0.06 | 0.09 | 0.13 | 0.25 | 0.42 | 0.62 | 0.82 | 1.01 | 1.2 |
| | | 5A | 0.3 | 6.4 | | | 0.01 | 0.03 | 0.05 | 0.08 | 0.14 | 0.23 | 0.34 | 0.45 | 0.58 | 0.7 |
| | | 6A | 0.3 | 6.4 | | | 0.01 | 0.02 | 0.03 | 0.04 | 0.08 | 0.14 | 0.21 | 0.27 | 0.33 | 0.4 |
| 1" | 25 | FC | 0.9 | 22.3 | 0.8 | 20 | 0.27 | 0.57 | 0.91 | 1.55 | 2.75 | 4.66 | 7.08 | 9.49 | 11.63 | 13.5 |
| | | 1A | 0.6 | 15.0 | | | 0.12 | 0.29 | 0.51 | 0.83 | 1.56 | 2.70 | 4.14 | 5.61 | 7.03 | 8.5 |
| | | 2A | 0.5 | 11.5 | | | 0.07 | 0.19 | 0.33 | 0.53 | 0.97 | 1.67 | 2.65 | 3.59 | 4.37 | 5.4 |
| | | 3A | 0.4 | 9.0 | | | 0.03 | 0.09 | 0.19 | 0.32 | 0.58 | 1.00 | 1.52 | 2.05 | 2.54 | 3.1 |
| | | 4A | 0.3 | 7.2 | | | 0.03 | 0.08 | 0.13 | 0.22 | 0.40 | 0.67 | 1.00 | 1.35 | 1.70 | 2.0 |
| | | 5A | 0.3 | 6.4 | | | 0.03 | 0.05 | 0.08 | 0.13 | 0.25 | 0.43 | 0.64 | 0.85 | 1.06 | 1.2 |
| | | 6A | 0.3 | 6.4 | | | 0.01 | 0.03 | 0.04 | 0.07 | 0.14 | 0.24 | 0.35 | 0.46 | 0.59 | 0.8 |
| 1-1/2" | 40 | FC | 1.2 | 30.0 | 0.8 | 20 | 0.45 | 1.12 | 2.00 | 3.07 | 5.91 | 10.57 | 16.18 | 21.57 | 25.66 | 28.0 |
| | | 1A | 0.8 | 21.5 | | | 0.23 | 0.58 | 1.06 | 1.69 | 3.16 | 5.36 | 7.97 | 10.69 | 13.44 | 16.0 |
| | | 2A | 0.6 | 16.0 | | | 0.20 | 0.44 | 0.71 | 1.02 | 1.88 | 3.25 | 4.93 | 6.71 | 8.59 | 10.5 |
| | | 3A | 0.5 | 12.5 | | | 0.09 | 0.22 | 0.40 | 0.62 | 1.13 | 2.02 | 3.17 | 4.26 | 5.21 | 6.0 |
| | | 4A | 0.4 | 10.0 | | | 0.05 | 0.14 | 0.26 | 0.41 | 0.79 | 1.36 | 2.08 | 2.83 | 3.45 | 4.0 |
| | | 5A | 0.3 | 7.0 | | | 0.03 | 0.08 | 0.13 | 0.21 | 0.39 | 0.69 | 1.07 | 1.43 | 1.74 | 2.2 |
| | | 6A | 0.3 | 6.4 | | | 0.03 | 0.06 | 0.09 | 0.13 | 0.23 | 0.40 | 0.59 | 0.78 | 0.98 | 1.2 |
| 2" | 50 | FC | 1.7 | 43.9 | 0.8 | 20 | 1.21 | 2.46 | 3.31 | 5.12 | 9.42 | 16.83 | 26.55 | 36.59 | 44.52 | 49.0 |
| | | 1A | 1.3 | 33.4 | | | 0.32 | 0.82 | 1.51 | 2.87 | 5.48 | 9.31 | 13.77 | 18.31 | 23.17 | 28.0 |
| | | 2A | 0.8 | 21.5 | | | 0.17 | 0.47 | 0.88 | 1.63 | 3.18 | 5.47 | 8.21 | 11.09 | 13.68 | 17.0 |
| | | 3A | 0.6 | 16.0 | | | 0.15 | 0.37 | 0.66 | 1.02 | 1.89 | 3.29 | 5.01 | 6.71 | 8.41 | 10.0 |
| 3" | 80 | FC | 2.8 | 72.0 | 1.5 | 40 | 2.01 | 4.47 | 7.37 | 12.28 | 22.52 | 38.62 | 62.02 | 79.57 | 90.09 | 100.0 |
| | | 1A | 1.9 | 47.0 | | | 1.00 | 2.51 | 4.50 | 6.96 | 12.95 | 23.65 | 36.15 | 47.82 | 58.70 | 70.0 |
| | | 2A | 1.3 | 34.0 | | | 0.73 | 1.61 | 2.64 | 3.95 | 7.53 | 13.57 | 21.26 | 28.97 | 34.99 | 42.0 |
| | | 3A | 1.0 | 25.0 | | | 0.36 | 0.89 | 1.59 | 2.46 | 4.51 | 8.08 | 12.55 | 16.82 | 20.78 | 25.0 |
| 4" | 100 | FC | 3.6 | 91.5 | 1.5 | 40 | 2.90 | 6.72 | 11.48 | 17.16 | 29.35 | 56.26 | 86.65 | 120.90 | 153.84 | 190.0 |
| | | 1A | 2.4 | 60.0 | | | 1.56 | 3.77 | 6.63 | 10.11 | 18.42 | 32.83 | 55.27 | 77.53 | 98.63 | 120.0 |
| | | 2A | 1.7 | 43.0 | | | 1.45 | 3.05 | 4.82 | 8.10 | 14.86 | 24.20 | 35.22 | 49.81 | 61.14 | 72.0 |
| | | 3A | 1.3 | 32.0 | | | 0.88 | 1.82 | 2.84 | 4.44 | 8.42 | 14.38 | 21.12 | 27.79 | 34.17 | 42.0 |
| 6" | 150 | FC | 4.5 | 115.0 | 2.4 | 60 | 4.23 | 9.72 | 16.43 | 25.73 | 49.58 | 89.69 | 140.01 | 195.77 | 256.78 | 295.0 |
| | | 1A | 3.0 | 75.0 | | | 2.83 | 6.73 | 11.68 | 17.72 | 31.53 | 53.90 | 88.37 | 113.11 | 140.55 | 165.0 |
| | | 2A | 1.8 | 46.5 | | | 1.36 | 3.61 | 6.68 | 10.62 | 17.82 | 28.66 | 42.88 | 57.38 | 71.53 | 85.0 |
| | | 3A | 1.4 | 35.5 | | | 0.91 | 1.90 | 2.95 | 4.26 | 7.77 | 13.68 | 21.42 | 29.72 | 37.96 | 50.0 |

