

Full lift safety valve / Standard safety valve

ARI-SAFE
**Full lift safety valve D/G
 Standard safety valve F**

- Type-test approved acc. to DIN EN ISO 4126-1 / AD2000-A2 / TRD421
- TÜV · SV · . . . -663 · D/G **Figure 901/911**
- TÜV · SV · . . . -663 · F **Figure 901/911**
- Further approvals: see inside

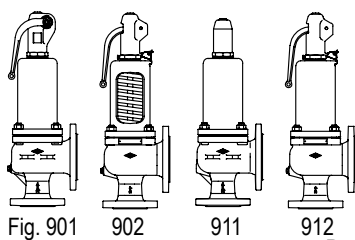


Fig. 901 902 911 912 Page 2

ARI-SAFE
**Standard safety valve
 for the heating technology**

- Type-test approved acc. to DIN EN ISO 4126-1 / DIN EN 12828 / TRD 721
- TÜV · SV · . . . -688 · D/G/H **Figure 903**
- TÜV · SV · . . . -688 · D **Figure 904**

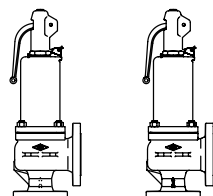


Fig. 903 904 Page 14

ARI-SAFE-P
Standard safety valve D/G/F

- Type-test approved acc. to DIN EN ISO 4126-1 / AD2000-A2
- TÜV · SV · . . . -811 · D/G **Figure 921/923**
- TÜV · SV · . . . -811 · F **Figure 921/923**

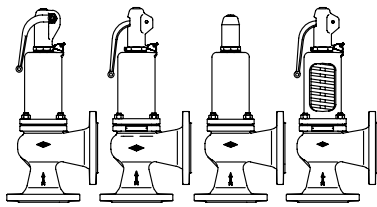


Fig. 921 922 923 924 Page 20

ARI-SAFE-TC
**Full lift safety valve D/G
 Standard safety valve F**

- Type-test approved acc. to DIN EN ISO 4126-1 / AD2000-A2 / TRD421
- TÜV · SV · . . . -995 · D/G **Figure 941-943**
- TÜV · SV · . . . -995 · F **Figure 941/943**

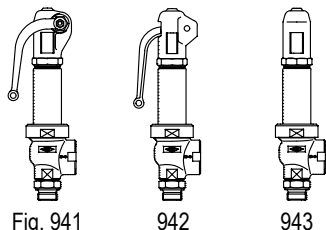


Fig. 941 942 943 Page 26

ARI-SAFE-TC
**Standard safety valve
 for the heating technology**

- Type-test approved acc. to DIN EN ISO 4126-1 / DIN EN 12828 / TRD 721
- TÜV · SV · . . . -997 · D/G/H **Figure 945**
- TÜV · SV · . . . -997 · D **Figure 946**

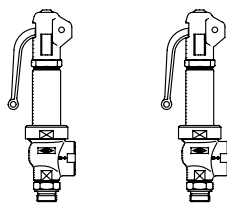


Fig. 945 946 Page 30

ARI-SAFE-TCP
Standard safety valve D/G/F

- Type-test approved acc. to DIN EN ISO 4126-1 / AD2000-A2
- TÜV · SV · . . . -1041 · D/G **Figure 961-963**
- TÜV · SV · . . . -1041 · F **Figure 961/963**

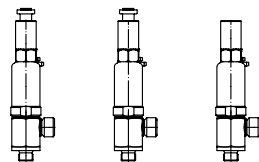


Fig. 961 962 963 Page 34

ARI-SAFE-TCS
Standard safety valve D/G/F

- Type-test approved acc. to DIN EN ISO 4126-1 / AD2000-A2
- TÜV · SV · . . . -1041 · D/G **Figure 951-953**
- TÜV · SV · . . . -1041 · F **Figure 951/953**

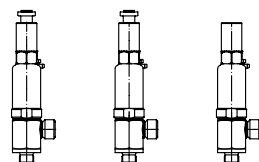


Fig. 951 952 953 Page 38

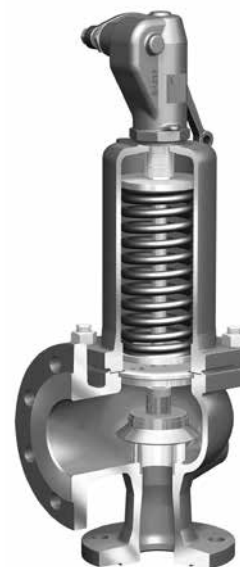
ALSO FOR HORIZONTAL APPLICATION


Fig. 900



Fig. 940

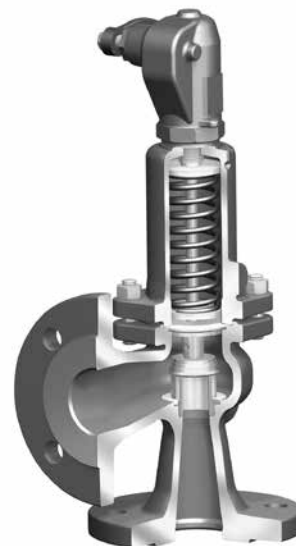


Fig. 920



Fig. 950/960

Features:

- Direct loaded with spring
- Wear resistant seat/disc
- Precision disc alignment and guide
- Possible with soft seal disc
- Possible with EPDM bellows
- Possible with stainless steel bellows
- ARI-SAFE-TC/TCP/TCS:
All common thread types

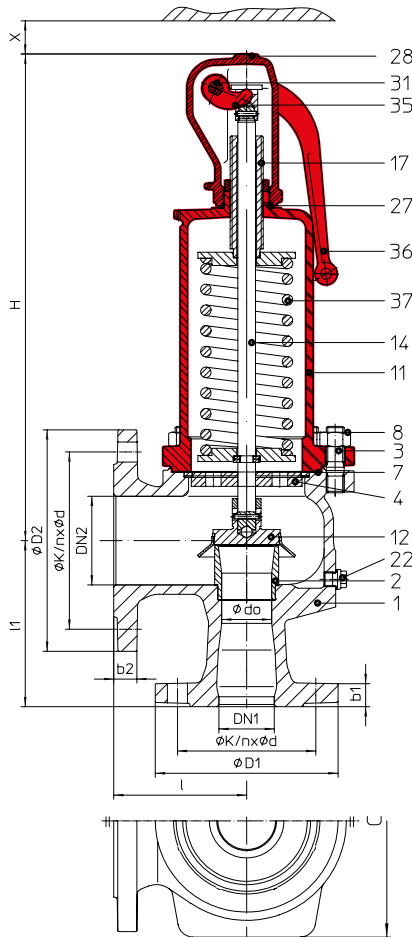
ARI-SAFE-- Full lift safety valve D/G, Standard safety valve F


Fig. ... 901
closed lifting device,
closed bonnet

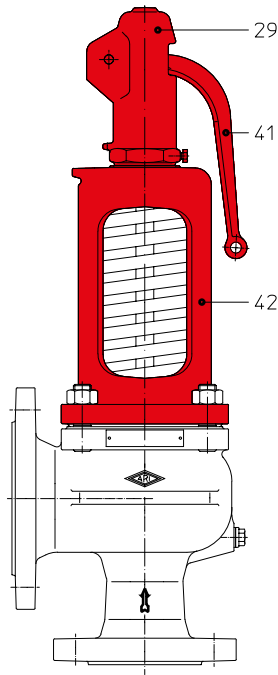


Fig. ... 902
open lifting device,
open bonnet

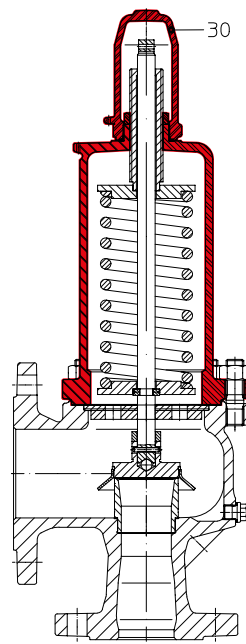


Fig. ... 911
gastight cap,
closed bonnet

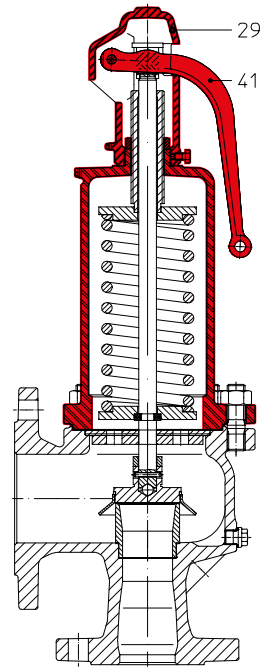


Fig. ... 912
open lifting device,
closed bonnet

| Figure | Nominal pressure | Material | Nominal diameter | Temperature range | Flange | Flangeholes / -thickness tolerances |
|--------------------------|-------------------|-----------|---------------------|-------------------|---------------|-------------------------------------|
| 12.901 / 902 / 911 / 912 | PN16/16 | EN-JL1040 | DN20/32 - 150/250 | -10°C to +300°C | DIN EN 1092-2 | DIN 2533/2533 |
| 23.901 / 902 / 911 / 912 | PN25/16 (PN25/10) | EN-JS1049 | DN200/300 - 250/350 | -10°C to +350°C | DIN EN 1092-2 | DIN 2534/2533 |
| 25.901 / 902 / 911 / 912 | PN40/16 | EN-JS1049 | DN20/32 - 250/350 | -10°C to +350°C | DIN EN 1092-2 | DIN 2535/2533 |
| 34.901 / 902 / 911 / 912 | PN25/16 (PN25/10) | 1.0619+N | DN200/300 - 250/350 | -10°C to +450°C | DIN EN 1092-1 | DIN 2544/2543 |
| 35.901 / 902 / 911 / 912 | PN40/16 | 1.0619+N | DN15/25 - 250/350 | -10°C to +450°C | DIN EN 1092-1 | DIN 2545/2543 |
| 55.901 / 911 | PN40/16 | 1.4408 | DN15/25 - 250/350 | -60°C to +400°C | DIN EN 1092-1 | DIN 2545/2543 |

| | | |
|--|---|---------------------------|
| Construction | | |
| Safety valve, spring loaded, direct loaded | | |
| Requirement | | |
| Acc. to EN ISO 4126-1, VdTÜV-leaflet 100, AD2000-A2, material selection observe TRB 801 No. 45! | | |
| Type-test approval | | |
| Full lift safety valve: (acc. to VdTÜV-leaflet 663) | Fig. 901/902/911/912 | TÜV · SV · · · -663 · D/G |
| Standard safety valve: | Fig. 901/911 | TÜV · SV · · · -663 · F |
| Sizing | | |
| for steam, air and water refer to capacity tables, calculations acc. to EN ISO 4126-1, TRD421 and AD2000-A2. | | |
| Details required | | |
| Medium gasform: | Mass flow (kg/h), molar mass (kg/kmol), Isotropic exponent, temperature (°C), set pressure (barg), back pressure (barg) | |
| Medium liquid: | Mass flow (kg/h), density (kg/m ³), viscosity, temperature (°C), set pressure (barg), back pressure (barg) | |
| Order data: | | |
| ARI-SAFE-Safety valve, Figure ..., DN .../..., PN ..., Material ..., Set pressure ...bar | | |

| | standard: without metal bellows | DN15/25 - 100/150 optional: with metal bellows (refer to page 14) |
|-----------------------------------|--|--|
| Superimposed back pressure | no backpressure allowed | on request |
| Built up back pressure | max. 10% from set pressure (higher on request) | on request |

| Parts | | | | | | | |
|---------------|-------|------------------------------|--|------------------------------|-----------------------------|--------------------------|---------------------------|
| Pos. | Sp.p. | Description | Fig. 12.901/902/911/912 | Fig. 23./25.901/902/911/912 | Fig. 34./35.901/902/911/912 | Fig. 55.901/911 | |
| 1 | | Body | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 | |
| 2 | | Seat | X6CrNiMoTi17-12-2, 1.4571 | | | | |
| 3 | | Studs | 25CrMo4, 1.7218 | | | | A4 - 70 |
| 4 | | Spindle guide | X20Cr13+QT, 1.4021+QT (≥ DN65: EN-GJS-400-18U-LT, EN-JS1049) | | | | X6CrNiMoTi17-12-2, 1.4571 |
| 7 | x | Gasket | Pure graphite (CrNi laminated with graphite) | | | | |
| 8 | | Hexagon nut | C35E, 1.1181 | | | | A4 |
| 11 | | Bonnet, closed | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | | GX5CrNiMo19-11-2, 1.4408 | |
| 12 | | Disc | X39CrMo17-1+QT, 1.4122+QT | | | | X6CrNiMoTi17-12-2, 1.4571 |
| 14 | x | Spindle | X20Cr13+QT, 1.4021+QT | | | | X6CrNiMoTi17-12-2, 1.4571 |
| 17 | | Adjusting screw | X20Cr13+QT, 1.4021+QT | | | | X2CrNiMo17-12-2, 1.4404 |
| 22 | | Plug screw | 5.8 | | | | A4 |
| 27 | x | Sealing ring | CuFA (≥ DN125: Graphit) | | | | X6CrNiMoTi17-12-2, 1.4571 |
| 28 | | Cap, closed | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | | GX5CrNiMo19-11-2, 1.4408 | |
| 29 | | Cap, open | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | | -- | |
| 30 | | Cap, gastight | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | | GX5CrNiMo19-11-2, 1.4408 | |
| 31 | x | Packing rings | Pure graphite | | | | |
| 35 | | Lift fork | EN-GJS-400-15, EN-JS1030 (DN200: GP240GH+N, 1.0619+N) | | | | GX5CrNiMo19-11-2, 1.4408 |
| 36 | | Lever, closed | EN-GJS-400-18U-LT, EN-JS1049 | | | | GX5CrNiMo19-11-2, 1.4408 |
| 37 | x | Spring | FDSiCr / 51CrV4, 1.8159 | | | | X10CrNi18-8, 1.4310 |
| 41 | | Lever, open | EN-GJS-400-18U-LT, EN-JS1049 | | | | -- |
| 42 | | Bonnet, open | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | | -- | |
| 43 | | Bellows (optional) | EPDM 70 Shore A | | | | |
| 55 | | Bellows unit (optional) | X6CrNiMoTi17-12-2, 1.4571 | | | | |
| 70 | | Balanced piston (at bellows) | X6CrNiMoTi17-12-2, 1.4571 | | | | |
| L Spare parts | | | | | | | |

| DN1 / DN2 | 15 / 25 | 20 / 32 | 25 / 40 | 32 / 50 | 40 / 65 | 50 / 80 | 65 / 100 | 80 / 125 | 100 / 150 | 125 / 200 | 150 / 250 | 200 / 300 | 250 / 350 |
|-----------|---------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|-----------|---------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|-----------|-----------|

| Spring ranges: Standard design | | | | | | | | | | | | | |
|--|--------|--------------|-------------|--|-------------|--|--|-------------|-----------|--------------|---------------|---------------|---------------|
| Full lift safety valve Fig. 901/902/911/912 | (barü) | 0,2 - 0,45 | 0,2 - 0,5 | | 0,2 - 0,5 | | | 0,2 - 0,5 | 0,2 - 0,5 | 0,2 - 0,4 | 0,2 - 0,5 | 0,2 - 0,3 | 0,2 - 0,3 |
| | (barü) | > 0,45 - 0,9 | > 0,5 - 1 | | > 0,5 - 1 | | | > 0,5 - 1 | > 0,5 - 1 | > 0,4 - 0,75 | > 0,5 - 1 | > 0,3 - 0,5 | > 0,3 - 0,35 |
| | (barü) | > 0,9 - 1,3 | > 1 - 1,5 | | > 1 - 1,5 | | | > 1 - 1,5 | > 1 - 1,5 | > 0,75 - 1,1 | > 1 - 1,5 | > 0,5 - 0,85 | > 0,35 - 0,6 |
| | (barü) | > 1,3 - 2 | > 1,5 - 2,5 | | > 1,5 - 2 | | | > 1,5 - 2 | > 1,5 - 2 | > 1,1 - 1,5 | > 1,5 - 1,9 | > 0,85 - 1,1 | > 0,6 - 0,7 |
| | (barü) | > 2 - 2,5 | > 2,5 - 4,5 | | > 2 - 2,7 | | | > 2 - 2,7 | > 2 - 2,5 | > 1,5 - 1,9 | > 1,9 - 2,3 | > 1,1 - 1,4 | > 0,7 - 0,9 |
| | (barü) | > 2,5 - 3,2 | > 4,5 - 8,5 | | > 2,7 - 3,6 | | | > 2,7 - 3,6 | > 2,5 - 3 | > 1,9 - 2,5 | > 2,3 - 2,7 | > 1,4 - 1,8 | > 0,9 - 1,5 |
| | (barü) | > 3,2 - 4,3 | > 8,5 - 19 | | > 3,6 - 5 | | | > 3,6 - 5 | > 3 - 3,6 | > 2,5 - 2,95 | > 2,7 - 3,3 | > 1,8 - 2,0 | > 1,5 - 1,9 |
| | (barü) | > 4,3 - 5,6 | > 19 - 28 | | > 5 - 9 | | | > 5 - 9 | > 3,6 - 5 | > 2,95 - 4 | > 3,3 - 4,1 | > 2,0 - 2,2 | > 1,9 - 2,6 |
| | (barü) | > 5,6 - 10 | > 28 - 35 | | > 9 - 16 | | | > 9 - 14 | > 5 - 9 | > 4 - 5,7 | > 4,1 - 5,5 | > 2,2 - 2,4 | > 2,6 - 3,0 |
| | (barü) | > 10 - 20 | > 35 - 40 | | > 16 - 22 | | | > 14 - 19 | > 9 - 14 | > 5,7 - 8,2 | > 5,5 - 7,4 | > 2,4 - 2,7 | > 3,0 - 4,5 |
| | (barü) | > 20 - 25,9 | | | > 22 - 28 | | | > 19 - 25 | > 14 - 19 | > 8,2 - 12 | > 7,4 - 11 | > 2,7 - 3,1 | > 4,5 - 6,0 |
| | (barü) | > 25,9 - 40 | | | > 28 - 34 | | | | > 19 - 24 | > 12 - 17 | > 11 - 16 | > 3,1 - 4,0 | > 6,0 - 7,0 |
| | (barü) | | | | > 34 - 40 | | | | | > 17 - 24 | > 16 - 21 | > 4,0 - 4,8 | > 7,0 - 8,5 |
| | (barü) | | | | | | | | | > 24 - 27 | > 21 - 26 | > 4,8 - 5,6 | > 8,5 - 10,0 |
| | (barü) | | | | | | | | | | | > 5,6 - 6,8 | > 10,0 - 11,5 |
| | (barü) | | | | | | | | | | | > 6,8 - 7,8 | > 11,5 - 13,0 |
| | (barü) | | | | | | | | | | | > 7,8 - 9,5 | > 13,0 - 14,0 |
| | (barü) | | | | | | | | | | | > 9,5 - 11,0 | > 14,0 - 15,0 |
| | (barü) | | | | | | | | | | | > 11,0 - 13,0 | > 15,0 - 16,0 |
| | (barü) | | | | | | | | | | | > 13,0 - 15,0 | > 16,0 - 20,0 |
| (barü) | | | | | | | | | | | > 15,0 - 17,5 | | |
| (barü) | | | | | | | | | | | > 17,5 - 21,0 | | |
| (barü) | | | | | | | | | | | > 21,0 - 25,0 | | |

