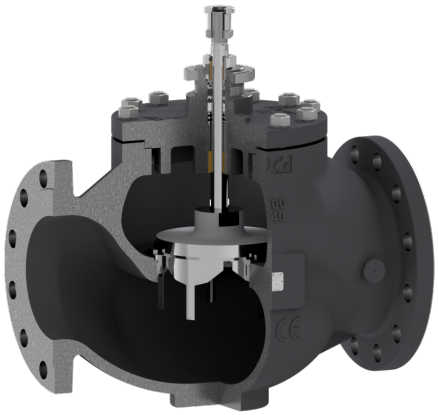
# TWO-WAY GLOBE CONTROL VALVES
# V25/2
# (EN)

DESCRIPTION

The ADCATrol V25/2 is a series of single seated, two-way globe valves designed for process engineering and industrial applications, where events such as erosion, cavitation or flashing may occur.
These valves can be assembled with pneumatic, hydraulic or electric actuators, for modulating and shut-off control tasks.



MAIN FEATURES

Robust construction.
Modular design to meet process requirements.
Stainless steel trim.

OPTIONS AND ACCESSORIES:
Bonnet extension for high and low temperatures.
Various stem sealing options including bellows sealing.
Soft, stellited and high-performance metal valve sealing.
V-port guided and perforated plugs.
Low noise, anti-cavitation single and multi-stage trims.
Reduced bore trims including microflow.
Pressure balancing trims.
Silencers.

USE:
Saturated and superheated steam.
Hot and superheated water.
Air, gases and others.

AVAILABLE MODELS:
V25/2G – SG iron.
V25/2S – carbon steel.
V25/2i – stainless steel (only available from DN 15 to DN 100).

VALVE SIZES:
DN 15 to DN 200.

CONNECTIONS:
V25/2G – Flanged EN 1092-2 PN 16.
V25/2S and V25/2i – Flanged EN 1092-1 PN 16 or PN 40.
Standard PN 16 DN 65 flanges are supplied with 4 holes. 8 holes, according to EN 1092-1/-2, on request.

| CE MARKING – GROUP 2 (PED – European Directive) | | |
|---|---|---|
| **PN 16** | **PN 40** | **Category** |
| DN 15 to 50 | DN 15 to 32 | SEP |
| DN 65 to 200 | DN 40 to 100 | 1 (CE marked) |
| – | DN 125 to 200 | 2 (CE marked) |


We reserve the right to change the design and material of this product without notice.

## BODY LIMITING CONDITIONS

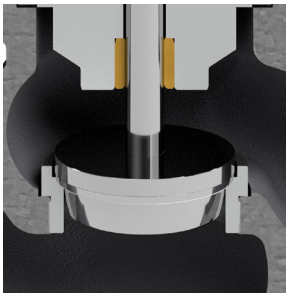
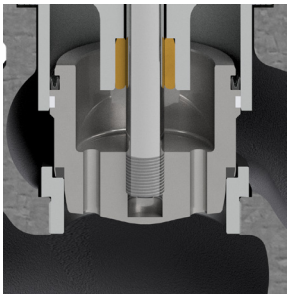
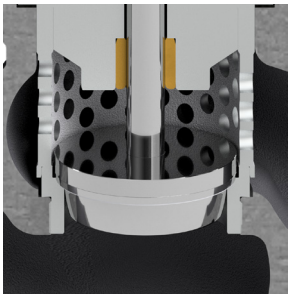
| V25/2G ** | | V25/2S * | | | | V25/2i * | | | |
|---|---|---|---|---|---|---|---|---|---|
| FLANGED PN 16 | | FLANGED PN 16 | | FLANGED PN 40 | | FLANGED PN 16 | | FLANGED PN 40 | |
| ALLOW. PRESSURE | RELATED TEMP. | ALLOW. PRESSURE | RELATED TEMP. | ALLOW. PRESSURE | RELATED TEMP. | ALLOW. PRESSURE | RELATED TEMP. | ALLOW. PRESSURE | RELATED TEMP. |
| 16 bar | -10 ºC / 50 ºC | 16 bar | -10 ºC / 50 ºC | 40 bar | -10 ºC / 50 ºC | 16 bar | -10 ºC / 50 ºC | 40 bar | -10 ºC / 50 ºC |
| 14,7 bar | 200 ºC | 13,3 bar | 200 ºC | 33,3 bar | 200 ºC | 13,4 bar | 200 ºC | 33,7 bar | 200 ºC |
| 13,9 bar | 250 ºC | 12,1 bar | 250 ºC | 27,6 bar | 300 ºC | 12,7 bar | 250 ºC | 29,7 bar | 300 ºC |
| 12,8 bar | 300 ºC | 11 bar | 300 ºC | 25,7 bar | 350 ºC | 11,8 bar | 300 ºC | 28,5 bar | 350 ºC |
| 11,2 bar | 350 ºC | 10,2 bar | 350 ºC | 23,8 bar | 400 ºC | 11,4 bar | 350 ºC | 27,4 bar | 400 ºC |

