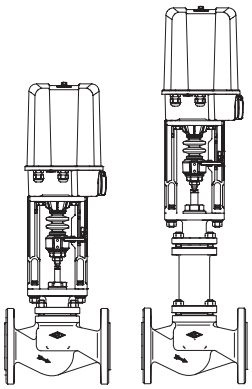
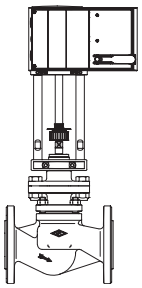
## Control valve - straight through with flanges
## DN 15 - 250

### ARI-STEVI® 440 / 441
### Electric actuator ARI-PREMIO
- Enclosure IP 65
- 2 torque switches
- Handwheel
- Additional devices available, e.g. potentiometer



Page 2

### ARI-STEVI® 440
### Electric actuator FR1
### with safety reset
- Operation mode for safety function CLOSE
- Enclosure IP 66
- Operating time adjustable
- Additional devices available, e.g. potentiometer



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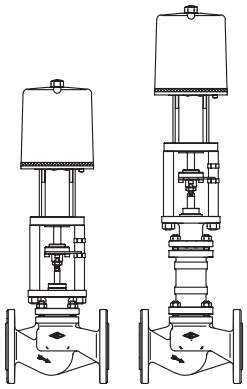
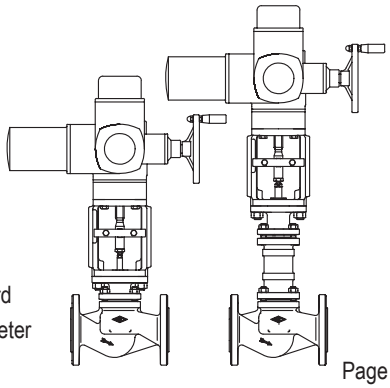
### ARI-STEVI® 440 / 441
### Electric actuator FR2
### with safety reset
- Type approval acc. to DIN 32730 for Fig. 440 with FR 2.1
- CE-marking from DN15
- Optional direction for safety reset, OPEN or CLOSE, as required
- Enclosure IP 54
- 1 travel switch for OPEN and CLOSE
- Additional devices available, e.g. potentiometer



Page 14

### ARI-STEVI® 440 / 441
### Electric actuator AUMA SAR
- Electric multiturn actuator, capable of high closing pressures
- Enclosure IP 67
- 2 torque switches
- 2 travel switches
- Handwheel
- Overheating protection for motor as standard
- Additional devices available, e.g. potentiometer
- Explosion proof version available



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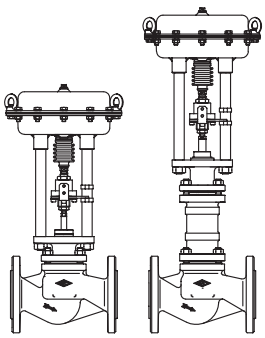
### ARI-STEVI® 440 / 441
### Pneumatic actuator ARI-DP
- Reversible pneumatic actuator
- Actuator with rolling diaphragm
- Air supply pressure max. 6 bar
- Stem protection by bellow
- Maintenance-free O-ring sealing
- Assembly of additional devices acc. to DIN IEC 60534-6



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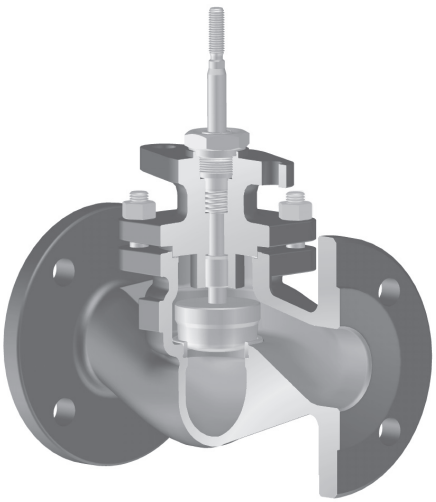


Fig. 440

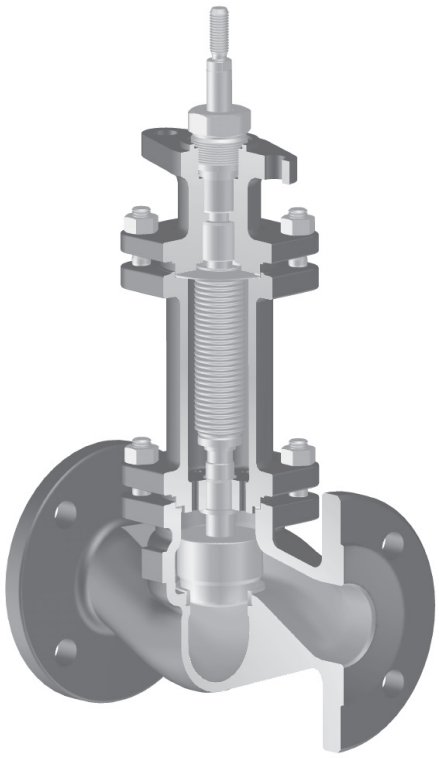


Fig. 441

**Features:**
- Compact design
- Precision guided stem
- Burnished stem
- Tapered seat ring
- Rangeability 50 : 1
- Spring loaded PTFE-V ring packing unit
- Two-ply bellows seal as standard
- Travel indicator

## Control valve in straightway form with electric actuator ARI-PREMIO

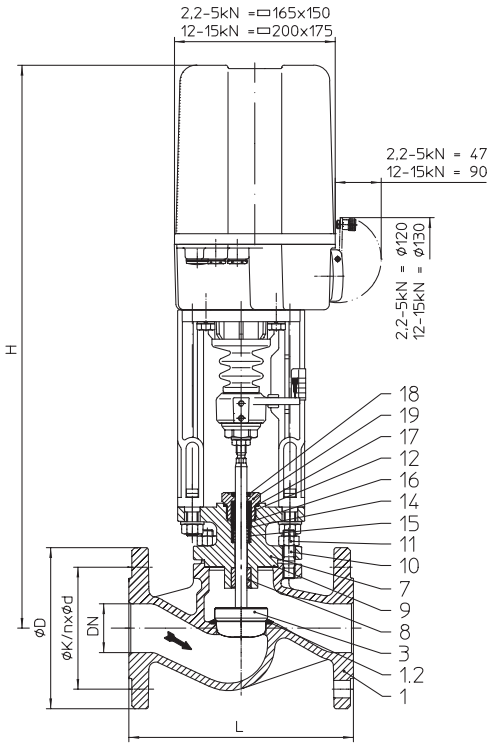



**Fig. 440**

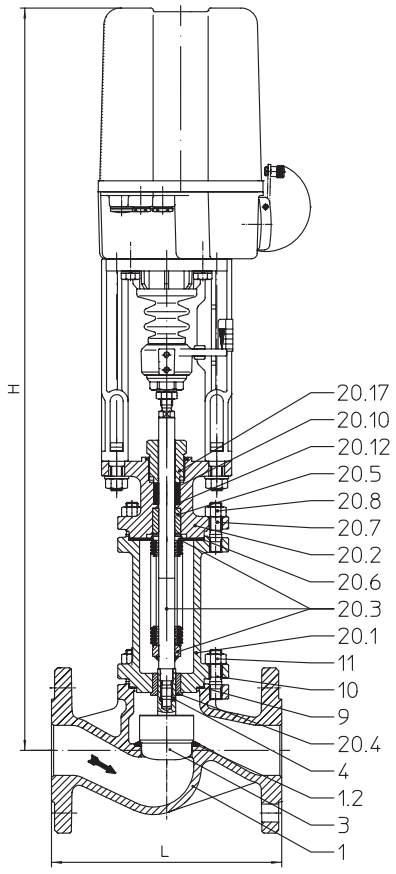



**Fig. 441**

| Figure | Nominal pressure | Material | Nominal diameter |
|---|---|---|---|
| 12.440 / 12.441 | PN16 | EN-JL1040 | DN15-150 |
| 22.440 / 22.441 | PN16 | EN-JS1049 | DN15-150 |
| 23.440 / 23.441 | PN25 | EN-JS1049 | DN15-150 |
| 34.440 / 34.441 | PN25 | 1.0619+N | DN15-150 |
| 35.440 / 35.441 | PN40 | 1.0619+N | DN15-150 |
| 55.440 / 55.441 | PN40 | 1.4408 | DN15-150 |
| Other materials and versions on request. | | | |

**Stem sealing**

Fig. 440:
- PTFE-V-ring unit -10°C up to +220°C
- PTFE-packing -10°C up to +250°C
- Pure graphite-packing -10°C up to +450°C

Fig. 441:
- Stainless steel bellows seal with safety stuffing box -60°C up to +450°C

**Plug design**

standard:
- Parabolic plug, metal seat

optional:
- Parabolic plug with PTFE soft seat (max. 200°C)
- V-port plug, metal seat
- Parabolic pressure balanced plug, metal seat,
  Material of piston seal:
  PTFE with stainless steel spring (max. 200°C)

**Guiding**
- Parabolic plug: Stem guiding
- V-port plug: Stem and port guiding

**Flow characteristic**
- Equal percentage or linear
  (from Kvs 100 modified equal percentage)

**Rangeability**
- 50 : 1 on parabolic plug
- 30 : 1 on V-port plug

**Shut off class (seat / plug leakage classes)**
- Metal seat - Leakage class IV acc. to DIN EN 1349 or IEC 60534-4
- Soft seat Leakage - class VI acc. to DIN EN 1349 or IEC 60534-4

Closing pressures refer to page 4.

Technical data for actuator refer to data sheet.

**Selection of possible applications**

Industrial installations, processing technology, plant manufacturing, etc.
(other applications on request)

**Selection of possible flow media**

Fig. 440: Cooling water, cooling brine, warm water, hot water, steam, gas, etc.

Fig. 441: Refrigerant, cooling water, warm water, hot water, thermal oil, steam, gas, etc.

(other flow media on request)

**Dimensions and weights**

| DN | | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | | | (mm) | 130 | 150 | 160 | 180 | 200 | 230 | 290 | 310 | 350 | 400 | 480 |
| Fig. 440 | H | | (mm) | 556 | 556 | 564 | 564 | 571 | 577 | 590 | 605 | 624 | 685 | 745 |
| | ARI-PREMIO 2,2 kN | PN16 | (kg) | 9 | 9,7 | 10,6 | 12,2 | 14,1 | 17 | 22,1 | 27,8 | 38 | -- | -- |
| | | PN25/40 | (kg) | 9,8 | 10,6 | 11,9 | 13,7 | 16,2 | 18,9 | 26,1 | 32,3 | 45 | -- | -- |
| | ARI-PREMIO 5 kN | PN16 | (kg) | 10,1 | 10,8 | 11,7 | 13,3 | 15,2 | 18,1 | 23,2 | 28,9 | 39 | 58 | 80 |
| | | PN25/40 | (kg) | 10,9 | 11,7 | 13 | 14,8 | 17,3 | 20 | 27,2 | 33,4 | 46 | 64 | 84 |
| | H | | (mm) | -- | -- | --- | -- | 721 | 727 | 740 | 755 | 774 | 833 | 893 |
| | ARI-PREMIO 12 kN | PN16 | (kg) | -- | -- | -- | -- | 19,2 | 22,1 | 27,2 | 32,9 | 43 | 62 | 84 |
| | ARI-PREMIO 15 kN | PN25/40 | (kg) | -- | -- | -- | -- | 21,3 | 24 | 31,2 | 37,4 | 50 | 68 | 88 |
| Fig. 441 | H | | (mm) | 741 | 741 | 749 | 749 | 740 | 742 | 826 | 838 | 854 | 1040 | 1071 |
| | ARI-PREMIO 2,2 kN | PN16 | (kg) | 13,4 | 13,4 | 14,4 | 16,9 | 19,4 | 21,9 | 24,9 | 35,9 | 51 | -- | -- |
| | | PN25/40 | (kg) | 15,4 | 16,9 | 19,4 | 22,4 | 28,4 | 30,9 | 37,9 | 47,9 | 64 | -- | -- |
| | ARI-PREMIO 5 kN | PN16 | (kg) | 14,5 | 14,5 | 15,5 | 18 | 20,5 | 23 | 26 | 37 | 53 | 74 | 95 |
| | | PN25/40 | (kg) | 16,5 | 18 | 20,5 | 23,5 | 29,5 | 32 | 39 | 49 | 66 | 82 | 103 |
| | H | | (mm) | -- | -- | -- | -- | 890 | 892 | 976 | 988 | 1004 | 1188 | 1219 |
| | ARI-PREMIO 12 kN | PN16 | (kg) | -- | -- | -- | -- | 24,5 | 27 | 30 | 41 | 57 | 78 | 99 |
| | ARI-PREMIO 15 kN | PN25/40 | (kg) | -- | -- | -- | -- | 33,5 | 36 | 43 | 53 | 70 | 86 | 107 |

Standard-flange dimensions refer to page 35.

Face-to-face dimension FTF series 1 according to DIN EN 558

**Parts**

| Pos. | Description | Fig. 12.440<br>Fig. 12.441 | Fig. 22.440 / Fig. 23.440<br>Fig. 22.441 / Fig. 23.441 | Fig. 34.440 / Fig. 35.440<br>Fig. 34.441 / Fig. 35.441 | Fig. 55.440<br>Fig. 55.441 |
|---|---|---|---|---|---|
| 1 | Body | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 1.2 | Seat ring | X20Cr13+QT, 1.4021+QT | | X20Cr13+QT, 1.4021+QT<br>>DN50: G19 9 Nb Si, 1.4551 | -- |
| 3 | Plug * | X20Cr13+QT, 1.4021+QT | | | X6CrNiMoTi17-12-2, 1.4571 |
| 4 | Straight spin * | X10CrNi18-8, 1.4310 | | | A4 - 70 |
| 5 | Stem | X20Cr13+QT, 1.4021+QT (DN125-150) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 7 | Mounting bonnet | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 8 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 9 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | |
| 10 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 11 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 12 | V-ring unit * | PTFE | | | |
| 14 | Washer * | X5CrNi18-10, 1.4301 | | | |
| 15 | Spring * | X10CrNi18-8, 1.4310 | | | |
| 16 | Bushing * | PTFE (reinforced) | | | |
| 17 | Sealing ring * | Cu / Soft iron | | | |
| 18 | Scraper * | PTFE (reinforced) | | | |
| 19 | Screw joint * | X8CrNiS18-9, 1.4305 | | | |
| 20.1 | Bellows housing | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 20.2 | Mounting bonnet | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 20.3 | Stem- / Bellows unit * | X20Cr13+QT, 1.4021+QT / X6CrNiTi18-10, 1.4541 | | | X6CrNiMoTi17-12-2, 1.4571 |
| 20.4 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 20.5 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 20.6 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | |
| 20.7 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 20.8 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 20.10 | Packing ring * | Pure graphite | | | |
| 20.12 | Washer * | X5CrNi18-10, 1.4301 | | | |
| 20.17 | Screw joint * | X8CrNiS18-9, 1.4305 | | | |

* Spare parts

Information / restriction of technical rules need to be observed!

ARI-Valves of EN-JL1040 are not allowed to be operated in systems acc. to TRD 110.

A production allowance acc. to TRB 801 No. 45 exists. (EN-JL1040 ist acc. to TRB 801 No. 45 nicht zugelassen.)