Information / restriction of technical rules need to be observed!
A production permission acc. to TRB 801 No. 45 is available.
The engineer, designing a system or a plant, is responsible for the selection of the correct valve.
Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

| Spring ranges: Bellows design (optional) | | | | | | | | | | | | | | |
|--|--------|-------------|--------------|-------------|---------------|-------------|-------------|-------------|--------------|--------------|---------------|--------------|---------------|---------------|
| Standard safety valve Fig. 901/911 | (barü) | 5 - 6,4 | 3 - 3,7 | 2,5 - 3,3 | 2,5 - 3,2 | 2,6 - 3,6 | 2,8 - 3,4 | 2,5 - 3,7 | 2,5 - 3,3 | 2,5 - 3,5 | 1,1 - 1,5 | 1,1 - 1,3 | 2,4 - 2,7 | 2,1 - 2,4 |
| | (barü) | > 6,4 - 7,7 | > 3,7 - 4,6 | > 3,3 - 4,6 | > 3,2 - 4 | > 3,6 - 4,5 | > 3,4 - 4,5 | > 3,7 - 4,6 | > 3,3 - 4,5 | > 3,5 - 4,2 | > 1,5 - 2 | > 1,3 - 1,7 | > 2,7 - 2,9 | > 2,4 - 2,6 |
| | (barü) | > 7,7 - 10 | > 4,6 - 6,3 | > 4,6 - 5,4 | > 4 - 5,5 | > 4,5 - 5,6 | > 4,5 - 8,4 | > 4,6 - 5,9 | > 4,5 - 5,8 | > 4,2 - 4,9 | > 2 - 2,5 | > 1,7 - 2,1 | > 2,9 - 3,1 | > 2,6 - 2,9 |
| | (barü) | > 10 - 16 | > 6,3 - 8,4 | > 5,4 - 7 | > 5,5 - 6,4 | > 5,6 - 7,5 | > 8,4 - 10 | > 5,9 - 8 | > 5,8 - 7,5 | > 4,9 - 5,6 | > 2,5 - 2,9 | > 2,1 - 2,4 | > 3,1 - 3,3 | > 2,9 - 3,2 |
| | (barü) | > 16 - 18,5 | > 8,4 - 10,2 | > 7 - 9 | > 6,4 - 7,9 | > 7,5 - 10 | > 10 - 11,5 | > 8 - 10 | > 7,5 - 8,9 | > 5,6 - 7 | > 2,9 - 3,5 | > 2,4 - 2,8 | > 3,3 - 3,6 | > 3,2 - 3,6 |
| | (barü) | > 18,5 - 26 | > 10,2 - 13 | > 9 - 11,7 | > 7,9 - 11,5 | > 10 - 12,5 | > 11,5 - 16 | > 10 - 18 | > 8,9 - 10,5 | > 7 - 8 | > 3,5 - 4,2 | > 2,8 - 3,1 | > 3,6 - 3,9 | > 3,6 - 4,1 |
| | (barü) | > 26 - 40 | > 13 - 17 | > 11,7 - 16 | > 11,5 - 18,5 | > 12,5 - 16 | > 16 - 18,5 | > 18 - 24 | > 10,5 - 13 | > 8 - 9,3 | > 4,2 - 5,1 | > 3,1 - 3,4 | > 3,9 - 4,1 | > 4,1 - 4,6 |
| | (barü) | | > 17 - 27,5 | > 16 - 22 | > 18,5 - 25 | > 16 - 22 | > 18,5 - 23 | > 24 - 26 | > 13 - 18 | > 9,3 - 11,5 | > 5,1 - 6,5 | > 3,4 - 3,9 | > 4,1 - 4,3 | > 4,6 - 5,2 |
| | (barü) | | | > 22 - 30 | | | | | > 18 - 23 | > 11,5 - 14 | > 6,5 - 7,5 | > 3,9 - 4,8 | > 4,3 - 4,8 | > 5,2 - 5,8 |
| | (barü) | | | | | | | | | > 14 - 20 | > 7,5 - 9 | > 4,8 - 5,8 | > 4,8 - 5,5 | > 5,8 - 6,5 |
| | (barü) | | | | | | | | | | > 9 - 10,5 | > 5,8 - 6,8 | > 5,5 - 6,5 | > 6,5 - 7,2 |
| | (barü) | | | | | | | | | | > 10,5 - 12,6 | > 6,8 - 8,1 | > 6,5 - 7,9 | > 7,2 - 8,3 |
| | (barü) | | | | | | | | | | > 12,6 - 17 | > 8,1 - 9,7 | > 7,9 - 9,5 | > 8,3 - 9,3 |
| | (barü) | | | | | | | | | | > 17 - 25 | > 9,7 - 11,3 | > 9,5 - 12,3 | > 9,3 - 10 |
| | (barü) | | | | | | | | | | | > 11,3 - 13 | > 12,3 - 15,9 | > 10 - 10,8 |
| | (barü) | | | | | | | | | | | > 13 - 15 | > 15,9 - 20 | > 10,8 - 11,5 |
| | (barü) | | | | | | | | | | | > 15 - 18 | | > 11,5 - 12,2 |
| | (barü) | | | | | | | | | | | | | > 12,2 - 13 |

| DN1 / DN2 | 15 / 25 | 20 / 32 | 25 / 40 | 32 / 50 | 40 / 65 | 50 / 80 | 65 / 100 | 80 / 125 | 100 / 150 | 125 / 200 | 150 / 250 | 200 / 300 | 250 / 350 |
|-----------|---------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|-----------|---------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|-----------|-----------|

| Dimensions | | | | | | | | | | | | | | | |
|--|--------------------|-------|-----|------|-----|------|------|-------|------|------|------|-------|-------|-------|-----|
| d0 | (mm) | 13 | 18 | 22,5 | 29 | 36 | 45 | 58,5 | 72 | 90 | 106 | 125 | 165 | 200 | |
| A0 | (mm ²) | 133 | 254 | 398 | 661 | 1018 | 1590 | 2688 | 4072 | 6362 | 8825 | 12272 | 21382 | 31416 | |
| l | (mm) | 80 | 85 | 100 | 110 | 115 | 120 | 140 | 160 | 180 | 200 | 225 | 300 | 325 | |
| l1 | (mm) | 90 | 95 | 105 | 115 | 140 | 150 | 170 | 195 | 220 | 250 | 285 | 305 | 340 | |
| H | (mm) | 260 | 270 | 280 | 330 | 390 | 435 | 545 | 610 | 690 | 845 | 890 | 1105 | 1175 | |
| H (Bellows design) | (mm) | 290 | 310 | 335 | 390 | 445 | 500 | 620 | 690 | 808 | 919 | 953 | 1215 | 1262 | |
| X | (mm) | 150 | 150 | 150 | 200 | 250 | 300 | 350 | 400 | 500 | 500 | 500 | 500 | 500 | |
| C (Widthsupport tongues) | EN-JL1040 | (mm) | -- | -- | -- | -- | -- | -- | 280 | 332 | 362 | 408 | -- | -- | |
| | EN-JS1049 | (mm) | -- | -- | -- | -- | -- | -- | 280 | 332 | 362 | 408 | 521 | 600 | |
| | 1.0619+N | (mm) | -- | -- | -- | -- | -- | 204 | 242 | 280 | 332 | 362 | 408 | 521 | 600 |
| | 1.4408 | (mm) | -- | -- | -- | -- | -- | 204 | 242 | 280 | 332 | 362 | 408 | 521 | 600 |
| Drainhole with plug | (inch) | G1/4" | | | | | | G3/8" | | | | | | | |
| Standard for EN-JL1040, EN-JS1049 1.0619+N, optional at 1.4408 | | | | | | | | | | | | | | | |

| Weights | | | | | | | | | | | | | | |
|--------------------------|------|-----|-----|------|----|------|----|----|----|----|-----|-----|-----|-----|
| standard | (kg) | 7 | 8,5 | 10 | 14 | 20 | 28 | 40 | 53 | 80 | 125 | 165 | 280 | 430 |
| optional: Bellows design | (kg) | 7,5 | 9,5 | 11,5 | 16 | 22,5 | 32 | 47 | 59 | 93 | 140 | 180 | 310 | 470 |

| Flanges | | | | | | | | | | | | | | | |
|---------|-----------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ØD1 | PN16 | (mm) | 95 | 105 | 115 | 140 | 150 | 165 | 185 | 200 | 220 | 250 | 285 | -- | -- |
| | PN25 | (mm) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 360 | 425 |
| | PN40 | (mm) | 95 | 105 | 115 | 140 | 150 | 165 | 185 | 200 | 235 | 270 | 300 | 375 | 450 |
| ØD2 | PN10 | (mm) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 445 | 505 |
| | PN16 | (mm) | 115 | 140 | 150 | 165 | 185 | 200 | 220 | 250 | 285 | 340 | 405 | 460 | 520 |
| b1 | EN-JL1040 | (mm) | -- | 16 | 16 | 18 | 18 | 20 | 20 | 22 | 24 | 26 | 26 | -- | -- |
| | EN-JS1049 | (mm) | -- | 18 | 18 | 18 | 19 | 20 | 22 | 24 | 24 | 27 | 29 | 37 | 40 |
| | 1.0619+N | (mm) | 16 | 20 | 20 | 20 | 21 | 22 | 24 | 26 | 28 | 31 | 34 | 37 | 40 |
| | 1.4408 | (mm) | 16 | 16 | 16 | 18 | 19 | 20 | 22 | 22 | 23 | 26 | 28 | 37 | 40 |
| b2 | EN-JL1040 | (mm) | -- | 18 | 18 | 20 | 20 | 22 | 24 | 26 | 26 | 30 | 32 | -- | -- |
| | EN-JS1049 | (mm) | -- | 19 | 19 | 20 | 20 | 20 | 20 | 22 | 22 | 31 | 33 | 33 | 35 |
| | 1.0619+N | (mm) | 18 | 19 | 19 | 20 | 20 | 20 | 20 | 22 | 22 | 27 | 29 | 33 | 35 |
| | 1.4408 | (mm) | 18 | 15 | 16 | 17 | 17 | 17 | 17 | 19 | 19 | 24 | 26 | 33 | 35 |

Flanges acc. to DIN EN 1092-1 / -2, Flangeholes/-thickness tolerances acc. to DIN 2533 / 2543 / 2545 / 28605 / 28607, raised face, facing acc. to DIN EN 1092-1 form B1

| Standard-Flangeholes | | | | | | | | | | | | | | | | | |
|----------------------|---------------|------|------|------|------|------|------|------|--------------------|------|------|------|------|-------|-------|-------|-------|
| DN | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 |
| ØK | PN10 DIN 2532 | (mm) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 400 | 460 |
| | | (mm) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 12x22 | 16x22 |
| ØK | PN16 DIN 2533 | (mm) | 65 | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 180 | 210 | 240 | 295 | 355 | 410 | 470 |
| | | (mm) | 4x14 | 4x14 | 4x14 | 4x18 | 4x18 | 4x18 | 4x18 ¹⁾ | 8x18 | 8x18 | 8x18 | 8x22 | 12x22 | 12x26 | 12x26 | 16x26 |
| ØK | PN25 DIN 2533 | (mm) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 310 | 370 | -- | -- |
| | | (mm) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 12x26 | 12x30 | -- | -- |
| ØK | PN40 DIN 2545 | (mm) | 65 | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 190 | 220 | 250 | 320 | 385 | -- | -- |
| | | (mm) | 4x14 | 4x14 | 4x14 | 4x18 | 4x18 | 4x18 | 8x18 | 8x18 | 8x22 | 8x26 | 8x26 | 12x30 | 12x33 | -- | -- |

¹⁾ also with 8 bore holes acc. to DIN EN 1092-1/-2 possible.

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

| acc. to DIN EN 1092-2 | | | -60°C to <-10°C ¹⁾ | -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 | 25 | (bar) | on request | 25 | 24,3 | 23 | 21,8 | 20 | 17,5 | -- | -- |
| EN-JS1049 | 40 | (bar) | on request | 40 | 38,8 | 36,8 | 34,8 | 32 | 28 | -- | -- |

| acc. to manufacturers standard | | | -60°C to <-10°C ¹⁾ | -10°C to 120°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 |

| acc. to DIN EN 1092-1 | | | -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 | -- |

¹⁾ Studs and nuts made of A4-70 (at temperatures below -10°C)

| Certified coefficient of discharge Kdr (Values for D/G variable: DN15-100; 250 < 3,5 bar, DN125-200 < 4,0 bar) | | | | | | | | | | | | | | |
|--|--|---------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| DN1 / DN2 | | 15 / 25 | 20 / 32 | 25 / 40 | 32 / 50 | 40 / 65 | 50 / 80 | 65 / 100 | 80 / 125 | 100 / 150 | 125 / 200 | 150 / 250 | 200 / 300 | 250 / 350 |
| TÜV · SV · ... -663 · D/G | | 0,74 | | | | | | | | | 0,7 | 0,75 | 0,7 | |
| TÜV · SV · ... -663 · F | | 0,52 | 0,54 | | | | 0,48 | | | | 0,45 | 0,56 | 0,52 | |

Capacity saturated steam (incl. 10% overpressure)

| DN1 / DN2 | | 15 / 25 | 20 / 32 | 25 / 40 | 32 / 50 | 40 / 65 | 50 / 80 | 65 / 100 | 80 / 125 | 100 / 150 | 125 / 200 | 150 / 250 | 200 / 300 | 250 / 350 |
|---|------------|------------------------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| Set pressure | | Saturated steam (kg/h) | | | | | | | | | | | | |
| ← max. set pressure stainless steel version | 0,2 (barg) | 42 | 81 | 126 | 210 | 324 | 506 | 855 | 1295 | 2024 | 2510 | 3490 | 6937 | 8931 |
| | 0,4 (barg) | 60 | 120 | 185 | 307 | 473 | 739 | 1250 | 1890 | 2960 | 3630 | 5050 | 9694 | 12615 |
| | 0,5 (barg) | 67 | 132 | 207 | 344 | 529 | 827 | 1400 | 2120 | 3310 | 4070 | 5660 | 10859 | 14204 |
| | 0,6 (barg) | 74 | 147 | 230 | 383 | 590 | 923 | 1560 | 2360 | 3690 | 4470 | 6220 | 11934 | 15698 |
| | 0,8 (barg) | 87 | 174 | 272 | 453 | 698 | 1090 | 1840 | 2790 | 4360 | 5240 | 7280 | 13901 | 18492 |
| | 1 (barg) | 100 | 203 | 317 | 526 | 811 | 1270 | 2140 | 3245 | 5070 | 6030 | 8385 | 15868 | 21306 |
| | 1,5 (barg) | 133 | 272 | 425 | 707 | 1090 | 1700 | 2875 | 4355 | 6800 | 8050 | 11200 | 20739 | 28637 |
| | 2 (barg) | 164 | 305 | 477 | 792 | 1220 | 1900 | 3220 | 4880 | 7625 | 10125 | 14080 | 25647 | 36333 |
| | 2,5 (barg) | 194 | 366 | 572 | 950 | 1460 | 2285 | 3865 | 5855 | 9145 | 11990 | 16660 | 30689 | 43601 |
| | 3 (barg) | 224 | 424 | 662 | 1100 | 1695 | 2645 | 4475 | 6775 | 10600 | 13880 | 19300 | 35874 | 50185 |
| | 4 (barg) | 280 | 535 | 837 | 1390 | 2140 | 3350 | 5650 | 8570 | 13400 | 17550 | 24400 | 45676 | 62689 |
| | 5 (barg) | 335 | 640 | 1000 | 1665 | 2565 | 4000 | 6770 | 10260 | 16000 | 21000 | 29250 | 54723 | 75043 |
| | 6 (barg) | 390 | 745 | 1165 | 1940 | 2990 | 4665 | 7890 | 11950 | 18650 | 24500 | 34050 | 63698 | 87350 |
| | 7 (barg) | 445 | 850 | 1330 | 2210 | 3400 | 5320 | 9000 | 13600 | 21300 | 27900 | 38800 | 72658 | 99638 |
| | 8 (barg) | 500 | 957 | 1495 | 2485 | 3820 | 5980 | 10100 | 15300 | 23900 | 31350 | 43600 | 81599 | 111898 |
| | 9 (barg) | 554 | 1060 | 1660 | 2755 | 4245 | 6630 | 11200 | 16950 | 26500 | 34800 | 48400 | 90525 | 124139 |
| | 10 (barg) | 609 | 1165 | 1820 | 3025 | 4665 | 7290 | 12300 | 18650 | 29150 | 38250 | 53200 | 99452 | 136381 |
| | 11 (barg) | 664 | 1270 | 1985 | 3300 | 5080 | 7940 | 13400 | 20300 | 31750 | 41600 | 58000 | 108370 | 148610 |
| | 12 (barg) | 718 | 1375 | 2150 | 3570 | 5500 | 8590 | 14500 | 22000 | 34350 | 45100 | 62700 | 117282 | 160831 |
| | 13 (barg) | 773 | 1480 | 2310 | 3840 | 5920 | 9250 | 15600 | 23650 | 37000 | 48500 | 67500 | 126197 | 173057 |
| | 14 (barg) | 827 | 1580 | 2475 | 4110 | 6340 | 9900 | 16700 | 25350 | 39600 | 52000 | 72300 | 135113 | 185284 |
| | 15 (barg) | 882 | 1690 | 2640 | 4385 | 6760 | 10550 | 17800 | 27000 | 42200 | 55400 | 77000 | 144035 | 197518 |
| | 16 (barg) | 936 | 1790 | 2800 | 4655 | 7170 | 11200 | 18950 | 28700 | 44800 | 58800 | 81800 | 152960 | 209758 |
| | 17 (barg) | 991 | 1900 | 2965 | 4930 | 7590 | 11850 | 20050 | 30350 | 47400 | 62200 | 86600 | 161889 | 222002 |
| | 18 (barg) | 1046 | 2000 | 3130 | 5200 | 8010 | 12500 | 21150 | 32050 | 50100 | 65700 | 91400 | 170826 | 234257 |
| | 19 (barg) | 1101 | 2100 | 3295 | 5470 | 8430 | 13150 | 22250 | 33700 | 52700 | 69100 | 96200 | 179777 | 246532 |
| | 20 (barg) | 1156 | 2210 | 3460 | 5750 | 8850 | 13800 | 23350 | 35400 | 55300 | 72600 | 101000 | 188724 | 258800 |
| | 21 (barg) | 1210 | 2320 | 3620 | 6020 | 9250 | 14500 | 24500 | 37100 | 57900 | 76000 | 105800 | 197693 | |
| | 22 (barg) | 1265 | 2420 | 3790 | 6290 | 9700 | 15150 | 25600 | 38800 | 60600 | 79500 | 110900 | 206658 | |
| | 24 (barg) | 1375 | 2635 | 4120 | 6840 | 10500 | 16450 | 27850 | 42100 | 65900 | 86500 | 120600 | 224640 | |
| | 25 (barg) | 1431 | 2740 | 4280 | 7120 | 10950 | 17100 | 28950 | 43800 | | 90200 | 125500 | 233648 | |
| | 26 (barg) | 1486 | 2850 | 4450 | 7390 | 11350 | 17800 | 30050 | | | 93700 | 130300 | | |
| 27 (barg) | 1541 | 2950 | 4620 | 7670 | 11820 | 18460 | 31220 | | | 96950 | | | | |
| 28 (barg) | 1597 | 3060 | 4780 | 7950 | 12250 | 19100 | 32300 | | | | | | | |
| 30 (barg) | 1708 | 3270 | 5120 | 8500 | 13100 | 20450 | 34550 | | | | | | | |
| 32 (barg) | 1819 | 3490 | 5450 | 9060 | 13950 | 21800 | 36800 | | | | | | | |
| 34 (barg) | | | | | | | | | | | | | | |
| 40 (barg) | | | | | | | | | | | | | | |