NOTE

Cv: Valve flow coefficient

FL: Liquid pressure recovery factor

FC: Full capacity

1A: 1-Step reduction

2A: 2-Step reduction

3A: 3-Step reduction

4A: 4-Step reduction

5A: 5-Step reduction

6A: 6-Step reduction

Contoured trim (with Tendril 1)

ANSI Class: 150# - 1500#

Size: 1/2" - 4"

| Valve travel [%] | | | | | | | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | |
|------------------|-----|------------------|------|------|--------|----|----------|-------|-------|-------|-------|--------|--------|--------|--------|-------|--|
| F _L | | | | | | | 0,95 | 0,95 | 0,95 | 0,94 | 0,94 | 0,94 | 0,93 | 0,93 | 0,91 | 0,91 | |
| Valve size | | Orifice diameter | | | Travel | | Rated Cv | | | | | | | | | | |
| Inch | mm | Sign | Inch | mm | Inch | mm | | | | | | | | | | | |
| 1/2" | 15 | FT | 0.6 | 15.7 | 0.8 | 20 | 0.53 | 1.27 | 1.95 | 2.66 | 3.38 | 4.09 | 4.76 | 5.51 | 6.67 | 7.0 | |
| | | 1T | 0.4 | 11.0 | | | 0.36 | 0.74 | 1.23 | 1.61 | 1.99 | 2.37 | 2.72 | 3.05 | 3.41 | 4.0 | |
| | | 2T | 0.3 | 8.0 | | | 0.28 | 0.53 | 0.79 | 1.07 | 1.32 | 1.52 | 1.71 | 1.88 | 2.03 | 2.3 | |
| | | 3T | 0.3 | 6.4 | | | 0.19 | 0.36 | 0.52 | 0.67 | 0.82 | 0.97 | 1.15 | 1.28 | 1.38 | 1.5 | |
| | | 4T | 0.3 | 6.4 | | | 0.09 | 0.17 | 0.25 | 0.32 | 0.40 | 0.47 | 0.54 | 0.61 | 0.68 | 0.8 | |
| | | 5T | 0.3 | 6.4 | | | 0.06 | 0.11 | 0.15 | 0.20 | 0.25 | 0.30 | 0.35 | 0.40 | 0.45 | 0.5 | |
| 3/4" | 20 | FT | 0.7 | 17.2 | 0.8 | 20 | 0.85 | 1.68 | 2.57 | 3.31 | 4.04 | 4.74 | 5.43 | 6.18 | 7.61 | 9.0 | |
| | | 1T | 0.5 | 13.0 | | | 0.35 | 0.82 | 1.40 | 2.17 | 2.78 | 3.39 | 3.98 | 4.53 | 5.03 | 5.5 | |
| | | 2T | 0.4 | 9.0 | | | 0.29 | 0.74 | 1.08 | 1.40 | 1.73 | 2.13 | 2.37 | 2.60 | 2.80 | 3.0 | |
| | | 3T | 0.3 | 7.2 | | | 0.24 | 0.44 | 0.63 | 0.81 | 0.99 | 1.16 | 1.32 | 1.47 | 1.62 | 2.0 | |
| | | 4T | 0.3 | 6.4 | | | 0.13 | 0.24 | 0.36 | 0.48 | 0.60 | 0.72 | 0.84 | 0.96 | 1.08 | 1.2 | |
| | | 5T | 0.3 | 6.4 | | | 0.08 | 0.15 | 0.22 | 0.28 | 0.35 | 0.42 | 0.49 | 0.56 | 0.63 | 0.7 | |
| 1" | 25 | FT | 0.9 | 22.3 | 0.8 | 20 | 1.29 | 2.62 | 4.02 | 5.42 | 6.83 | 8.13 | 8.90 | 10.25 | 11.93 | 13.5 | |
| | | 1T | 0.6 | 15.0 | | | 0.77 | 1.54 | 2.31 | 3.15 | 3.92 | 4.68 | 5.42 | 6.12 | 7.00 | 8.5 | |
| | | 2T | 0.5 | 11.5 | | | 0.46 | 0.94 | 1.43 | 1.94 | 2.46 | 3.02 | 3.52 | 4.00 | 4.44 | 5.4 | |