The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

**max. permissible closing pressures** on flow-to-open P2 = 0
Observe restrictions by Pressure-temperature-ratings, refer to page 35.

| DN | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Seat-ø (mm) | | | 21 | 21 | 27 | 31 | 41 | 51 | 66 | 81 | 101 | 126 | 151 |
| Kvs-values | Standard | | 4 | 6,3 | 10 | 16 | 25 | 40 | 63 | 100 | 160 | 250 | 400 |
| | Reduced [3] | | 2,5 | 4; 2,5 | 6,3 | 10 | 16 | 25 | 40 | 63 | 100 | 160 | 250 |
| Travel (mm) | | | 20 | | | | | | 30 | | | 50 | |
| Max. differential pressure drop (bar) | Parabolic plug | | 40 | 40 | 40 | 40 | 30 | 20 | 8 | 4 | 1,5 | 1 | 1 |
| | V-port plug | | | | | | | | 30 | 25 | 25 | 10 | 10 |
| Actuator [1] **ARI-PREMIO 2,2 kN** | Closing pressure (bar) | **I.** | 40 | 40 | 30,8 | 23,1 | 12,8 | 8 | 4,3 | 2,7 | 1,5 | | |
| | | **II.** | 40 | 40 | 28,8 | 21,6 | 11,9 | 7,4 | 3,9 | 2,3 | 1,3 | | |
| | | **III.** | 30,7 | 30,7 | 27,1 | 20,4 | 10,6 | 6,5 | 3,6 | 2,2 | 1,2 | | |
| | Operating time [2] (s) (Op. speed 0,38 mm/s) | | 53 | | | | | | 79 | | | | |
| Actuator [1] **ARI-PREMIO 5 kN** | Closing pressure (bar) | **I.** | | | 40 | 40 | 33,2 | 21,3 | 12,3 | 8 | 4,9 | 3 | 2 |
| | | **II.** | | | 40 | 40 | 32,3 | 20,7 | 11,9 | 7,6 | 4,7 | 2,9 | 1,9 |
| | | **III.** | 40 | 40 | 40 | 40 | 31 | 19,8 | 11,6 | 7,5 | 4,6 | 2,7 | 1,8 |
| | Operating time [2] (s) (Op. speed 0,38 mm/s) | | 53 | | | | | | 79 | | | 132 | |
| Actuator [1] **ARI-PREMIO 12 kN** | Closing pressure (bar) | **I.** | | | | | 40 | 40 | 32,3 | 21,2 | 13,5 | 8,5 | 5,9 |
| | | **II.** | | | | | 40 | 40 | 31,8 | 20,9 | 13,3 | 8,4 | 5,8 |
| | | **III.** | | | | | 40 | 40 | 31,6 | 20,7 | 13,2 | 8,2 | 5,6 |
| | Operating time [2] (s) (Op. speed 0,38 mm/s) | | | | | | 53 | | 79 | | | 132 | |
| Actuator [1] **ARI-PREMIO 15 kN** | Closing pressure (bar) | **I.** | | | | | | | 40 | 26,9 | 17,2 | 10,9 | 7,5 |
| | | **II.** | | | | | | | 40 | 26,6 | 17 | 10,8 | 7,4 |
| | | **III.** | | | | | | | 40 | 26,4 | 16,9 | 10,6 | 7,3 |
| | Operating time [2] (s) (Op. speed 0,38 mm/s) | | | | | | | | 79 | | | 132 | |

**I. Fig. 440: PTFE-V-ring unit;** **II. Fig. 440: PTFE- / pure graphite-packing;** **III. Fig. 441: Bellows seal**

[1] Motor voltage: 230V 50Hz
Special voltages: 24V 50/60Hz; 115V 50/60Hz; 230V 60Hz
Technical data for actuator refer to data sheet ARI-PREMIO..

[2] Indicated operating times with 50Hz.

[3] Other Kvs-value-reductions are possible with screwed seat ring (Fig. 445/446 or Fig. 470/471).
For max. permissible closing pressures refer to corresponding data sheet.

## Control valve in straightway form with electric actuator ARI-PREMIO

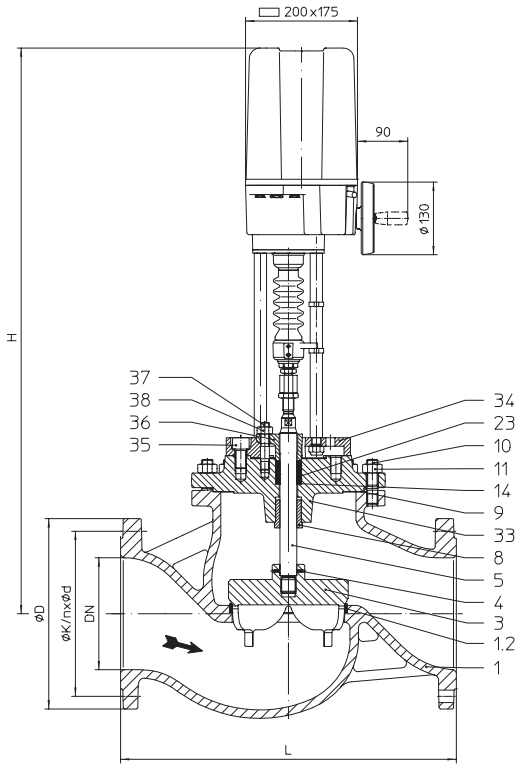



Fig. 440

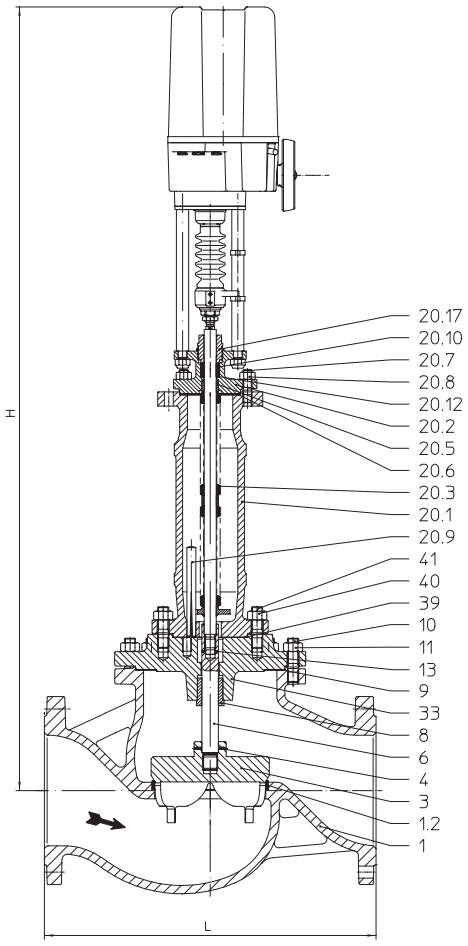



Fig. 441

| Figure | Nominal pressure | Material | Nominal diameter |
|---|---|---|---|
| 12.440 / 12.441 | PN16 | EN-JL1040 | DN200-250 |
| 22.440 / 22.441 | PN16 | EN-JS1049 | DN200-250 |
| 34.440 / 34.441 | PN25 | 1.0619+N | DN200-250 |
| 35.440 / 35.441 | PN40 | 1.0619+N | DN200-250 |
| 54.440 | PN25 | 1.4408 | DN200-250 |
| Other materials and versions on request. | | | |

**Stem sealing**

Fig. 440: • PTFE-packing -10°C up to +250°C

• Pure graphite-packing -10°C up to +450°C

Fig. 441: • Stainless steel bellows seal with safety stuffing box -60°C up to +450°C

**Plug design**

standard: • V-port plug, metal seat

optional:

• V-port pressure balanced plug, metal seat,
Material of piston seal:
PTFE with stainless steel spring (max. 200°C)

**Guiding**

• V-port plug: Stem and port guiding

**Flow characteristic**

• Modified equal percentage or linear

**Rangeability**

• 30 : 1

**Shut off class (seat / plug leakage classes)**

• Metal seat - Leakage class IV acc. to DIN EN 1349 or IEC 60534-4

Closing pressures refer to page 8.

Technical data for actuator refer to data sheet.

**Selection of possible applications**

Industrial installations, processing technology, plant manufacturing, etc.
(other applications on request)

**Selection of possible flow media**

Fig. 440: Cooling water, cooling brine, warm water, hot water, steam, gas, etc.

Fig. 441: Refrigerant, cooling water, warm water, hot water, thermal oil, steam, gas, etc.

(other flow media on request)

**Dimensions and weights**

| DN | | | | 200 | 250 |
|---|---|---|---|---|---|
| L | | | (mm) | 600 | 730 |
| Fig. 440 | H | | (mm) | 1011 | 1071 |
| | ARI-PREMIO 12 kN | PN16 | (kg) | 156 | 261 |
| | ARI-PREMIO 15 kN | PN25/40 | (kg) | 174 | 260 |
| Fig. 441 | H | | (mm) | 1433 | 1493 |
| | ARI-PREMIO 12 kN | PN16 | (kg) | 178 | 283 |
| | ARI-PREMIO 15 kN | PN25/40 | (kg) | 211 | 317 |
| Standard-flange dimensions refer to page 35. | | | | | |

Face-to-face dimension FTF series 1 according to DIN EN 558

**Parts**

| Pos. | Description | Fig. 12.440<br>Fig. 12.441 | Fig. 22.440<br>Fig. 22.441 | Fig. 34.440 / Fig. 35.440<br>Fig. 34.441 / Fig. 35.441 | Fig. 54.440 |
|---|---|---|---|---|---|
| 1 | Body | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 1.2 | Seat ring | X20Cr13+QT, 1.4021+QT | | G19 9 Nb Si, 1.4551 | -- |
| 3 | Plug * | X20Cr13+QT, 1.4021+QT | | | X6CrNiMoTi17-12-2, 1.4571 |
| 4 | Straight spin * | X10CrNi18-8, 1.4310 | | | A4 - 70 |
| 5 | Stem * | X20Cr13+QT, 1.4021+QT | | | X6CrNiMoTi17-12-2, 1.4571 |
| 6 | Stem extension * | X20Cr13+QT, 1.4021+QT | | | -- |
| 8 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 9 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | |
| 10 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 11 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 13 | Spannstift * | X10CrNi18-8, 1.4310 | | | -- |
| 14 | Washer * | X5CrNi18-10, 1.4301 | | | |
| 20.1 | Bellows housing | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | -- |
| 20.2 | Mounting bonnet | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | -- |
| 20.3 | Stem- / Bellows unit * | X20Cr13+QT, 1.4021+QT / X6CrNiTi18-10, 1.4541 | | | -- |
| 20.5 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | -- |
| 20.6 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | -- |
| 20.7 | Studs | 25CrMo4, 1.7218 | | | -- |
| 20.8 | Hexagon nuts | C35E, 1.1181 | | | -- |
| 20.9 | Straight pin | X20Cr13+QT, 1.4021+QT (hardened) | | | -- |
| 20.10 | Packing ring * | Pure graphite | | | -- |
| 20.12 | Washer * | X5CrNi18-10, 1.4301 | | | -- |
| 20.17 | Screw joint * | X8CrNiS18-9, 1.4305 | | | -- |
| 23 | Packing ring * | PTFE | | | |
| 33 | Stuffing box housing | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | X6CrNiMoTi17-12-2, 1.4571 |
| 34 | Adapter flange | EN-GJS-400-18U-LT, EN-JS1049 | | | |
| 35 | Hexagon socket head screw | 8.8 | | | A2 - 70 |
| 36 | Packing box flange | EN-GJS-400-15, EN-JS1030 | | | X6CrNiMoTi17-12-2, 1.4571 |
| 37 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 38 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 39 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | -- |
| 40 | Studs | 25CrMo4, 1.7218 | | | -- |
| 41 | Hexagon nuts | C35E, 1.1181 | | | -- |
| * Spare parts | | | | | |

Information / restriction of technical rules need to be observed!

ARI-Valves of EN-JL1040 are not allowed to be operated in systems acc. to TRD 110.

A production allowance acc. to TRB 801 No. 45 exists. (EN-JL1040 ist acc. to TRB 801 No. 45 nicht zugelassen.)

The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

**max. permissible closing pressures** on flow-to-open P2 = 0
Observe restrictions by Pressure-temperature-ratings, refer to page 35.

| **DN** | | | **200** | **250** |
|---|---|---|---|---|
| Seat-ø (mm) | | | 201 | 251 |
| Kvs-values | Standard | | 630 | 1000 |
| | Reduced [3] | | 400 | 630 |
| Travel (mm) | | | 65 | |
| Max. differential pressure drop (bar) | V-port plug | | 5 | 5 |
| Actuator [1] **ARI-PREMIO 12 kN** | Closing pressure (bar) | **II.** | 3,1 | 1,9 |
| | | **III.** | 3 | 1,9 |
| | Operating time [2] (s) (Op. speed 0,38 mm/s) | | 171 | |
| Actuator [1] **ARI-PREMIO 15 kN** | Closing pressure (bar) | **II.** | 4 | 2,5 |
| | | **III.** | 4 | 2,5 |
| | Operating time [2] (s) (Op. speed 0,38 mm/s) | | 171 | |
| **II. Fig. 440: PTFE- / pure graphite-packing;** **III. Fig. 441: Bellows seal** | | | | |

[1] Motor voltage: 230V 50Hz
Special voltages: 24V 50/60Hz; 115V 50/60Hz; 230V 60Hz
Technical data for actuator refer to data sheet ARI-PREMIO..

[2] Indicated operating times with 50Hz.

[3] Other Kvs-value-reductions are possible with screwed seat ring (Fig. 445/446).
For max. permissible closing pressures refer to corresponding data sheet.

## Control valve in straightway form with electric actuator FR 1.2 with safety reset

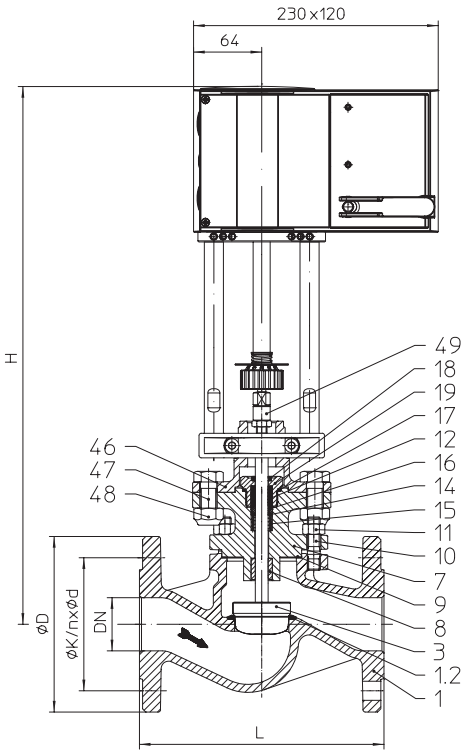



Fig. 440

| Figure | Nominal pressure | Material | Nominal diameter |
|---|---|---|---|
| 12.440 | PN16 | EN-JL1040 | DN15-100 |
| 22.440 | PN16 | EN-JS1049 | DN15-100 |
| 23.440 | PN25 | EN-JS1049 | DN15-100 |
| 34.440 | PN25 | 1.0619+N | DN15-100 |
| 35.440 | PN40 | 1.0619+N | DN15-100 |
| 55.440 | PN40 | 1.4408 | DN15-100 |
| Other materials and versions on request. | | | |

**Stem sealing**

Fig. 440: • PTFE-V-ring unit -10°C to 200°C

**Plug design**

standard: • Parabolic plug, metal seat

optional:

- Parabolic plug with PTFE soft seat (max. 200°C)
- V-port plug, metal seat
- Parabolic pressure balanced plug, metal seat, Material of piston seal: PTFE with stainless steel spring (max. 200°C)

**Guiding**

- Parabolic plug: Stem guiding
- V-port plug: Stem and port guiding

**Flow characteristic**

- Equal percentage or linear (from Kvs 100 modified equal percentage)

**Rangeability**

- 50 : 1 on parabolic plug
- 30 : 1 on V-port plug

**Shut off class (seat / plug leakage classes)**

- Metal seat - Leakage class IV acc. to DIN EN 1349 or IEC 60534-4
- Soft seat Leakage - class VI acc. to DIN EN 1349 or IEC 60534-4

Closing pressures refer to page 12.

Technical data for actuator refer to data sheet.

**Selection of possible applications**

Industrial installations, processing technology, plant manufacturing, etc.
(other applications on request)

**Selection of possible flow media**

Fig. 440: Cooling water, cooling brine, warm water, hot water, steam, gas, etc.