Capacity air (incl. 10% overpressure)

| DN1 / DN2 | | 15 / 25 | 20 / 32 | 25 / 40 | 32 / 50 | 40 / 65 | 50 / 80 | 65 / 100 | 80 / 125 | 100 / 150 | 125 / 200 | 150 / 250 | 200 / 300 | 250 / 350 |
|---|------------|---|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| Set pressure | | Air 0°C and 1,013 bara (Nm ³ /h) | | | | | | | | | | | | |
| max. set pressure stainless steel version | 0,2 (barg) | 49 | 95 | 148 | 246 | 380 | 594 | 1003 | 1520 | 2375 | 2945 | 4100 | 8150 | 10398 |
| | 0,4 (barg) | 72 | 143 | 223 | 370 | 570 | 891 | 1505 | 2280 | 3565 | 4380 | 6090 | 11695 | 15219 |
| | 0,5 (barg) | 82 | 161 | 252 | 419 | 646 | 1009 | 1705 | 2585 | 4035 | 4970 | 6910 | 13256 | 17340 |
| | 0,6 (barg) | 91 | 182 | 284 | 472 | 728 | 1135 | 1920 | 2910 | 4545 | 5520 | 7675 | 14731 | 19376 |
| | 0,8 (barg) | 110 | 218 | 341 | 567 | 873 | 1365 | 2305 | 3490 | 5460 | 6555 | 9115 | 17428 | 23182 |
| | 1 (barg) | 126 | 255 | 398 | 661 | 1019 | 1590 | 2690 | 4075 | 6370 | 7575 | 10530 | 19963 | 26803 |
| | 1,5 (barg) | 168 | 344 | 538 | 894 | 1378 | 2150 | 3640 | 5510 | 8610 | 10195 | 14180 | 26284 | 36294 |
| | 2 (barg) | 209 | 388 | 607 | 1008 | 1550 | 2425 | 4100 | 6210 | 9700 | 12890 | 17920 | 32693 | 46314 |
| | 2,5 (barg) | 248 | 468 | 731 | 1215 | 1870 | 2925 | 4945 | 7490 | 11700 | 15330 | 21300 | 39310 | 55850 |
| | 3 (barg) | 288 | 544 | 850 | 1410 | 2175 | 3400 | 5750 | 8700 | 13600 | 17840 | 24800 | 46140 | 64547 |
| | 4 (barg) | 362 | 692 | 1080 | 1800 | 2770 | 4330 | 7310 | 11080 | 17300 | 22725 | 31600 | 59135 | 81161 |
| | 5 (barg) | 436 | 834 | 1300 | 2160 | 3330 | 5210 | 8800 | 13340 | 20840 | 27350 | 38000 | 71211 | 97653 |
| | 6 (barg) | 510 | 975 | 1520 | 2530 | 3900 | 6090 | 10300 | 15600 | 24370 | 31900 | 44400 | 83238 | 114146 |
| | 7 (barg) | 583 | 1115 | 1745 | 2900 | 4465 | 6970 | 11790 | 17860 | 27900 | 36600 | 50900 | 95264 | 130638 |
| | 8 (barg) | 657 | 1255 | 1965 | 3260 | 5030 | 7860 | 13280 | 20100 | 31430 | 41200 | 57300 | 107291 | 147130 |
| | 9 (barg) | 730 | 1395 | 2185 | 3630 | 5590 | 8740 | 14770 | 22370 | 34960 | 45800 | 63800 | 119318 | 163623 |
| | 10 (barg) | 804 | 1540 | 2400 | 3990 | 6150 | 9610 | 16250 | 24600 | 38500 | 50500 | 70200 | 131344 | 180115 |
| | 11 (barg) | 878 | 1680 | 2625 | 4360 | 6720 | 10500 | 17750 | 26900 | 42000 | 55100 | 76600 | 143371 | 196607 |
| | 12 (barg) | 951 | 1820 | 2845 | 4730 | 7290 | 11380 | 19240 | 29150 | 45500 | 59700 | 83100 | 155398 | 213099 |
| | 13 (barg) | 1025 | 1960 | 3070 | 5090 | 7850 | 12270 | 20730 | 31400 | 49000 | 64400 | 89500 | 167424 | 229592 |
| | 14 (barg) | 1099 | 2100 | 3290 | 5460 | 8400 | 13150 | 22200 | 33650 | 52600 | 69000 | 96000 | 179451 | 246084 |
| | 15 (barg) | 1173 | 2245 | 3500 | 5830 | 8980 | 14030 | 23700 | 35900 | 56100 | 73600 | 102400 | 191477 | 262576 |
| | 16 (barg) | 1246 | 2385 | 3725 | 6190 | 9540 | 14900 | 25200 | 38200 | 59600 | 78200 | 108800 | 203504 | 279069 |
| | 17 (barg) | 1320 | 2530 | 3950 | 6560 | 10100 | 15800 | 26700 | 40400 | 63100 | 82900 | 115300 | 215531 | 295561 |
| | 18 (barg) | 1394 | 2670 | 4170 | 6920 | 10670 | 16650 | 28100 | 42700 | 66700 | 87500 | 121700 | 227557 | 312053 |
| | 19 (barg) | 1467 | 2800 | 4390 | 7300 | 11240 | 17550 | 29600 | 44900 | 70200 | 92100 | 128100 | 239584 | 328546 |
| | 20 (barg) | 1541 | 2950 | 4610 | 7660 | 11800 | 18400 | 31150 | 47200 | 73700 | 96800 | 134600 | 251610 | 345038 |
| | 21 (barg) | 1614 | 3090 | 4830 | 8020 | 12370 | 19300 | 32650 | 49400 | 77300 | 101400 | 141000 | 263637 | |
| 22 (barg) | 1688 | 3230 | 5050 | 8390 | 12930 | 20200 | 34150 | 51700 | 80800 | 106000 | 147500 | 275664 | | |
| 24 (barg) | 1835 | 3515 | 5490 | 9120 | 14060 | 21970 | 37100 | 56200 | 87900 | 115300 | 160400 | 299717 | | |
| 25 (barg) | 1909 | 3655 | 5710 | 9490 | 14620 | 22850 | 38600 | 58500 | | 120000 | 166900 | 311743 | | |
| 26 (barg) | 1983 | 3800 | 5930 | 9850 | 15190 | 23730 | 40100 | | | 124600 | 173300 | | | |
| 27 (barg) | 2057 | 3930 | 6160 | 10240 | 15770 | 24630 | 41650 | | | 129350 | | | | |
| 28 (barg) | 2130 | 4080 | 6370 | 10600 | 16320 | 25500 | 43100 | | | | | | | |
| 30 (barg) | 2277 | 4360 | 6810 | 11320 | 17450 | 27250 | 46100 | | | | | | | |
| 32 (barg) | 2425 | 4640 | 7250 | 12050 | 18570 | 29000 | 49100 | | | | | | | |
| 34 (barg) | 2572 | 4925 | 7700 | 12790 | 19700 | 30800 | 52050 | | | | | | | |
| 40 (barg) | 3014 | 5770 | 9030 | 14477 | 23810 | 36100 | 61000 | | | | | | | |

Capacity water (incl. 10% overpressure)

| DN1 / DN2 | | 15 / 25 | 20 / 32 | 25 / 40 | 32 / 50 | 40 / 65 | 50 / 80 | 65 / 100 | 80 / 125 | 100 / 150 | 125 / 200 | 150 / 250 | 200 / 300 | 250 / 350 |
|---|-----------|------------------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| Set pressure | | Water 20°C (t/h) | | | | | | | | | | | | |
| ← max. set pressure stainless steel version | 0,2 (bar) | 1,63 | 3,28 | 5,13 | 8,53 | 13,1 | 20,5 | 30,8 | 46,7 | 73 | 94,9 | 132 | 286 | 390 |
| | 0,5 (bar) | 2,60 | 5,19 | 8,12 | 13,5 | 20,8 | 32,5 | 48,8 | 73,9 | 115 | 150 | 209 | 452 | 616 |
| | 1 (bar) | 3,68 | 7,35 | 11,5 | 19,1 | 29,4 | 45,9 | 69 | 104 | 163 | 212 | 295 | 639 | 872 |
| | 2 (bar) | 5,20 | 10,4 | 16,2 | 27 | 41,6 | 64,9 | 97,5 | 148 | 231 | 300 | 417 | 903 | 1233 |
| | 3 (bar) | 6,38 | 12,7 | 19,9 | 33 | 50,9 | 79,5 | 119 | 181 | 283 | 368 | 511 | 1106 | 1510 |
| | 4 (bar) | 7,36 | 14,7 | 22,9 | 38,1 | 58,7 | 91,8 | 138 | 209 | 326 | 424 | 590 | 1278 | 1743 |
| | 5 (bar) | 8,24 | 16,4 | 25,7 | 42,6 | 65,5 | 102 | 154 | 233 | 365 | 474 | 660 | 1428 | 1949 |
| | 6 (bar) | 9,02 | 18 | 28,1 | 46,7 | 72 | 112 | 169 | 256 | 400 | 520 | 723 | 1565 | 2135 |
| | 7 (bar) | 9,75 | 19,4 | 30,4 | 50,4 | 77,7 | 121 | 182 | 276 | 432 | 562 | 781 | 1690 | 2306 |
| | 8 (bar) | 10,41 | 20,8 | 32,5 | 53,9 | 83,1 | 130 | 195 | 295 | 461 | 600 | 835 | 1807 | 2465 |
| | 9 (bar) | 11,05 | 22 | 34,4 | 57,2 | 88,1 | 138 | 207 | 313 | 490 | 637 | 885 | 1917 | 2615 |
| | 10 (bar) | 11,64 | 23,2 | 36,3 | 60,3 | 92,9 | 145 | 218 | 330 | 516 | 671 | 933 | 2020 | 2756 |
| | 11 (bar) | 12,21 | 24,4 | 38 | 63,2 | 97,4 | 152 | 229 | 346 | 540 | 703 | 977 | 2119 | 2891 |
| | 12 (bar) | 12,76 | 25,4 | 39,7 | 66 | 102 | 159 | 239 | 362 | 565 | 735 | 1022 | 2213 | 3019 |
| | 13 (bar) | 13,28 | 26,5 | 41,4 | 68,7 | 106 | 165 | 249 | 376 | 587 | 764 | 1062 | 2303 | 3143 |
| | 14 (bar) | 13,78 | 27,5 | 42,9 | 71,3 | 110 | 172 | 258 | 391 | 611 | 794 | 1104 | 2390 | 3261 |
| | 16 (bar) | 14,73 | 29,4 | 45,9 | 76,3 | 117 | 184 | 276 | 418 | 653 | 849 | 1181 | 2555 | 3486 |
| | 18 (bar) | 15,62 | 31,2 | 48,7 | 80,9 | 125 | 195 | 293 | 443 | 692 | 900 | 1252 | 2710 | 3698 |
| | 19 (bar) | 16,05 | 32 | 49,9 | 82,9 | 128 | 200 | 300 | 454 | 710 | 923 | 1284 | 2785 | 3799 |
| | 20 (bar) | 16,47 | 32,8 | 51,3 | 85,3 | 131 | 205 | 308 | 467 | 730 | 949 | 1320 | 2857 | 3898 |
| 21 (bar) | 16,87 | 33,7 | 52,6 | 87,4 | 135 | 210 | 316 | 479 | 748 | 973 | 1350 | 2928 | | |
| 24 (bar) | 18,04 | 36 | 56,2 | 93,4 | 144 | 225 | 338 | 512 | 800 | 1040 | 1443 | 3130 | | |
| 25 (bar) | 18,41 | 36,7 | 57,4 | 95,3 | 147 | 229 | 345 | 522 | | 1059 | 1473 | 3194 | | |
| 26 (bar) | 18,78 | 37,4 | 58,5 | 97,2 | 150 | 234 | 352 | | | 1080 | 1502 | | | |
| 27 (bar) | 19,13 | 38,2 | 59,6 | 99 | 153 | 238 | 358 | | | 1100 | | | | |
| 28 (bar) | 19,49 | 38,9 | 60,7 | 101 | 155 | 243 | 365 | | | | | | | |
| 30 (bar) | 20,17 | 40,2 | 62,9 | 104 | 161 | 251 | 375 | | | | | | | |
| 32 (bar) | 20,83 | 41,5 | 64,8 | 108 | 166 | 259 | 380 | | | | | | | |
| 34 (bar) | 21,47 | 42,8 | 66,9 | 111 | 171 | 268 | 400 | | | | | | | |
| 40 (bar) | 23,29 | 46,4 | 72,5 | 124,8 | 185,4 | 289,7 | 435 | | | | | | | |

ARI-SAFE-SN ANSI (Semi-Nozzle) - Full lift safety valve D/G, Standard safety valve F

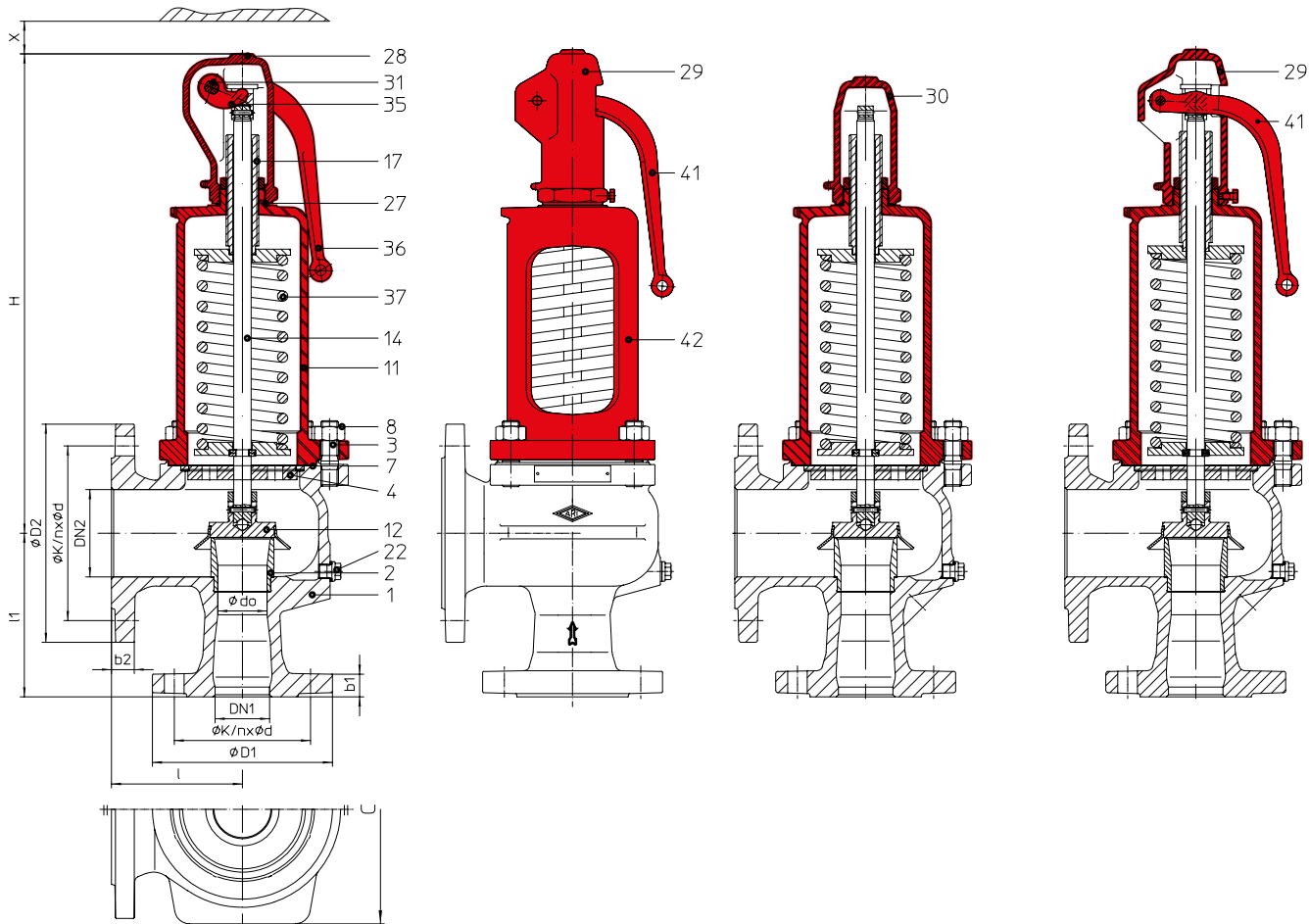


Fig. ... 901
closed lifting device,
closed bonnet

Fig. ... 902
open lifting device,
open bonnet

Fig. ... 911
gastight cap,
closed bonnet

Fig. ... 912
open lifting device,
closed bonnet

| Figure | Nominal pressure | Material | Nominal diameter | Temperature range | Flange |
|--------------------------|------------------|------------|--------------------|-------------------------------|------------|
| 32.901 / 902 / 911 / 912 | ANSI150/150 | SA216 WCB | 1" x 2" - 6" x 10" | -29°C to +425°C ¹⁾ | ASME B16.5 |
| 35.901 / 902 / 911 / 912 | ANSI300/150 | SA216 WCB | 1" x 2" - 6" x 10" | -29°C to +425°C ¹⁾ | ASME B16.5 |
| 52.901 / 911 | ANSI150/150 | SA351 CF8M | 1" x 2" - 6" x 10" | -60°C to +400°C | ASME B16.5 |
| 55.901 / 911 | ANSI300/150 | SA351 CF8M | 1" x 2" - 6" x 10" | -60°C to +400°C | ASME B16.5 |

¹⁾ Temperatures below -8°C on request.

Type-test approval

| | | |
|--|----------------------|---------------------------|
| Full lift safety valve: (acc. to VdTÜV-leaflet 663) | Fig. 901/902/911/912 | TÜV · SV · . . -663 · D/G |
| Standard safety valve: | Fig. 901/911 | TÜV · SV · . . -663 · F |

Construction / Application

Safety valve, spring loaded, direct loaded; steam, gases, vapours and liquids

Requirement

acc. to DIN EN ISO 4126-1 / TRD 421 / AD2000-A2

Sizing

Calculation acc. to EN ISO 4126-1, TRD 421 and AD-leaflet A2

Details required

| | |
|----------------|--|
| Medium: Gas | Mass flow (kg/h), molar mass (kg/kmol), temperature (°C), set pressure (bar), back gauge pressure (bar) |
| Medium: Liquid | Mass flow (kg/h), density (kg/m ³), viscosity, temperature (°C), set pressure (bar), back gauge pressure (bar) |

Order data:

ARI-SAFE-SN ANSI - safety valve, Figure ..., Nominal diameter .../..., ANSI ..., Material ..., Set pressure ... bar

| | | |
|-----------------------------------|--|---|
| | standard: without metal bellows | 1" x 2" - 6" x 10" optional: with metal bellows (refer to page 42) |
| Superimposed back pressure | no backpressure allowed | on request |
| Built up back pressure | max. 10% from set pressure (gauge) (higher on request) | on request |

| Parts | | | | |
|---------------|-------|---|--|---|
| Pos. | Sp.p. | Description | Fig. 32.901/902/911/912; 35.901/902/911/912 | Fig. 52.901/911; 55.901/911 |
| 1 | | Body | SA216 WCB | SA351 CF8M |
| 2 | | Seat | SA479 Gr.316 Ti | SA479 Gr.316 Ti |
| 3 | | Studs | SA193 B7 | SA193 B8 |
| 4 | x | Spindle guide | NPS ≤ 2": SA276 Gr.420; NPS > 2": SA395 / SA276 Gr.440 | NPS ≤ 2": SA479 Gr.316 Ti; NPS > 2": SA351 CF8M |
| 7 | x | Gasket | GRAPHIT (CrNi laminated with graphite) | |
| 8 | | Hexagon nut | SA194 2H | SA194 8 |
| 11 | | Bonnet, closed | SA395 | SA351 CF8M |
| 12 | x | Disc | SA276 Gr.440 | SA479 Gr.316 Ti |
| 14 | x | Spindle | SA276 Gr.420 | SA479 Gr.316 Ti |
| 17 | | Adjusting screw | SA276 Gr.420 | SA479 Gr.316 L |
| 22 | | Plug screw (optional) | SA193-B7 | SA193-B8 |
| 27 | x | Sealing ring | CuFA | SA479 Gr.316 Ti |
| 28 | | Cap, closed | SA395 | SA351 CF8M |
| 29 | | Cap, open | SA395 | -- |
| 30 | | Cap, gastight | SA395 | SA351 CF8M |
| 31 | x | Packing ring | GRAPHIT | |
| 35 | | Lift fork | SA395 | SA351 CF8M |
| 36 | | Lever, closed | SA395 | SA351 CF8M |
| 37 | x | Spring | SA401 Gr.9254, SA29 Gr.6150 | SA313 Gr.316 |
| 41 | | Lever, open | SA395 | -- |
| 42 | | Bonnet, open | SA395 | -- |
| 43 | | Bellows (optional) | EPDM 70 Shore A | |
| 55 | | Stainless steel bellows unit (optional) | SA240 / SA479 Gr.316 Ti | SA240 / SA479 Gr.316 Ti |
| 70 | | Balanced piston | SA240 Gr.316 Ti | SA479 Gr.316 Ti |
| L Spare parts | | | | |

| Coefficient of discharge Kdr | | VdTÜV (Values for D/G variabel: 1" - 4" < 3,5 bar, 6" < 4,0 bar) | | | | | | | |
|------------------------------|-------|--|----------------------------|-----------|-------|-------|-------|-------|--------|
| NPS | | 1"x2" | 1 1/2"x2" 1 1/2"x2 1/2" | 1 1/2"x3" | 2"x3" | 3"x4" | 4"x6" | 6"x8" | 6"x10" |
| TÜV · SV · . . -663 · D/G | (bar) | 0,74 | | | | | | 0,70 | |
| TÜV · SV · . . -663 · F | (bar) | 0,54 | | | | 0,48 | | 0,45 | |

| Pressure-temperature-ratings | | | Intermediate values for max. permissible operational pressures can be determined by linear interpolation of the given temperature / pressure chart. | | | | | | | | | | | |
|------------------------------|---------|-------|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| acc. to ASME 16.34 | | | -29°C to 38°C ¹⁾ | 50°C | 100°C | 150°C | 200°C | 250°C | 300°C | 325°C | 350°C | 375°C | 400°C | 425°C |
| SA216WCB | ANSI150 | (bar) | 19,6 | 19,2 | 17,7 | 15,8 | 13,8 | 12,1 | 10,2 | 9,3 | 8,4 | 7,4 | 6,5 | 5,5 |
| SA216WCB | ANSI300 | (bar) | 51,1 | 50,1 | 46,6 | 45,1 | 43,8 | 41,9 | 39,8 | 38,7 | 37,6 | 36,4 | 34,7 | 38,8 |

¹⁾ Temperatures below -8°C on request.

| acc. to ASME 16.34 | | | -60°C to 38°C | 50°C | 100°C | 150°C | 200°C | 250°C | 300°C | 325°C | 350°C | 375°C | 400°C | 425°C |
|--------------------|---------|-------|---------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| SA351CF8M | ANSI150 | (bar) | 19 | 18,4 | 16,2 | 14,8 | 13,7 | 12,1 | 10,2 | 9,3 | 8,4 | 7,4 | 6,5 | -- |
| SA351CF8M | ANSI300 | (bar) | 49,6 | 48,1 | 42,2 | 38,5 | 35,7 | 33,4 | 31,6 | 30,9 | 30,3 | 29,9 | 29,4 | -- |

Information / restriction of technical rules need to be observed!