* Rating according to EN 1092-1:2018; ** Rating according to EN 1092-2:2007.

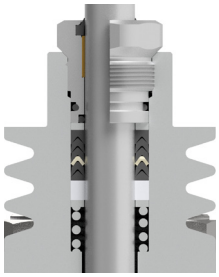
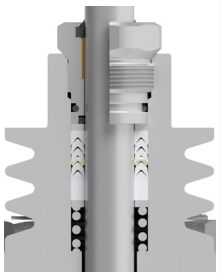
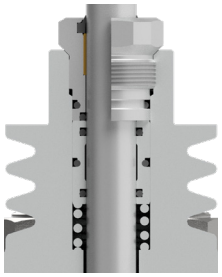
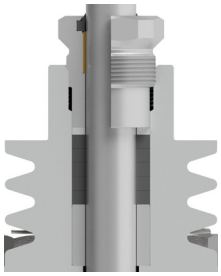
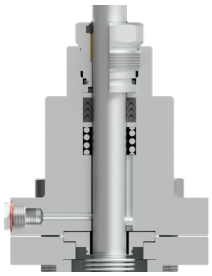
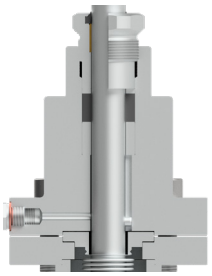
## BONNET DESIGN

| STANDARD | EXTENDED |
|---|---|
| | |
| -10 ºC to 250 ºC | Above 250 ºC |

## TRIM DESIGN

| UNBALANCED TRIM | BALANCED TRIM | LOW NOISE (FD1) |
|---|---|---|
|  |  |  |

## STEM SEALING

| PTFE/GR V-RINGS (V1.2) | PTFE V-RINGS (V2.2) | EPDM (EP1) | GRAPHITE (G1) | BELLOWS | |
|---|---|---|---|---|---|
| | | | | (BV1) | (BG1) |
|  |  |  |  |  |  |
| -10 ºC to 220 ºC | -10 ºC to 180 ºC | -10 ºC to 150 ºC * | -10 ºC to 400 ºC | - 60 ºC to 220 ºC ** | - 60 ºC to 400 ºC ** |

* Up to 180 ºC in steam and hot water applications.
** Maximum operating pressure: 25 bar.



We reserve the right to change the design and material of this product without notice.

## PLUG DESIGN

### PARABOLIC

**Sealing:** Metal to metal
**Characteristic:** Equal percentage (EQP) or linear (PL)
**Flow direction:** From below
**Rangeability:** 50:1 (EQP) or 30:1 (PL)
**Leakage:** Class IV or Class V, acc. to IEC 60534-4

### PARABOLIC (SOFT SEALING)

**Sealing:** PTFE/GR
**Characteristic:** Equal percentage (EQP) or linear (PL)
**Flow direction:** From below
**Rangeability:** 50:1 (EQP) or 30:1 (PL)
**Leakage:** Class VI, acc. to IEC 60534-4
**Max. temp.:** 200 ºC

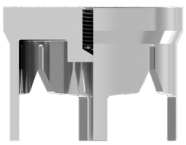
### PERFORATED

**Sealing:** Metal to metal
**Characteristic:** Equal percentage (EQP) or linear (PL)
**Flow direction:** From above (liquids) or from below (gases)
**Rangeability:** 40:1 (EQP) or 30:1 (PL)
**Leakage:** Class IV, acc. to IEC 60534-4

### PARABOLIC MICROFLOW

**Sealing:** Metal to metal
**Characteristic:** Linear (PL)
**Flow direction:** From below
**Rangeability:** 30:1
**Leakage:** Class IV or Class V, acc. to IEC 60534-4