| | | 3T | 0.4 | 9.0 | | | 0.28 | 0.56 | 0.86 | 1.16 | 1.47 | 1.77 | 2.07 | 2.36 | 2.66 | 3.1 | |
| | | 4T | 0.3 | 7.2 | | | 0.18 | 0.37 | 0.57 | 0.78 | 0.99 | 1.20 | 1.41 | 1.61 | 1.79 | 2.0 | |
| | | 5T | 0.3 | 6.4 | | | 0.11 | 0.23 | 0.35 | 0.47 | 0.59 | 0.71 | 0.83 | 0.95 | 1.07 | 1.2 | |
| 1-1/2" | 40 | FT | 1.2 | 30.0 | 0.8 | 20 | 2.64 | 5.38 | 8.46 | 11.77 | 15.22 | 18.77 | 21.56 | 24.09 | 26.50 | 28.0 | |
| | | 1T | 0.8 | 21.5 | | | 1.63 | 3.16 | 4.70 | 6.25 | 7.90 | 9.52 | 11.12 | 12.68 | 14.18 | 16.0 | |
| | | 2T | 0.6 | 16.0 | | | 0.95 | 1.89 | 2.86 | 3.86 | 4.88 | 5.88 | 6.90 | 7.92 | 8.86 | 10.5 | |
| | | 3T | 0.5 | 12.5 | | | 0.57 | 1.13 | 1.72 | 2.33 | 2.96 | 3.58 | 4.19 | 4.78 | 5.33 | 6.0 | |
| | | 4T | 0.4 | 10.0 | | | 0.37 | 0.74 | 1.14 | 1.54 | 1.96 | 2.38 | 2.79 | 3.18 | 3.55 | 4.0 | |
| | | 5T | 0.3 | 7.0 | | | 0.19 | 0.38 | 0.57 | 0.78 | 0.99 | 1.19 | 1.40 | 1.60 | 1.78 | 2.2 | |
| 2" | 50 | FT | 1.7 | 43.9 | 0.8 | 20 | 4.13 | 9.24 | 14.48 | 19.71 | 25.09 | 30.56 | 35.97 | 40.01 | 44.64 | 49.0 | |
| | | 1T | 1.3 | 33.4 | | | 2.27 | 4.97 | 7.88 | 10.94 | 13.72 | 16.51 | 19.28 | 22.03 | 24.97 | 28.0 | |
| | | 2T | 0.8 | 21.5 | | | 1.26 | 2.76 | 4.37 | 6.05 | 7.77 | 9.53 | 11.23 | 12.73 | 14.32 | 17.0 | |
| | | 3T | 0.6 | 16.0 | | | 0.82 | 1.78 | 2.80 | 3.86 | 4.93 | 5.98 | 7.01 | 7.98 | 8.89 | 10.0 | |
| 3" | 80 | FT | 2.8 | 72.0 | 1.5 | 40 | 9.96 | 21.06 | 32.40 | 42.65 | 52.98 | 63.70 | 76.67 | 86.07 | 91.15 | 100.0 | |
| | | 1T | 1.9 | 47.0 | | | 5.35 | 11.64 | 18.74 | 26.58 | 33.66 | 40.46 | 47.18 | 53.74 | 60.34 | 70.0 | |
| | | 2T | 1.3 | 34.0 | | | 3.47 | 7.21 | 11.20 | 15.38 | 19.69 | 24.06 | 28.45 | 31.99 | 35.66 | 42.0 | |
| | | 3T | 1.0 | 25.0 | | | 2.17 | 4.47 | 6.86 | 9.32 | 11.81 | 14.29 | 16.73 | 19.08 | 21.29 | 25.0 | |
| 4" | 100 | FT | 3.6 | 91.5 | 1.5 | 40 | 12.67 | 27.12 | 47.27 | 66.04 | 85.99 | 106.88 | 127.85 | 147.47 | 167.93 | 190.0 | |
| | | 1T | 2.4 | 60.0 | | | 7.32 | 15.77 | 25.33 | 36.43 | 51.05 | 63.30 | 75.78 | 88.32 | 103.94 | 120.0 | |
| | | 2T | 1.7 | 43.0 | | | 7.02 | 13.84 | 20.64 | 27.41 | 34.07 | 43.44 | 50.85 | 57.09 | 63.09 | 72.0 | |
| | | 3T | 1.3 | 32.0 | | | 4.03 | 8.16 | 12.45 | 16.82 | 21.18 | 25.44 | 29.51 | 33.31 | 37.67 | 42.0 | |