A production permission acc. to TRB 801 No. 45 is available.

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

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

Capacity saturated steam (incl. 10% overpressure)

| NPS | | 1"x2" | 1 1/2"x2" | 1 1/2"x2 1/2" | 1 1/2"x3" | 2"x3" | 3"x4" | 4"x6" | 6"x8" | 6"x10" |
|--------------|--------|----------------------|-----------|---------------|-----------|-------|-------|-------|-------|--------|
| Set pressure | | Saturated steam kg/h | | | | | | | | |
| 0,2 | (barg) | 126 | 210 | 210 | 324 | 506 | 855 | 2024 | 2510 | 3490 |
| 0,4 | (barg) | 185 | 307 | 307 | 473 | 739 | 1250 | 2960 | 3630 | 5050 |
| 0,5 | (barg) | 207 | 344 | 344 | 529 | 827 | 1400 | 3310 | 4070 | 5660 |
| 0,6 | (barg) | 230 | 383 | 383 | 590 | 923 | 1560 | 3690 | 4470 | 6220 |
| 0,8 | (barg) | 272 | 453 | 453 | 698 | 1090 | 1840 | 4360 | 5240 | 7280 |
| 1 | (barg) | 317 | 526 | 526 | 811 | 1270 | 2140 | 5070 | 6030 | 8385 |
| 1,5 | (barg) | 425 | 707 | 707 | 1090 | 1700 | 2875 | 6800 | 8050 | 11200 |
| 2 | (barg) | 477 | 792 | 792 | 1220 | 1900 | 3220 | 7625 | 10125 | 14080 |
| 2,5 | (barg) | 572 | 950 | 950 | 1460 | 2285 | 3865 | 9145 | 11990 | 16660 |
| 3 | (barg) | 662 | 1100 | 1100 | 1695 | 2645 | 4475 | 10600 | 13880 | 19300 |
| 4 | (barg) | 837 | 1390 | 1390 | 2140 | 3350 | 5650 | 13400 | 17550 | 24400 |
| 5 | (barg) | 1000 | 1665 | 1665 | 2565 | 4000 | 6770 | 16000 | 21000 | 29250 |
| 6 | (barg) | 1165 | 1940 | 1940 | 2990 | 4665 | 7890 | 18650 | 24500 | 34050 |
| 7 | (barg) | 1330 | 2210 | 2210 | 3400 | 5320 | 9000 | 21300 | 27900 | 38800 |
| 8 | (barg) | 1495 | 2485 | 2485 | 3820 | 5980 | 10100 | 23900 | 31350 | 43600 |
| 9 | (barg) | 1660 | 2755 | 2755 | 4245 | 6630 | 11200 | 26500 | 34800 | 48400 |
| 10 | (barg) | 1820 | 3025 | 3025 | 4665 | 7290 | 12300 | 29150 | 38250 | 53200 |
| 11 | (barg) | 1985 | 3300 | 3300 | 5080 | 7940 | 13400 | 31750 | 41600 | 58000 |
| 12 | (barg) | 2150 | 3570 | 3570 | 5500 | 8590 | 14500 | 34350 | 45100 | 62700 |
| 13 | (barg) | 2310 | 3840 | 3840 | 5920 | 9250 | 15600 | 37000 | 48500 | 67500 |
| 14 | (barg) | 2475 | 4110 | 4110 | 6340 | 9900 | 16700 | 39600 | 52000 | 72300 |
| 15 | (barg) | 2640 | 4385 | 4385 | 6760 | 10550 | 17800 | 42200 | 55400 | 77000 |
| 16 | (barg) | 2800 | 4655 | 4655 | 7170 | 11200 | 18950 | 44800 | 58800 | 81800 |
| 17 | (barg) | 2965 | 4930 | 4930 | 7590 | 11850 | 20050 | 47400 | 62200 | 86600 |
| 18 | (barg) | 3130 | 5200 | 5200 | 8010 | 12500 | 21150 | 50100 | 65700 | 91400 |
| 19 | (barg) | 3295 | 5470 | 5470 | 8430 | 13150 | 22250 | 52700 | 69100 | 96200 |
| 20 | (barg) | 3460 | 5750 | 5750 | 8850 | 13800 | 23350 | 55300 | 72600 | 101000 |
| 21 | (barg) | 3620 | 6020 | 6020 | 9250 | 14500 | 24500 | 57900 | 76000 | 105800 |
| 22 | (barg) | 3790 | 6290 | 6290 | 9700 | 15150 | 25600 | 60600 | 79500 | 110900 |
| 24 | (barg) | 4120 | 6840 | 6840 | 10500 | 16450 | 27850 | 65900 | 86500 | 120600 |
| 25 | (barg) | 4280 | 7120 | 7120 | 10950 | 17100 | 28950 | | 90200 | 125500 |
| 26 | (barg) | 4450 | 7390 | 7390 | 11350 | 17800 | 30050 | | 93700 | 130300 |
| 27 | (barü) | 4620 | 7670 | 7670 | 11820 | 18460 | 31220 | | 96950 | |
| 28 | (barg) | 4780 | 7950 | 7950 | 12250 | 19100 | 32300 | | | |
| 30 | (barg) | 5120 | 8500 | 8500 | 13100 | 20450 | 34550 | | | |
| 32 | (barg) | 5450 | 9060 | 9060 | 13950 | 21800 | 36800 | | | |
| 34 | (barg) | 5800 | 9650 | 9650 | 14850 | 23250 | 39100 | | | |
| 40 | (barg) | | | | | | | | | |

↓ max. set pressure stainless steel version

Capacity air (incl. 10% overpressure)

| NPS | | 1"x2" | 1 1/2"x2" | 1 1/2"x2 1/2" | 1 1/2"x3" | 2"x3" | 3"x4" | 4"x6" | 6"x8" | 6"x10" |
|--------------|--------|---|-----------|---------------|-----------|-------|-------|-------|--------|--------|
| Set pressure | | Air in Nm ³ /h (0°C; 1,013 bara) | | | | | | | | |
| 0,2 | (barg) | 148 | 246 | 246 | 380 | 594 | 1003 | 2375 | 2945 | 4100 |
| 0,4 | (barg) | 223 | 370 | 370 | 570 | 891 | 1505 | 3565 | 4380 | 6090 |
| 0,5 | (barg) | 252 | 419 | 419 | 646 | 1009 | 1705 | 4035 | 4970 | 6910 |
| 0,6 | (barg) | 284 | 472 | 472 | 728 | 1135 | 1920 | 4545 | 5520 | 7675 |
| 0,8 | (barg) | 341 | 567 | 567 | 873 | 1365 | 2305 | 5460 | 6555 | 9115 |
| 1 | (barg) | 398 | 661 | 661 | 1019 | 1590 | 2690 | 6370 | 7575 | 10530 |
| 1,5 | (barg) | 538 | 894 | 894 | 1378 | 2150 | 3640 | 8610 | 10195 | 14180 |
| 2 | (barg) | 607 | 1008 | 1008 | 1550 | 2425 | 4100 | 9700 | 12890 | 17920 |
| 2,5 | (barg) | 731 | 1215 | 1215 | 1870 | 2925 | 4945 | 11700 | 15330 | 21300 |
| 3 | (barg) | 850 | 1410 | 1410 | 2175 | 3400 | 5750 | 13600 | 17840 | 24800 |
| 4 | (barg) | 1080 | 1800 | 1800 | 2770 | 4330 | 7310 | 17300 | 22725 | 31600 |
| 5 | (barg) | 1300 | 2160 | 2160 | 3330 | 5210 | 8800 | 20840 | 27350 | 38000 |
| 6 | (barg) | 1520 | 2530 | 2530 | 3900 | 6090 | 10300 | 24370 | 31900 | 44400 |
| 7 | (barg) | 1745 | 2900 | 2900 | 4465 | 6970 | 11790 | 27900 | 36600 | 50900 |
| 8 | (barg) | 1965 | 3260 | 3260 | 5030 | 7860 | 13280 | 31430 | 41200 | 57300 |
| 9 | (barg) | 2185 | 3630 | 3630 | 5590 | 8740 | 14770 | 34960 | 45800 | 63800 |
| 10 | (barg) | 2400 | 3990 | 3990 | 6150 | 9610 | 16250 | 38500 | 50500 | 70200 |
| 11 | (barg) | 2625 | 4360 | 4360 | 6720 | 10500 | 17750 | 42000 | 55100 | 76600 |
| 12 | (barg) | 2845 | 4730 | 4730 | 7290 | 11380 | 19240 | 45500 | 59700 | 83100 |
| 13 | (barg) | 3070 | 5090 | 5090 | 7850 | 12270 | 20730 | 49000 | 64400 | 89500 |
| 14 | (barg) | 3290 | 5460 | 5460 | 8400 | 13150 | 22200 | 52600 | 69000 | 96000 |
| 15 | (barg) | 3500 | 5830 | 5830 | 8980 | 14030 | 23700 | 56100 | 73600 | 102400 |
| 16 | (barg) | 3725 | 6190 | 6190 | 9540 | 14900 | 25200 | 59600 | 78200 | 108800 |
| 17 | (barg) | 3950 | 6560 | 6560 | 10100 | 15800 | 26700 | 63100 | 82900 | 115300 |
| 18 | (barg) | 4170 | 6920 | 6920 | 10670 | 16650 | 28100 | 66700 | 87500 | 121700 |
| 19 | (barg) | 4390 | 7300 | 7300 | 11240 | 17550 | 29600 | 70200 | 92100 | 128100 |
| 20 | (barg) | 4610 | 7660 | 7660 | 11800 | 18400 | 31150 | 73700 | 96800 | 134600 |
| 21 | (barg) | 4830 | 8020 | 8020 | 12370 | 19300 | 32650 | 77300 | 101400 | 141000 |
| 22 | (barg) | 5050 | 8390 | 8390 | 12930 | 20200 | 34150 | 80800 | 106000 | 147500 |
| 24 | (barg) | 5490 | 9120 | 9120 | 14060 | 21970 | 37100 | 87900 | 115300 | 160400 |
| 25 | (barg) | 5710 | 9490 | 9490 | 14620 | 22850 | 38600 | | 120000 | 166900 |
| 26 | (barg) | 5930 | 9850 | 9850 | 15190 | 23730 | 40100 | | 124600 | 173300 |
| 27 | (barü) | 6160 | 10240 | 10240 | 15770 | 24630 | 41650 | | 129350 | |
| 28 | (barg) | 6370 | 10600 | 10600 | 16320 | 25500 | 43100 | | | |
| 30 | (barg) | 6810 | 11320 | 11320 | 17450 | 27250 | 46100 | | | |
| 32 | (barg) | 7250 | 12050 | 12050 | 18570 | 29000 | 49100 | | | |
| 34 | (barg) | 7700 | 12790 | 12790 | 19700 | 30800 | 52050 | | | |
| 40 | (barg) | 9030 | 14477 | 14477 | 23810 | 36100 | 61000 | | | |

max. set pressure stainless steel version

Capacity water (incl. 10% overpressure)

| NPS | | 1"x2" | 1 1/2"x2" | 1 1/2"x2 1/2" | 1 1/2"x3" | 2"x3" | 3"x4" | 4"x6" | 6"x8" | 6"x10" | |
|---|--------|-------------------------|-----------|---------------|-----------|-------|-------|-------|-------|--------|------|
| Set pressure | | Water m ³ /h | | | | | | | | | |
| max. set pressure stainless steel version | 0,2 | (barg) | 5,13 | 8,53 | 8,53 | 13,1 | 20,5 | 30,8 | 73 | 94,9 | 132 |
| | 0,5 | (barg) | 8,12 | 13,5 | 13,5 | 20,8 | 32,5 | 48,8 | 115 | 150 | 209 |
| | 1 | (barg) | 11,5 | 19,1 | 19,1 | 29,4 | 45,9 | 69 | 163 | 212 | 295 |
| | 2 | (barg) | 16,2 | 27 | 27 | 41,6 | 64,9 | 97,5 | 231 | 300 | 417 |
| | 3 | (barg) | 19,9 | 33 | 33 | 50,9 | 79,5 | 119 | 283 | 368 | 511 |
| | 4 | (barg) | 22,9 | 38,1 | 38,1 | 58,7 | 91,8 | 138 | 326 | 424 | 590 |
| | 5 | (barg) | 25,7 | 42,6 | 42,6 | 65,5 | 102 | 154 | 365 | 474 | 660 |
| | 6 | (barg) | 28,1 | 46,7 | 46,7 | 72 | 112 | 169 | 400 | 520 | 723 |
| | 7 | (barg) | 30,4 | 50,4 | 50,4 | 77,7 | 121 | 182 | 432 | 562 | 781 |
| | 8 | (barg) | 32,5 | 53,9 | 53,9 | 83,1 | 130 | 195 | 461 | 600 | 835 |
| | 9 | (barg) | 34,4 | 57,2 | 57,2 | 88,1 | 138 | 207 | 490 | 637 | 885 |
| | 10 | (barg) | 36,3 | 60,3 | 60,3 | 92,9 | 145 | 218 | 516 | 671 | 933 |
| | 11 | (barg) | 38 | 63,2 | 63,2 | 97,4 | 152 | 229 | 540 | 703 | 977 |
| | 12 | (barg) | 39,7 | 66 | 66 | 102 | 159 | 239 | 565 | 735 | 1022 |
| | 13 | (barg) | 41,4 | 68,7 | 68,7 | 106 | 165 | 249 | 587 | 764 | 1062 |
| | 14 | (barg) | 42,9 | 71,3 | 71,3 | 110 | 172 | 258 | 611 | 794 | 1104 |
| | 16 | (barg) | 45,9 | 76,3 | 76,3 | 117 | 184 | 276 | 653 | 849 | 1181 |
| | 18 | (barg) | 48,7 | 80,9 | 80,9 | 125 | 195 | 293 | 692 | 900 | 1252 |
| | 19 | (barg) | 49,9 | 82,9 | 82,9 | 128 | 200 | 300 | 710 | 923 | 1284 |
| | 20 | (barg) | 51,3 | 85,3 | 85,3 | 131 | 205 | 308 | 730 | 949 | 1320 |
| 21 | (barg) | 52,6 | 87,4 | 87,4 | 135 | 210 | 316 | 748 | 973 | 1350 | |
| 24 | (barg) | 56,2 | 93,4 | 93,4 | 144 | 225 | 338 | 800 | 1040 | 1443 | |
| 25 | (barg) | 57,4 | 95,3 | 95,3 | 147 | 229 | 345 | | 1059 | 1473 | |
| 26 | (barg) | 58,5 | 97,2 | 97,2 | 150 | 234 | 352 | | 1080 | 1502 | |
| 27 | (barg) | 59,6 | 99 | 99 | 153 | 238 | 358 | | 1100 | | |
| 28 | (barg) | 60,7 | 101 | 101 | 155 | 243 | 365 | | | | |
| 30 | (barg) | 62,9 | 104 | 104 | 161 | 251 | 375 | | | | |
| 32 | (barg) | 64,8 | 108 | 108 | 166 | 259 | 390 | | | | |
| 34 | (barg) | 66,9 | 111 | 111 | 171 | 268 | 400 | | | | |
| 40 | (barü) | 72,5 | 124,8 | 124,8 | 185,4 | 289,7 | 435 | | | | |

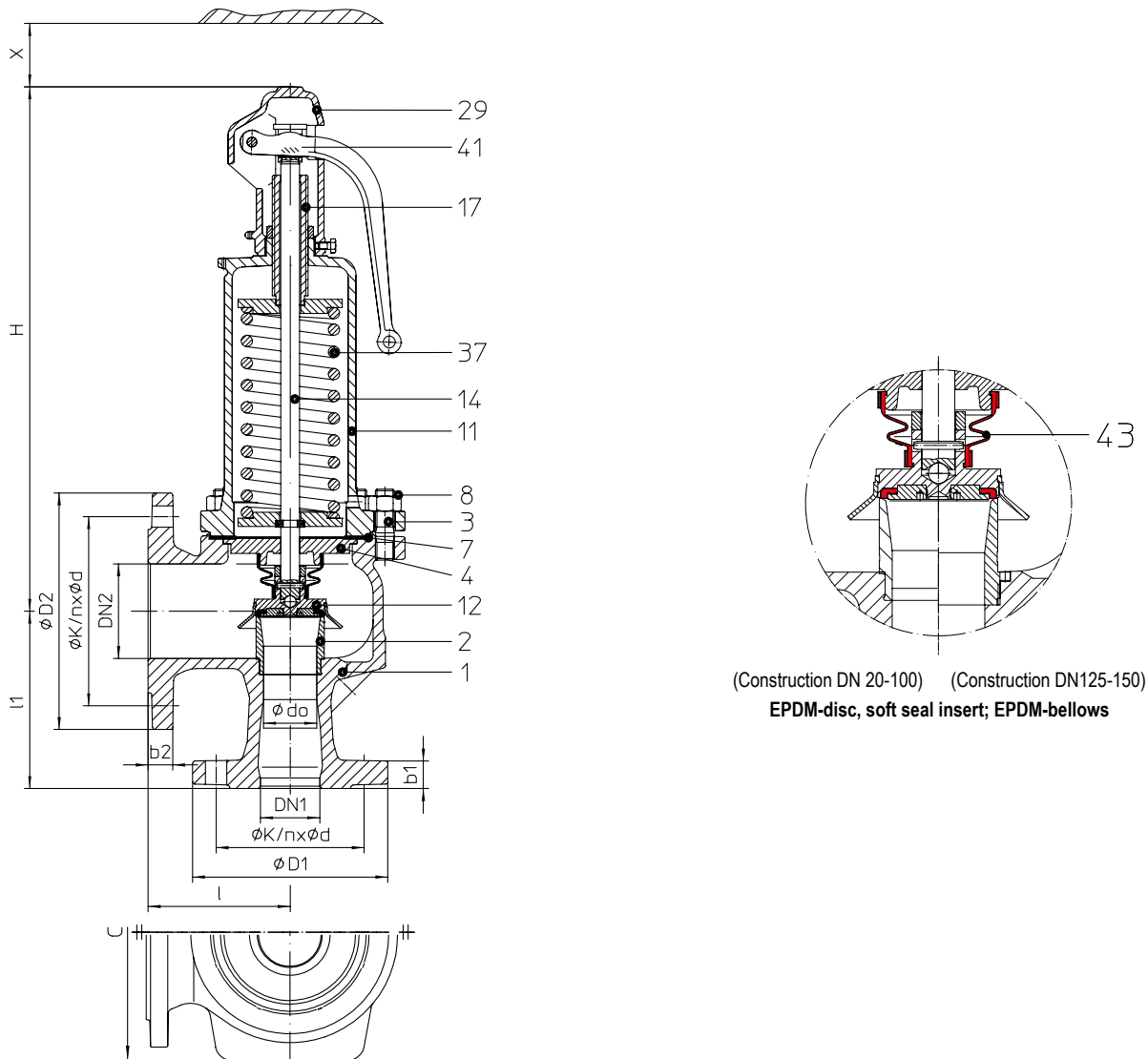
ARI-SAFE - Heating-safety valve


Fig. ... 903
open lifting device,
closed bonnet

| Figure | Nominal pressure | Material | Nominal diameter | Temperature range | Flange | Flangeholes / -thickness tolerances |
|----------------------|------------------|-----------|-------------------|-------------------|---------------|-------------------------------------|
| 12.903 (max. 10 bar) | PN16/16 | EN-JL1040 | DN20/32 - 150/250 | -10°C to +120°C | DIN EN 1092-2 | DIN 2533/2533 |
| 25.903 | PN40/16 | EN-JS1049 | DN20/32 - 150/250 | -10°C to +120°C | DIN EN 1092-2 | DIN 2535/2533 |
| 35.903 | PN40/16 | 1.0619+N | DN20/32 - 150/250 | -10°C to +120°C | DIN EN 1092-1 | DIN 2545/2543 |

Construction

Standard safety valve, spring loaded, direct loaded metal seat with EPDM insert, EPDM-bellows, closed spring bonnet with control hole, open lifting device, stainless steel seat and spindle

Application

Acc. to DIN EN 12828 Heating systems in buildings

Requirement

acc. to DIN EN ISO 4126-1 / TRD 721 Part 6, material selection observe TRD!