(other flow media on request)

**Dimensions and weights**

| DN | | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | | | (mm) | 130 | 150 | 160 | 180 | 200 | 230 | 290 | 310 | 350 |
| Fig. 440 | H | FR 1.2 | (mm) | 502 | 502 | 510 | 510 | 515 | 523 | 536 | 551 | 570 |
| | FR 1.2 | PN16 | (kg) | 9,3 | 10 | 10,9 | 12,5 | 14,4 | 17,3 | 22,4 | 28,1 | 38 |
| | | PN25-40 | (kg) | 10,1 | 10,9 | 12,2 | 14 | 16,5 | 19,2 | 26,4 | 32,6 | 45 |
| | with pressure balanced plug FR 1.2 | PN16 | (kg) | -- | -- | -- | -- | 15,4 | 19,3 | 25,4 | 32,1 | 43 |
| | | PN25-40 | (kg) | -- | -- | -- | -- | 17,5 | 21,2 | 29,4 | 36,6 | 50 |
| Standard-flange dimensions refer to page 35. | | | | | | | | | | | | |

Face-to-face dimension FTF series 1 according to DIN EN 558

**Parts**

| Pos. | Description | Fig. 12.440<br>Fig. 12.441 | Fig. 22.440 / Fig. 23.440<br>Fig. 22.441 / Fig. 23.441 | Fig. 34.440 / Fig. 35.440<br>Fig. 34.441 / Fig. 35.441 | Fig. 55.440<br>Fig. 55.441 |
|---|---|---|---|---|---|
| 1 | Body | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 1.2 | Seat ring | X20Cr13+QT, 1.4021+QT | | X20Cr13+QT, 1.4021+QT<br>>DN50: G19 9 Nb Si, 1.4551 | -- |
| 3 | Plug * | X20Cr13+QT, 1.4021+QT | | | X6CrNiMoTi17-12-2, 1.4571 |
| 7 | Mounting bonnet | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 8 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 9 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | |
| 10 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 11 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 12 | V-ring unit * | PTFE | | | |
| 14 | Washer * | X5CrNi18-10, 1.4301 | | | |
| 15 | Spring * | X10CrNi18-8, 1.4310 | | | |
| 16 | Bushing * | PTFE (reinforced) | | | |
| 17 | Sealing ring * | Cu / Soft iron | | | |
| 18 | Scraper * | PTFE (reinforced) | | | |
| 19 | Screw joint * | X8CrNiS18-9, 1.4305 | | | |
| 46 | Mounting bonnet | EN-GJS-400-18U-LT, EN-JS1049 | | | |
| 47 | Hexagon screws | 5.6 | | | |
| 48 | Hexagon nuts | 8-A2B | | | |
| 49 | Stem adapter | X20Cr13+QT, 1.4021+QT | | | |
| * Spare parts | | | | | |

Information / restriction of technical rules need to be observed!

ARI-Valves of EN-JL1040 are not allowed to be operated in systems acc. to TRD 110.

A production allowance acc. to TRB 801 No. 45 exists. (EN-JL1040 ist acc. to TRB 801 No. 45 nicht zugelassen.)

The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

**max. permissible closing pressures** on flow-to-open P2 = 0
Observe restrictions by Pressure-temperature-ratings, refer to page 35.

**Fig. 440 with parabolic plug / V-port plug**

| DN | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Seat-ø (mm) | | | 21 | 21 | 27 | 31 | 41 | 51 | 66 | 81 | 101 |
| Kvs-values | Standard | | 4 | 6,3 | 10 | 16 | 25 | 40 | 63 | 100 | 160 |
| | Reduced [3] | | 2,5 | 4; 2,5 | 6,3 | 10 | 16 | 25 | 40 | 63 | 100 |
| Travel (mm) | | | 20 | | | | | | 30 | | |
| Max. differential pressure drop (bar) | Parabolic plug | | 40 | 40 | 40 | 40 | 30 | 20 | 8 | 4 | 1,5 |
| | V-port plug | | | | | | | | 30 | 25 | 25 |
| Actuator [1] **FR 1.2 2 kN** | Closing pressure (bar) | **I.** | 40 | 40 | 27,5 | 20,6 | 11,3 | 7 | 3,8 | 2,3 | 1,3 |
| | Operating time [2] (s) | | 40 | | | | | | 60 | | |
| | Operating time on voltage failure (s) | | 28 | | | | | | 35 | | |

**Fig. 440 with parabolic pressure balanced plug** (Design refer to page 36)

| DN | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Seat-ø (mm) | | | | | | | 41 | 51 | 66 | 81 | 101 |
| Kvs-values | Standard | | | | | | 25 | 40 | 63 | 100 | 160 |
| | Reduced [3] | | | | | | 16 | 25 | 40 | 63 | 100 |
| Travel (mm) | | | | | | | 20 | | 30 | | |
| Max. differential pressure drop (bar) | parabolic pressure balanced plug | | | | | | 30 | 20 | 8 | 4 | 1,5 |
| Actuator [1] **FR 1.2 2 kN** | Closing pressure (bar) | **I.** | | | | | 40 | 40 | 40 | 40 | 25 |
| | Operating time [2] (s) | | | | | | 40 | | 60 | | |
| | Operating time on voltage failure (s) | | | | | | 28 | | 35 | | |

**I. Fig. 440: PTFE-V-ring unit** (Medium temperature restricted to 200°C)

1) Motor voltage: 24V 50/60Hz 1~, 24VDC, 230V 50/60Hz 1~
Technical data for actuator refer to data sheet FR1.2

2) Indicated operating times with factory setting.

3) Other Kvs-value-reductions are possible with screwed seat ring (Fig. 445/446).
For max. permissible closing pressures refer to corresponding data sheet.

## Control valve in straightway form with electric actuator FR 2.1 / FR 2.2 with safety reset

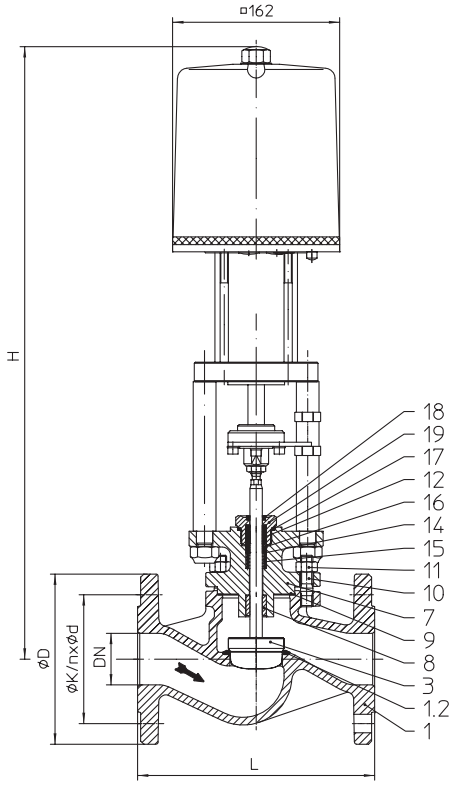



Fig. 440

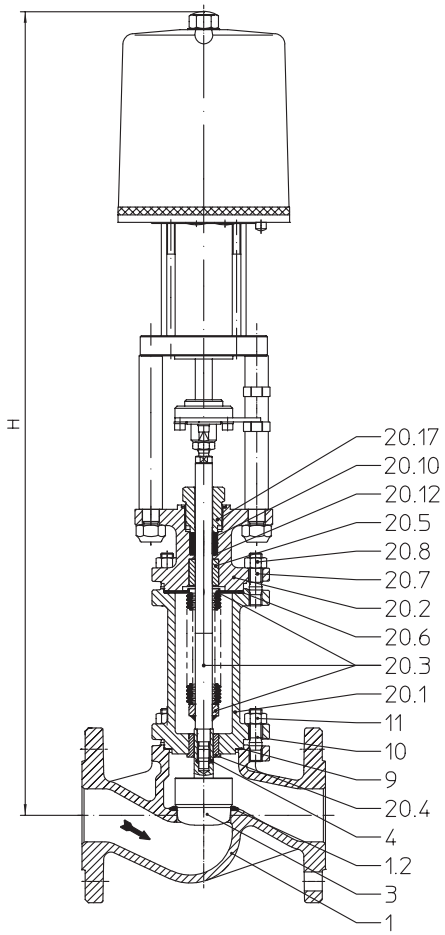



Fig. 441

| Figure | Nominal pressure | Material | Nominal diameter |
|---|---|---|---|
| 12.440 / 12.441 | PN16 | EN-JL1040 | DN15-100 |
| 22.440 / 22.441 | PN16 | EN-JS1049 | DN15-100 |
| 23.440 / 23.441 | PN25 | EN-JS1049 | DN15-100 |
| 34.440 / 34.441 | PN25 | 1.0619+N | DN15-100 |
| 35.440 / 35.441 | PN40 | 1.0619+N | DN15-100 |
| 55.440 / 55.441 | PN40 | 1.4408 | DN15-100 |
| Other materials and versions on request. | | | |

Control valve Type 440 - FR 2.1 acc. to DIN 32730 (EN-JL1040, EN-JS1049, 1.0619+N)

**Stem sealing**

Fig. 440:
- PTFE-V-ring unit -10°C up to +220°C
- PTFE-packing -10°C up to +250°C
- Pure graphite-packing -10°C up to +450°C

Fig. 441:
- Stainless steel bellows seal with safety stuffing box -60°C up to +450°C

**Plug design**

standard:
- Parabolic plug, metal seat

optional:
- Parabolic plug with PTFE soft seat (max. 200°C)
- V-port plug, metal seat
- Parabolic pressure balanced plug, metal seat,
  Material of piston seal:
  PTFE with stainless steel spring (max. 200°C)

**Guiding**
- Parabolic plug: Stem guiding
- V-port plug: Stem and port guiding

**Flow characteristic**
- Equal percentage or linear
  (from Kvs 100 modified equal percentage)

**Rangeability**
- 50 : 1 on parabolic plug
- 30 : 1 on V-port plug

**Shut off class (seat / plug leakage classes)**
- Metal seat - Leakage class IV acc. to DIN EN 1349 or IEC 60534-4
- Soft seat Leakage - class VI acc. to DIN EN 1349 or IEC 60534-4

Closing pressures refer to page 16.

Technical data for actuator refer to data sheet.

**Selection of possible applications**

Industrial installations, processing technology, plant manufacturing, etc.
(other applications on request)

**Selection of possible flow media**

Fig. 440: Cooling water, cooling brine, warm water, hot water, steam, gas, etc.

Fig. 441: Refrigerant, cooling water, warm water, hot water, thermal oil, steam, gas, etc.

(other flow media on request)

**Dimensions and weights**

| DN | | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | | | (mm) | 130 | 150 | 160 | 180 | 200 | 230 | 290 | 310 | 350 |
| Fig. 440 | H | FR 2.1 | (mm) | 573 | 573 | 581 | 581 | 588 | 594 | 607 | 622 | 641 |
| | | FR 2.2 | (mm) | 591 | 591 | 599 | 599 | 606 | 612 | 625 | 640 | 659 |
| | FR 2.1 / 2.2 | PN16 | (kg) | 12,3 | 13 | 13,9 | 15,5 | 17,4 | 20,3 | 25,4 | 31,1 | 41 |
| | | PN25-40 | (kg) | 13,1 | 13,9 | 15,2 | 17 | 19,5 | 22,2 | 29,4 | 35,6 | 48 |
| | with pressure balanced plug FR 2.1 / 2.2 | PN16 | (kg) | -- | -- | -- | -- | 18,4 | 22,3 | 28,4 | 35,1 | 46 |
| | | PN25-40 | (kg) | -- | -- | -- | -- | 20,5 | 24,2 | 32,4 | 39,6 | 53 |
| Fig. 441 | H | FR 2.1 | (mm) | 758 | 758 | 766 | 766 | 757 | 759 | 843 | 855 | 871 |
| | | FR 2.2 | (mm) | 776 | 776 | 784 | 784 | 775 | 777 | 861 | 873 | 889 |
| | FR 2.1 / 2.2 | PN16 | (kg) | 16,7 | 16,7 | 17,7 | 20,2 | 22,7 | 25,2 | 28,2 | 39,2 | 55 |
| | | PN25-40 | (kg) | 18,7 | 20,2 | 22,7 | 25,7 | 31,7 | 34,2 | 41,2 | 51,2 | 68 |
| | with pressure balanced plug FR 2.1 / 2.2 | PN16 | (kg) | -- | -- | -- | -- | 23,7 | 27,2 | 31,2 | 43,2 | 60 |
| | | PN25-40 | (kg) | -- | -- | -- | -- | 32,7 | 36,2 | 44,2 | 55,2 | 73 |
| Standard-flange dimensions refer to page 35. | | | | | | | | | | | | |

Face-to-face dimension FTF series 1 according to DIN EN 558

**Parts**

| Pos. | Description | Fig. 12.440<br>Fig. 12.441 | Fig. 22.440 / Fig. 23.440<br>Fig. 22.441 / Fig. 23.441 | Fig. 34.440 / Fig. 35.440<br>Fig. 34.441 / Fig. 35.441 | Fig. 55.440<br>Fig. 55.441 |
|---|---|---|---|---|---|
| 1 | Body | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 1.2 | Seat ring | X20Cr13+QT, 1.4021+QT | | X20Cr13+QT, 1.4021+QT<br>>DN50: G19 9 Nb Si, 1.4551 | -- |
| 3 | Plug * | X20Cr13+QT, 1.4021+QT | | | X6CrNiMoTi17-12-2, 1.4571 |
| 4 | Straight spin * | X10CrNi18-8, 1.4310 | | | A4 - 70 |
| 7 | Mounting bonnet | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 8 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 9 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | |
| 10 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 11 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 12 | V-ring unit * | PTFE | | | |
| 14 | Washer * | X5CrNi18-10, 1.4301 | | | |
| 15 | Spring * | X10CrNi18-8, 1.4310 | | | |
| 16 | Bushing * | PTFE (reinforced) | | | |
| 17 | Sealing ring * | Cu / Soft iron | | | |
| 18 | Scraper * | PTFE (reinforced) | | | |
| 19 | Screw joint * | X8CrNiS18-9, 1.4305 | | | |
| 20.1 | Bellows housing | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 20.2 | Mounting bonnet | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 20.3 | Stem- / Bellows unit * | X20Cr13+QT, 1.4021+QT / X6CrNiTi18-10, 1.4541 | | | X6CrNiMoTi17-12-2, 1.4571 |
| 20.4 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 20.5 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 20.6 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | |
| 20.7 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 20.8 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 20.10 | Packing ring * | Pure graphite | | | |
| 20.12 | Washer * | X5CrNi18-10, 1.4301 | | | |
| 20.17 | Screw joint * | X8CrNiS18-9, 1.4305 | | | |
| * Spare parts | | | | | |

Information / restriction of technical rules need to be observed!

ARI-Valves of EN-JL1040 are not allowed to be operated in systems acc. to TRD 110.

A production allowance acc. to TRB 801 No. 45 exists. (EN-JL1040 ist acc. to TRB 801 No. 45 nicht zugelassen.)

The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

**max. permissible closing pressures** on flow-to-open P2 = 0
Observe restrictions by Pressure-temperature-ratings, refer to page 35.

**Fig. 440 / 441 with parabolic plug / V-port plug**

| DN | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Seat-ø (mm) | | | 21 | 21 | 27 | 31 | 41 | 51 | 66 | 81 | 101 |
| Kvs-values | Standard | | 4 | 6,3 | 10 | 16 | 25 | 40 | 63 | 100 | 160 |
| | Reduced [3] | | 2,5 | 4; 2,5 | 6,3 | 10 | 16 | 25 | 40 | 63 | 100 |
| Travel (mm) | | | 20 | | | | | | 30 | | |
| Max. differential pressure drop (bar) | Parabolic plug | | 40 | 40 | 40 | 40 | 30 | 20 | 8 | 4 | 1,5 |
| | V-port plug | | | | | | | | 30 | 25 | 25 |
| Actuator [1] **FR 2.1 1 kN** | Closing pressure (bar) | I. U | 18 | 18 | 10,3 | 7,4 | 3,6 | 2 | | | |
| | | II. | 16 | 16 | 9 | 6,5 | 3,2 | 1,7 | | | |
| | | III. | 9 | 9 | 7,4 | 5,2 | 1,9 | 0,9 | | | |
| | Operating time [2] (s) (Op. speed 0,29 mm/s) | | 69 | | | | | | | | |
| | Operating time on voltage failure (s) | | 5,5 | | | | | | | | |
| Actuator [1] **FR 2.2 2,2 kN** | Closing pressure (bar) | I. | 40 | 40 | 30,8 | 23,1 | 12,8 | 8 | 4,3 | 2,7 | 1,5 |
| | | II. | 40 | 40 | 28,8 | 21,6 | 11,9 | 7,4 | 3,9 | 2,3 | 1,3 |
| | | III. | 30,7 | 30,7 | 27,1 | 20,4 | 10,6 | 6,5 | 3,6 | 2,2 | 1,2 |
| | Operating time [2] (s) (Op. speed 0,29 mm/s) | | 69 | | | | | | 103 | | |
| | Operating time on voltage failure (s) | | 5,5 | | | | | | 8,5 | | |

**I. Fig. 440: PTFE-V-ring unit;** **II. Fig. 440: PTFE- / pure graphite-packing;** **III. Fig. 441: Bellows seal**

**Fig. 440 / 441 with parabolic pressure balanced plug** (Design refer to page 36)

| DN | | | | | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Seat-ø (mm) | | | | | 27 | 31 | 41 | 51 | 66 | 81 | 101 |
| Kvs-values | Standard | | | | 10 | 16 | 25 | 40 | 63 | 100 | 160 |
| | Reduced [3] | | | | 6,3 | 10 | 16 | 25 | 40 | 63 | 100 |
| Travel (mm) | | | | | 20 | | | | 30 | | |
| Max. differential pressure drop (bar) | Parabolic pressure balanced plug | | | | 40 | 40 | 30 | 20 | 8 | 4 | 1,5 |
| Actuator [1] **FR 2.1 1 kN** | Closing pressure (bar) | I. U | | | 20 | 20 | 20 | 16 | 16 | 16 | 12 |
| | | II. | | | | | 20 | 16 | 16 | | |
| | | III. | | | | | 16 | 15 | 2 | | |
| | Operating time [2] (s) (Op. speed 0,29 mm/s) | | | | 69 | | | | 103 | | |
| | Operating time on voltage failure (s) | | | | 5,5 | | | | 8,5 | | |
| Actuator [1] **FR 2.2 2,2 kN** | Closing pressure (bar) | I. | | | | | 40 | 40 | 40 | 40 | |
| | | II. | | | | | 40 | 40 | 40 | 40 | |
| | | III. | | | | | 40 | 40 | 40 | 40 | 40 |
| | Operating time [2] (s) (Op. speed 0,29 mm/s) | | | | | | 69 | | 103 | | |
| | Operating time on voltage failure (s) | | | | | | 5,5 | | 8,5 | | |

**I. Fig. 440: PTFE-V-ring unit;** **II. Fig. 440: PTFE- / pure graphite-packing;** **III. Fig. 441: Bellows seal**

U Control valve Type 440 - FR 2.1 acc. to DIN 32730 (EN-JL1040, EN-JS1049, 1.0619+N)

1) Motor voltage: 230V 50Hz
Special voltages: 24V 50/60Hz; 230V 60Hz
Technical data for actuator refer to data sheet FR

2) Indicated operating times with 50Hz.