### V-PORT GUIDED



**Sealing:** Metal to metal
**Characteristic:** Equal percentage (EQP) or linear (PL)
**Flow direction:** From below
**Rangeability:** 30:1
**Leakage:** Class IV or Class V, acc. to IEC 60534-4

### V-PORT GUIDED (SOFT SEALING)

**Sealing:** Metal to metal
**Characteristic:** Equal percentage (EQP) or linear (PL)
**Flow direction:** From below
**Rangeability:** 30:1
**Leakage:** Class VI, acc. to IEC 60534-4



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## FLOW RATE COEFFICIENTS – PARABOLIC AND V-PORT GUIDED PL AND EQP PLUGS

| SIZE | Kvs (m³/h) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0,1 * | 0,16 * | 0,25 * | 0,5 * | 1 | 1,7 | 2,1 | 2,7 | 4 | 6,3 | 10 | 16 | 25 | 40 | 63 | 100 | 160 | 240 | 370 | 630 |
| DN 15 | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | | |
| DN 20 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | | |
| DN 25 | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | | | | | |
| DN 32 | | | | | | | | | ● | ● | ● | ● | | | | | | | | |
| DN 40 | | | | | | | | | | ● | ● | ● | ● | | | | | | | |
| DN 50 | | | | | | | | | | | ● | ● | ● | ● | | | | | | |
| DN 65 | | | | | | | | | | | | ● | ● | ● | ● | | | | | |
| DN 80 | | | | | | | | | | | | | ● | ● | ● | ● | | | | |
| DN 100 | | | | | | | | | | | | | | ● | ● | ● | ● | | | |
| DN 125 | | | | | | | | | | | | | | | ● | ● | ● | ● | | |
| DN 150 | | | | | | | | | | | | | | | | ● | ● | ● | ● | |
| DN 200 | | | | | | | | | | | | | | | | | | ● | ● | ● |
| SEAT Ø (mm) | 4 | | | | 8 | | 12 | | 15 | 19,2 | 25 | 32 | 38 | 48 | 65 | 76 | 96 | 125 | 150 | 200 |
| STROKE (mm) | 20 | | | | | | | | | | | | | | 30 | | | 50 | | 60 |

* Microflow only available with linear characteristic.

## FLOW RATE COEFFICIENTS – PERFORATED PL PLUGS

| SIZE | Kvs (m³/h) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,5 | 4 | 6,3 | 10 | 25 | 36 | 50 | 63 | 120 | 180 | 300 | 450 |
| DN 15 | ● | | | | | | | | | | | |
| DN 20 | ● | ● | | | | | | | | | | |
| DN 25 | ● | ● | ● | | | | | | | | | |
| DN 32 | ● | ● | ● | ● | | | | | | | | |
| DN 40 | | ● | ● | ● | ● | | | | | | | |
| DN 50 | | | ● | ● | ● | ● | | | | | | |
| DN 65 | | | | ● | ● | ● | ● | | | | | |
| DN 80 | | | | | ● | ● | ● | ● | | | | |
| DN 100 | | | | | | ● | ● | ● | ● | | | |
| DN 125 | | | | | | | ● | ● | ● | ● | | |
| DN 150 | | | | | | | | ● | ● | ● | ● | |
| DN 200 | | | | | | | | | | ● | ● | ● |
| SEAT Ø (mm) | 15 | 19,2 | 25 | 32 | 38 | 48 | 65 | 76 | 96 | 125 | 150 | 200 |
| STROKE (mm) | 20 | | | | | | 30 | | | 50 | | 60 |

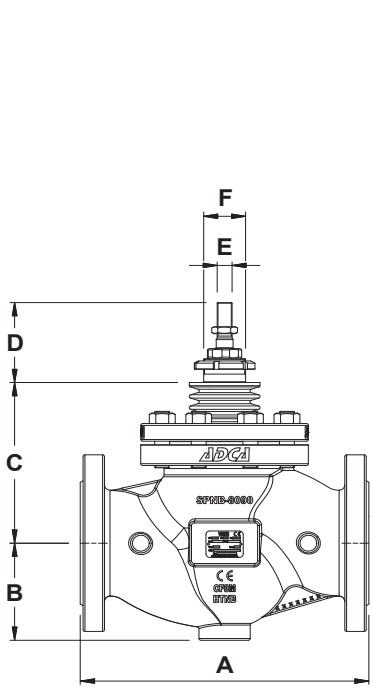
## FLOW RATE COEFFICIENTS – PERFORATED EQP PLUGS