- **Fig. 12.903 (EN-JL1040) max. 10 bar**
- **> 10 bar Fig. 25.903 (EN-JS1049) or Fig. 35.903 (1.0619+N)**

Type-test approval

Spring loaded: Fig. 903 TÜV · SV · · · -688 · D/G/H

Sizing

acc. to TRD Part 6.2.5 (see capacity-tables Figure 903)

Order data:

ARI-SAFE-spring loaded, Figure ..., DN .../..., PN ..., Material ..., Set pressure ...barg

| Parts | | | | | |
|-------|-------|--------------------|--|------------------------------|---------------------|
| Pos. | Sp.p. | Description | Fig. 12.903 | Fig. 25.903 | Fig. 35.903 |
| 1 | | Body | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | GP240GH+N, 1.0619+N |
| 2 | | Seat | X20Cr13+QT, 1.4021+QT | X6CrNiMoTi17-12-2, 1.4571 | |
| 3 | | Studs | 25CrMo4, 1.7218 | | |
| 4 | | Spindle guide | X20Cr13+QT, 1.4021+QT | | |
| 7 | x | Gasket | Pure graphite (CrNi laminated with graphite) | | |
| 8 | | Hexagon nut | C35E, 1.1181 | | |
| 11 | | Bonnet, closed | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | |
| 12 | | Disc | X20Cr13+QT, 1.4021+QT / EPDM | | |
| 14 | x | Spindle | X20Cr13+QT, 1.4021+QT | | |
| 17 | | Adjusting screw | X20Cr13+QT, 1.4021+QT | X14CrMoS17+QT, 1.4104+QT | |
| 29 | | Cap, open | EN-GJS-400-15, EN-JS1030 | | |
| 37 | x | Compression spring | FDSiCr / 51CrV4, 1.8159 | | |
| 41 | | Lever, open | EN-GJS-400-15, EN-JS1030 | | |
| 43 | | Bellows | EPDM 70 Shore A | | |
| | | L Spare parts | | | |

| | | | | | | | | | | |
|------------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|
| DN1 / DN 2 | 20 / 32 | 25 / 40 | 32 / 50 | 40 / 65 | 50 / 80 | 65 / 100 | 80 / 125 | 100 / 150 | 125 / 200 | 150 / 250 |
|------------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|

| Spring ranges: Standard design | | | | | | | | |
|--------------------------------|--------|--------------------------|------------------------|------------------------|------------------------|------------------------|--------------------------|------------------------|
| Spring loaded Fig. 903 | (barü) | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | (barü) | > 1 - 1,5 | > 1 - 1,5 | > 1 - 1,5 | > 1 - 1,5 | > 1 - 1,5 | 1 - 1,1 | > 1 - 1,5 |
| | (barü) | > 1,5 - 2,5 | > 1,5 - 2 | > 1,5 - 2 | > 1,5 - 2 | > 1,5 - 2 | > 1,14 - 1,5 | 1,5 - 1,9 |
| | (barü) | > 2,5 - 4,5 | > 2 - 2,7 | > 2 - 2,7 | > 2 - 2,7 | > 2 - 2,5 | > 1,5 - 1,9 | 1,9 - 2,3 |
| | (barü) | > 4,5 - 8,5 | > 2,7 - 3,6 | > 2,7 - 3,6 | > 2,7 - 3,6 | > 2,5 - 3 | > 1,9 - 2,5 | 2,3 - 2,7 |
| | (barü) | > 8,5 - 19 ¹⁾ | > 3,6 - 5 | > 3,6 - 5 | > 3,6 - 5 | > 3 - 3,6 | > 2,5 - 2,95 | 2,7 - 3,3 |
| | (barü) | > 19 - 28 | > 5 - 9 | > 5 - 9 | > 5 - 9 | > 3,6 - 5 | > 2,95 - 4 | 3,3 - 4,1 |
| | (barü) | > 28 - 35 | > 9 - 16 ¹⁾ | > 9 - 16 ¹⁾ | > 9 - 14 ¹⁾ | > 5 - 9 | > 4 - 5,7 | 4,1 - 5,5 |
| | (barü) | > 35 - 40 | > 16 - 22 | > 16 - 22 | > 14 - 19 | > 9 - 14 ¹⁾ | > 5,7 - 8,2 | 5,5 - 7,4 |
| | (barü) | | > 22 - 28 | > 22 - 28 | > 19 - 25 | > 14 - 19 | > 8,2 - 12 ¹⁾ | 7,4 - 11 ¹⁾ |
| (barü) | | > 28 - 34 | | | > 19 - 24 | > 12 - 16 | 11 - 16 | |

¹⁾ Fig. 12.903 max. 10 bar; > 10 bar 25.903 or 35.903

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.

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

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

| DN1 / DN 2 | 20 / 32 | 25 / 40 | 32 / 50 | 40 / 65 | 50 / 80 | 65 / 100 | 80 / 125 | 100 / 150 | 125 / 200 | 150 / 250 |
|------------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|
|------------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|

| Dimensions | | | | | | | | | | | |
|---------------------------------|--------------------|-------|------|-----|------|------|-------|------|------|------|-------|
| d0 | (mm) | 18 | 22,5 | 29 | 36 | 45 | 58,5 | 72 | 90 | 106 | 125 |
| A0 | (mm ²) | 254 | 398 | 661 | 1018 | 1590 | 2688 | 4072 | 6362 | 8825 | 12272 |
| l | (mm) | 85 | 100 | 110 | 115 | 120 | 140 | 160 | 180 | 200 | 225 |
| l1 | (mm) | 95 | 105 | 115 | 140 | 150 | 170 | 195 | 220 | 250 | 285 |
| H | (mm) | 270 | 280 | 330 | 390 | 435 | 545 | 610 | 690 | 845 | 890 |
| X | (mm) | 150 | 150 | 200 | 250 | 300 | 350 | 400 | 500 | 500 | 500 |
| C (Width support tongues) | EN-JL1040 | (mm) | -- | -- | -- | -- | -- | 280 | 332 | 362 | 408 |
| | EN-JS1049 | (mm) | -- | -- | -- | -- | -- | 280 | 332 | 362 | 408 |
| | 1.0619+N | (mm) | -- | -- | -- | 204 | 242 | 280 | 332 | 362 | 408 |
| Drainhole with plug (optional) | (inch) | G1/4" | | | | | G3/8" | | | | |

| Weights | | | | | | | | | | | |
|----------|------|-----|-----|------|----|----|----|----|----|-----|-----|
| standard | (kg) | 8,5 | 9,5 | 13,5 | 20 | 26 | 39 | 53 | 82 | 125 | 165 |

| Flanges | | | | | | | | | | | | |
|---------|-----------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ØD1 | PN16 | (mm) | 105 | 115 | 140 | 150 | 165 | 185 | 200 | 220 | 250 | 285 |
| | PN40 | (mm) | | | | | | | | 235 | 270 | 300 |
| ØD2 | PN16 | (mm) | 140 | 150 | 165 | 185 | 200 | 220 | 250 | 285 | 340 | 405 |
| b1 | EN-JL1040 | (mm) | 16 | 16 | 18 | 18 | 20 | 20 | 22 | 24 | 26 | 26 |
| | EN-JS1049 | (mm) | 18 | 18 | 18 | 19 | 20 | 22 | 24 | 24 | 27 | 29 |
| | 1.0619+N | (mm) | 20 | 20 | 20 | 21 | 22 | 24 | 26 | 28 | 31 | 34 |
| b2 | EN-JL1040 | (mm) | 18 | 18 | 20 | 20 | 22 | 24 | 26 | 26 | 30 | 32 |
| | EN-JS1049 | (mm) | 19 | 19 | 20 | 20 | 20 | 20 | 22 | 22 | 31 | 33 |
| | 1.0619+N | (mm) | 19 | 19 | 20 | 20 | 20 | 20 | 22 | 22 | 27 | 29 |

Flanges acc. to DIN EN 1092-1 / -2, Flangeholes/-thickness tolerances acc. to DIN 2533 / 2543 / 2545 / 28605 / 28607, raised face, facing acc. to DIN EN 1092-1 form B1

| Standard-Flangeholes | | | | | | | | | | | | | | |
|----------------------|---------------|--------|------|------|------|------|------|------|--------------------|------|------|------|------|-------|
| DN | | | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
| ØK | PN16 DIN 2533 | (mm) | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 180 | 210 | 240 | 295 | 355 |
| | | n x Ød | (mm) | 4x14 | 4x14 | 4x18 | 4x18 | 4x18 | 4x18 ¹⁾ | 8x18 | 8x18 | 8x18 | 8x22 | 12x22 |
| ØK | PN40 DIN 2545 | (mm) | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 190 | 220 | 250 | -- | -- |
| | | n x Ød | (mm) | 4x14 | 4x14 | 4x18 | 4x18 | 4x18 | 8x18 | 8x18 | 8x22 | 8x26 | 8x26 | -- |

¹⁾ also with 8 bore holes acc. to DIN EN 1092-1/-2 possible.

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

| acc. to DIN EN 1092-2 | | | -60°C to <-10°C ¹⁾ | -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 | 40 | (bar) | on request | 40 | 38,8 | 36,8 | 34,8 | 32 | 28 | -- | -- |

| acc. to manufacturers standard | | | -60°C to <-10°C ¹⁾ | -10°C to 120°C | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C |
|--------------------------------|----|-------|-------------------------------|----------------|-------|-------|-------|-------|-------|-------|-------|
| 1.0619+N | 40 | (bar) | 30 | 40 | 38,1 | 35 | 32 | 28 | 25,7 | 23,8 | 13,1 |

¹⁾ Studs and nuts made of A4-70 (at temperatures below -10°C)

Capacity water (incl. 10% overpressure)

Sizing safety valves for the volume flow of water expansion (DIN 4751 T2 - item 8.1 / DIN EN 12828 - item E.3)

| Set pressure | | | DN1 (inlet) / DN2 (outlet) | | |
|--------------|--------|-------------------|----------------------------|---------|-------|
| | | | 20 / 32 | 25 / 40 | |
| 1 | (barg) | Water 20°C (kg/h) | (kg/h) | 7300 | 11500 |
| 2 | (barg) | | (kg/h) | 10400 | 16000 |
| 3 | (barg) | | (kg/h) | 12700 | 20000 |
| 4 | (barg) | | (kg/h) | 14700 | 23000 |
| 5 | (barg) | | (kg/h) | 16400 | 25500 |
| 6 | (barg) | | (kg/h) | 18000 | 28000 |
| 7 | (barg) | | (kg/h) | 19400 | 30500 |
| 8 | (barg) | | (kg/h) | 21000 | 32500 |
| 9 | (barg) | | (kg/h) | 22000 | 34500 |
| 10 | (barg) | | (kg/h) | 23000 | 36500 |
| 11 | (barg) | | (kg/h) | 24500 | 38000 |
| 12 | (barg) | | (kg/h) | 25500 | 40000 |
| 13 | (barg) | | (kg/h) | 26500 | 41500 |
| 14 | (barg) | | (kg/h) | 27500 | 42500 |
| 15 | (barg) | | (kg/h) | 28000 | 44000 |
| 16 | (barg) | | (kg/h) | 29500 | 46000 |

Sizing: 1 l/h $\hat{=}$ 1 kW

Capacity saturated steam incl. 10% overpressure

Calculated acc. to TRD 721 Part 6 and AD2000-A2

| Set pressure | | DN1 (inlet) / DN2 (outlet) | | | | | | | | | | |
|--------------|------|----------------------------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|-------|
| | | 20 / 32 | 25 / 40 | 32 / 50 | 40 / 65 | 50 / 80 | 65 / 100 | 80 / 125 | 100 / 150 | 125 / 200 | 150 / 250 | |
| 1 | barg | (kg/h) | 203 | 317 | 526 | 811 | 1270 | 2140 | 3245 | 5070 | 6030 | 8385 |
| | | (kW) | 124 | 193 | 321 | 495 | 774 | 1310 | 1980 | 3095 | 3680 | 5120 |
| 1,5 | barg | (kg/h) | 272 | 425 | 707 | 1090 | 1700 | 2875 | 4355 | 6800 | 8050 | 11200 |
| | | (kW) | 164 | 257 | 427 | 658 | 1030 | 1740 | 2630 | 4110 | 4870 | 6770 |
| 2 | barg | (kg/h) | 305 | 477 | 792 | 1220 | 1900 | 3220 | 4880 | 7625 | 10125 | 14080 |
| | | (kW) | 183 | 285 | 474 | 731 | 1140 | 1930 | 2920 | 4570 | 6060 | 8430 |
| 2,5 | barg | (kg/h) | 366 | 572 | 950 | 1460 | 2285 | 3865 | 5855 | 9145 | 11990 | 16660 |
| | | (kW) | 217 | 340 | 565 | 870 | 1360 | 2300 | 3480 | 5440 | 7120 | 9900 |
| 3 | barg | (kg/h) | 424 | 662 | 1100 | 1695 | 2645 | 4475 | 6775 | 10600 | 13880 | 19300 |
| | | (kW) | 250 | 391 | 649 | 1000 | 1560 | 2640 | 4000 | 6250 | 8190 | 11400 |
| 3,5 | barg | (kg/h) | 482 | 754 | 1250 | 1930 | 3015 | 5100 | 7720 | 12050 | 15600 | 21700 |
| | | (kW) | 283 | 442 | 735 | 1130 | 1770 | 2990 | 4530 | 7070 | 9150 | 12700 |
| 4 | barg | (kg/h) | 535 | 837 | 1390 | 2140 | 3350 | 5650 | 8570 | 13400 | 17550 | 24400 |
| | | (kW) | 312 | 488 | 810 | 1250 | 1950 | 3300 | 5000 | 7800 | 10200 | 14200 |
| 4,5 | barg | (kg/h) | 588 | 920 | 1530 | 2355 | 3680 | 6215 | 9410 | 14710 | 19300 | 26850 |
| | | (kW) | 341 | 533 | 885 | 1360 | 2130 | 3600 | 5460 | 8520 | 11100 | 15600 |
| 5 | barg | (kg/h) | 640 | 1000 | 1665 | 2565 | 4000 | 6770 | 10260 | 16000 | 21000 | 29250 |
| | | (kW) | 370 | 578 | 960 | 1480 | 2310 | 3900 | 5910 | 9240 | 12100 | 16900 |
| 5,5 | barg | (kg/h) | 694 | 1085 | 1800 | 2775 | 4340 | 7330 | 11100 | 17350 | 22770 | 31660 |
| | | (kW) | 398 | 622 | 1030 | 1590 | 2490 | 4200 | 6370 | 9950 | 13000 | 18200 |
| 6 | barg | (kg/h) | 745 | 1165 | 1940 | 2990 | 4665 | 7890 | 11950 | 18650 | 24500 | 34050 |
| | | (kW) | 426 | 666 | 1100 | 1700 | 2660 | 4500 | 6820 | 10600 | 14000 | 19400 |
| 6,5 | barg | (kg/h) | 800 | 1250 | 2075 | 3200 | 4995 | 8440 | 12790 | 20000 | 26220 | 36450 |
| | | (kW) | 454 | 709 | 1180 | 1810 | 2840 | 4790 | 7260 | 11300 | 14900 | 20700 |
| 7 | barg | (kg/h) | 850 | 1330 | 2210 | 3400 | 5320 | 9000 | 13600 | 21300 | 27900 | 38800 |
| | | (kW) | 481 | 752 | 1250 | 1930 | 3000 | 5080 | 7700 | 12000 | 15800 | 22000 |
| 7,5 | barg | (kg/h) | 904 | 1415 | 2345 | 3615 | 5650 | 9550 | 14470 | 22600 | 29660 | 41250 |
| | | (kW) | 509 | 795 | 1320 | 2030 | 3180 | 5370 | 8140 | 12700 | 16700 | 23200 |
| 8 | barg | (kg/h) | 957 | 1495 | 2485 | 3820 | 5980 | 10100 | 15300 | 23900 | 31350 | 43600 |
| | | (kW) | 536 | 837 | 1390 | 2140 | 3350 | 5660 | 8580 | 13400 | 17600 | 24500 |
| 9 | barg | (kg/h) | 1060 | 1660 | 2755 | 4245 | 6630 | 11200 | 16950 | 26500 | 34800 | 48400 |
| | | (kW) | 590 | 921 | 1530 | 2360 | 3685 | 6230 | 9435 | 14740 | 19340 | 26900 |
| 10 | barg | (kg/h) | 1165 | 1820 | 3025 | 4665 | 7290 | 12300 | 18650 | 29150 | 38250 | 53200 |
| | | (kW) | 643 | 1000 | 1670 | 2570 | 4010 | 6790 | 10300 | 16000 | 21100 | 29300 |
| 11 | barg | (kg/h) | 1270 | 1985 | 3300 | 5080 | 7940 | 13400 | 20300 | 31750 | 41600 | 58000 |
| | | (kW) | 695 | 1085 | 1800 | 2780 | 4340 | 7340 | 11100 | 17400 | 22800 | 31700 |
| 12 | barg | (kg/h) | 1375 | 2150 | 3570 | 5500 | 8590 | 14500 | 22000 | 34350 | 45100 | 62700 |
| | | (kW) | 745 | 1165 | 1940 | 2990 | 4670 | 7890 | 12000 | 18700 | 24500 | 34000 |
| 13 | barg | (kg/h) | 1480 | 2310 | 3840 | 5920 | 9250 | 15600 | 23650 | 37000 | 48500 | 67500 |
| | | (kW) | 798 | 1250 | 2070 | 3190 | 4990 | 8430 | 12800 | 20000 | 26200 | 36400 |
| 14 | barg | (kg/h) | 1580 | 2475 | 4110 | 6340 | 9900 | 16700 | 25350 | 39600 | 52000 | 72300 |
| | | (kW) | 850 | 1325 | 2200 | 3390 | 5300 | 8970 | 13600 | 21200 | 27900 | 38700 |
| 15 | barg | (kg/h) | 1690 | 2640 | 4385 | 6760 | 10550 | 17800 | 27000 | 42200 | 55400 | 77000 |
| | | (kW) | 900 | 1405 | 2330 | 3590 | 5620 | 9500 | 14400 | 22500 | 29500 | 41000 |
| 16 | barg | (kg/h) | 1790 | 2800 | 4655 | 7170 | 11200 | 18950 | 28700 | 44800 | 58800 | 81800 |
| | | (kW) | 950 | 1480 | 2460 | 3790 | 5930 | 10000 | 15200 | 23700 | 31100 | 43300 |