NOTE

Cv: Valve flow coefficient

FL: Liquid pressure recovery factor

FC: Full capacity

1A: 1-Step reduction

2A: 2-Step reduction

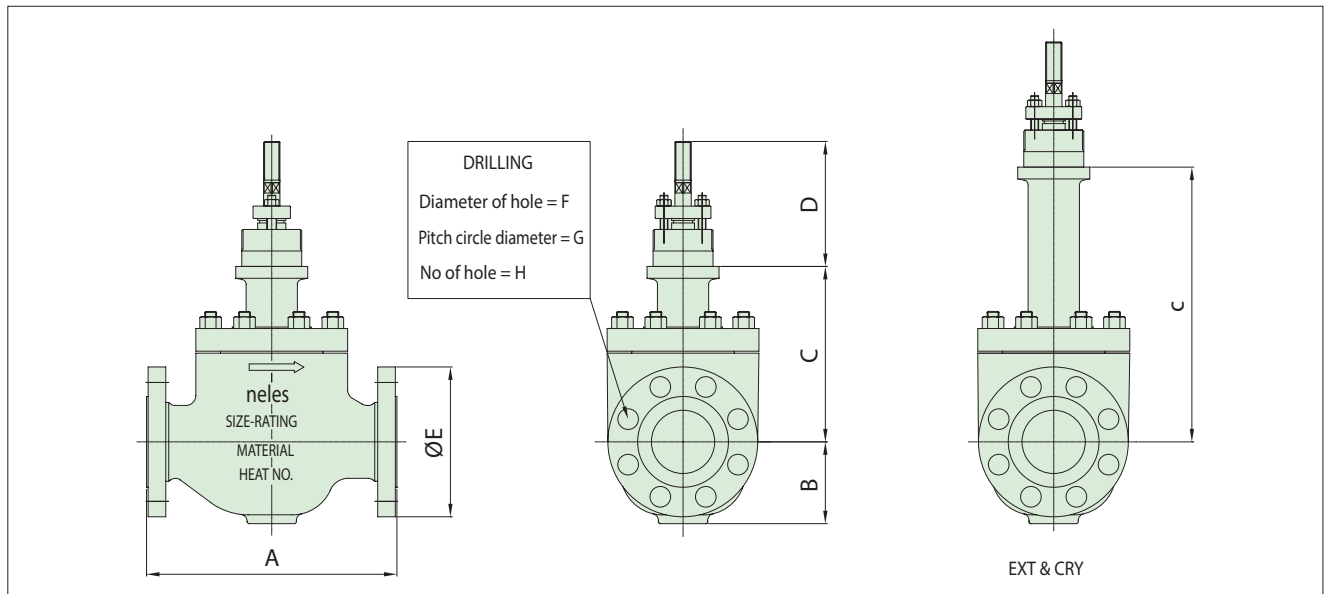
3A: 3-Step reduction

4A: 4-Step reduction

5A: 5-Step reduction

6A: 6-Step reduction

GU, Valve dimensions and weights



150 #/ 300 #/ 600

| Dimension (mm) | A | | | B | | | C | | | D | E | | | F | | | G | | | H | | | Weight (kg) (Approximate) | | |
|----------------|------|------|------|------|------|------|-----|-----|-----|--------|------|------|------|------|------|------|-------|-------|-------|------|------|------|---------------------------|------|------|
| | 150# | 300# | 600# | 150# | 300# | 600# | STD | EXT | CRY | COMMON | 150# | 300# | 600# | 150# | 300# | 600# | 150# | 300# | 600# | 150# | 300# | 600# | 150# | 300# | 600# |
| 15 | 184 | 190 | 203 | 44.5 | 47.5 | 47.5 | 142 | 250 | 400 | 110 | 90 | 95 | 95 | 15.9 | 15.9 | 15.9 | 60.3 | 66.7 | 66.7 | 4 | 4 | 4 | 14 | 15 | 23 |
| 20 | 184 | 194 | 206 | 49 | 57.5 | 57.5 | 142 | 250 | 400 | 110 | 100 | 115 | 115 | 15.9 | 19.1 | 19.1 | 69.9 | 82.6 | 82.6 | 4 | 4 | 4 | 14 | 15 | 23 |
| 25 | 184 | 197 | 210 | 55 | 63 | 63 | 142 | 250 | 400 | 110 | 110 | 125 | 125 | 15.9 | 19.1 | 19.1 | 79.4 | 88.9 | 88.9 | 4 | 4 | 4 | 14 | 15 | 23 |
| 40 | 222 | 235 | 251 | 65 | 78 | 78 | 161 | 269 | 419 | 110 | 125 | 155 | 155 | 15.9 | 22.2 | 22.2 | 98.4 | 114.3 | 114.3 | 4 | 4 | 4 | 22 | 23 | 27 |
| 50 | 254 | 267 | 286 | 83 | 83 | 83 | 178 | 333 | 458 | 110 | 150 | 165 | 165 | 19.1 | 19.1 | 19.1 | 120.7 | 127 | 127 | 4 | 8 | 8 | 25 | 27 | 32 |
| 80 | 298 | 318 | 337 | 109 | 109 | 120 | 222 | 395 | 545 | 115 | 190 | 210 | 210 | 19.1 | 22.2 | 22.2 | 152.4 | 168.3 | 168.3 | 4 | 8 | 8 | 55 | 57 | 62 |
| 100 | 352 | 368 | 394 | 135 | 135 | 135 | 248 | 402 | 552 | 140 | 230 | 255 | 275 | 19.1 | 22.2 | 25.4 | 190.5 | 200 | 215.9 | 8 | 8 | 8 | 80 | 83 | 92 |