3) Other Kvs-value-reductions are possible with screwed seat ring (Fig. 445/446 or Fig. 470/471).
For max. permissible closing pressures refer to corresponding data sheet.

## Control valve in straightway form with electric actuator AUMA

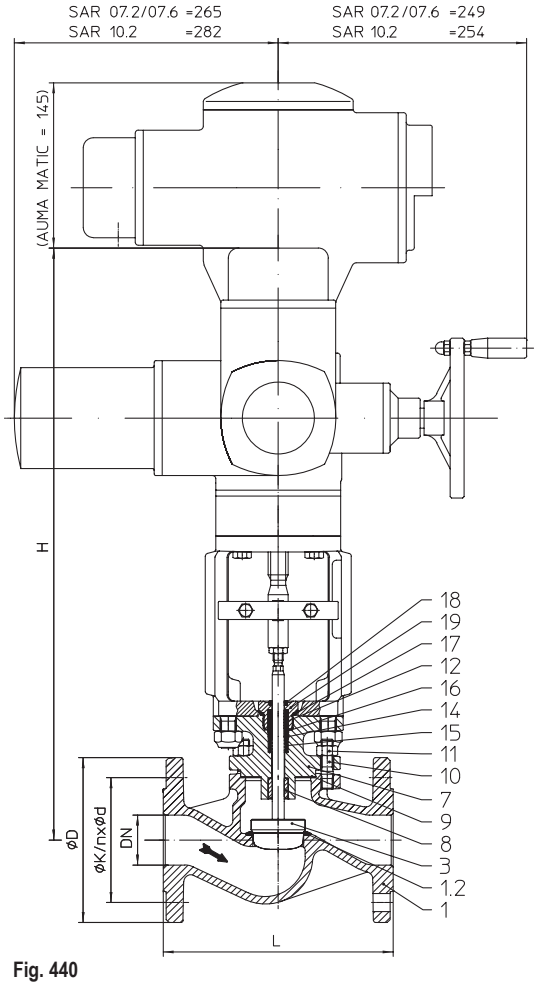



Fig. 440

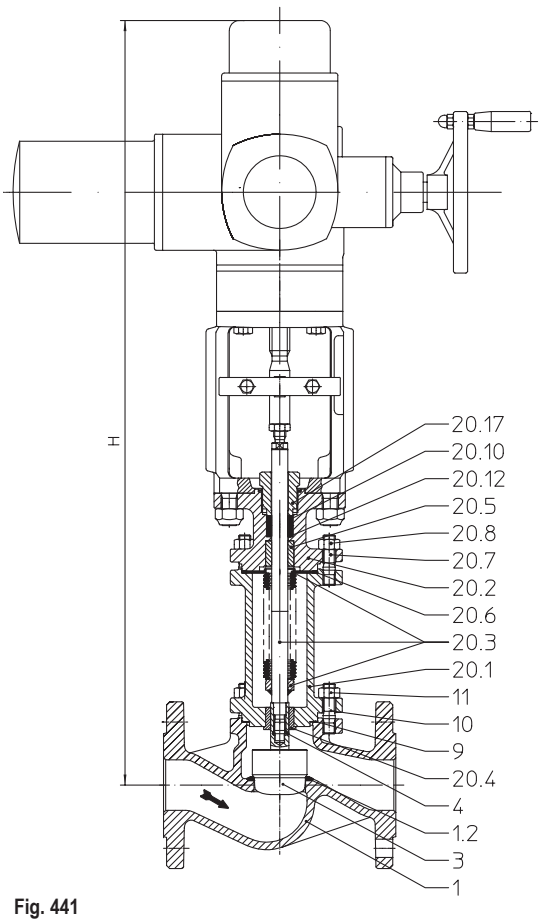



Fig. 441

| Figure | Nominal pressure | Material | Nominal diameter |
|---|---|---|---|
| 12.440 / 12.441 | PN16 | EN-JL1040 | DN40-150 |
| 22.440 / 22.441 | PN16 | EN-JS1049 | DN40-150 |
| 23.440 / 23.441 | PN25 | EN-JS1049 | DN40-150 |
| 34.440 / 34.441 | PN25 | 1.0619+N | DN40-150 |
| 35.440 / 35.441 | PN40 | 1.0619+N | DN40-150 |
| 55.440 / 55.441 | PN40 | 1.4408 | DN40-150 |
| Other materials and versions on request. | | | |

**Stem sealing**

Fig. 440:
- PTFE-V-ring unit -10°C up to +220°C
- PTFE-packing -10°C up to +250°C
- Pure graphite-packing -10°C up to +450°C

Fig. 441:
- Stainless steel bellows seal with safety stuffing box -60°C up to +450°C

**Plug design**

standard:
- Parabolic plug, metal seat

optional:
- Parabolic plug with PTFE soft seat (max. 200°C)
- V-port plug, metal seat
- Parabolic pressure balanced plug, metal seat,
  Material of piston seal:
  PTFE with stainless steel spring (max. 200°C)

**Guiding**
- Parabolic plug: Stem guiding
- V-port plug: Stem and port guiding

**Flow characteristic**
- Equal percentage or linear
  (from Kvs 100 modified equal percentage)

**Rangeability**
- 50 : 1 on parabolic plug
- 30 : 1 on V-port plug

**Shut off class (seat / plug leakage classes)**
- Metal seat - Leakage class IV acc. to DIN EN 1349 or IEC 60534-4
- Soft seat Leakage - class VI acc. to DIN EN 1349 or IEC 60534-4

Closing pressures refer to page 20.

Technical data for actuator refer to data sheet.

**Selection of possible applications**

Industrial installations, processing technology, plant manufacturing, etc.
(other applications on request)

**Selection of possible flow media**

Fig. 440: Cooling water, cooling brine, warm water, hot water, steam, gas, etc.

Fig. 441: Refrigerant, cooling water, warm water, hot water, thermal oil, steam, gas, etc.

(other flow media on request)

**Dimensions and weights**

| DN | | | | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|
| L | | | (mm) | 200 | 230 | 290 | 310 | 350 | 400 | 480 |
| Fig. 440 | H | | (mm) | 611 | 617 | 630 | 645 | 664 | 703 | 763 |
| | AUMA SAR 07.1<br>AUMA SAR 07.6 | PN16 | (kg) | 35 | 37,9 | 44,5 | 50,2 | 60 | 79 | 102 |
| | | PN25/40 | (kg) | 37,1 | 39,8 | 48,5 | 54,7 | 68 | 85 | 105 |
| | H | | (mm) | -- | -- | 642 | 657 | 676 | 715 | 775 |
| | AUMA SAR 10.2 | PN16 | (kg) | -- | -- | 49 | 54,7 | 65 | 84 | 106 |
| | | PN25/40 | (kg) | -- | -- | 53 | 59,2 | 72 | 89 | 109 |
| Fig. 441 | H | | (mm) | 780 | 782 | 866 | 878 | 894 | 1058 | 1089 |
| | AUMA SAR 07.1<br>AUMA SAR 07.6 | PN16 | (kg) | 40,3 | 44,3 | 47,3 | 58,3 | 74 | 96 | 116 |
| | | PN25/40 | (kg) | 49,3 | 53,3 | 60,3 | 70,3 | 87 | 103 | 124 |
| | H | | (mm) | -- | -- | -- | -- | -- | 1070 | 1101 |
| | AUMA SAR 10.2 | PN16 | (kg) | -- | -- | -- | -- | -- | 100 | 121 |
| | | PN25/40 | (kg) | -- | -- | -- | -- | -- | 108 | 129 |

Standard-flange dimensions refer to page 35. **(For version with AUMA SAR Ex other heights.)**

Face-to-face dimension FTF series 1 according to DIN EN 558

**Parts**

| Pos. | Description | Fig. 12.440<br>Fig. 12.441 | Fig. 22.440 / Fig. 23.440<br>Fig. 22.441 / Fig. 23.441 | Fig. 34.440 / Fig. 35.440<br>Fig. 34.441 / Fig. 35.441 | Fig. 55.440<br>Fig. 55.441 |
|---|---|---|---|---|---|
| 1 | Body | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 1.2 | Seat ring | X20Cr13+QT, 1.4021+QT | | X20Cr13+QT, 1.4021+QT<br>>DN50: G19 9 Nb Si, 1.4551 | -- |
| 3 | Plug * | X20Cr13+QT, 1.4021+QT | | | X6CrNiMoTi17-12-2, 1.4571 |
| 4 | Straight spin * | X10CrNi18-8, 1.4310 | | | A4 - 70 |
| 5 | Stem | X20Cr13+QT, 1.4021+QT (DN125-150) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 7 | Mounting bonnet | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 8 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 9 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | |
| 10 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 11 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 12 | V-ring unit * | PTFE | | | |
| 14 | Washer * | X5CrNi18-10, 1.4301 | | | |
| 15 | Spring * | X10CrNi18-8, 1.4310 | | | |
| 16 | Bushing * | PTFE (reinforced) | | | |
| 17 | Sealing ring * | Cu / Soft iron | | | |
| 18 | Scraper * | PTFE (reinforced) | | | |
| 19 | Screw joint * | X8CrNiS18-9, 1.4305 | | | |
| 20.1 | Bellows housing | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 20.2 | Mounting bonnet | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 20.3 | Stem- / Bellows unit * | X20Cr13+QT, 1.4021+QT / X6CrNiTi18-10, 1.4541 | | | X6CrNiMoTi17-12-2, 1.4571 |
| 20.4 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 20.5 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 20.6 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | |
| 20.7 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 20.8 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 20.10 | Packing ring * | Pure graphite | | | |
| 20.12 | Washer * | X5CrNi18-10, 1.4301 | | | |
| 20.17 | Screw joint * | X8CrNiS18-9, 1.4305 | | | |

* Spare parts

Information / restriction of technical rules need to be observed!

ARI-Valves of EN-JL1040 are not allowed to be operated in systems acc. to TRD 110.

A production allowance acc. to TRB 801 No. 45 exists. (EN-JL1040 ist acc. to TRB 801 No. 45 nicht zugelassen.)

The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

**max. permissible closing pressures** on flow-to-open P2 = 0
Observe restrictions by Pressure-temperature-ratings, refer to page 35.

**Fig. 440**

| DN | | | | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|
| Seat-ø (mm) | | | | 41 | 51 | 66 | 81 | 101 | 126 | 151 |
| Kvs-values | | Standard | | 25 | 40 | 63 | 100 | 160 | 250 | 400 |
| | | Reduced [4] | | 16 | 25 | 40 | 63 | 100 | 160 | 250 |
| Travel (mm) | | | | 20 | | 30 | | | 50 | |
| Max. differential pressure drop (bar) | | Parabolic plug | | 30 | 20 | 8 | 4 | 1,5 | 1 | 1 |
| | | V-port plug | | | | 30 | 25 | 25 | 10 | 10 |
| Actuator [1] **AUMA SAR 07.1** Output drive Form A TR 20 x 4 - LH | Closing pressure (bar) | **I./II.** | shut off | 40 | 40 | 40 | 29,7 | 19 | 12,1 | 8,3 |
| | | | controlling [3] | 40 | 36,5 | 21,4 | 14 | 8,8 | 5,5 | 3,7 |
| | Torque (Nm) | | | 15 | 20 | 30 | 30 | 30 | 30 | 30 |
| | Operating time [2] (s) | | | 54 | | 56 | | | 94 | |
| | Output drive (rpm) | | | 5,6 | | 8 | | | 8 | |
| Actuator [1] **AUMA SAR 07.6** Output drive Form A TR 26 x 5 - LH | Closing pressure (bar) | **I./II.** | shut off | | 40 | 40 | 40 | 26,9 | 17,2 | 11,9 |
| | | | controlling [3] | | 40 | 30,5 | 20 | 12,8 | 8 | 5,5 |
| | Torque (Nm) | | | | 30 | 40 | 60 | 60 | 60 | 60 |
| | Operating time [2] (s) | | | | 43 | 64 | | | 55 | |
| | Output drive (rpm) | | | | 5,6 | 5,6 | | | 11 | |
| Actuator [1] **AUMA SAR 10.2** Output drive Form A TR 26 x 5 - LH | Closing pressure (bar) | **I./II.** | shut off | | | 40 | 40 | 31,6 | 29,3 | 20,3 |
| | | | controlling [3] | | | 40 | 40 | 26,9 | 17,2 | 11,9 |
| | Torque (Nm) | | | | | 60 | 60 | 70 | 100 | 100 |
| | Operating time [2] (s) | | | | | 64 | | | 55 | |
| | Output drive (rpm) | | | | | 5,6 | | | 11 | |

**I. Fig. 440: PTFE-V-ring unit;** **II. Fig. 440: PTFE- / pure graphite-packing**

**Fig. 441**

| DN | | | | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|
| Seat-ø (mm) | | | | 41 | 51 | 66 | 81 | 101 | 126 | 151 |
| Kvs-values | | Standard | | 25 | 40 | 63 | 100 | 160 | 250 | 400 |
| | | Reduced [4] | | 16 | 25 | 40 | 63 | 100 | 160 | 250 |
| Travel (mm) | | | | 20 | | 30 | | | 50 | |
| Max. differential pressure drop (bar) | | Parabolic plug | | 30 | 20 | 8 | 4 | 1,5 | 1 | 1 |
| | | V-port plug | | | | 30 | 25 | 25 | 10 | 10 |
| Actuator [1] **AUMA SAR 07.1** Output drive Form A TR 20 x 4 - LH | Closing pressure (bar) | **III.** | shut off | 40 | 40 | 40 | 29,5 | 18,9 | 11,9 | 8,2 |
| | | | controlling [3] | 40 | 35,7 | 21,1 | 13,8 | 8,7 | 5,6 | 3,6 |
| | Torque (Nm) | | | 15 | 20 | 30 | 30 | 30 | 30 | 30 |
| | Operating time [2] (s) | | | 54 | | 56 | | | 94 | |
| | Output drive (rpm) | | | 5,6 | | 8 | | | 8 | |
| Actuator [1] **AUMA SAR 07.6** Output drive Form A TR 26 x 5 - LH | Closing pressure (bar) | **III.** | shut off | | 40 | 40 | 30,8 | 19,7 | 17 | 11,7 |
| | | | controlling [3] | | 40 | 30,2 | 19,8 | 12,6 | 7,9 | 5,4 |
| | Torque (Nm) | | | | 30 | 40 | 45 | 45 | 60 | 60 |
| | Operating time [2] (s) | | | | 43 | 64 | | | 55 | |
| | Output drive (rpm) | | | | 5,6 | 5,6 | | | 11 | |
| Actuator [1] **AUMA SAR 10.2** Output drive Form A TR 26 x 5 - LH | Closing pressure (bar) | **III.** | shut off | | | | | | 26,1 | 18,1 |
| | | | controlling [3] | | | | | | 17 | 11,7 |
| | Torque (Nm) | | | | | | | | 90 | 90 |
| | Operating time [2] (s) | | | | | | | | 55 | |
| | Output drive (rpm) | | | | | | | | 11 | |

**III. Fig. 441: Bellows seal**

[1] Motor voltage: 400V 50Hz 3~
(Other voltages on request)
Technical data for actuator refer to price list.