 Saturated steam (kg/h)
Heating capacity (kW)

| Certified coefficient of discharge Kdr (Values for D/G/H variable: DN20-100 < 3,5 bar / DN125-150 < 4 bar) | | | | | | | | | | | | |
|--|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|--|--|
| DN1 / DN2 | 20 / 32 | 25 / 40 | 32 / 50 | 40 / 65 | 50 / 80 | 65 / 100 | 80 / 125 | 100 / 150 | 125 / 200 | 150 / 250 | | |
| TÜV · SV · . . . - 688 · D/G/H | (bar) | 0,74 | | | | | | | 0,70 | | | |

ARI-SAFE - Low pressure steam - safety valve

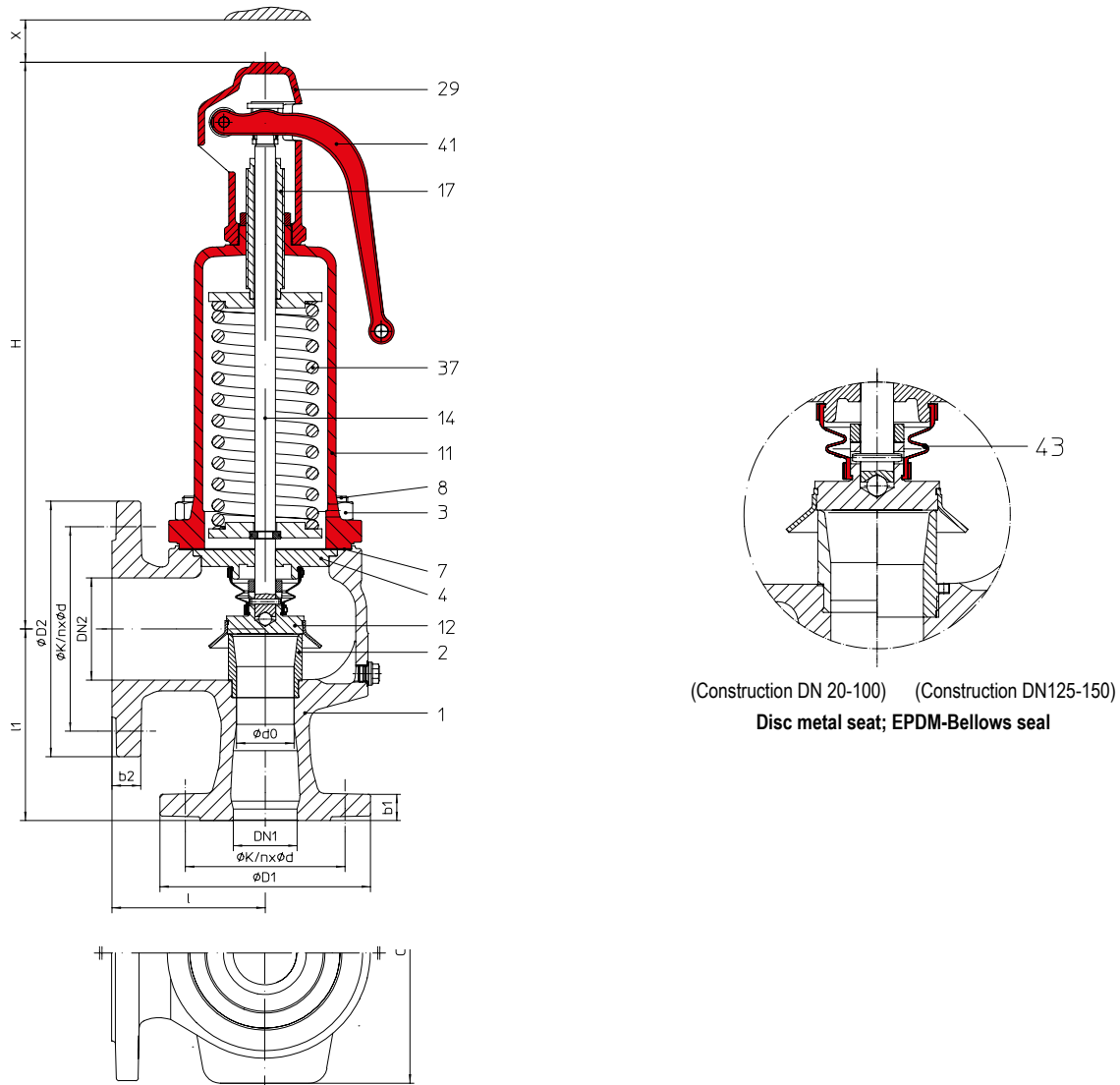


Fig.904
open lifting device,
closed bonnet

| Figure | Nominal pressure | Material | Nominal diameter | Temperature range | Flange | Flangeholes / -thickness tolerances |
|---|------------------|-----------|-------------------------|-------------------|---------------|--|
| 12.904 | PN16/16 | EN-JL1040 | DN20/32 - 150/250 | -10°C to +120°C | DIN EN 1092-2 | DIN 2533/2533 |
| Construction | | | | | | |
| Standard safety valve, spring loaded, direct loaded, EPDM-bellows, closed bonnet with control hole, open lifting device, stainless steel seat and spindle | | | | | | |
| Application | | | | | | |
| For low pressure steamgenerators up to 1 bar, acc. to DIN 4750 and DIN EN 12828 Heating systems in buildings | | | | | | |
| Requirement | | | | | | |
| acc. to TRD 721 Part 5 | | | | | | |
| Type-test approval | | | | | | |
| Low pressure steam - safety valve: | | Fig. 904 | TÜV · SV · . . -688 · D | | | |
| Sizing | | | | | | |
| refer to "Capacity". | | | | | | |
| Order data: | | | | | | |
| ARI-SAFE-Low pressure steam - safety valve, Figure ..., DN .../..., PN ..., Material ..., Set pressure ...barg | | | | | | |

| Parts | | | |
|---------------|-------|-----------------|--|
| Pos. | Sp.p. | Description | Fig. 12.904 |
| 1 | | Body | EN-GJL-250 , EN-JL1040 |
| 2 | | Seat | X6CrNiMoTi17-12-2, 1.4571 |
| 3 | | Studs | 25CrMo4, 1.7218 |
| 4 | | Spindle guide | X20Cr13+QT, 1.4021+QT |
| 7 | x | Gasket | Pure graphite (CrNi laminated with graphite) |
| 8 | | Hexagon nut | C35E, 1.1181 |
| 11 | | Bonnet, closed | EN-GJL-250 , EN-JL1040 |
| 12 | | Disc | X39CrMo17-1+QT, 1.4122+QT |
| 14 | x | Spindle | X20Cr13+QT, 1.4021+QT |
| 17 | | Adjusting screw | X20Cr13+QT, 1.4021+QT |
| 29 | | Cap, open | EN-GJL-250 , EN-JL1040 |
| 37 | x | Spring | FDSiCr |
| 41 | | Lever, open | EN-GJS-400-18U-LT, EN-JS1049 |
| 43 | | Bellows | EPDM 70 Shore A |
| L Spare parts | | | |

| DN1 / DN2 | 20 / 32 | 25 / 40 | 32 / 50 | 40 / 65 | 50 / 80 | 65 / 100 | 80 / 125 | 100 / 150 | 125 / 200 | 150 / 250 |
|-----------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|
|-----------|---------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|

| Dimensions | | | | | | | | | | | | |
|---------------------------|--------------------|--------|------|-----|------|------|------|--------|------|------|-------|--|
| d0 | (mm) | 18 | 22,5 | 29 | 36 | 45 | 58,5 | 72 | 90 | 106 | 125 | |
| A0 | (mm ²) | 254 | 398 | 661 | 1018 | 1590 | 2688 | 4072 | 6362 | 8825 | 12272 | |
| l | (mm) | 85 | 100 | 110 | 115 | 120 | 140 | 160 | 180 | 200 | 225 | |
| l1 | (mm) | 95 | 105 | 115 | 140 | 150 | 170 | 195 | 220 | 250 | 285 | |
| H | (mm) | 270 | 280 | 330 | 390 | 435 | 545 | 610 | 690 | 845 | 890 | |
| X | (mm) | 150 | 150 | 200 | 250 | 300 | 350 | 400 | 500 | 500 | 500 | |
| C (Width support tongues) | (mm) | -- | -- | -- | -- | -- | -- | 280 | 332 | 362 | 408 | |
| Drainhole with plug | (inch) | G 1/4" | | | | | | G 3/8" | | | | |

| Weights | | | | | | | | | | | |
|----------|------|-----|-----|------|----|----|----|----|----|-----|-----|
| standard | (kg) | 8,5 | 9,5 | 13,5 | 20 | 26 | 39 | 53 | 82 | 125 | 165 |

| Flanges | | | | | | | | | | | | |
|---------|-----------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ØD1 | PN16 | (mm) | 105 | 115 | 140 | 150 | 165 | 185 | 200 | 220 | 250 | 285 |
| ØD2 | PN16 | (mm) | 140 | 150 | 165 | 185 | 200 | 220 | 250 | 285 | 340 | 405 |
| b1 | EN-JL1040 | (mm) | 16 | 16 | 18 | 18 | 20 | 20 | 22 | 24 | 26 | 26 |
| b2 | EN-JL1040 | (mm) | 18 | 18 | 20 | 20 | 22 | 24 | 26 | 26 | 30 | 32 |

Flanges acc. to DIN EN 1092-1 / -2, Flangeholes/-thickness tolerances acc. to DIN 2533, raised face, facing acc. to DIN EN 1092-1 form B1

| Standard-Flangeholes | | | | | | | | | | | | | | |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| DN | | | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
| ØK | PN16 | (mm) | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 180 | 210 | 240 | 295 | 355 |
| n x Ød | | (mm) | 4x14 | 4x14 | 4x18 | 4x18 | 4x18 | 4x18 | 8x18 | 8x18 | 8x18 | 8x22 | 12x22 | 12x26 |

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

| acc. to DIN EN 1092-2 | | -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 | -- | -- |

Capacity Saturated steam (incl. 10% overpressure)

| Set pressure | | DN1 (inlet) / DN2 (outlet) | | | | | | | | | | | |
|--------------|------|----------------------------|---------|---------|---------|---------|----------|----------|-----------|-----------|-----------|------|------|
| | | 20 / 32 | 25 / 40 | 32 / 50 | 40 / 65 | 50 / 80 | 65 / 100 | 80 / 125 | 100 / 150 | 125 / 200 | 150 / 250 | | |
| 0,2 | barg | Saturated steam (kg/h) | (kg/h) | 72 | 113 | 187 | 289 | 451 | 763 | 1155 | 1805 | 2241 | 3116 |
| 0,3 | barg | | (kg/h) | 92 | 144 | 239 | 368 | 575 | 972 | 1472 | 2300 | 2867 | 3986 |
| 0,4 | barg | | (kg/h) | 110 | 172 | 286 | 440 | 688 | 1163 | 1762 | 2753 | 3380 | 4700 |
| 0,5 | barg | | (kg/h) | 125 | 196 | 325 | 501 | 783 | 1325 | 2006 | 3135 | 3858 | 5365 |
| 0,6 | barg | | (kg/h) | 142 | 223 | 370 | 569 | 889 | 1503 | 2277 | 3557 | 4317 | 6004 |
| 0,7 | barg | | (kg/h) | 158 | 248 | 412 | 634 | 990 | 1675 | 2537 | 3964 | 4748 | 6603 |
| 0,8 | barg | | (kg/h) | 173 | 271 | 450 | 693 | 1082 | 1830 | 2772 | 4331 | 5201 | 7233 |
| 0,9 | barg | | (kg/h) | 179 | 292 | 485 | 746 | 1166 | 1971 | 2986 | 4666 | 5616 | 7809 |
| 1 | barg | | (kg/h) | 203 | 317 | 526 | 811 | 1270 | 2140 | 3245 | 5070 | 6030 | 8385 |

Conversionrates: 1 kW = 860 kcal/h* = 0,86 Mcal/h* = 3,6 MJ/h * not lawful units
 1 Mcal/h* = 1000 kcal/h* = 1,163 kW

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.

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

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

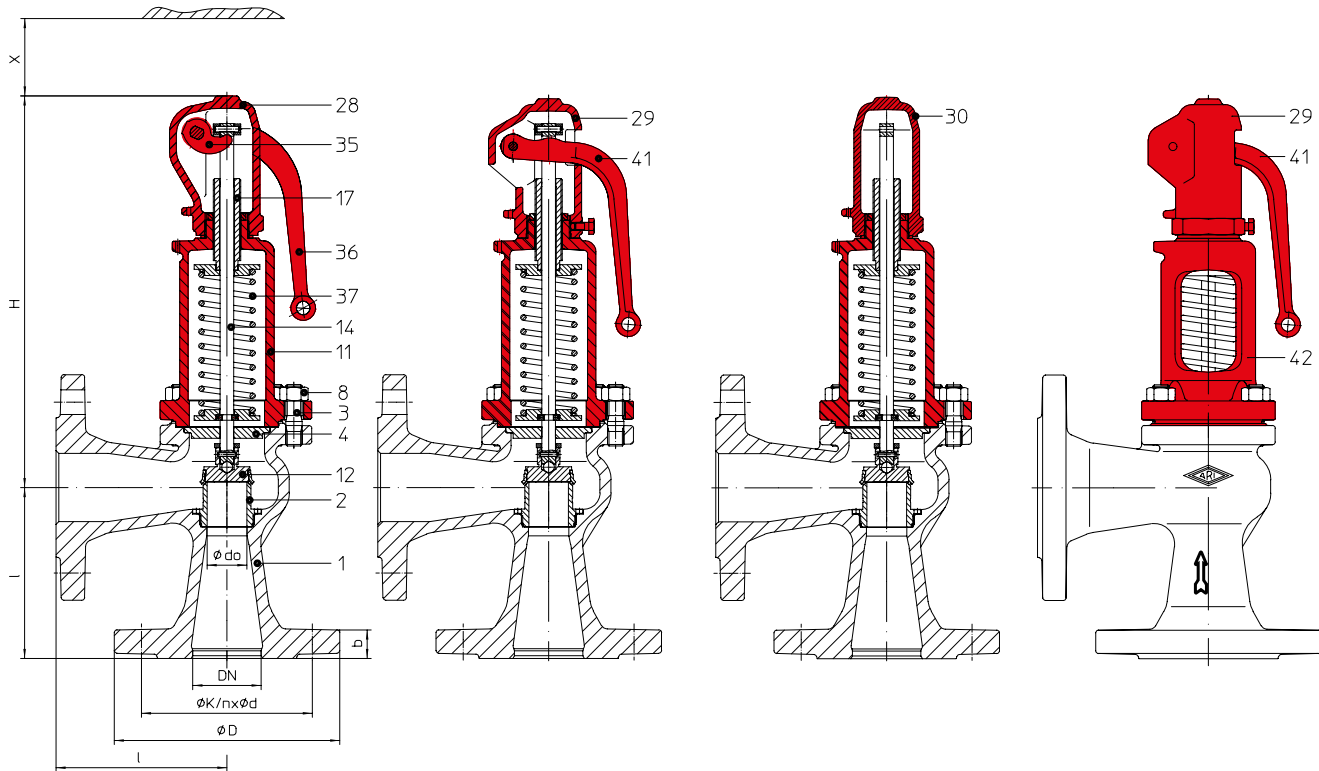
ARI-SAFE-P - Standard safety valve D/G/F


Fig.921
closed lifting device,
closed bonnet

Fig.922
open lifting device,
closed bonnet

Fig.923
gastight cap,
closed bonnet

Fig.924
open lifting device,
open bonnet

| Figure | Nominal pressure | Material | Nominal diameter | Temperature range | Flange | Flangeholes / -thickness tolerances |
|--------------------------|------------------|-----------|------------------|-------------------|---------------|-------------------------------------|
| 12.921 / 922 / 923 / 924 | PN16 | EN-JL1040 | DN15 - 100 | -10°C to +300°C | DIN EN 1092-2 | DIN 2533 |
| 22.921 / 922 / 923 / 924 | PN16 | EN-JS1049 | DN125 - 150 | -10°C to +350°C | DIN EN 1092-2 | DIN 2533 |
| 35.921 / 922 / 923 / 924 | PN40 | 1.0619+N | DN15 - 100 | -10°C to +450°C | DIN EN 1092-1 | DIN 2545 |
| 55.921 / 923 | PN40 | 1.4408 | DN15 - 100 | -60°C to +400°C | DIN EN 1092-1 | DIN 2545 |

Construction

Safety valve, spring loaded, direct loaded

Requirement

Acc. to EN ISO 4126-1, VdTÜV-leaflet 100, AD2000-A2, TRD 421, observe TRB 801 No. 45 at material selection!

Type-test approval

Standard safety valve: Fig. 921/923 TÜV · SV ... -811 · D/G

Standard safety valve: Fig. 921/923 TÜV · SV ... -811 · F

Sizing

for steam, air and water refer to capacity tables, calculations acc. to EN ISO 4126-1 and AD2000-A2.