| Dimension (inch) | A | | | B | | | C | | | D | E | | | F | | | G | | | H | | | Weight (lbs) (Approximate) | | |
|------------------|-------|-------|-------|------|------|------|------|-------|-------|--------|------|-------|-------|------|------|------|------|------|------|------|------|------|----------------------------|------|------|
| | 150# | 300# | 600# | 150# | 300# | 600# | STD | EXT | CRY | COMMON | 150# | 300# | 600# | 150# | 300# | 600# | 150# | 300# | 600# | 150# | 300# | 600# | 150# | 300# | 600# |
| 1/2" | 7.24 | 7.48 | 7.99 | 1.75 | 1.87 | 1.87 | 5.59 | 9.84 | 15.74 | 4.33 | 3.54 | 3.74 | 3.74 | 0.63 | 0.63 | 0.63 | 2.37 | 2.63 | 2.63 | 4 | 4 | 4 | 31 | 33 | 51 |
| 3/4" | 7.24 | 7.64 | 8.11 | 1.93 | 2.26 | 2.26 | 5.59 | 9.84 | 15.74 | 4.33 | 3.94 | 4.53 | 4.53 | 0.63 | 0.75 | 0.75 | 2.75 | 3.25 | 3.25 | 4 | 4 | 4 | 31 | 33 | 51 |
| 1" | 7.24 | 7.76 | 8.27 | 2.17 | 2.48 | 2.48 | 5.59 | 9.84 | 15.74 | 4.33 | 4.33 | 4.92 | 4.92 | 0.63 | 0.75 | 0.75 | 3.13 | 3.5 | 3.5 | 4 | 4 | 4 | 31 | 33 | 51 |
| 1-1/2" | 8.74 | 9.25 | 9.88 | 2.56 | 3.07 | 3.07 | 6.34 | 10.59 | 16.49 | 4.33 | 4.92 | 6.1 | 6.1 | 0.63 | 0.87 | 0.87 | 3.87 | 4.5 | 4.5 | 4 | 4 | 4 | 49 | 51 | 60 |
| 2" | 10 | 10.51 | 11.26 | 3.27 | 3.27 | 3.27 | 7.01 | 13.11 | 18.03 | 4.33 | 5.91 | 6.5 | 6.5 | 0.75 | 0.75 | 0.75 | 4.75 | 5 | 5 | 4 | 8 | 8 | 55 | 60 | 71 |
| 3" | 11.73 | 12.52 | 13.27 | 4.29 | 4.29 | 4.72 | 8.74 | 15.55 | 21.45 | 4.53 | 7.48 | 8.27 | 8.27 | 0.75 | 0.87 | 0.87 | 6 | 6.63 | 6.63 | 4 | 8 | 8 | 121 | 126 | 137 |
| 4" | 13.86 | 14.49 | 15.51 | 5.31 | 5.31 | 5.31 | 9.76 | 15.82 | 21.73 | 5.51 | 9.06 | 10.04 | 10.83 | 0.75 | 0.87 | 1 | 7.5 | 7.87 | 8.5 | 8 | 8 | 8 | 176 | 183 | 203 |

P.C.D = Pitch Circle Diameter

900 #/ 1500

| Dimension (mm) | A | | B | | C | | D | E | | F | | G | | H | | Weight (kg) (Approximate) | |
|----------------|------|-------|------|-------|-----|-----|--------|------|-------|------|-------|-------|-------|------|-------|---------------------------|-------|
| | 900# | 1500# | 900# | 1500# | STD | EXT | COMMON | 900# | 1500# | 900# | 1500# | 900# | 1500# | 900# | 1500# | 900# | 1500# |
| 15 | 292 | 292 | 78 | 78 | 236 | 330 | 150 | 120 | 120 | 22.2 | 22.2 | 82.6 | 82.6 | 4 | 4 | 60 | 60 |
| 20 | 292 | 292 | 78 | 78 | 236 | 330 | 150 | 130 | 130 | 22.2 | 22.2 | 88.9 | 88.9 | 4 | 4 | 60 | 60 |
| 25 | 292 | 292 | 82 | 82 | 236 | 330 | 150 | 150 | 150 | 25.4 | 25.4 | 101.6 | 101.6 | 4 | 4 | 60 | 60 |
| 40 | 333 | 333 | 100 | 100 | 240 | 380 | 150 | 180 | 180 | 28.5 | 28.5 | 123.8 | 123.8 | 4 | 4 | 63 | 63 |
| 50 | 375 | 375 | 113 | 113 | 240 | 380 | 225 | 215 | 215 | 25.4 | 25.4 | 165.1 | 165.1 | 8 | 8 | 67 | 67 |
| 80 | 441 | 460 | 142 | 142 | 322 | 430 | 225 | 240 | 265 | 25.4 | 31.7 | 190.5 | 203.2 | 8 | 8 | 150 | 163 |