| SIZE | Kvs (m³/h) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2,5 | 4 | 6,3 | 10 | 16 | 25 | 36 | 50 | 80 | 120 | 250 | 360 |
| DN 15 | ● | | | | | | | | | | | |
| DN 20 | ● | ● | | | | | | | | | | |
| DN 25 | ● | ● | ● | | | | | | | | | |
| DN 32 | ● | ● | ● | ● | | | | | | | | |
| DN 40 | | ● | ● | ● | ● | | | | | | | |
| DN 50 | | | ● | ● | ● | ● | | | | | | |
| DN 65 | | | | ● | ● | ● | ● | | | | | |
| DN 80 | | | | | ● | ● | ● | ● | | | | |
| DN 100 | | | | | | ● | ● | ● | ● | | | |
| DN 125 | | | | | | | ● | ● | ● | ● | | |
| DN 150 | | | | | | | | ● | ● | ● | ● | |
| DN 200 | | | | | | | | | | ● | ● | ● |
| SEAT Ø (mm) | 15 | 19,2 | 25 | 32 | 38 | 48 | 65 | 76 | 96 | 125 | 150 | 200 |
| STROKE (mm) | 20 | | | | | | | 30 | | 50 | | 60 |

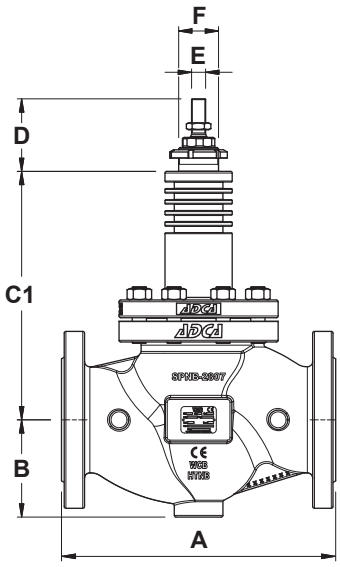
For conversion Kvs = Cv (US) x 0,865.



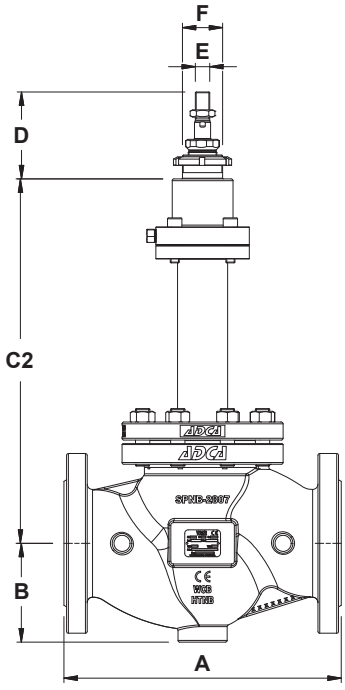
We reserve the right to change the design and material of this product without notice.




Valve with standard bonnet




Valve with extended bonnet




Bellows sealed valve

| DIMENSIONS (mm) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIMENSION | SIZE | | | | | | | | | | | |
| | DN 15 | DN 20 | DN 25 | DN 32 | DN 40 | DN 50 | DN 65 | DN 80 | DN 100 | DN 125 | DN 150 | DN 200 |
| A | 130 | 150 | 160 | 180 | 200 | 230 | 290 | 310 | 350 | 400 | 480 | 600 |
| B | 52 | 53 | 58 | 70 | 75 | 85 | 100 | 110 | 130 | 160 | 180 | 225 |
| C | 104 | 104 | 109 | 109 | 113 | 125 | 176 | 182 | 194 | 210 | 216 | 277 |
| C1 | 169 | 169 | 189 | 189 | 193 | 215 | 276 | 282 | 314 | 305 | 320 | 400 |
| C2 | 288 | 288 | 288 | 288 | 288 | 292 | 382 | 388 | 390 | 590 | 590 | – |
| D | 77 | 77 | 77 | 77 | 77 | 77 | 96 | 96 | 96 | 110 | 110 | 135 |
| E | M10 x 1 | | | | | | M16 x 1,5 | | | | | M27 x 1,5 |
| F | M40 x 1,5 | | | | | | M45 x 1,5 | | | M65 x 2 | | M80 x 2 |

Remark: Standard PN 16 DN 65 flanges are supplied with 4 holes. 8 holes, according to EN 1092-1/-2, on request.