Details required

Medium gasform: Mass flow (kg/h), molar mass (kg/kmol), Isotropic exponent, temperature (°C), set pressure (barg), back pressure (barg)

 Medium liquid: Mass flow (kg/h), density (kg/m³), viscosity, temperature (°C), set pressure (barg), back pressure (barg)

Order data:

ARI-SAFE-P - Safety valve, Figure, DN ..., PN .., Material, Set pressure barg

| | standard: without metal bellows | optional: with metal bellows (refer to page 42) |
|-----------------------------------|--|---|
| Superimposed back pressure | no backpressure allowed | on request |
| Built up back pressure | max. 10% from set pressure (higher on request) | on request |

| Parts | | | | | | | |
|---------------|-------|----------------------------|--|------------------------------|-------------------------|--------------------------|---------------------------|
| Pos. | Sp.p. | Description | Fig. 12.921/922/923/924 | Fig. 22.921/922/923/924 | Fig. 35.921/922/923/924 | Fig. 55.921/923 | |
| 1 | | Body | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | GP240GH+N, 1.0619+N | GX5CrNiMo19-11-2, 1.4408 | |
| 2 | | Seat | X6CrNiMoTi17-12-2, 1.4571 | | | | |
| 3 | | Studs | 25CrMo4, 1.7218 | | | | A4 - 70 |
| 4 | | Spindle guide | X20Cr13+QT, 1.4021+QT | | | | X6CrNiMoTi17-12-2, 1.4571 |
| 7 | x | Gasket | Pure graphite (CrNi laminated with graphite) | | | | |
| 8 | | Hexagon nut | C35E, 1.1181 | | | | A4 |
| 11 | | Bonnet, closed | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | | GX5CrNiMo19-11-2, 1.4408 | |
| 12 | | Disc | X39CrMo17-1+QT, 1.4122+QT | | | | X6CrNiMoTi17-12-2, 1.4571 |
| 14 | x | Spindle | X20Cr13+QT, 1.4021+QT | | | | X6CrNiMoTi17-12-2, 1.4571 |
| 17 | | Adjusting screw | X20Cr13+QT, 1.4021+QT | | | | X2CrNiMo17-12-2, 1.4404 |
| 27 | x | Sealing ring | CuFA | | | | X6CrNiMoTi17-12-2, 1.4571 |
| 28 | | Cap, closed | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | | GX5CrNiMo19-11-2, 1.4408 | |
| 29 | | Cap, open | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | | -- | |
| 30 | | Cap, gastight | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | | GX5CrNiMo19-11-2, 1.4408 | |
| 31 | x | Packingsrings | Pure graphite | | | | |
| 35 | | Lift fork | EN-GJS-400-15, EN-JS1030 | | | | GX5CrNiMo19-11-2, 1.4408 |
| 36 | | Lever, closed | EN-GJS-400-18U-LT, EN-JS1049 | | | | GX5CrNiMo19-11-2, 1.4408 |
| 37 | x | Spring | FDSiCr / 51CrV4, 1.8159 | | | | X10CrNi18-8, 1.4310 |
| 41 | | Lever, open | EN-GJS-400-18U-LT, EN-JS1049 | | | | -- |
| 42 | | Bonnet, open | EN-GJL-250 , EN-JL1040 | EN-GJS-400-18U-LT, EN-JS1049 | | -- | |
| 43 | | Bellows (optional) | EPDM 70 Shore A | | | | |
| 55 | | Bellows unit (optional) | X6CrNiMoTi17-12-2, 1.4571 | | | | |
| 70 | | Balanced piston (optional) | X6CrNiMoTi17-12-2, 1.4571 | | | | |
| L Spare parts | | | | | | | |

| DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|
|----|----|----|----|----|----|----|----|----|-----|-----|-----|

| Spring ranges: Standard design | | | | | | | | | | | | |
|---|--------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|-------------|---------------|-------------|-------------|
| Standard safety valve Fig. 921/922/923/924 | (barg) | 0,3 - 0,5 | 0,3 - 0,5 | 0,2 - 0,6 | 0,2 - 0,55 | 0,2 - 0,4 | 0,2 - 0,4 | 0,2 - 0,5 | 0,2 - 0,6 | 0,2 - 0,5 | 0,2 - 0,6 | 0,2 - 0,4 |
| | (barg) | > 0,5 - 1 | > 0,5 - 1 | > 0,6 - 1,1 | > 0,55 - 0,8 | > 0,4 - 0,6 | > 0,4 - 0,6 | > 0,5 - 1,2 | > 0,6 - 1,2 | > 0,5 - 1,1 | > 0,6 - 1,1 | > 0,4 - 0,6 |
| | (barg) | > 1 - 1,4 | > 1 - 1,4 | > 1,1 - 2 | > 0,8 - 1,2 | > 0,6 - 1,1 | > 0,6 - 1,2 | > 1,2 - 2 | > 1,2 - 2,1 | > 1,1 - 1,7 | > 1,1 - 2 | > 0,6 - 1 |
| | (barg) | > 1,4 - 1,9 | > 1,4 - 1,9 | > 2 - 2,7 | > 1,2 - 2 | > 1,1 - 1,8 | > 1,2 - 1,8 | > 2 - 2,7 | > 2,1 - 2,6 | > 1,7 - 2,4 | > 2 - 2,6 | > 1 - 1,9 |
| | (barg) | > 1,9 - 2,5 | > 1,9 - 2,5 | > 2,7 - 3,7 | > 2 - 3,3 | > 1,8 - 2,7 | > 1,8 - 2,5 | > 2,7 - 3,4 | > 2,6 - 3,2 | > 2,4 - 3,1 | > 2,6 - 3,7 | > 1,9 - 2,5 |
| | (barg) | > 2,5 - 3,5 | > 2,5 - 3,5 | > 3,7 - 5 | > 3,3 - 5,2 | > 2,7 - 4,3 | > 2,5 - 3,2 | > 3,4 - 4,5 | > 3,2 - 4,2 | > 3,1 - 4 | > 3,7 - 4,3 | > 2,5 - 3,5 |
| | (barg) | > 3,5 - 5 | > 3,5 - 4 | > 5 - 8 | > 5,2 - 8 | > 4,3 - 6 | > 3,2 - 4,5 | > 4,5 - 5,5 | > 4,2 - 5,5 | > 4 - 5 | > 4,3 - 7 | > 3,5 - 4,3 |
| | (barg) | > 5 - 7 | > 4 - 5,5 | > 8 - 10,5 | > 8 - 11,5 | > 6 - 9 | > 4,5 - 8,5 | > 5,5 - 6,8 | > 5,5 - 6,5 | > 5 - 8 | > 7 - 9 | > 4,3 - 5,5 |
| | (barg) | > 7 - 10 | > 5,5 - 7 | > 10,5 - 15 | > 11,5 - 16,5 | > 9 - 12 | > 8,5 - 13 | > 6,8 - 8,5 | > 6,5 - 9 | > 8 - 11 | > 9 - 15 | > 5,5 - 6,5 |
| | (barg) | > 10 - 16 | > 7 - 10,5 | > 15 - 23 | > 16,5 - 22 | > 12 - 17 | > 13 - 17 | > 8,5 - 14 | > 9 - 12 | > 11 - 17,5 | > 15 - 22 | > 6,5 - 11 |
| | (barg) | > 16 - 25 | > 10,5 - 17 | > 23 - 35 | > 22 - 30 | > 17 - 30 | > 17 - 23 | > 14 - 23 | > 12 - 16,5 | > 17,5 - 27,5 | > 22 - 28 | > 11 - 16 |
| | (barg) | > 25 - 33 | > 17 - 25 | > 35,1 - 40 | > 30 - 40 | > 30 - 40 | > 23 - 34 | > 23 - 34 | > 16,5 - 20 | > 27,5 - 40 | > 28 - 33 | > 16 - 25 |
| | (barg) | > 33 - 40 | > 25 - 37 | | | | > 34 - 40 | > 34 - 40 | > 20 - 33 | | > 33 - 40 | |
| | (barg) | | > 37 - 40 | | | | | | > 33 - 40 | | | |

| Spring ranges: Bellows design (optional) | | | | | | | | | | | | |
|--|--------|-----------|-------------|-------------|-------------|-------------|---------------|-------------|---------------|-------------|-------------|-------------|
| Standard safety valve Fig. 921/923 | (barg) | 4 - 5 | 3 - 5,5 | 3 - 4,8 | 3 - 4,5 | 3 - 4,5 | 3 - 3,5 | 3 - 3,5 | 3 - 3,5 | 3 - 4,5 | 5 - 7 | 5 - 5,3 |
| | (barg) | > 5 - 6 | > 5,5 - 8 | > 4,8 - 6 | > 4,5 - 8 | > 4,5 - 5,7 | > 3,5 - 5 | > 3,5 - 4,3 | > 3,5 - 4,9 | > 4,5 - 6,5 | > 7 - 8 | > 5,3 - 7 |
| | (barg) | > 6 - 9 | > 8 - 12 | > 6 - 8 | > 8 - 11 | > 5,7 - 10 | > 5 - 7 | > 4,3 - 5,9 | > 5,9 - 7 | > 6,5 - 10 | > 8 - 9 | > 7 - 9 |
| | (barg) | > 9 - 14 | > 12 - 21 | > 8 - 12,5 | > 11 - 14,5 | > 10 - 16 | > 7 - 10,5 | > 6,9 - 7,5 | > 7 - 9 | > 10 - 18 | > 9 - 12,5 | > 9 - 12,5 |
| | (barg) | > 14 - 26 | > 21 - 27,5 | > 12,5 - 16 | > 14,5 - 21 | > 16 - 22 | > 10,5 - 15,5 | > 7,5 - 8,8 | > 9 - 11 | > 18 - 35 | > 12,5 - 18 | > 12,5 - 16 |
| | (barg) | > 26 - 30 | > 27,5 - 40 | > 16 - 20,5 | > 21 - 40 | > 22 - 31 | > 15,5 - 20 | > 8,8 - 14 | > 11 - 14,7 | | > 18 - 23 | > 16 - 18,5 |
| | (barg) | > 30 - 40 | | > 20,5 - 30 | | > 31 - 40 | > 20 - 40 | > 14 - 21 | > 14,7 - 18,8 | | > 23 - 29 | > 18,5 - 25 |
| | (barg) | | | > 30 - 40 | | | | > 21 - 30 | > 18,8 - 35 | | > 29 - 34 | |
| | (barg) | | | | | | | > 30 - 40 | | | > 34 - 40 | |

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 permission acc. to TRB 801 No. 45 is available (acc. to TRB 801 No. 45 EN-JL1040 is not allowed.)

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

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

| DN 1 / DN 2 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|-------------|----|----|----|----|----|----|----|----|-----|-----|-----|
|-------------|----|----|----|----|----|----|----|----|-----|-----|-----|

| Dimensions | | | | | | | | | | | | |
|---------------------------------|--------------------|------|-----|-----|-----|-----|-----|------|------|------|------|------|
| d0 | (mm) | 12 | 12 | 15 | 18 | 20 | 29 | 36 | 44 | 55 | 71 | 86 |
| A0 | (mm ²) | 113 | 113 | 177 | 254 | 314 | 661 | 1018 | 1520 | 2376 | 3959 | 5808 |
| l | (mm) | 90 | 95 | 100 | 105 | 115 | 125 | 145 | 155 | 175 | 200 | 225 |
| H | (mm) | 260 | 260 | 270 | 285 | 290 | 290 | 340 | 400 | 450 | 563 | 631 |
| H (Bellows design) | (mm) | 285 | 285 | 300 | 325 | 330 | 345 | 400 | 455 | 515 | 631 | 703 |
| X | (mm) | 130 | 130 | 130 | 150 | 150 | 150 | 200 | 250 | 300 | 350 | 400 |
| Y (Width support tongues) | EN-JL1040 | (mm) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| | EN-JS1049 | (mm) | -- | -- | -- | -- | -- | -- | -- | -- | 254 | 298 |
| | 1.0619+N | (mm) | -- | -- | -- | -- | -- | -- | -- | -- | 254 | 298 |
| | 1.4408 | (mm) | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| Weights | | | | | | | | | | | | |
|--------------------------|------|-----|-----|-----|---|------|------|------|------|----|----|----|
| standard | (kg) | 5 | 5 | 5,5 | 8 | 9,5 | 11,5 | 15,5 | 20,5 | 33 | 57 | 66 |
| optional: Bellows design | (kg) | 5,4 | 5,4 | 6 | 9 | 10,5 | 12,8 | 17,5 | 23 | 37 | 64 | 72 |

| Flanges | | | | | | | | | | | | | |
|---------|-----------|------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| ØD | PN16 | (mm) | 95 | 105 | 115 | 140 | 150 | 165 | 185 | 200 | 220 | 250 | 285 |
| | PN40 | (mm) | 95 | 105 | 115 | 140 | 150 | 165 | 185 | 200 | 235 | 270 | 300 |
| b | EN-JL1040 | (mm) | 14 | 16 | 16 | 18 | 18 | 20 | 20 | 22 | 24 | -- | -- |
| | EN-JS1049 | (mm) | -- | -- | -- | -- | -- | -- | -- | -- | -- | 26 | 26 |
| | 1.0619+N | (mm) | 16 | 18 | 18 | 18 | 18 | 20 | 20 | 22 | 24 | 26 | 28 |
| | 1.4408 | (mm) | 16 | 18 | 18 | 18 | 18 | 20 | 20 | 22 | 24 | -- | -- |

Flanges acc. to DIN EN 1092-1 / -2, Flangeholes/-thickness tolerances acc. to DIN 2533 / 2545, raised face, facing acc. to DIN EN 1092-1 form B1

| Standard-Flangeholes | | | | | | | | | | | | | |
|----------------------|------|------|------|------|------|------|------|------|--------------------|------|------|------|------|
| DN | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
| ØK | PN16 | (mm) | 65 | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 180 | 210 | 240 |
| n x Ød | | (mm) | 4x14 | 4x14 | 4x14 | 4x18 | 4x18 | 4x18 | 4x18 ¹⁾ | 8x18 | 8x18 | 8x18 | 8x22 |
| ØK | PN40 | (mm) | 65 | 75 | 85 | 100 | 110 | 125 | 145 | 160 | 190 | 220 | 250 |
| n x Ød | | (mm) | 4x14 | 4x14 | 4x14 | 4x18 | 4x18 | 4x18 | 8x18 | 8x18 | 8x22 | 8x26 | 8x26 |

¹⁾ also with 8 bore holes acc. to DIN EN 1092-1/-2 possible.

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

| acc. to DIN EN 1092-2 | | | -60°C to <-10°C ¹⁾ | -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 | -- | -- |

| acc. to manufacturers standard | | | -60°C to <-10°C ¹⁾ | -10°C to 120°C | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C |
|--------------------------------|----|-------|-------------------------------|----------------|-------|-------|-------|-------|-------|-------|-------|
| 1.0619+N | 40 | (bar) | 30 | 40 | 38,1 | 35 | 32 | 28 | 25,7 | 23,8 | 13,1 |

| acc. to DIN EN 1092-1 | | | -60°C to <-10°C ¹⁾ | -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 | -- |

¹⁾ Studs and nuts made of A4-70 (at temperatures below -10°C)

| Certified coefficient of discharge Kdr (Values for D/G variable: < 3 bar) | | | | | | | | | | | | | |
|---|--|--|------|----|------|----|------|------|------|----|------|------|------|
| DN | | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
| TÜV · SV · ... · 811 · D/G | | | 0,37 | | 0,34 | | 0,37 | 0,34 | 0,37 | | 0,34 | 0,44 | 0,46 |
| TÜV · SV · ... · 811 · F | | | 0,26 | | 0,23 | | 0,26 | 0,23 | 0,26 | | 0,23 | 0,28 | 0,32 |

Capacity saturated steam (incl. 10% overpressure)

| DN | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|---|------------|------------------------|------|------|------|------|------|------|-------|-------|-------|-------|
| Set pressure | | Saturated steam (kg/h) | | | | | | | | | | |
| ← max. set pressure stainless steel version | 0,2 (barg) | -- | -- | 22 | 33 | 44 | 85 | 142 | 195 | 305 | 710 | 1292 |
| | 0,3 (barg) | 20 | 20 | 28 | 41 | 56 | 107 | 82 | 247 | 386 | 868 | 1333 |
| | 0,4 (barg) | 23 | 23 | 34 | 48 | 65 | 126 | 209 | 290 | 450 | 1002 | 1581 |
| | 0,5 (barg) | 27 | 27 | 39 | 55 | 74 | 144 | 239 | 332 | 520 | 1129 | 1765 |
| | 0,6 (barg) | 30 | 30 | 43 | 62 | 82 | 162 | 267 | 372 | 580 | 1259 | 1959 |
| | 0,8 (barg) | 36 | 36 | 51 | 73 | 100 | 189 | 323 | 435 | 680 | 1467 | 2289 |
| | 1 (barg) | 41 | 41 | 59 | 84 | 114 | 218 | 370 | 500 | 785 | 1677 | 2613 |
| | 2 (barg) | 68 | 68 | 99 | 139 | 188 | 362 | 610 | 830 | 1300 | 2789 | 4291 |
| | 3 (barg) | 95 | 95 | 137 | 197 | 265 | 510 | 860 | 1180 | 1840 | 3846 | 5908 |
| | 4 (barg) | 119 | 119 | 171 | 246 | 330 | 640 | 1070 | 1470 | 2300 | 4908 | 7532 |
| | 5 (barg) | 142 | 142 | 205 | 295 | 396 | 765 | 1280 | 1760 | 2750 | 5943 | 9115 |
| | 6 (barg) | 166 | 166 | 239 | 343 | 460 | 890 | 1495 | 2050 | 3200 | 6917 | 10611 |
| | 7 (barg) | 189 | 189 | 272 | 391 | 525 | 1015 | 1700 | 2340 | 3650 | 7891 | 12103 |
| | 8 (barg) | 213 | 213 | 306 | 440 | 590 | 1140 | 1910 | 2630 | 4100 | 8861 | 13593 |
| | 9 (barg) | 236 | 236 | 339 | 490 | 655 | 1265 | 2120 | 2910 | 4550 | 9831 | 15080 |
| | 10 (barg) | 259 | 259 | 370 | 535 | 720 | 1390 | 2330 | 3200 | 5000 | 10800 | 16567 |
| | 12 (barg) | 306 | 306 | 440 | 630 | 850 | 1640 | 2750 | 3780 | 5900 | 12737 | 19537 |
| | 14 (barg) | 352 | 352 | 505 | 730 | 980 | 1890 | 3170 | 4350 | 6800 | 14673 | 22507 |
| | 16 (barg) | 400 | 400 | 570 | 825 | 1105 | 2140 | 3590 | 4920 | 7700 | 16612 | 25480 |
| | 18 (barg) | 445 | 445 | 640 | 920 | 1235 | 2390 | 4000 | 5500 | 8600 | 18552 | 28456 |
| 20 (barg) | 490 | 490 | 705 | 1020 | 1365 | 2640 | 4430 | 6080 | 9500 | 20496 | 31438 | |
| 22 (barg) | 540 | 540 | 775 | 1110 | 1495 | 2890 | 4850 | 6660 | 10400 | 22444 | 34425 | |
| 24 (barg) | 585 | 585 | 840 | 1210 | 1630 | 3140 | 5270 | 7240 | 11300 | 24396 | 37421 | |
| 25 (barg) | 609 | 609 | 875 | 1260 | 1690 | 3270 | 5480 | 7530 | 11760 | 25375 | 38921 | |
| 26 (barg) | 630 | 630 | 910 | 1310 | 1760 | 3400 | 5700 | 7820 | 12200 | 26354 | | |
| 28 (barg) | 680 | 680 | 975 | 1405 | 1890 | 3650 | 6120 | 8400 | 13100 | 28317 | | |
| 30 (barg) | 730 | 730 | 1040 | 1505 | 2020 | 3900 | 6550 | 8990 | 14000 | 30286 | | |
| 32 (barg) | 775 | 775 | 1110 | 1600 | 2150 | 4160 | 6980 | 9580 | 15000 | 32260 | | |