[2] Indicated operating times with 50Hz.

[3] Restrictions through max. permissible torque of the actuator at controlling operation.

[4] Other Kvs-value-reductions are possible with screwed seat ring (Fig. 445/446 or Fig. 470/471).
For max. permissible closing pressures refer to corresponding data sheet.

## Control valve in straightway form with electric actuator AUMA

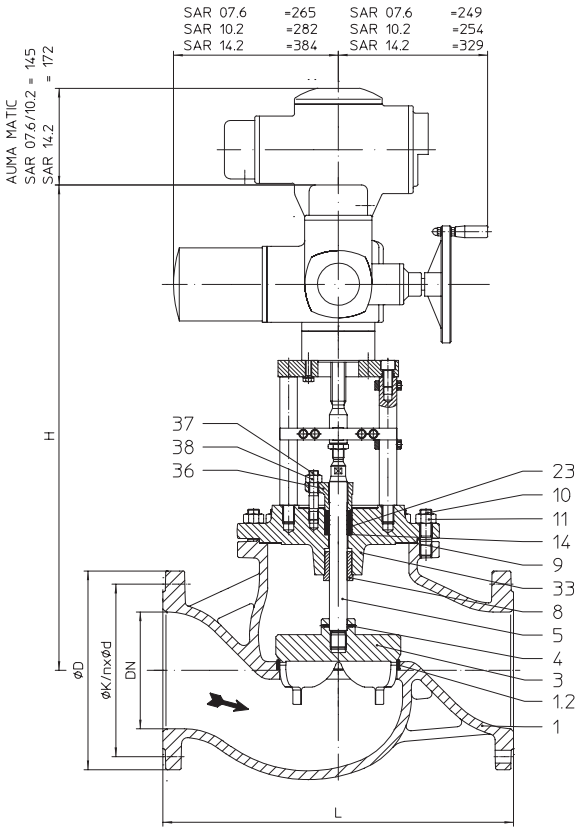



Fig. 440

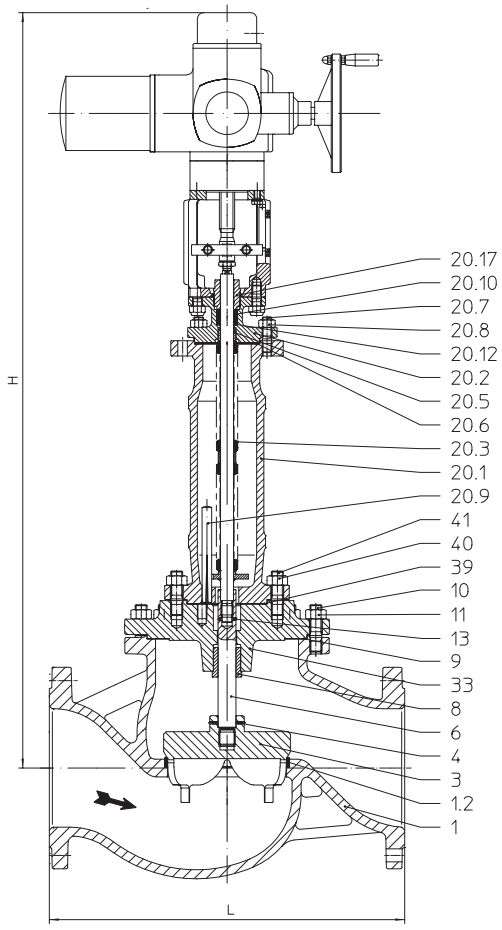



Fig. 441

| Figure | Nominal pressure | Material | Nominal diameter |
|---|---|---|---|
| 12.440 / 12.441 | PN16 | EN-JL1040 | DN200-250 |
| 22.440 / 22.441 | PN16 | EN-JS1049 | DN200-250 |
| 34.440 / 34.441 | PN25 | 1.0619+N | DN200-250 |
| 35.440 / 35.441 | PN40 | 1.0619+N | DN200-250 |
| 54.440 | PN25 | 1.4408 | DN200-250 |
| Other materials and versions on request. | | | |

**Stem sealing**

Fig. 440: • PTFE-packing -10°C up to +250°C
• Pure graphite-packing -10°C up to +450°C

Fig. 441: • Stainless steel bellows seal with safety stuffing box -60°C up to +450°C

**Plug design**

standard: • V-port plug, metal seat

optional:
• V-port pressure balanced plug, metal seat,
Material of piston seal:
PTFE with stainless steel spring (max. 200°C)

**Guiding**

• V-port plug: Stem and port guiding

**Flow characteristic**

• Modified equal percentage or linear or linear

**Rangeability**

• 30 : 1

**Shut off class (seat / plug leakage classes)**

• Metal seat - Leakage class IV acc. to DIN EN 1349 or IEC 60534-4

Closing pressures refer to page 24.

Technical data for actuator refer to data sheet.

**Selection of possible applications**

Industrial installations, processing technology, plant manufacturing, etc.
(other applications on request)

**Selection of possible flow media**

Fig. 440: Cooling water, cooling brine, warm water, hot water, steam, gas, etc.

Fig. 441: Refrigerant, cooling water, warm water, hot water, thermal oil, steam, gas, etc.

(other flow media on request)

**Dimensions and weights**

| DN | | | | 200 | 250 |
|---|---|---|---|---|---|
| L | | | (mm) | 600 | 730 |
| Fig. 440 | H | | (mm) | 776 | 836 |
| | AUMA SAR 07.6 | PN16 | (kg) | 177 | 282 |
| | | PN25/40 | (kg) | 215 | 318 |
| | H | | (mm) | 956 | 916 |
| | AUMA SAR 10.2 | PN16 | (kg) | 181 | 286 |
| | | PN25/40 | (kg) | 219 | 322 |
| | H | | (mm) | 931 | 991 |
| | AUMA SAR 14.2 | PN16 | (kg) | 211 | 316 |
| | | PN25/40 | (kg) | 249 | 352 |
| Fig. 441 | H | | (mm) | 1289 | 1349 |
| | AUMA SAR 07.6 | PN16 | (kg) | 199 | 304 |
| | | PN25/40 | (kg) | 234 | 341 |
| | H | | (mm) | 1301 | 1361 |
| | AUMA SAR 10.2 | PN16 | (kg) | 204 | 309 |
| | | PN25/40 | (kg) | 239 | 345 |
| Standard-flange dimensions refer to page 35. | | | | | **(For version with AUMA SAR Ex other heights.)** |

Face-to-face dimension FTF series 1 according to DIN EN 558

**Parts**

| Pos. | Description | Fig. 12.440<br>Fig. 12.441 | Fig. 22.440<br>Fig. 22.441 | Fig. 34.440 / Fig. 35.440<br>Fig. 34.441 / Fig. 35.441 | Fig. 54.440 |
|---|---|---|---|---|---|
| 1 | Body | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 1.2 | Seat ring | X20Cr13+QT, 1.4021+QT | | G19 9 Nb Si, 1.4551 | -- |
| 3 | Plug * | X20Cr13+QT, 1.4021+QT | | | X6CrNiMoTi17-12-2, 1.4571 |
| 4 | Straight spin * | X10CrNi18-8, 1.4310 | | | A4 - 70 |
| 5 | Stem * | X20Cr13+QT, 1.4021+QT | | | X6CrNiMoTi17-12-2, 1.4571 |
| 6 | Stem extension * | X20Cr13+QT, 1.4021+QT | | | -- |
| 8 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 9 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | |
| 10 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 11 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 13 | Spannstift * | X10CrNi18-8, 1.4310 | | | -- |
| 14 | Washer * | X5CrNi18-10, 1.4301 | | | |
| 20.1 | Bellows housing | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | -- |
| 20.2 | Mounting bonnet | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | -- |
| 20.3 | Stem- / Bellows unit * | X20Cr13+QT, 1.4021+QT / X6CrNiTi18-10, 1.4541 | | | -- |
| 20.5 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | -- |
| 20.6 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | -- |
| 20.7 | Studs | 25CrMo4, 1.7218 | | | -- |
| 20.8 | Hexagon nuts | C35E, 1.1181 | | | -- |
| 20.9 | Straight pin | X20Cr13+QT, 1.4021+QT (hardened) | | | -- |
| 20.10 | Packing ring * | Pure graphite | | | -- |
| 20.12 | Washer * | X5CrNi18-10, 1.4301 | | | -- |
| 20.17 | Screw joint * | X8CrNiS18-9, 1.4305 | | | -- |
| 23 | Packing ring * | PTFE | | | |
| 33 | Stuffing box housing | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | X6CrNiMoTi17-12-2, 1.4571 |
| 36 | Packing box flange | EN-GJS-400-15, EN-JS1030 | | | X6CrNiMoTi17-12-2, 1.4571 |
| 37 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 38 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 39 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | -- |
| 40 | Studs | 25CrMo4, 1.7218 | | | -- |
| 41 | Hexagon nuts | C35E, 1.1181 | | | -- |
| * Spare parts | | | | | |

Information / restriction of technical rules need to be observed!

ARI-Valves of EN-JL1040 are not allowed to be operated in systems acc. to TRD 110.

A production allowance acc. to TRB 801 No. 45 exists. (EN-JL1040 ist acc. to TRB 801 No. 45 nicht zugelassen.)

The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

**max. permissible closing pressures** on flow-to-open P2 = 0
Observe restrictions by Pressure-temperature-ratings, refer to page 35.

**Fig. 440**

| **DN** | | | | **200** | **250** |
|---|---|---|---|---|---|
| Seat-ø (mm) | | | | 201 | 251 |
| Kvs-values | | Standard | | 630 | 1000 |
| | | Reduced [4] | | 400 | 630 |
| Travel (mm) | | | | 65 | |
| Max. differential pressure drop (bar) | | V-port plug | | 5 | 5 |
| Actuator [1] **AUMA SAR 07.6** Output drive Form A TR 26 x 5 - LH | Closing pressure (bar) | **II.** | shut off | 6,5 | 4,1 |
| | | | controlling [3] | 2,9 | 1,8 |
| | Torque (Nm) | | | 60 | 60 |
| | Operating time [2] (s) | | | 71 | |
| | Output drive (rpm) | | | 11 | |
| Actuator [1] **AUMA SAR 10.2** Output drive Form A TR 26 x 5 - LH | Closing pressure (bar) | **II.** | shut off | 13,7 | 8,7 |
| | | | controlling [3] | 6,5 | 4,1 |
| | Torque (Nm) | | | 120 | 120 |
| | Operating time [2] (s) | | | 71 | |
| | Output drive (rpm) | | | 11 | |
| Actuator [1] **AUMA SAR 14.2** Output drive Form A TR 30 x 6 - LH | Closing pressure (bar) | **II.** | shut off | 23,7 | 15,1 |
| | | | controlling [3] | 11 | 7 |
| | Torque (Nm) | | | 250 | 250 |
| | Operating time [2] (s) | | | 59 | |
| | Output drive (rpm) | | | 11 | |

**II. Fig. 440: PTFE- / pure graphite-packing**

**Fig. 441**

| **DN** | | | | **200** | **250** |
|---|---|---|---|---|---|
| Seat-ø (mm) | | | | 201 | 251 |
| Kvs-values | | Standard | | 630 | 1000 |
| | | Reduced [4] | | 400 | 630 |
| Travel (mm) | | | | 65 | |
| Max. differential pressure drop (bar) | | V-port plug | | 5 | 5 |
| Actuator [1] **AUMA SAR 07.6** Output drive Form A TR 26 x 5 - LH | Closing pressure (bar) | **III.** | shut off | 6,5 | 4,1 |
| | | | controlling [3] | 2,9 | 1,8 |
| | Torque (Nm) | | | 60 | 60 |
| | Operating time [2] (s) | | | 71 | |
| | Output drive (rpm) | | | 11 | |
| Actuator [1] **AUMA SAR 10.2** Output drive Form A TR 26 x 5 - LH | Closing pressure (bar) | **III.** | shut off | 10,1 | 6,4 |
| | | | controlling [3] | 6,5 | 4,1 |
| | Torque (Nm) | | | 90 | 90 |
| | Operating time [2] (s) | | | 71 | |
| | Output drive (rpm) | | | 11 | |

**III. Fig. 441: Bellows seal**

[1] Motor voltage: 400V 50Hz 3~
(Other voltages on request)
Technical data for actuator refer to price list.

[2] Indicated operating times with 50Hz.

[3] Restrictions through max. permissible torque of the actuator at controlling operation.

[4] Other Kvs-value-reductions are possible with screwed seat ring (Fig. 445/446).
For max. permissible closing pressures refer to corresponding data sheet.

## Control valve in straightway form with pneumatic actuator ARI-DP

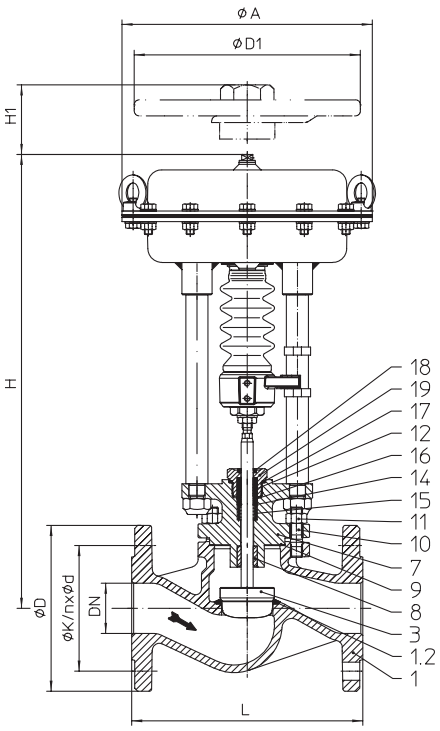



Fig. 440

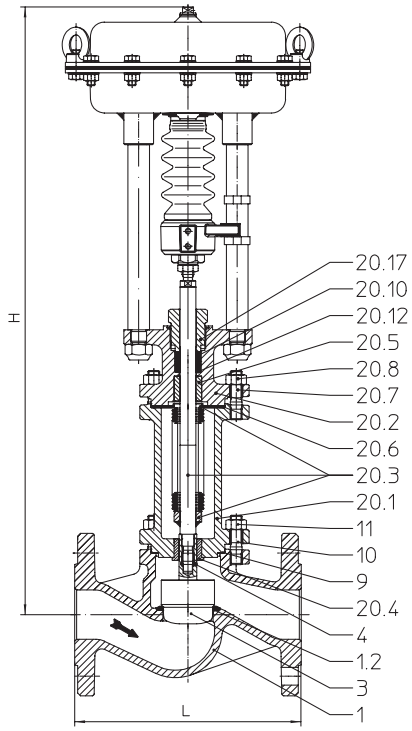



Fig. 441

| Figure | Nominal pressure | Material | Nominal diameter |
|---|---|---|---|
| 12.440 / 12.441 | PN16 | EN-JL1040 | DN15-150 |
| 22.440 / 22.441 | PN16 | EN-JS1049 | DN15-150 |
| 23.440 / 23.441 | PN25 | EN-JS1049 | DN15-150 |
| 34.440 / 34.441 | PN25 | 1.0619+N | DN15-150 |
| 35.440 / 35.441 | PN40 | 1.0619+N | DN15-150 |
| 55.440 / 55.441 | PN40 | 1.4408 | DN15-150 |
| Other materials and versions on request. | | | |

**Stem sealing**

Fig. 440:
- PTFE-V-ring unit -10°C up to +220°C
- PTFE-packing -10°C up to +250°C
- Pure graphite-packing -10°C up to +450°C

Fig. 441:
- Stainless steel bellows seal with safety stuffing box -60°C up to +450°C

**Plug design**

standard:
- Parabolic plug, metal seat

optional:
- Parabolic plug with PTFE soft seat (max. 200°C)
- V-port plug, metal seat
- Parabolic pressure balanced plug, metal seat,
  Material of piston seal:
  PTFE with stainless steel spring (max. 200°C)

**Guiding**
- Parabolic plug: Stem guiding
- V-port plug: Stem and port guiding

**Flow characteristic**
- Equal percentage or linear
  (from Kvs 100 modified equal percentage)

**Rangeability**
- 50 : 1 on parabolic plug
- 30 : 1 on V-port plug

**Shut off class (seat / plug leakage classes)**
- Metal seat - Leakage class IV acc. to DIN EN 1349 or IEC 60534-4
- Soft seat Leakage - class VI acc. to DIN EN 1349 or IEC 60534-4

Closing pressures refer to page 28.