| WEIGHTS (kg) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SIZE | | | | | | | | | | | |
| | DN 15 | DN 20 | DN 25 | DN 32 | DN 40 | DN 50 | DN 65 | DN 80 | DN 100 | DN 125 | DN 150 | DN 200 |
| STANDARD | 5,1 | 6 | 6,9 | 10 | 12,6 | 16,4 | 31,8 | 38,2 | 48,9 | 79,1 | 105,5 | 232,3 |
| EXTENDED | 5,8 | 6,7 | 7,6 | 10,9 | 13,5 | 17,3 | 32,2 | 38,5 | 49,4 | 80,9 | 107,3 | 237,6 |
| BELLOWS | 7,8 | 8,7 | 9,5 | 12,6 | 15,3 | 18,8 | 32,6 | 38,7 | 49,9 | 85,9 | 112,3 | – |

| MAX. PERMISSIBLE ACTUATING FORCES (kN) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SIZE | | | | | | | | | | | |
| | DN 15 | DN 20 | DN 25 | DN 32 | DN 40 | DN 50 | DN 65 | DN 80 | DN 100 | 125 | 150 | 200 |
| MAX. FORCE | 12 | | | | | | 32,5 | | | 40,1 | | 89,7 |



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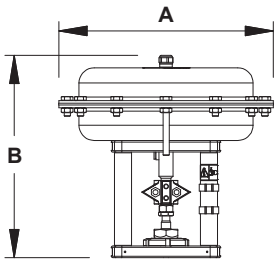
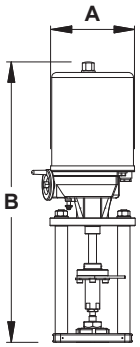
## PA SERIES PNEUMATIC ACTUATORS




| DIMENSIONS (mm) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DIMENSION | PA10 | PA206 | PA281 | PA341 | PA436 | PA80 | PA80D | PA80T |
| A | 170 | 209 | 275 | 336 | 430 | 405 | 405 | 405 |
| B | 251 | 236 | 243 | 323 | 291 / 311 * | 505 / 515 / 545 | 741 / 771 | 967 |
| WEIGHT (kg) | 6,3 | 6,2 | 9,6 | 14,3 | 24,4 / 28 * | 50,4 / 55,4 / 60 | 108 / 112 | 166 |

* For actuators with spring ranges 1 - 2 bar; 1,5 - 3 bar and 2 - 4 bar.
For more information, please consult IS 3.05 – PA Linear pneumatic actuators.

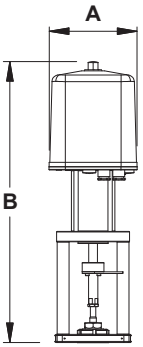
## EL SERIES ELECTRIC ACTUATORS




| DIMENSIONS (mm) | | | | |
|---|---|---|---|---|
| DIMENSION | EL12 | EL20 – EL45 | EL80 – EL120 | EL250 |
| A | 129 | 148 | 188 | 216 |
| B | 333 | 485 | 587 | 683 |
| WEIGHT (kg) | 2,1 | 8 | 13 | 19 |

For more information, please consult IS 3.72 – EL Linear electric actuators.

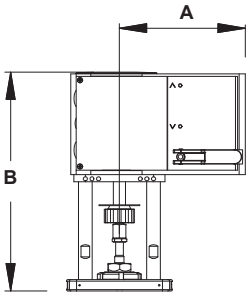
## ELR SERIES ELECTRIC ACTUATORS




| DIMENSIONS (mm) | | | |
|---|---|---|---|
| DIMENSION | ELR2.1 | ELR2.2 | ELR2.3 |
| A | 162 | 162 | 162 |
| B | 518 / 555 * | 536 / 573 * | 557 / 593 * |
| WEIGHT (kg) | 8,7 | 9,3 | 10 |

* With PEL electronic positioner.
For more information, please consult IS 3.73 – ELR Linear electric actuators fail safe.

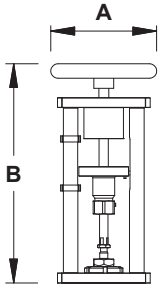
## AV SERIES ELECTRIC ACTUATORS




| DIMENSIONS (mm) | |
|---|---|
| DIMENSION | AVM234S – AVF234S |
| A | 166 |
| B | 314 |
| WEIGHT (kg) | 4,1 |

For more information, please consult IS 3.74 – AVM234S-AVF234S Linear electric actuators.