| Dimension (inch) | A | | B | | C | | D | E | | F | | G | | H | | Weight (lbs) (Approximate) | |
|------------------|-------|-------|------|-------|-------|-----|--------|------|-------|------|-------|------|-------|------|-------|----------------------------|-------|
| | 900# | 1500# | 900# | 1500# | STD | EXT | COMMON | 900# | 1500# | 900# | 1500# | 900# | 1500# | 900# | 1500# | 900# | 1500# |
| 1/2" | 11.5 | 11.5 | 3.07 | 3.07 | 9.29 | 13 | 5.9 | 4.72 | 4.72 | 0.87 | 0.87 | 3.25 | 3.25 | 4 | 4 | 132 | 132 |
| 3/4" | 11.5 | 11.5 | 3.07 | 3.07 | 9.29 | 13 | 5.9 | 5.12 | 5.12 | 0.87 | 0.87 | 3.5 | 3.5 | 4 | 4 | 132 | 132 |
| 1" | 11.5 | 11.5 | 3.23 | 3.23 | 9.29 | 13 | 5.9 | 5.91 | 5.91 | 1 | 1 | 4 | 4 | 4 | 4 | 132 | 132 |
| 1-1/2" | 13.11 | 13.11 | 3.94 | 3.94 | 9.45 | 15 | 5.9 | 7.09 | 7.09 | 1.12 | 1.12 | 4.87 | 4.87 | 4 | 4 | 139 | 139 |
| 2" | 14.76 | 14.76 | 4.45 | 4.45 | 9.45 | 15 | 8.86 | 8.46 | 8.46 | 1 | 1 | 6.5 | 6.5 | 8 | 8 | 148 | 148 |
| 3" | 17.36 | 18.11 | 5.59 | 5.59 | 13.19 | 17 | 8.86 | 9.45 | 10.43 | 1 | 1.25 | 7.5 | 8 | 8 | 8 | 331 | 359 |

NOTE
P.C.D = Pitch Circle Diameter

DIN Valve (PN10-PN40)

Face to Face acc. to DIN 3202-1 / EN 558 series 1

Flange acc. to EN1092-1 type 21

Dual material marking (ASTM & EN) will be available on pressure retaining parts.

e.g. A216 gr. WCB/1.0619, A351 gr. CF8M/1.4408

| Dimension (mm) | A | | B | | C | | | D | E | | F | | G | | H | | Weight (kg) | |
|-------------------|-------------|-------------|-------------|-------------|-----|-----|-----|--------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | PN 10-16 | PN 25-40 | PN 10-16 | PN 25-40 | STD | EXT | CRY | COMMON | PN 10-16 | PN 25-40 | PN 10-16 | PN 25-40 | PN 10-16 | PN 25-40 | PN 10-16 | PN 25-40 | PN 10-16 | PN 25-40 |
| 25 | 160 | 160 | 50 | 50 | 142 | 250 | 400 | 110 | 115 | 115 | 19.1 | 19.1 | 79.4 | 88.9 | 4 | 4 | 14 | 15 |
| 40 | 200 | 200 | 65 | 65 | 161 | 269 | 419 | 110 | 150 | 150 | 22.2 | 22.2 | 98.4 | 114.3 | 4 | 4 | 22 | 23 |
| 50 | 230 | 230 | 75 | 75 | 178 | 333 | 458 | 110 | 165 | 165 | 19.1 | 19.1 | 120.7 | 127 | 4 | 8 | 25 | 27 |
| 80 | 310 | 310 | 109 | 109 | 222 | 395 | 545 | 115 | 200 | 200 | 22.2 | 22.2 | 152.4 | 168.3 | 4 | 8 | 55 | 57 |
| 100 | 350 | 350 | 130 | 130 | 248 | 402 | 552 | 140 | 220 | 235 | 22.2 | 25.4 | 190.5 | 200 | 8 | 8 | 80 | 83 |

How to order

Globe unbalanced, top guided type, series GU

| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. | 19. | 20. | 21. | 22. |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| GU | 01 | C | W | A | J2 | B | P1 | X | BC | S1 | R1 | X | S | G | X | S | G | X | A | L | FC |

Valve constructions

| 1. | Valve series | | |
|----|----------------------------------|--|--|
| GU | Globe unbalanced, topguided type | | |

| 2. | Body size | | |
|--------------------|--------------|----|----------------|
| 0H | 0.5" / DN 15 | 3Q | 0.75" / DN 20 |
| 01 | 1" / DN 25 | 1H | 1-1/2" / DN 40 |
| 02 | 2" / DN 50 | 03 | 3" / DN 80 |
| 04 | 4" / DN 100 | | |
| Optional body size | | | |
| 06 | 6" / DN 150 | 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 | I | ASME Class 2500 |
| J | EN PN 10 | K | EN PN 16 |
| L | EN PN 25 | M | EN PN 40 |
| N | EN PN 63 | P | EN PN 100 |
| B | EN PN 160 | E | EN PN 250 |
| Y | EN PN 320 | R | JIS 10K |
| T | JIS 20K | | |