Technical data for actuator refer to data sheet.

**Selection of possible applications**

Industrial installations, processing technology, plant manufacturing, etc.
(other applications on request)

**Selection of possible flow media**

Fig. 440: Cooling water, cooling brine, warm water, hot water, steam, gas, etc.

Fig. 441: Refrigerant, cooling water, warm water, hot water, thermal oil, steam, gas, etc.

(other flow media on request)

**Top mounted handwheel**

| Actuator | | DP32 | DP33 | DP34 |
|---|---|---|---|---|
| Ø D1 | (mm) | 225 | 300 | 400 |
| H1 | (mm) | 270 | 284 | 442 |
| Weight | (kg) | 5 | 8 | 17 |
| Technical data for actuator refer to data sheet DP32-34Tri. | | | | |

**Dimensions and weights**

| DN | | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | | | (mm) | 130 | 150 | 160 | 180 | 200 | 230 | 290 | 310 | 350 | 400 | 480 |
| DP32 | Ø A | | (mm) | 250 | | | | | | | | | -- | -- |
| | Fig. 440 | H | (mm) | 442 | 442 | 450 | 450 | 457 | 463 | 476 | 491 | 510 | -- | -- |
| | | PN16 | (kg) | 12,6 | 13,3 | 14,2 | 15,8 | 17,7 | 20,6 | 25,7 | 31,4 | 42 | -- | -- |
| | | PN25/40 | (kg) | 13,4 | 14,2 | 15,5 | 17,3 | 19,8 | 22,5 | 29,7 | 35,9 | 49 | -- | -- |
| | Fig. 441 | H | (mm) | 627 | 627 | 635 | 635 | 626 | 628 | 712 | 724 | 740 | -- | -- |
| | | PN16 | (kg) | 17 | 17 | 18 | 20,5 | 23 | 25,5 | 28,5 | 39,5 | 55 | -- | -- |
| | | PN25/40 | (kg) | 19 | 20,5 | 23 | 26 | 32 | 34,5 | 41,5 | 51,5 | 68 | -- | -- |
| DP33 | Ø A | | (mm) | 300 | | | | | | | | | -- | -- |
| | Fig. 440 | H | (mm) | 497 | 497 | 505 | 505 | 512 | 518 | 531 | 546 | 565 | -- | -- |
| | | PN16 | (kg) | 18,6 | 19,3 | 20,2 | 21,8 | 23,7 | 26,6 | 31,7 | 37,4 | 48 | -- | -- |
| | | PN25/40 | (kg) | 19,4 | 20,2 | 21,5 | 23,3 | 25,8 | 28,5 | 35,7 | 41,9 | 55 | -- | -- |
| | Fig. 441 | H | (mm) | 682 | 682 | 690 | 690 | 681 | 683 | 767 | 779 | 795 | -- | -- |
| | | PN16 | (kg) | 23 | 23 | 24 | 26,5 | 29 | 31,5 | 34,5 | 45,5 | 61 | -- | -- |
| | | PN25/40 | (kg) | 25 | 26,5 | 29 | 32 | 38 | 40,5 | 47,5 | 57,5 | 74 | -- | -- |
| DP34 | Ø A | | (mm) | -- | -- | -- | -- | -- | -- | 405 | | | | |
| | Fig. 440 | H | (mm) | -- | -- | -- | -- | -- | -- | 666 | 681 | 700 | 739 | 779 |
| | | PN16 | (kg) | -- | -- | -- | -- | -- | -- | 61,7 | 67,4 | 78 | 104 | 126 |
| | | PN25/40 | (kg) | -- | -- | -- | -- | -- | -- | 65,7 | 71,9 | 85 | 116 | 148 |
| | Fig. 441 | H | (mm) | -- | -- | -- | -- | -- | -- | 902 | 914 | 930 | 1074 | 1105 |
| | | PN16 | (kg) | -- | -- | -- | -- | -- | -- | 64,5 | 75,5 | 91 | 110 | 143 |
| | | PN25/40 | (kg) | -- | -- | -- | -- | -- | -- | 77,5 | 87,5 | 104 | 123 | 168 |

Standard-flange dimensions refer to page 35.

Face-to-face dimension FTF series 1 according to DIN EN 558

**Parts**

| Pos. | Description | Fig. 12.440<br>Fig. 12.441 | Fig. 22.440 / Fig. 23.440<br>Fig. 22.441 / Fig. 23.441 | Fig. 34.440 / Fig. 35.440<br>Fig. 34.441 / Fig. 35.441 | Fig. 55.440<br>Fig. 55.441 |
|---|---|---|---|---|---|
| 1 | Body | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 1.2 | Seat ring | X20Cr13+QT, 1.4021+QT | | X20Cr13+QT, 1.4021+QT<br>>DN50: G19 9 Nb Si, 1.4551 | -- |
| 3 | Plug * | X20Cr13+QT, 1.4021+QT | | | X6CrNiMoTi17-12-2, 1.4571 |
| 4 | Straight spin * | X10CrNi18-8, 1.4310 | | | A4 - 70 |
| 5 | Stem | X20Cr13+QT, 1.4021+QT (DN125-150) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 7 | Mounting bonnet | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 8 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 9 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | |
| 10 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 11 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 12 | V-ring unit * | PTFE | | | |
| 14 | Washer * | X5CrNi18-10, 1.4301 | | | |
| 15 | Spring * | X10CrNi18-8, 1.4310 | | | |
| 16 | Bushing * | PTFE (reinforced) | | | |
| 17 | Sealing ring * | Cu / Soft iron | | | |
| 18 | Scraper * | PTFE (reinforced) | | | |
| 19 | Screw joint * | X8CrNiS18-9, 1.4305 | | | |
| 20.1 | Bellows housing | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 20.2 | Mounting bonnet | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 20.3 | Stem- / Bellows unit * | X20Cr13+QT, 1.4021+QT / X6CrNiTi18-10, 1.4541 | | | X6CrNiMoTi17-12-2, 1.4571 |
| 20.4 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 20.5 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 20.6 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | |
| 20.7 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 20.8 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 20.10 | Packing ring * | Pure graphite | | | |
| 20.12 | Washer * | X5CrNi18-10, 1.4301 | | | |
| 20.17 | Screw joint * | X8CrNiS18-9, 1.4305 | | | |

* Spare parts

Information / restriction of technical rules need to be observed!

ARI-Valves of EN-JL1040 are not allowed to be operated in systems acc. to TRD 110.

A production allowance acc. to TRB 801 No. 45 exists. (EN-JL1040 ist acc. to TRB 801 No. 45 nicht zugelassen.)

The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

**max. permissible closing pressures** on flow-to-open P2 = 0
Observe restrictions by Pressure-temperature-ratings, refer to page 35.

**Spring closes on air failure**

| DN | | | | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Seat-ø (mm) | | | | | | 21 | 21 | 27 | 31 | 41 | 51 | 66 | 81 | 101 | 126 | 151 |
| Kvs-values | | | Standard | | | 4 | 6,3 | 10 | 16 | 25 | 40 | 63 | 100 | 160 | 250 | 400 |
| | | | Reduced [1] | | | 2,5 | 4; 2,5 | 6,3 | 10 | 16 | 25 | 40 | 63 | 100 | 160 | 250 |
| Travel (mm) | | | | | | 20 | | | | | | | 30 | | 50 | |
| Max. differential pressure drop (bar) | | | Parabolic plug | | | 40 | 40 | 40 | 40 | 30 | 20 | 8 | 4 | 1,5 | 1 | 1 |
| | | | V-port plug | | | | | | | | | 30 | 25 | 25 | 10 | 10 |
| Actuator DP32 | Spring range (bar) | 0,2-1,0 | Air supply pressure min. (bar) | 1,2 | I. | 5,5 | 5,5 | 2,6 | 1,6 | | | | | | | |
| | | | | | II. | 2,3 | 2,3 | | | | | | | | | |
| | | | | | III. | | | | | | | | | | | |
| | | 0,4-1,2 | | 1,4 | I. | 18,6 | 18,6 | 10,7 | 7,8 | 3,9 | 2,2 | | | | | |
| | | | | | II. | 15,4 | 15,4 | 8,7 | 6,2 | 3 | 1,6 | | | | | |
| | | | | | III. | 8,6 | 8,6 | 7,1 | 5 | 1,7 | | | | | | |
| | | 0,8-2,4 | | 2,7 | I. | 40 | 40 | 26,8 | 20,1 | 11 | 6,8 | 3,7 | 2,2 | 1,2 | | |
| | | | | | II. | 40 | 40 | 24,8 | 18,6 | 10,2 | 6,3 | 3,2 | 1,9 | 1 | | |
| | | | | | III. | 26,4 | 26,4 | 23,2 | 17,3 | 8,9 | 5,4 | 2,9 | 1,7 | | | |
| | | 1,5-2,5 | | 2,8 | I. | | | 40 | 40 | 23,5 | 15 | | | | | |
| | | | | | II. | | | 40 | 40 | 22,7 | 14,4 | | | | | |
| | | | | | III. | 40 | 40 | 40 | 38,9 | 21,4 | 13,6 | | | | | |
| | | 2,0-3,3 | | 3,6 | I. | | | | | 32,5 | 20,8 | | | | | |
| | | | | | II. | | | | | 31,6 | 20,2 | | | | | |
| | | | | | III. | | | | 40 | 30,3 | 19,4 | | | | | |
| Actuator DP33 | Spring range (bar) | 0,2-1,0 | Air supply pressure min. (bar) | 1,2 | I. | 13,3 c) | 13,3 c) | 7,4c) | 5,2 c) | 2,4 c) | 1,2 c) | | | | | |
| | | | | | II. | 10,1 c) | 10,1 c) | 5,4 c) | 3,7 c) | 1,5 c) | | | | | | |
| | | | | | III. | 5 a) | 5 a) | 3,8 a) | 2,5 a) | | | | | | | |
| | | 0,4-1,2 | | 1,4 | I. | 34,2 c) | 34,2 c) | 20,2 c) | 15,1 c) | 8,1 c) | 4,9 c) | 2,5 | 1,4 | | | |
| | | | | | II. | 31 c) | 31 c) | 18,3 c) | 13,6 c) | 7,3 c) | 4,4 c) | 2,1 | 1,1 | | | |
| | | | | | III. | 19,1 a) | 19,1 a) | 16,6 a) | 12,3 a) | 5,9 a) | 3,5 a) | 1,8 a) | | | | |
| | | 0,8-2,4 | | 2,7 | I. | 40 a) | 40 a) | 40 a) | 34,7 a) | 19,5 a) | 12,3 a) | 7 | 4,4 | 2,6 | | |
| | | | | | II. | 40 a) | 40 a) | 40 a) | 33,2 a) | 18,6 a) | 11,8 a) | 6,5 | 4,1 | 2,4 | | |
| | | | | | III. | 40 | 40 | 40 | 31,9 | 17,3 | 10,9 | 6,2 | 3,9 | 2,3 | | |
| | | 1,5-3,0 | | 3,3 | I. | | | | | | | 14,8 | 9,6 | 6 | | |
| | | | | | II. | | | | | | | 14,3 | 9,3 | 5,8 | | |
| | | | | | III. | | | | | | | 14 | 9,1 | 5,7 | | |
| | | 1,7-2,7 | | 3,1 | I. | | | | 40 a) | 40 a) | 29 a) | | | | | |
| | | | | | II. | | | | 40 a) | 40 a) | 28,4 a) | | | | | |
| | | | | | III. | | | | 40 | 40 | 27,6 | | | | | |
| | | 2,0-4,0 | | 4,5 | I. | | | | | | | 20,3 | 13,3 | 8,4 | | |
| | | | | | II. | | | | | | | 19,9 | 12,9 | 8,2 | | |
| | | | | | III. | | | | | | | 19,6 | 12,8 | 8,1 | | |
| | | 2,3-3,7 | | 4,5 | I. | | | | | | 40 | | | | | |
| | | | | | II. | | | | | | 39,5 | | | | | |
| | | | | | III. | | | | | | 38,6 | | | | | |
| Actuator DP34 | Spring range (bar) | 0,2-1,0 | Air supply pressure min. (bar) | 1,2 | I. | | | | | | | 2,5 b) | 1,5 b) | | | |
| | | | | | II. | | | | | | | 2,1 b) | 1,2 b) | | | |
| | | | | | III. | | | | | | | 1,8 e) | 1 e) | | | |
| | | 0,4-1,2 | | 1,4 | I. | | | | | | | 7 b) | 4,4 b) | 2,7 b) | 1,6 | 1 |
| | | | | | II. | | | | | | | 6,6 b) | 4,1 b) | 2,5 b) | 1,4 | |
| | | | | | III. | | | | | | | 6,3 d) | 3,9 d) | 2,3 d) | 1,2 a) | |
| | | 0,8-2,4 | | 2,7 | I. | | | | | | | 16 | 10,4 | 6,5 | 4 | 2,7 |
| | | | | | II. | | | | | | | 15,5 | 10,1 | 6,3 | 3,9 | 2,6 |
| | | | | | III. | | | | | | | 15,2 b) | 9,9 b) | 6,2 b) | 3,7 | 2,5 |
| | | 1,5-3,0 | | 3,3 | I. | | | | | | | | | | 8,4 | 5,7 |
| | | | | | II. | | | | | | | | | | 8,2 | 5,6 |
| | | | | | III. | | | | | | | | | | 8,1 | 5,5 |
| | | 2,0-4,0 | | 4,5 | I. | | | | | | | | | | 11,5 | 7,9 |
| | | | | | II. | | | | | | | | | | 11,3 | 7,8 |
| | | | | | III. | | | | | | | | | | 11,2 | 7,7 |
| | | 2,1-3,0 | | 3,3 | I. | | | | | | | 40 | 29,7 | 19 | | |
| | | | | | II. | | | | | | | 40 | 29,4 | 18,8 | | |
| | | | | | III. | | | | | | | 40 a) | 29,2 a) | 18,7 a) | | |
| | | 2,4-3,6 | | 4,5 | I. | | | | | | | | 34,2 | 21,9 | | |
| | | | | | II. | | | | | | | | 33,9 | 21,7 | | |
| | | | | | III. | | | | | | | | | | | |

[1] Other Kvs-value-reductions are possible with screwed seat ring (Fig. 445/446 or Fig. 470/471). For max. permissible closing pressures refer to corresponding data sheet.

Air supply pressure max. of pneumatic actuators DP: 6 bar
Air supply pressure max. limit of control valve: max. permissible a) 5 bar b) 4,5 bar c) 4 bar d) 3,5 bar e) 3 bar

**I.** Fig. 440: PTFE-V-ring unit; **II.** Fig. 440: PTFE- / pure graphite-packing; **III.** Fig. 441: Bellows seal

**max. permissible closing pressures** on flow-to-open P2 = 0
Observe restrictions by Pressure-temperature-ratings, refer to page 35.