## MANUAL OPERATION HANDWHEEL




| DIMENSIONS (mm) | |
|---|---|
| DIMENSION | MAH |
| A | 160 |
| B | 331 |
| WEIGHT (kg) | 5,6 |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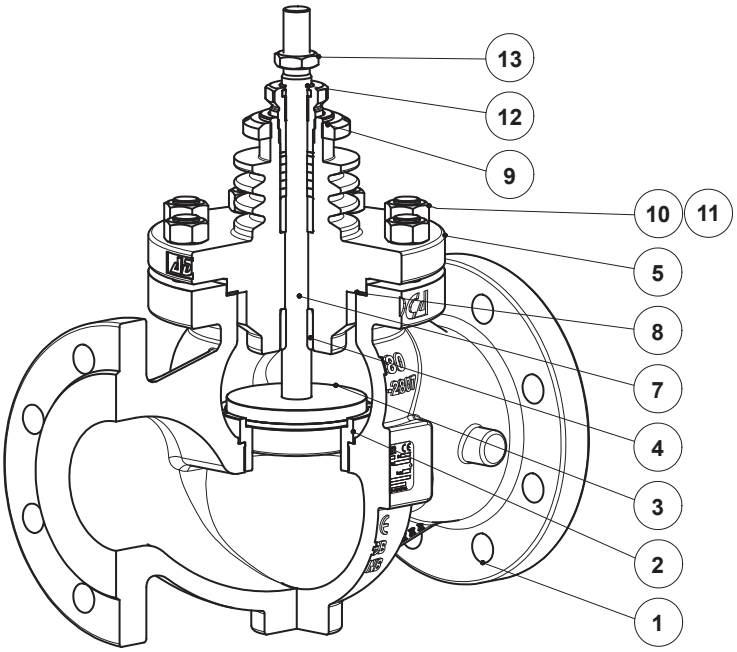
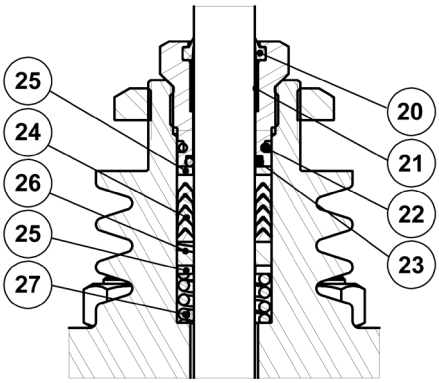
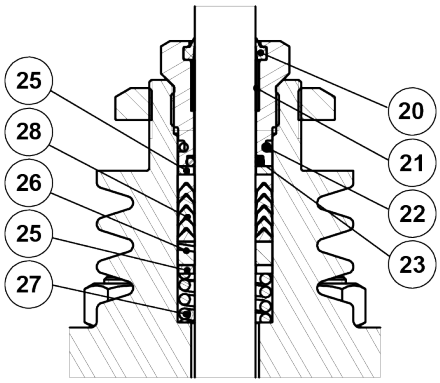
# MATERIALS

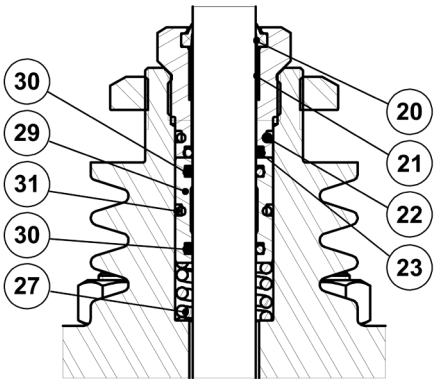


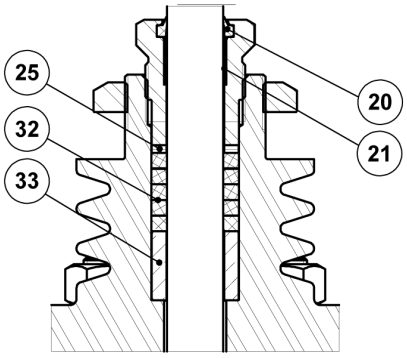

PTFE/GR V-RINGS
(V1.2)