| 4. | End connection |
|----|---|
| W | Flanged RF, ASME B16.5 |
| C | Flanged RF, EN1092-1 (ISA 75.08.01/EN 558 series 38,39) |
| D | Flanged RF, EN1092-1 (DIN 3202-1 / EN 558 series 1) |
| 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 | General | Applicable for VD_25/29/37 |
| B | General | Applicable for VD_48/55 |
| C | General | Applicable for VC_30, VB_32 |
| E | Extension | Applicable for VD_25/29/37 |
| F | Extension | Applicable for VD_48/55 |
| G | Extension | Applicable for VC_30, VB_32 |
| P | Cryogenic | Applicable for VD_25/29/37 |
| Q | Cryogenic | Applicable for VD_48/55 |
| R | Cryogenic | Applicable for VC_30, VB_32 |
| Optional bonnet construction | | |
| J | Bellows seals | Applicable for VD_25/29/37 |
| K | Bellows seals | Applicable for VD_48/55 |
| L | Bellows seals | Applicable for VC_30, VB_32 |
| Y | Special | Special |

| 6. | Body material |
|----|---------------|
| J2 | A216 gr. WCB |
| S6 | A351 gr. CF8M |
| J4 | A217 gr. WC6 |
| CG | A217 gr. WC9 |
| J1 | A216 gr. WCC |

| Optional body material | |
|------------------------|---------------|
| S1 | A351 gr. CF3M |
| YY | Special |

- Bonnet material is equivalent with body material.

| 7. | Model code |
|----|------------|
| B | Model B |

Trim constructions

| 8. | Plug material | |
|----|---------------|-----------------------------------|
| | Material | Description |
| P1 | 410 SS | General for carbon steel valve |
| T6 | 316 SS | General for stainless steel valve |
| VM | Alloy 6 | Use for small Cv and Micro plug |
| P2 | 420J2 | General for Cr-Mo valve |

| Optional plug material | | |
|------------------------|---------|-------------------|
| S1 | 316L SS | |
| YY | Special | Special materials |

| 9. | Plug application |
|----|--------------------|
| X | Not applicable |
| A | Cobalt based alloy |

| Optional plug material | |
|------------------------|---------|
| Y | Special |

| 10. | Stem material | |
|-----|---------------|-----------------------------------|
| | Material | Description |
| BC | 630 SS + HCr | General for carbon steel valve |
| TC | 316 SS + HCr | General for stainless steel valve |
| VX | XM-19 | General for Cr-Mo valve |

| Optional stem material | |
|------------------------|---------------|
| FC | 316L SS + HCr |

| 11. | Seat type |
|-----|-------------------|
| S1 | Single metal seat |
| T1 | Single soft seat |

| Optional seat type | |
|--------------------|---------|
| YY | Special |

| 12. | Seat / retainer material | | |
|-----------------------------------|--------------------------|------------------|--------------------|
| | Seat | Retainer | Guide bushing |
| R1 | CA15 / 410 SS | CB7Cu-1 / 630 SS | AISI 440C |
| T6 | CF8M / 316 SS | CF8M / 316 SS | AISI 316 + Alloy 6 |
| V6 | Alloy 6 | CF8M / 316 SS | AISI 316 + Alloy 6 |
| P2 | 420J2 | CA40/420J2 | AISI 440C |
| Optional Seat / Retainer Material | | | |
| R2 | 420J2 SS | CB7Cu-1 / 630 SS | AISI 440C |
| R3 | 316 SS | 316 SS | AISI 316 + Alloy 6 |
| YY | Special | Special | Special |

- AISI 410 is general for carbon steel valve.
 - AISI 316 is general for stainless steel valve

| 13. | Seat application |
|---------------------------|----------------------------------|
| X | Not applicable |
| A | Cobalt based alloy |
| P | Insert PTFE |
| Optional seat application | |
| Q | Insert PTFE + Cobalt based alloy |
| Y | Special |

Others

| 14. | Packing / bellows type |
|---------------------------------|--------------------------------|
| S | General packing |
| E | Low emission, live loaded |
| Optional packing / Bellows type | |
| C | Bellows Seal (316L SS, Formed) |
| Y | Special |

| 15. | Packing material |
|---------------------------|----------------------------|
| G | PTFE + Carbon fiber |
| F | Graphite |
| T | PTFE V-Ring |
| C | PTFE + Carbon fiber (ATEX) |
| H | Hi-Graphite |
| Optional packing material | |
| Y | Special |

| 16. | Seal ring material |
|-----|--------------------|
| X | Not applicable |

| 17. | Gasket material |
|--------------------------|--|
| S | S/W gasket type, 316L SS + Graphite |
| L | S/W gasket type, 316L SS + PTFE |
| H | S/W gasket type, 316L SS + Hi-Graphite |
| Optional gasket material | |
| Y | Special |

| 18. | Stud / nut material |
|------------------------------|----------------------------------|
| G | A193 gr. B7M / A194 gr. 2HM |
| D | A193 gr. B8M / A194 gr. 8M |
| K | A320 gr. B8M cl. 2 / A194 gr. 8M |
| H | A193 gr. B16 / A194 gr. 7 |
| E | A453 gr. 660/ A453 gr. 660 |
| Optional stud / Nut material | |
| Y | Special |

| 19. | Options |
|-----------------|---|
| X | Not applicable |
| E | Anti-erosion |
| H | Alloy 6 coating on plug & plug guide for High temp. (top-guided valve only) |
| Special options | |
| L | Lub. & Isol. valve |
| W | Water seal |
| Y | Special |

* Face to face length according to ISA 75.08 (EN558 series 38, 39) and DIN3202-1 (EN558 series 1).