**Spring opens on air failure**

| DN | | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Seat-ø (mm) | | | | 21 | 21 | 27 | 31 | 41 | 51 | 66 | 81 | 101 | 126 | 151 |
| Kvs-values | | Standard | | 4 | 6,3 | 10 | 16 | 25 | 40 | 63 | 100 | 160 | 250 | 400 |
| | | Reduced [1] | | 2,5 | 4; 2,5 | 6,3 | 10 | 16 | 25 | 40 | 63 | 100 | 160 | 250 |
| Travel (mm) | | | | 20 | | | | | | 30 | | | 50 | |
| Max. differential pressure drop (bar) | | Parabolic plug | | 40 | 40 | 40 | 40 | 30 | 20 | 8 | 4 | 1,5 | 1 | 1 |
| | | V-port plug | | | | | | | | 30 | 25 | 25 | 10 | 10 |
| Actuator **DP32** | Air supply pressure min. (bar) | 1,4 | I. | 18,6 | 18,6 | 10,7 | 7,8 | 3,9 | 2,2 | | | | | |
| | | | II. | 15,4 | 15,4 | 8,7 | 6,2 | 3 | 1,6 | | | | | |
| | | | III. | 8,6 | 8,6 | 7,1 | 5 | 1,7 | | | | | | |
| | | 2 | I. | 40 | 40 | 34,9 | 26,3 | 14,6 | 9,2 | 5 | 3,1 | 1,8 | | |
| | | | II. | 40 | 40 | 32,9 | 24,8 | 13,7 | 8,6 | 4,6 | 2,8 | 1,6 | | |
| | | | III. | 35,2 | 35,2 | 31,3 | 23,5 | 12,4 | 7,7 | 4,3 | 2,6 | 1,5 | | |
| | | 3 | I. | | | 40 | 40 | 32,5 | 20,8 | 12 | 7,8 | 4,8 | | |
| | | | II. | | | 40 | 40 | 31,6 | 20,2 | 11,6 | 7,5 | 4,6 | | |
| | | | III. | 40 | 40 | 40 | 40 | 30,3 | 19,4 | 11,3 | 7,3 | 4,5 | | |
| | | 4 | I. | | | | | 40 | 32,4 | 19 | 12,4 | 7,8 | | |
| | | | II. | | | | | 40 | 31,8 | 18,6 | 12,1 | 7,6 | | |
| | | | III. | | | | | 40 | 31 | 18,3 | 11,9 | 7,5 | | |
| | | 5 | I. | | | | | | 40 | 26 | 17 | 10,8 | | |
| | | | II. | | | | | | 40 | 25,6 | 16,7 | 10,6 | | |
| | | | III. | | | | | | 40 | 25,3 | 16,5 | 10,5 | | |
| | | 6 | I. | | | | | | | 33 | 21,7 | 13,8 | | |
| | | | II. | | | | | | | 32,6 | 21,4 | 13,6 | | |
| | | | III. | | | | | | | 32,3 | 21,2 | 13,5 | | |
| Actuator **DP33** | Air supply pressure min. (bar) | 1,4 | I. | 34,2 d) | 34,2 d) | 20,2 d) | 15,1 d) | 8,1 d) | 4,9 d) | 2,5 d) | 1,4 d) | | | |
| | | | II. | 31 d) | 31 d) | 18,3 d) | 13,6 d) | 7,3 d) | 4,4 d) | 2,1 d) | 1,1 d) | | | |
| | | | III. | 19,1 d) | 19,1 d) | 16,6 d) | 12,3 d) | 5,9 d) | 3,5 d) | 1,8 d) | | | | |
| | | 2 | I. | 40 d) | 40 d) | 40 d) | 40 d) | 25,2 d) | 16 d) | 9,2 d) | 5,9 d) | 3,6 d) | | |
| | | | II. | 40 d) | 40 d) | 40 d) | 40 d) | 24,3 d) | 15,5 d) | 8,7 d) | 5,6 d) | 3,4 d) | | |
| | | | III. | 40 d) | 40 d) | 40 d) | 40 d) | 23 d) | 14,6 d) | 8,4 d) | 5,4 d) | 3,3 d) | | |
| | | 3 | I. | | | | | 40 d) | 34,6 d) | 20,3 d) | 13,3 d) | 8,4 d) | | |
| | | | II. | | | | | 40 d) | 34 d) | 19,9 d) | 12,9 d) | 8,2 d) | | |
| | | | III. | | | | | 40 d) | 33,1 d) | 19,6 d) | 12,8 d) | 8,1 d) | | |
| | | 4 | I. | | | | | | 40 c) | 31,4 | 20,6 | 13,1 | | |
| | | | II. | | | | | | 40 c) | 31 | 20,3 | 12,9 | | |
| | | | III. | | | | | | 40 a) | 30,7 a) | 20,1 a) | 12,8 a) | | |
| | | 5 | I. | | | | | | | 40 | 28 | 17,9 | | |
| | | | II. | | | | | | | 40 | 27,7 | 17,7 | | |
| | | | III. | | | | | | | 40 a) | 27,5 a) | 17,6 a) | | |
| | | 6 | I. | | | | | | | | 35,4 | 22,7 | | |
| | | | II. | | | | | | | | 35,1 | 22,5 | | |
| Actuator **DP34** | Air supply pressure min. (bar) | 1,4 | I. | | | | | | | 7 b) | 4,4 b) | 2,7 b) | 1,6 | 1 |
| | | | II. | | | | | | | 6,6 b) | 4,1 b) | 2,5 b) | 1,4 | |
| | | | III. | | | | | | | 6,3 e) | 3,9 e) | 2,3 e) | 1,2 a) | |
| | | 2 | I. | | | | | | | 20,5 b) | 13,3 b) | 8,4 b) | 5,3 | 3,6 |
| | | | II. | | | | | | | 20 b) | 13 b) | 8,2 b) | 5,1 | 3,5 |
| | | | III. | | | | | | | 19,7 e) | 12,9 e) | 8,1 e) | 5 a) | 3,4 a) |
| | | 3 | I. | | | | | | | 40 b) | 28,2 b) | 18 b) | 11,5 | 7,9 |
| | | | II. | | | | | | | 40 b) | 27,9 b) | 17,8 b) | 11,3 | 7,8 |
| | | | III. | | | | | | | 40 e) | 27,7 e) | 17,7 e) | 11,2 a) | 7,7 a) |
| | | 4 | I. | | | | | | | | 40 b) | 27,6 b) | 17,7 | 12,2 |
| | | | II. | | | | | | | | 40 b) | 27,5 b) | 17,5 | 12,1 |
| | | | III. | | | | | | | | | | 17,4 a) | 12 a) |
| | | 5 | I. | | | | | | | | | | 23,9 | 16,6 |
| | | | II. | | | | | | | | | | 23,7 | 16,5 |
| | | | III. | | | | | | | | | | 23,6 a) | 16,3 a) |
| | | 6 | I. | | | | | | | | | | 30,9 | 20,9 |
| | | | II. | | | | | | | | | | 29,9 | 20,8 |

[1] Other Kvs-value-reductions are possible with screwed seat ring (Fig. 445/446 or Fig. 470/471).
For max. permissible closing pressures refer to corresponding data sheet.

**I. Fig. 440: PTFE-V-ring unit;** **II. Fig. 440: PTFE- / pure graphite-packing;** **III. Fig. 441: Bellows seal**

Air supply pressure max. of pneumatic actuators DP: max. permissible 6 bar

Air supply pressure max. limit of control valve: max. permissible a) 5 bar b) 4,5 bar c) 4 bar d) 3,5 bar e) 3 bar

## Control valve in straightway form with pneumatic actuator ARI-DP

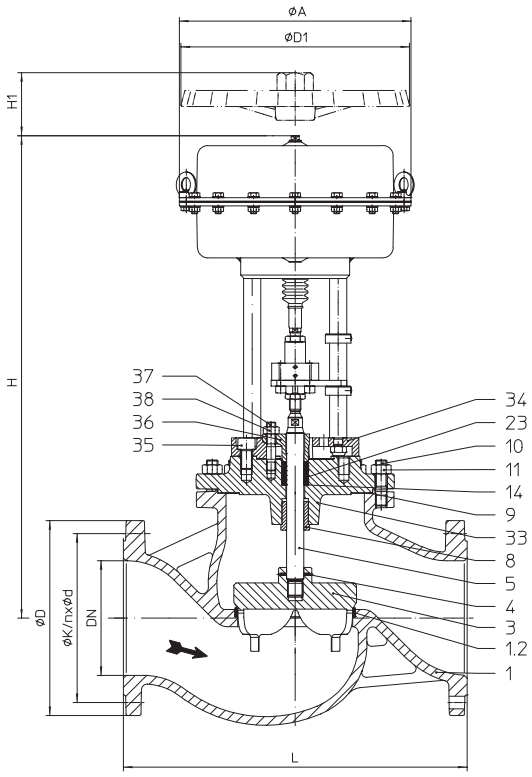



Fig. 440

| Figure | Nominal pressure | Material | Nominal diameter |
|---|---|---|---|
| 12.440 / 12.441 | PN16 | EN-JL1040 | DN200-250 |
| 22.440 / 22.441 | PN16 | EN-JS1049 | DN200-250 |
| 34.440 / 34.441 | PN25 | 1.0619+N | DN200-250 |
| 35.440 / 35.441 | PN40 | 1.0619+N | DN200-250 |
| 54.440 | PN25 | 1.4408 | DN200-250 |
| Other materials and versions on request. | | | |

**Stem sealing**

Fig. 440: • PTFE-packing -10°C up to +250°C
• Pure graphite-packing -10°C up to +450°C

Fig. 441: • Stainless steel bellows seal with safety stuffing box -60°C up to +450°C

**Plug design**

standard: • V-port plug, metal seat

optional:
• V-port pressure balanced plug, metal seat,
Material of piston seal:
PTFE with stainless steel spring (max. 200°C)

**Guiding**

• V-port plug: Stem and port guiding

**Flow characteristic**

• Modified equal percentage or linear or linear

**Rangeability**

• 30 : 1

**Shut off class (seat / plug leakage classes)**

• Metal seat - Leakage class IV acc. to DIN EN 1349 or IEC 60534-4

Closing pressures refer to page 8.

Technical data for actuator refer to data sheet.

**Selection of possible applications**

Industrial installations, processing technology, plant manufacturing, etc.
(other applications on request)

**Selection of possible flow media**

Fig. 440: Cooling water, cooling brine, warm water, hot water, steam, gas, etc.

Fig. 441: Refrigerant, cooling water, warm water, hot water, thermal oil, steam, gas, etc.

(other flow media on request)

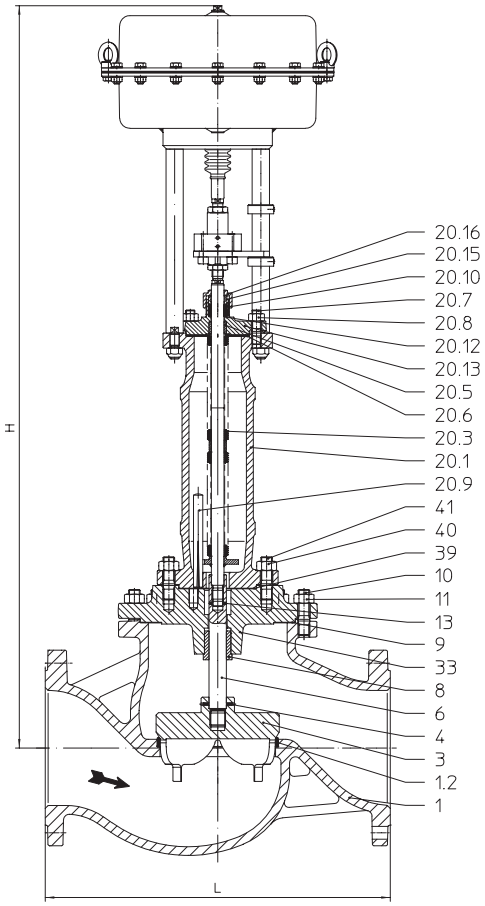
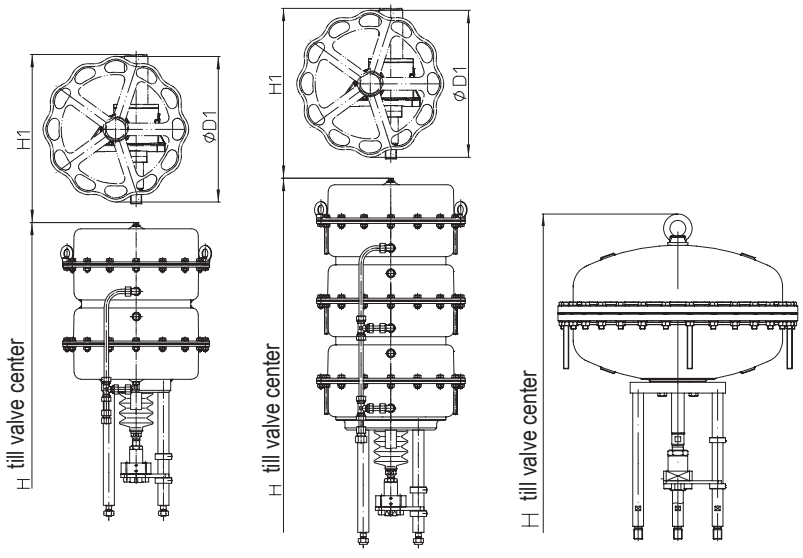



Fig. 441




DP34T DP34Tri DP35

**Top mounted handwheel**

| Actuator | | DP34 | DP34T | DP34Tri |
|---|---|---|---|---|
| Ø D1 | (mm) | 400 | 400 | 400 |
| H1 | (mm) | 470 | 635 | 635 |
| Weight | (kg) | 17 | 41 | 71 |
| Technical data for actuator refer to data sheet DP32-35. | | | | |

**Dimensions and weights**

| DN | | | | 200 | 250 |
|---|---|---|---|---|---|
| L | | | (mm) | 600 | 730 |
| DP34 | Ø A | | (mm) | 405 | |
| | Fig. 440 | H | (mm) | 812 | 872 |
| | | PN16 | (kg) | 190 | 295 |
| | | PN25/40 | (kg) | 228 | 331 |
| | Fig. 441 | H | (mm) | 1367 | 1427 |
| | | PN16 | (kg) | 213 | 318 |
| | | PN25/40 | (kg) | 247 | 354 |
| DP34T | Ø A | | (mm) | 405 | |
| | Fig. 440 | H | (mm) | 1062 | 1122 |
| | | PN16 | (kg) | 261 | 366 |
| | | PN25/40 | (kg) | 299 | 402 |
| | Fig. 441 | H | (mm) | 1541 | 1601 |
| | | PN16 | (kg) | 284 | 389 |
| | | PN25/40 | (kg) | 318 | 425 |
| Standard-flange dimensions refer to page 35. | | | | | |

| DN | | | | 200 | 250 |
|---|---|---|---|---|---|
| L | | | (mm) | 600 | 730 |
| DP34Tri | Ø A | | (mm) | 405 | |
| | Fig. 440 | H | (mm) | 1284 | 1344 |
| | | PN16 | (kg) | 295 | 400 |
| | | PN25/40 | (kg) | 333 | 436 |
| | Fig. 441 | H | (mm) | 1763 | 1823 |
| | | PN16 | (kg) | 318 | 423 |
| | | PN25/40 | (kg) | 352 | 459 |
| DP35 | Ø A | | (mm) | 755 | |
| | Fig. 440 | H | (mm) | 1197 | 1257 |
| | | PN16 | (kg) | 465 | 555 |
| | | PN25/40 | (kg) | 492 | 590 |

Face-to-face dimension FTF series 1 according to DIN EN 558

**Parts**

| Pos. | Description | Fig. 12.440<br>Fig. 12.441 | Fig. 22.440<br>Fig. 22.441 | Fig. 34.440 / Fig. 35.440<br>Fig. 34.441 / Fig. 35.441 | Fig. 54.440 |
|---|---|---|---|---|---|
| 1 | Body | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 |
| 1.2 | Seat ring | X20Cr13+QT, 1.4021+QT | | G19 9 Nb Si, 1.4551 | -- |
| 3 | Plug * | X20Cr13+QT, 1.4021+QT | | | X6CrNiMoTi17-12-2, 1.4571 |
| 4 | Straight spin * | X10CrNi18-8, 1.4310 | | | A4 - 70 |
| 5 | Stem * | X20Cr13+QT, 1.4021+QT | | | X6CrNiMoTi17-12-2, 1.4571 |
| 6 | Stem extension * | X20Cr13+QT, 1.4021+QT | | | -- |
| 8 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | X6CrNiMoTi17-12-2, 1.4571 |
| 9 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | |
| 10 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 11 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 13 | Spannstift * | X10CrNi18-8, 1.4310 | | | -- |
| 14 | Washer * | X5CrNi18-10, 1.4301 | | | |
| 20.1 | Bellows housing | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | -- |
| 20.3 | Stem- / Bellows unit * | X20Cr13+QT, 1.4021+QT / X6CrNiTi18-10, 1.4541 | | | -- |
| 20.5 | Guide bushing | X20Cr13+QT, 1.4021+QT (hardened) | | | -- |
| 20.6 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | -- |
| 20.7 | Studs | 25CrMo4, 1.7218 | | | -- |
| 20.8 | Hexagon nuts | C35E, 1.1181 | | | -- |
| 20.9 | Straight pin | X20Cr13+QT, 1.4021+QT (hardened) | | | -- |
| 20.10 | Packing ring * | Pure graphite | | | -- |
| 20.12 | Washer * | X5CrNi18-10, 1.4301 | | | -- |
| 20.13 | Stuffing box housing | EN-GJS-400-18U-LT, EN-JS1049 | | | -- |
| 20.15 | Packing follower | X20Cr13+QT, 1.4021+QT | | | -- |
| 20.16 | Sleeve nut | X8CrNiS18-9, 1.4305 | | | -- |
| 23 | Packing ring * | PTFE | | | |
| 33 | Stuffing box housing | EN-GJS-400-18U-LT, EN-JS1049 | | GP240GH+N, 1.0619+N | X6CrNiMoTi17-12-2, 1.4571 |
| 34 | Adapter flange | EN-GJS-400-18U-LT, EN-JS1049 | | | |
| 35 | Hexagon socket head screw | 8.8 | | | A2 - 70 |
| 36 | Packing box flange | EN-GJS-400-15, EN-JS1030 | | | X6CrNiMoTi17-12-2, 1.4571 |
| 37 | Studs | 25CrMo4, 1.7218 | | | A4 - 70 |
| 38 | Hexagon nuts | C35E, 1.1181 | | | A4 |
| 39 | Gasket * | Pure graphite (CrNi laminated with graphite) | | | -- |
| 40 | Studs | 25CrMo4, 1.7218 | | | -- |
| 41 | Hexagon nuts | C35E, 1.1181 | | | -- |
| * Spare parts | | | | | |

Information / restriction of technical rules need to be observed!