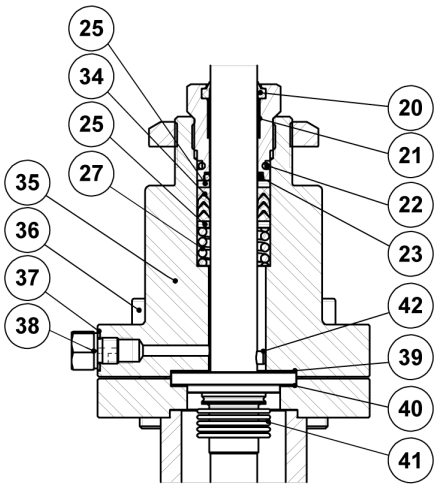

PTFE V-RINGS
(V2.2)



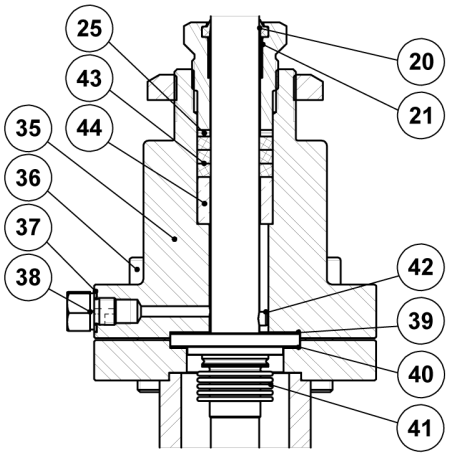

EPDM
(EP1)




GRAPHITE
(G1)




BELLOWS SEALING
(BV1)




BELLOWS SEALING
(BG1)



We reserve the right to change the design and material of this product without notice.

| MATERIALS | | |
|---|---|---|
| **POS. Nº** | **DESIGNATION** | **MATERIAL** |
| **1** | Valve body (V25/2G) | GJS-400-15 / 0.7040 |
| | Valve body (V25/2S) | A216 WCB / 1.0619 |
| | Valve body (V25/2i) | A351 CF8M / 1.4408 |
| **2** | * Seat | AISI 316L / 1.4404 |
| **3** | * Valve plug | AISI 316L / 1.4404 |
| **4** | Stem guide | Bronze CB1 |
| **5** | Bonnet (V25/2G and V25/2S) | A351 CF8M / 1.4408<br>A216 WCB / 1.0619 |
| | Bonnet (V25/2i) | A351 CF8M / 1.4408 |
| **7** | * Stem | AISI 316 / 1.4401 |
| **8** | * Gasket | Stainless steel / Graphite |
| **9** | Lock nut | A351 CF8 / 1.4308 |
| **10** | Nuts (V25/2G and V25/2S) | Zinc plated steel |
| | Nuts (V25/2i) | Stainless steel A2-70 |
| **11** | Studs (V25/2G and V25/2S) | 34CrNiMo6 / 1.6582 |
| | Studs (V25/2i) | Stainless steel A2-70 |
| **12** | * Packing nut | AISI 303 / 1.4305 |
| **13** | Lock nut | AISI 302 / 1.4310 |
| **20** | * Scraper ring | Viton; NBR |
| **21** | * Plain bearing | Bronze / PTFE |
| **22** | * O-ring | EPDM |
| **23** | * O-ring | Viton |
| **24** | * Chevron packing set | PTFE |
| **25** | Washer | AISI 304 / 1.4301 |
| **26** | * Stem guide | Stainless steel filled PTFE |
| **27** | * Spring | AISI 302 / 1.4310 |
| **28** | * Chevron packing set | PTFE; Graphite filled PTFE |
| **29** | O-ring guide | AISI 304 / 1.4301 |
| **30** | * O-ring | EPDM |
| **31** | * O-ring | EPDM |
| **32** | * Packing set | Expanded graphite |
| **33** | * Packing spacer | AISI 304 / 1.4301 |
| **34** | * Safety packing set | Graphite filled PTFE |
| **35** | Bellows bonnet | AISI 316L / 1.4404 |
| **36** | Bolts | Stainless steel A2-70 |
| **37** | Gasket | Copper |
| **38** | Compression fitting | AISI 316 / 1.4401 |
| **39** | * Gasket | Stainless steel / Graphite |
| **40** | * Gasket | Stainless steel / Graphite |
| **41** | * Metal bellows | AISI 316Ti / 1.4571 |
| **42** | * Locking pin | AISI 303 / 1.4305 |
| **43** | * Safety packing set | Expanded graphite |
| **44** | Packing spacer | AISI 304 / 1.4301 |

* Available spare parts.