* For DIN f to f valve, dual material marking (ASTM & EN) will be available on pressure retaining parts.
 e.g. A216 gr. WCB/1.0619, A351 gr. CF8M/1.4408

* The body, bonnet, trim materials are subject to change as equivalent depending on detail design.

* Please see 'Neles Globe Typecode Instruction' for further options.

Trim type & rated Cv

| 20. Sign | Trim type | 21. Sign | Trim characteristic | 22. Sign | Description | Rated Cv | | | | | | | | | | | | |
|-------------|----------------------|-------------|------------------------|-------------|------------------|-------------------------------|---------------------------------|------------|---------------------------------|-----------|-----------|----------|----------|----------|--|--|--|--|
| | | | | | | Body size and stroke | | | | | | | | | | | | |
| | | | | | | 1/2" Str. | 3/4" Str. | 1" Str. | 1-1/2" Str. | 2" Str. | 3" Str. | 4" Str. | 6" Str. | | | | | |
| A | General plug type | L | Linear | FC | Full capacity | 7 (20) | 9 (20) | 13.5 (20) | 28 (20) | 49 (20) | 100 (40) | 190 (40) | 295 (60) | | | | | |
| | | | | 1A | 1-Step reduction | 4 (20) | 5.5 (20) | 8.5 (20) | 16 (20) | 28 (20) | 70 (40) | 120 (40) | 165 (60) | | | | | |
| | | | | 2A | 2-Step reduction | 2.3 (20) | 3 (20) | 5.4 (20) | 10.5 (20) | 17 (20) | 42 (40) | 72 (40) | 85 (60) | | | | | |
| | | | | 3A | 3-Step reduction | 1.5 (20) | 2 (20) | 3.1 (20) | 6 (20) | 10 (20) | 25 (40) | 42 (40) | 50 (60) | | | | | |
| | | | | 4A | 4-Step reduction | 0.8 (20) | 1.2 (20) | 2 (20) | 4 (20) | | | | | | | | | |
| | | | | 5A | 5-Step reduction | 0.5 (20) | 0.7 (20) | 1.2 (20) | 2.2 (20) | | | | | | | | | |
| | | E | Equal % | L | Linear | FT | Tendril 1 / Full capacity | 7 (20) | 9 (20) | 13.5 (20) | 28 (20) | 49 (20) | 100 (40) | 190 (40) | | | | |
| | | | | | | 1T | Tendril 1 / 1-Step reduction | 4 (20) | 5.5 (20) | 8.5 (20) | 16 (20) | 28 (20) | 70 (40) | 120 (40) | | | | |
| | | | | | | 2T | Tendril 1 / 2-Step reduction | 2.3 (20) | 3 (20) | 5.4 (20) | 10.5 (20) | 17 (20) | 42 (40) | 72 (40) | | | | |
| | | | | | | 3T | Tendril 1 / 3-Step reduction | 1.5 (20) | 2 (20) | 3.1 (20) | 6 (20) | 10 (20) | 25 (40) | 42 (40) | | | | |
| | | | | | | 4T | Tendril 1 / 4-Step reduction | 0.8 (20) | 1.2 (20) | 2 (20) | 4 (20) | | | | | | | |
| | | | | | | 5T | Tendril 1 / 5-Step reduction | 0.5 (20) | 0.7 (20) | 1.2 (20) | 2.2 (20) | | | | | | | |
| | | | | E | Equal % | L | Linear | 6T | Tendril 1 / 6-Step reduction | 0.3 (20) | 0.4 (20) | 0.8 (20) | 1.2 (20) | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| C | Micro plug type | L | Linear | FC | Full capacity | 0.1 (20) | 0.1 (20) | 0.1 (20) | | | | | | | | | | |
| | | | | 1A | 1-Step reduction | 0.06 (20) | 0.06 (20) | 0.06 (20) | | | | | | | | | | |
| | | | | 2A | 2-Step reduction | 0.03 (20) | 0.03 (20) | 0.03 (20) | | | | | | | | | | |
| | | | | 3A | 3-Step reduction | 0.01 (20) | 0.01 (20) | 0.01 (20) | | | | | | | | | | |
| | | | | 4A | 4-Step reduction | 0.006 (20) | 0.006 (15) | 0.006 (20) | | | | | | | | | | |
| | | | | 5A | 5-Step reduction | 0.003 (20) | 0.003 (15) | 0.003 (20) | | | | | | | | | | |
| Y | | Y | Special | YY | Special | Contact Valmet for Cv details | | | | | | | | | | | | |

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

* Optional rated Cv to meet to specific Cv are available.

* (Str) is the valve stroke.

* For trims without the specified Cv values, please contact Valmet.

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