ARI-Valves of EN-JL1040 are not allowed to be operated in systems acc. to TRD 110.

A production allowance acc. to TRB 801 No. 45 exists. (EN-JL1040 ist acc. to TRB 801 No. 45 nicht zugelassen.)

The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

**max. permissible closing pressures** on flow-to-open P2 = 0
Observe restrictions by Pressure-temperature-ratings, refer to page 35.

**Spring closes on air failure**

| **DN** | | | | | | **200** | **250** |
|---|---|---|---|---|---|---|---|
| Seat-ø (mm) | | | | | | 201 | 251 |
| Kvs-values | | | Standard | | | 630 | 1000 |
| | | | Reduced [1] | | | 400 | 630 |
| Travel (mm) | | | | | | 65 | |
| Max. differential pressure drop (bar) | | | V-port plug | | | 5 | 5 |
| Actuator **DP34** | Spring range (bar) | 1,0-2,0 | Air supply pressure min. (bar) | 2,4 | **II.** | 1,8 | 1,1 |
| | | | | | **III.** | 1,7 | 1 |
| | | 2,0-4,0 | | 4,5 | **II.** | 4,2 | 2,6 |
| | | | | | **III.** | 4,2 | 2,6 |
| Actuator **DP34T** | Spring range (bar) | 0,4-1,2 | Air supply pressure min. (bar) | 1,7 | **II.** | 1,3 b) | |
| | | | | | **III.** | 1,2 d) | |
| | | 1,0-2,0 | | 2,5 | **II.** | 4,2 a) | 2,6 a) |
| | | | | | **III.** | 4,2 c) | 2,6 c) |
| | | 2,0-4,0 | | 4,5 | **II.** | 9,1 | 5,8 |
| | | | | | **III.** | 9,1 | 5,8 |
| Actuator **DP34Tri** | Spring range (bar) | 0,4-1,2 | Air supply pressure min. (bar) | 1,7 | **II.** | 2,3 d) | 1,4 d) |
| | | | | | **III.** | 2,2 f) | 1,4 f) |
| | | 1,0-2,0 | | 2,5 | **II.** | 6,7 b) | 4,2 b) |
| | | | | | **III.** | 6,6 d) | 4,2 d) |
| | | 1,5-3,0 | | 3,5 | **II.** | 10,3 a) | 6,6 a) |
| | | | | | **III.** | 10,3 b) | 6,5 b) |
| | | 2,0-4,0 | | 4,5 | **II.** | 14 | 8,9 |
| Actuator **DP35** | | 1,8 - 3,8 | | 4,3 | **II.** | 23,1 | 14,7 |

**II. Fig. 440: PTFE- / pure graphite-packing;** **III. Fig. 441: Bellows seal**

Air supply pressure max. of pneumatic actuators DP: max. permissible 6 bar (DP34Tri max. permissible 5 bar)

Air supply pressure max. limit of control valve: max. permissible a) 5 bar b) 4,5 bar c) 4 bar d) 3,5 bar e) 3 bar f) 2,5 bar

[1] Other Kvs-value-reductions are possible with screwed seat ring (Fig. 445/446 or Fig. 470/471).
For max. permissible closing pressures refer to corresponding data sheet

**max. permissible closing pressures** on flow-to-open P2 = 0
Observe restrictions by Pressure-temperature-ratings, refer to page 35.

| **Spring opens on air failure** | | | | | |
|---|---|---|---|---|---|
| **DN** | | | | **200** | **250** |
| Seat-ø (mm) | | | | 201 | 251 |
| Kvs-values | | Standard | | 630 | 1000 |
| | | Reduced [1] | | 400 | 630 |
| Travel (mm) | | | | 65 | |
| Max. differential pressure drop (bar) | | V-port plug | | 5 | 5 |
| Actuator **DP34** | Air supply pressure min. (bar) | 2 | **II.** | 1,8 | 1,1 |
| | | | **III.** | 1,7 a) | 1 a) |
| | | 3 | **II.** | 4,2 | 2,6 |
| | | | **III.** | 4,2 a) | 2,6 a) |
| | | 4 | **II.** | 6,7 | 4,2 |
| | | | **III.** | 6,6 a) | 4,2 a) |
| | | 5 | **II.** | 9,1 | 5,8 |
| | | | **III.** | 9,1 a) | 5,8 a) |
| | | 6 | **II.** | 11,6 | 7,4 |
| Actuator **DP34T** | Air supply pressure min. (bar) | 1,5 | **II.** | 1,8 b) | 1,1 b) |
| | | | **III.** | 1,7 e) | 1 e) |
| | | 2 | **II.** | 4,2 b) | 2,6 b) |
| | | | **III.** | 4,2 e) | 2,6 e) |
| | | 3 | **II.** | 9,1 b) | 5,8 b) |
| | | | **III.** | 9,1 e) | 5,8 e) |
| | | 4 | **II.** | 14 b) | 8,9 b) |
| | | 4,5 | **II.** | 16,5 b) | 10,5 b) |

**II. Fig. 440: PTFE- / pure graphite-packing;** **III. Fig. 441: Bellows seal**

Air supply pressure max. of pneumatic actuators DP: max. permissible 6 bar

Air supply pressure max. limit of control valve: max. permissible a) 5 bar b) 4,5 bar c) 4 bar d) 3,5 bar e) 3 bar

[1] Other Kvs-value-reductions are possible with screwed seat ring (Fig. 445/446 or Fig. 470/471).
For max. permissible closing pressures refer to corresponding data sheet.

**Standard-flange dimensions**

Flanges acc. to DIN EN 1092-1/-2 (Flange holes / -thickness tolerances acc. to DIN 2533/2544/2545)

| DN | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PN16 | ØD | (mm) | 95 | 105 | 115 | 140 | 150 | 165 | 185 | 200 | 220 | 250 | 285 | 340 | 405 |
| PN16 | ØK | (mm) | 65 | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 180 | 210 | 240 | 295 | 355 |
| PN16 | n x Ød | (mm) | 4x14 | 4x14 | 4x14 | 4x18 | 4x18 | 4x18 | 4x18 | 8x18 | 8x18 | 8x18 | 8x22 | 12x22 | 12x26 |
| PN25 | ØD | (mm) | 95 | 105 | 115 | 140 | 150 | 165 | 185 | 200 | 235 | 270 | 300 | 360 | 425 |
| PN25 | ØK | (mm) | 65 | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 190 | 220 | 250 | 310 | 370 |
| PN25 | n x Ød | (mm) | 4x14 | 4x14 | 4x14 | 4x18 | 4x18 | 4x18 | 8x18 | 8x18 | 8x22 | 8x26 | 8x26 | 12x26 | 12x30 |
| PN40 | ØD | (mm) | 95 | 105 | 115 | 140 | 150 | 165 | 185 | 200 | 235 | 270 | 300 | 375 | 450 |
| PN40 | ØK | (mm) | 65 | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 190 | 220 | 250 | 320 | 385 |
| PN40 | n x Ød | (mm) | 4x14 | 4x14 | 4x14 | 4x18 | 4x18 | 4x18 | 8x18 | 8x18 | 8x22 | 8x26 | 8x26 | 12x30 | 12x33 |

**Pressure-temperature-ratings acc. to DIN EN 1092-2**

| Material | | | -60°C to <-10°C* | -10°C to 120°C | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EN-JL1040 | 16 | (bar) | -- | 16 | 14,4 | 12,8 | 11,2 | 9,6 | -- | -- | -- |
| EN-JS1049 | 16 | (bar) | on request | 16 | 15,5 | 14,7 | 13,9 | 12,8 | 11,2 | -- | -- |
| EN-JS1049 | 25 | (bar) | on request | 25 | 24,3 | 23 | 21,8 | 20 | 17,5 | -- | -- |

**Pressure-temperature-ratings acc. to manufacturers standard**

| Material | | | -60°C to <-10°C* | -10°C to120°C | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.0619+N | 25 | (bar) | 18,7 | 25 | 23,9 | 22 | 20 | 17,2 | 16 | 14,8 | 8,2 |
| 1.0619+N | 40 | (bar) | 30 | 40 | 38,1 | 35 | 32 | 28 | 25,7 | 23,8 | 13,1 |

**Pressure-temperature-ratings acc. to DIN EN 1092-1**

| Material | | | -60°C to <-10°C* | -10°C to 100°C | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.4408 | 40 | (bar) | 40 | 40 | 36,3 | 33,7 | 31,8 | 29,7 | 28,5 | 27,4 | -- |

**Intermediate values for max. permissible operational pressures can be determined by linear interpolation of the given temperature / pressure chart.**

* Valve with extended bonnet, studs and nuts made of A4-70 (at temperatures below -10°C)

**Please indicate when ordering:**

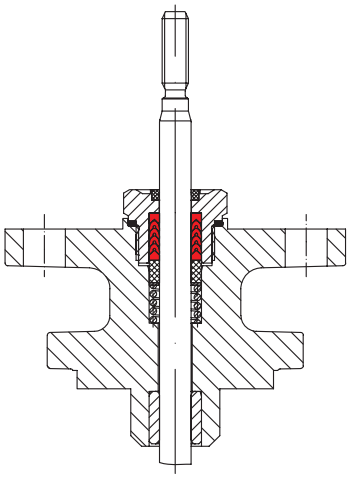
- Figure-No.
- Nominal diameter
- Nominal pressure
- Body material
- Plug design
- Kvs-value
- Flow characteristic
- Stem sealing
- Actuator
- Special design / accessories

**Example:**

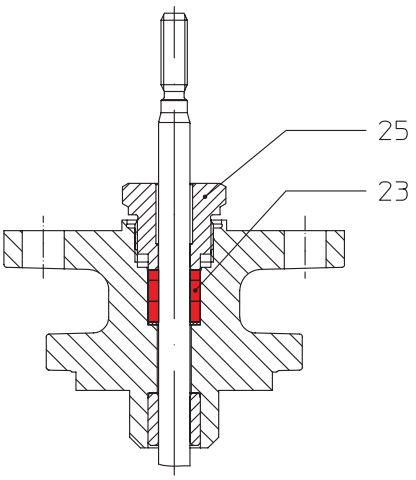
Figure 35.440; Nominal diameter DN100; Nominal pressure PN40; Body material 1.0619+N; Parabolic plug; Kvs 160; Equal percentage; Stem sealing PTFE-V-ring unit; Actuator ARI-PREMIO 5 kN.

Dimensions in mm
Weights in kg
Pressures in barg (gauge)
1 bar ≙ $10^5$ Pa ≙ 0,1 MPa
Kvs in $m^3/h$

## Stem sealing



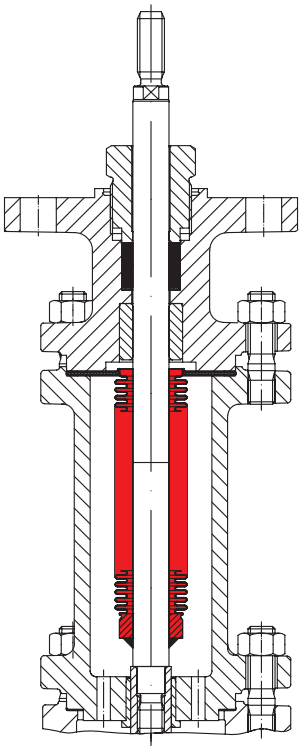
Spring loaded PTFE-V ring packing unit




PTFE-/ Pure graphite-packing

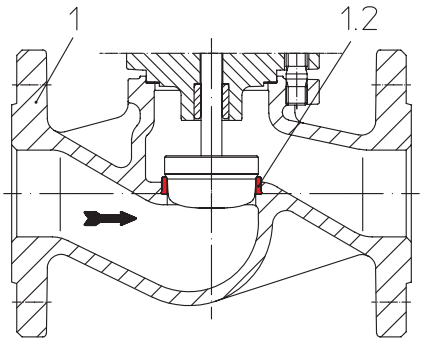
| Pos. | Description | |
|---|---|---|
| 23 | Packing ring * | PTFE or Pure graphite |
| 25 | Screw joint * | X8CrNiS18-9, 1.4305 |

* Spare part

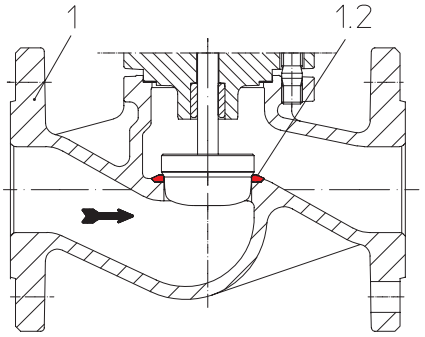


Bellows seal with safety stuffing box

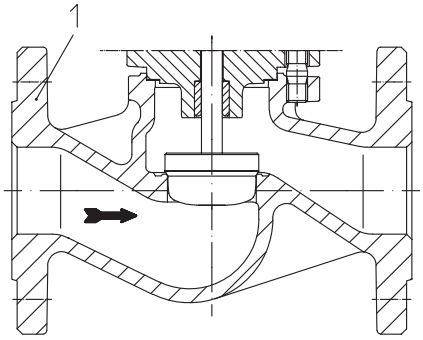
## Body design




Body with pressed seat ring
(EN-JL1040, EN-JS1049)

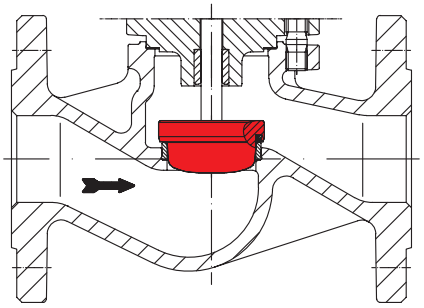



Body with welded seat (1.0619+N)

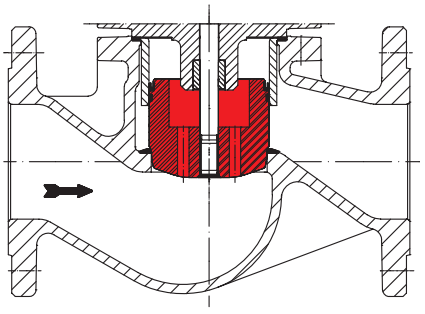



Body with machined seat (1.4408)

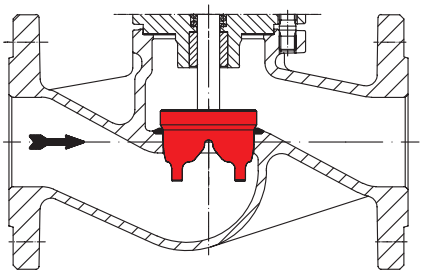
## Plug design



Parabolic plug with PTFE soft seat



Parabolic pressure balanced plug



V-port plug with stem and port guiding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