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## ORDERING CODES V25/2 a)

| Valve model | V2 | 2 | G | S | 1 | U | 1 | 1 | 1 | E | FD | L | 015 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Globe control valve, two-way, straight body | V2 | | | | | | | | | | | | | |
| **Valve series** | | | | | | | | | | | | | | |
| Series 2 | | 2 | | | | | | | | | | | | |
| **Body material** | | | | | | | | | | | | | | |
| GJS-400-15 / 0.7040 SG iron | | | G | | | | | | | | | | | |
| A216 WCB / 1.0619 carbon steel | | | S | | | | | | | | | | | |
| A351 CF8M / 1.4408 stainless steel | | | I | | | | | | | | | | | |
| **Bonnet design** | | | | | | | | | | | | | | |
| Standard | | | | S | | | | | | | | | | |
| Extended | | | | E | | | | | | | | | | |
| **Trim design** | | | | | | | | | | | | | | |
| Unbalanced trim | | | | | 1 | | | | | | | | | |
| Balanced trim | | | | | 2 | | | | | | | | | |
| Unbalanced trim with FD1 low noise cage | | | | | 3 | | | | | | | | | |
| Balanced trim with FD1 low noise cage | | | | | 4 | | | | | | | | | |
| **Flow direction** | | | | | | | | | | | | | | |
| Flow under the plug | | | | | | U | | | | | | | | |
| Flow over the plug | | | | | | O | | | | | | | | |
| **Stem sealing** | | | | | | | | | | | | | | |
| PTFE/GR V-Rings (V1.2) | | | | | | | 1 | | | | | | | |
| Virgin PTFE V-Rings (V2.2) | | | | | | | 2 | | | | | | | |
| Graphite (G1) | | | | | | | 3 | | | | | | | |
| EPDM (EP1) | | | | | | | 4 | | | | | | | |
| Stainless steel bellows with PTFE/GR safety packing (BV1) | | | | | | | 8 | | | | | | | |
| Stainless steel bellows with graphite safety packing (BG1) | | | | | | | 9 | | | | | | | |
| **Plug design** | | | | | | | | | | | | | | |
| Parabolic | | | | | | | | 1 | | | | | | |
| V-port guided (standard for sizes DN 125 to DN 200) | | | | | | | | 2 | | | | | | |
| Perforated | | | | | | | | 3 | | | | | | |
| **Valve sealing** | | | | | | | | | | | | | | |
| Metal to metal (class IV) | | | | | | | | | 1 | | | | | |
| Metal to metal (class V) | | | | | | | | | 2 | | | | | |
| Soft sealed with PTFE/GR (class VI) | | | | | | | | | 3 | | | | | |
| Stellited (class IV) | | | | | | | | | 4 | | | | | |
| **Characteristic** | | | | | | | | | | | | | | |
| Equal percentage (EQP) | | | | | | | | | | E | | | | |
| Linear (PL) | | | | | | | | | | L | | | | |
| **Flow rate coefficient** | | | | | | | | | | | | | | |
| Kvs 4 | | | | | | | | | | | FD | | | |
| See table below for other Kvs value codes | | | | | | | | | | | | | | |
| **Pipe connection** | | | | | | | | | | | | | | |
| Flanged EN 1092-1/-2 PN 16 | | | | | | | | | | | | L | | |
| Flanged EN 1092-1 PN 40 | | | | | | | | | | | | N | | |
| **Size** | | | | | | | | | | | | | | |
| DN 15 | | | | | | | | | | | | | 015 | |
| DN 20 | | | | | | | | | | | | | 020 | |
| ... | | | | | | | | | | | | | | |
| **Special valves / Extras** | | | | | | | | | | | | | | |
| Full description or additional codes have to be added in case of a non-standard combination | | | | | | | | | | | | | | E |

**a)** Codification for valve only. For actuator codes, refer to the appropriate information sheet.

## FLOW RATE COEFFICIENT CODES

| Kvs | 0,1 | 0,16 | 0,25 | 0,5 | 1 | 1,7 | 2,1 | 2,5 * | 2,7 | 4 | 6,3 | 10 | 16 | 25 | 36 * | 40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code | M4 | M3 | M2 | M1 | R4 | R3 | R2 | PA | R1 | FD | FE | FF | FG | FH | PB | FI |

| Kvs | 50 * | 63 | 80 * | 100 | 120 * | 160 | 180 * | 240 | 250 * | 300 * | 360 * | 370 | 450 * | 630 | – | – |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code | PC | FJ | PD | FL | PE | FM | PF | FN | PG | PH | PI | FO | PJ | FP | – | – |

***** Only available with perforated plug design.



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