Capacity air (incl. 10% overpressure)

| DN | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|---|------------|---|------|------|------|------|-------|-------|-------|-------|-------|-------|
| Set pressure | | Air 0°C and 1,013 bara (Nm ³ /h) | | | | | | | | | | |
| ← max. set pressure stainless steel version | 0,2 (barg) | -- | -- | 27 | 27 | 51 | 100 | 167 | 229 | 358 | 835 | 1225 |
| | 0,3 (barg) | 24 | 24 | 34 | 49 | 67 | 128 | 217 | 294 | 460 | 1035 | 1588 |
| | 0,4 (barg) | 28 | 28 | 41 | 41 | 78 | 152 | 252 | 349 | 546 | 1209 | 1908 |
| | 0,5 (barg) | 32 | 32 | 47 | 47 | 90 | 176 | 292 | 405 | 632 | 1379 | 2156 |
| | 0,6 (barg) | 37 | 37 | 53 | 53 | 102 | 199 | 330 | 459 | 717 | 1555 | 2418 |
| | 0,8 (barg) | 45 | 45 | 63 | 63 | 125 | 237 | 404 | 545 | 852 | 1839 | 2871 |
| | 1 (barg) | 52 | 52 | 73 | 73 | 144 | 274 | 466 | 631 | 986 | 2110 | 3288 |
| | 2 (barg) | 86 | 86 | 123 | 123 | 240 | 461 | 777 | 1061 | 1657 | 3556 | 5471 |
| | 3 (barg) | 123 | 123 | 176 | 176 | 340 | 658 | 1103 | 1514 | 2365 | 4947 | 7601 |
| | 4 (barg) | 154 | 154 | 221 | 221 | 428 | 826 | 1385 | 1902 | 2970 | 6355 | 9754 |
| | 5 (barg) | 185 | 185 | 266 | 266 | 515 | 995 | 1665 | 2290 | 3580 | 7735 | 11865 |
| | 6 (barg) | 217 | 217 | 311 | 311 | 602 | 1165 | 1950 | 2680 | 4180 | 9041 | 13868 |
| | 7 (barg) | 248 | 248 | 356 | 356 | 689 | 1330 | 2230 | 3065 | 4790 | 10348 | 15872 |
| | 8 (barg) | 279 | 279 | 401 | 401 | 776 | 1500 | 2515 | 3450 | 5390 | 11654 | 17876 |
| | 9 (barg) | 311 | 311 | 446 | 446 | 863 | 1670 | 2800 | 3840 | 6000 | 12961 | 19880 |
| | 10 (barg) | 342 | 342 | 491 | 491 | 950 | 1835 | 3080 | 4225 | 6600 | 14267 | 21884 |
| | 12 (barg) | 405 | 405 | 581 | 581 | 1125 | 2170 | 3645 | 5000 | 7800 | 16880 | 25892 |
| | 14 (barg) | 468 | 468 | 671 | 671 | 1300 | 2510 | 4200 | 5780 | 9000 | 19493 | 29899 |
| | 16 (barg) | 530 | 530 | 761 | 761 | 1475 | 2845 | 4770 | 6550 | 10200 | 22106 | 33907 |
| | 18 (barg) | 593 | 593 | 851 | 851 | 1645 | 3180 | 5340 | 7320 | 11450 | 24718 | 37915 |
| 20 (barg) | 656 | 656 | 941 | 941 | 1820 | 3520 | 5900 | 8100 | 12650 | 27331 | 41922 | |
| 22 (barg) | 718 | 718 | 1031 | 1031 | 1995 | 3855 | 6465 | 8870 | 13850 | 29944 | 45930 | |
| 24 (barg) | 781 | 781 | 1121 | 1121 | 2170 | 4190 | 7030 | 9650 | 15100 | 32557 | 49938 | |
| 25 (barg) | 812 | 812 | 1167 | 1167 | 2250 | 4360 | 7310 | 10040 | 15680 | 33863 | 51942 | |
| 26 (barg) | 844 | 844 | 1211 | 1211 | 2340 | 4530 | 7595 | 10400 | 16300 | 35170 | | |
| 28 (barg) | 907 | 907 | 1302 | 1302 | 2520 | 4860 | 8160 | 11200 | 17500 | 37782 | | |
| 30 (barg) | 969 | 969 | 1390 | 1390 | 2690 | 5200 | 8720 | 12000 | 18700 | 40395 | | |
| 32 (barg) | 1032 | 1032 | 1480 | 1480 | 2870 | 5540 | 9290 | 12750 | 19900 | 43008 | | |
| 35 (barg) | 1126 | 1126 | 1620 | 1620 | 3130 | 6040 | 10130 | 13900 | 21700 | 46927 | | |
| 36 (barg) | 1155 | 1155 | 1665 | 1665 | 3215 | 6220 | 10420 | 14300 | 22360 | 48234 | | |
| 40 (barg) | 1283 | 1283 | 1840 | 1840 | 3560 | 6880 | 11500 | 15850 | 24700 | 53459 | | |

Capacity water (incl. 10% overpressure)

| DN | | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
|---|-----------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Set pressure | | Water 20°C (t/h) | | | | | | | | | | |
| ← max. set pressure stainless steel version | 0,2 (bar) | -- | -- | 0,97 | 1,4 | 1,95 | 3,63 | 6,33 | 8,36 | 13,06 | 26,4 | 44,3 |
| | 0,3 (bar) | 0,84 | 0,84 | 1,16 | 1,67 | 2,33 | 4,30 | 7,46 | 9,80 | 15,22 | 32,3 | 54,3 |
| | 0,5 (bar) | 1,11 | 1,11 | 1,54 | 2,21 | 3,09 | 5,74 | 10,0 | 13,22 | 20,6 | 41,8 | 70,1 |
| | 1 (bar) | 1,57 | 1,57 | 2,17 | 3,13 | 4,37 | 8,12 | 14,15 | 18,69 | 29,2 | 59,1 | 99,1 |
| | 2 (bar) | 2,22 | 2,22 | 3,07 | 4,42 | 6,17 | 11,48 | 20,0 | 26,4 | 41,3 | 83,6 | 140,2 |
| | 3 (bar) | 2,72 | 2,72 | 3,76 | 5,42 | 7,56 | 14,07 | 24,5 | 32,4 | 50,6 | 102,4 | 171,7 |
| | 4 (bar) | 3,14 | 3,14 | 4,35 | 6,26 | 8,73 | 16,24 | 28,3 | 37,4 | 58,4 | 118,2 | 198,3 |
| | 5 (bar) | 3,51 | 3,51 | 4,86 | 7,0 | 9,76 | 18,16 | 31,6 | 41,8 | 65,3 | 132,2 | 221,7 |
| | 6 (bar) | 3,85 | 3,85 | 5,32 | 7,66 | 10,69 | 19,89 | 34,6 | 45,8 | 71,6 | 144,8 | 242,9 |
| | 7 (bar) | 4,16 | 4,16 | 5,75 | 8,28 | 11,55 | 21,5 | 37,4 | 49,5 | 77,3 | 156,4 | 262,3 |
| | 8 (bar) | 4,45 | 4,45 | 6,14 | 8,85 | 12,35 | 23,0 | 40,0 | 52,9 | 82,6 | 167,2 | 280,4 |
| | 9 (bar) | 4,72 | 4,72 | 6,52 | 9,39 | 13,1 | 24,4 | 42,4 | 56,1 | 87,6 | 177,4 | 297,5 |
| | 10 (bar) | 4,97 | 4,97 | 6,87 | 9,89 | 13,81 | 25,7 | 44,7 | 59,1 | 92,4 | 187,0 | 313,5 |
| | 12 (bar) | 5,44 | 5,44 | 7,53 | 10,84 | 15,12 | 28,1 | 49,0 | 64,8 | 100,2 | 204,8 | 343,5 |
| | 14 (bar) | 5,88 | 5,88 | 8,13 | 11,71 | 16,34 | 30,4 | 52,9 | 69,9 | 109,3 | 221,2 | 371,0 |
| | 16 (bar) | 6,29 | 6,29 | 8,69 | 12,51 | 17,46 | 32,5 | 56,6 | 74,8 | 116,8 | 236,5 | 396,6 |
| | 18 (bar) | 6,67 | 6,67 | 9,22 | 13,27 | 18,52 | 34,4 | 60,0 | 79,3 | 123,9 | 250,9 | 420,7 |
| | 20 (bar) | 7,03 | 7,03 | 9,72 | 14,0 | 19,53 | 36,3 | 63,3 | 83,6 | 130,6 | 264,4 | 443,4 |
| | 22 (bar) | 7,37 | 7,37 | 10,19 | 14,7 | 20,5 | 38,1 | 66,3 | 87,7 | 137,0 | 277,4 | 465,1 |
| | 24 (bar) | 7,7 | 7,7 | 10,64 | 15,33 | 21,4 | 39,8 | 69,3 | 91,6 | 143,1 | 289,7 | 485,8 |
| 25 (bar) | 7,86 | 7,86 | 10,86 | 15,64 | 21,8 | 40,6 | 70,7 | 93,3 | 146,0 | 295,7 | 495,8 | |
| 26 (bar) | 8,0 | 8,0 | 11,06 | 15,92 | 22,2 | 41,3 | 72,0 | 95,1 | 148,6 | 301,5 | | |
| 28 (bar) | 8,3 | 8,3 | 11,47 | 16,52 | 23,1 | 42,9 | 74,7 | 98,7 | 154,2 | 312,9 | | |
| 30 (bar) | 8,6 | 8,6 | 11,88 | 17,1 | 23,9 | 44,4 | 77,3 | 102,2 | 159,7 | 323,9 | | |
| 35 (bar) | 9,28 | 9,28 | 12,83 | 18,47 | 25,8 | 47,9 | 83,5 | 110,4 | 172,5 | 349,8 | | |
| 36 (bar) | 9,4 | 9,4 | 13,0 | 18,7 | 26,1 | 48,7 | 84,7 | 111,9 | 174,9 | 354,8 | | |
| 40 (bar) | 9,92 | 9,92 | 13,71 | 19,75 | 27,6 | 51,3 | 89,3 | 118,0 | 184,4 | 374,0 | | |

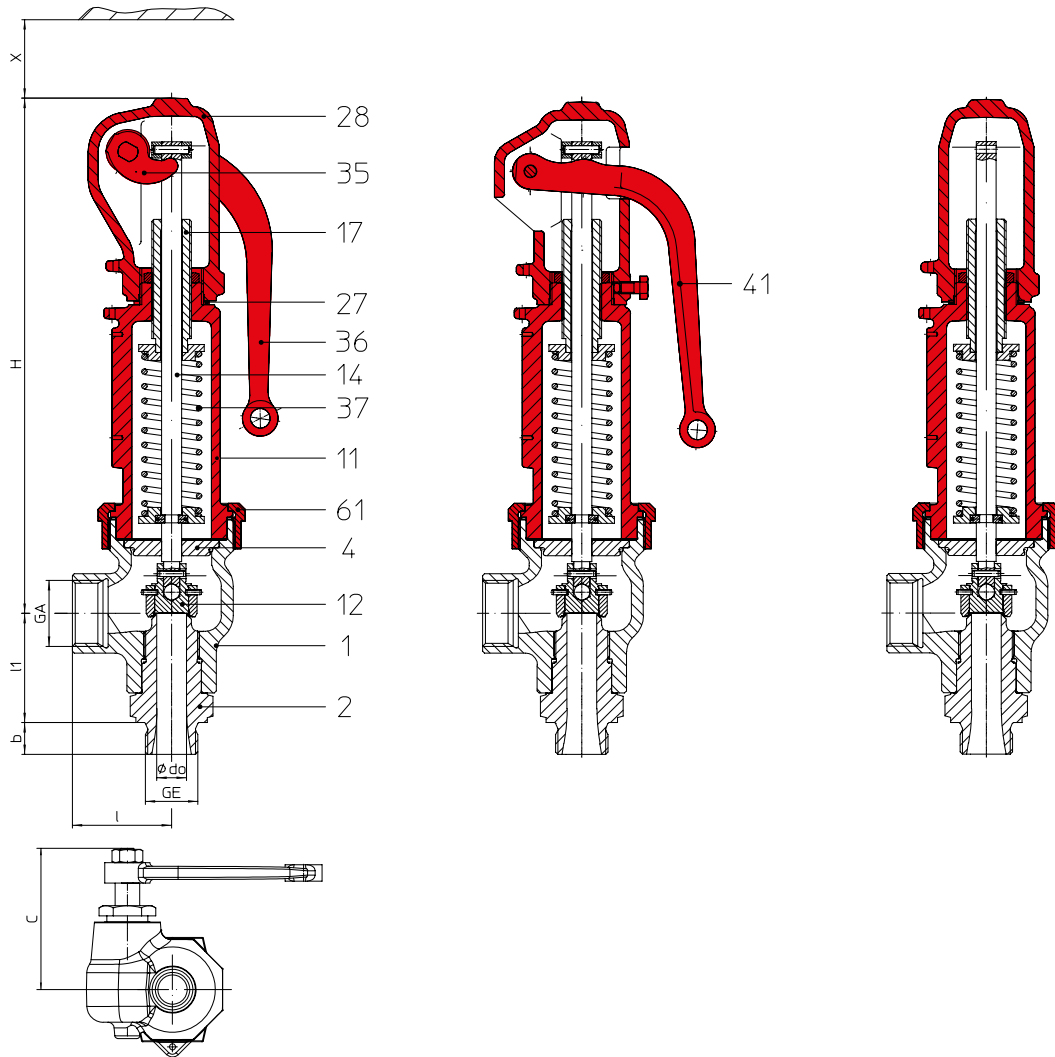
ARI-SAFE-TC - Full lift safety valve D/G, Standard safety valve F

Fig. ... 941
 closed lifting device,
 closed bonnet

Fig. ... 942
 open lifting device,
 closed bonnet

Fig. ... 943
 gastight cap,
 closed bonnet

| Figure | Nominal pressure | Material | Nominal diameter | Temperature range | Thread |
|--------------------|------------------|-----------|------------------|-------------------|--------------------|
| 25.941 / 942 / 943 | PN40 | EN-JS1049 | DN 15 - 25 | -10°C to +350°C | DIN ISO 228 Part 1 |
| 55.941 / 943 | PN40 | 1.4408 | DN15 - 25 | -60°C to +400°C | DIN ISO 228 Part 1 |

| Construction | | |
|---|---|---|
| Safety valve, spring loaded, direct loaded | | |
| Requirement | | |
| acc. to EN ISO 4126-1, VdTÜV-leaflet 100, AD2000-A2, TRD 421 | | |
| Type-test approval | | |
| Full lift safety valve: (acc. to VdTÜV-leaflet 995) | Fig. 941/942/943 | TÜV · SV ... -995 · D/G |
| Standard safety valve: | Fig. 941/943 | TÜV · SV ... -995 · F |
| Sizing | | |
| for steam, air and water refer to capacity tables, calculations acc. to EN ISO 4126-1, TRD 421 and AD2000-A2. | | |
| Details required | | |
| Medium gasform: | Mass flow (kg/h), molar mass (kg/kmol), Isotropic exponent, temperature (°C), set pressure (barg), back pressure (barg) | |
| Medium liquid: | Mass flow (kg/h), density (kg/m ³), viscosity, temperature (°C), set pressure (barg), back pressure (barg) | |
| Order data: | | |
| ARI-SAFE-TC - Safety valve, Figure, DN ... / ..., PN .. / ..., Material, Set pressure bar | | |
| | standard: without metal bellows | optional: with metal bellows (refer to page 42) |
| Superimposed back pressure | no backpressure allowed | on request |
| Built up back pressure | max. 10% from set pressure (higher on request) | on request |

| Parts | | | | |
|---------------|-------|----------------------------|--|---------------------------|
| Pos. | Sp.p. | Description | Fig. 25.941/942/943 | Fig. 55.941/943 |
| 1 | | Body | EN-GJS-400-18U-LT, EN-JS1049 | GX5CrNiMo19-11-2, 1.4408 |
| 2 | | Screwed seat | X6CrNiMoTi17-12-2, 1.4571 | |
| 4 | | Spindle guide | X20Cr13+QT, 1.4021+QT | X6CrNiMoTi17-12-2, 1.4571 |
| 7 | x | Gasket | Pure graphite (CrNi laminated with graphite) | |
| 11 | | Bonnet, closed | EN-GJS-400-18U-LT, EN-JS1049 | GX5CrNiMo19-11-2, 1.4408 |
| 12 | | Disc | X39CrMo17-1+QT, 1.4122+QT | X6CrNiMoTi17-12-2, 1.4571 |
| 14 | x | Spindle | X20Cr13+QT, 1.4021+QT | X6CrNiMoTi17-12-2, 1.4571 |
| 17 | | Adjusting screw | X20Cr13+QT, 1.4021+QT | X2CrNiMo17-12-2, 1.4404 |
| 27 | x | Sealing ring | CuFA | X6CrNiMoTi17-12-2, 1.4571 |
| 28 | | Cap, closed | EN-GJS-400-18U-LT, EN-JS1049 | GX5CrNiMo19-11-2, 1.4408 |
| 35 | | Lift fork | EN-GJS-400-15, EN-JS1030 | GX5CrNiMo19-11-2, 1.4408 |
| 36 | | Lever, closed | EN-GJS-400-18U-LT, EN-JS1049 | GX5CrNiMo19-11-2, 1.4408 |
| 37 | x | Spring | FDSiCr / 51CrV4, 1.8159 | X10CrNi18-8, 1.4310 |
| 41 | | Lever, open | EN-GJS-400-18U-LT, EN-JS1049 | -- |
| 43 | | Bellows (optional) | EPDM 70 Shore A | |
| 55 | | Bellows unit (optional) | X6CrNiMoTi17-12-2, 1.4571 | |
| 61 | | Coupling | X6CrNiMoTi17-12-2, 1.4571 | |
| 70 | | Balanced piston (optional) | X6CrNiMoTi17-12-2, 1.4571 | |
| L Spare parts | | | | |

| DN | 15 | 20 | 25 |
|----|----|----|----|
|----|----|----|----|

Spring ranges: Standard design

| | | | | |
|--|-------------|---------------|---------------|--------------|
| Full lift safety valve Fig. 941/942/943 | (barg) | 0,3 - 0,6 | 0,3 - 0,48 | 0,2 - 0,4 |
| | (barg) | > 0,6 - 0,9 | > 0,48 - 0,68 | > 0,4 - 0,88 |
| | (barg) | > 0,9 - 1,35 | > 0,68 - 1,35 | > 0,88 - 1,5 |
| | (barg) | > 1,35 - 2,2 | > 1,35 - 2,1 | > 1,5 - 2,1 |
| | (barg) | > 2,2 - 3,3 | > 2,1 - 3 | > 2,1 - 2,6 |
| | (barg) | > 3,3 - 4,5 | > 3 - 4 | > 2,6 - 3,2 |
| | (barg) | > 4,5 - 5,5 | > 4 - 5,5 | > 3,2 - 4,2 |
| | (barg) | > 5,5 - 6,7 | > 5,5 - 7,7 | > 4,2 - 6,2 |
| | (barg) | > 6,7 - 8,2 | > 7,7 - 11,4 | > 6,2 - 8 |
| | (barg) | > 8,2 - 11 | > 11,4 - 15 | > 8 - 10 |
| | (barg) | > 11 - 13 | > 15 - 20 | > 10 - 15,5 |
| | (barg) | > 13 - 18,5 | > 20 - 28 | > 15,5 - 18 |
| | (barg) | > 18,5 - 32,4 | > 28 - 35 | > 18 - 29,9 |
| (barg) | > 32,4 - 40 | > 35 - 40 | > 30 - 40 | |

Spring ranges: Bellows design (optional)

| | | | | |
|---------------------------------------|--------|------------|-------------|---------------|
| Standard safety valve Fig. 941/943 | (barg) | 5,7 - 6,5 | 4 - 5,7 | 4 - 5,4 |
| | (barg) | > 6,5 - 8 | > 5,7 - 7 | > 5,4 - 6,4 |
| | (barg) | > 8 - 9,3 | > 7 - 9,9 | > 6,4 - 7,4 |
| | (barg) | > 9,3 - 11 | > 9,9 - 14 | > 7,4 - 8,4 |
| | (barg) | > 11 - 15 | > 14 - 21 | > 8,4 - 10,4 |
| | (barg) | > 15 - 19 | > 21 - 28,9 | > 10,4 - 13,4 |
| | (barg) | > 19 - 29 | > 29,9 - 40 | > 13,4 - 16,4 |
| | (barg) | > 29 - 40 | | > 16,4 - 20,4 |
| | (barg) | | | > 20,4 - 28 |

Information / restriction of technical rules need to be observed!

A production permission acc. to TRB 801 No. 45 is available.

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

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

| | | | |
|-----------|-----------|-----------|-----------|
| DN | 15 | 20 | 25 |
|-----------|-----------|-----------|-----------|

| Dimensions | | | | |
|--------------------|--------------------|-------------|-----------|-------------|
| G | (inch) | 1/2" x 3/4" | 3/4" x 1" | 1" x 1 1/4" |
| d0 | (mm) | 12 | 15 | 18 |
| A0 | (mm ²) | 113 | 177 | 254 |
| GE | (inch) | 1/2" | 3/4" | 1" |
| GA | (inch) | 3/4" | 1" | 1 1/4" |
| b | (mm) | 15 | 16 | 18 |
| l | (mm) | 50 | 50 | 50 |
| l1 | (mm) | 53 | 55 | 58 |
| H | (mm) | 260 | 260 | 260 |
| H (Bellows design) | (mm) | 295 | 295 | 300 |
| X | (mm) | 120 | 120 | 120 |
| C | (mm) | 69 | 69 | 69 |

| Weights | | | | |
|--------------------------|------|-----|-----|-----|
| standard | (kg) | 3,5 | 3,5 | 3,8 |
| optional: Bellows design | (kg) | 4,4 | 4,4 | 4,7 |

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

| acc. to DIN EN 1092-2 | | | -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-JS1049 | 40 | (bar) | on request | 40 | 38,8 | 36,8 | 34,8 | 32 | 28 | -- | -- |

| acc. to DIN EN 1092-1 | | | -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 | -- |

| Certified coefficient of discharge Kdr (Values for D/G variable: < 3,5 bar) | | | |
|---|-----------|-----------|-----------|
| DN | 15 | 20 | 25 |
| TÜV · SV · . . . -995 · D/G | 0,64 | 0,60 | 0,75 |
| TÜV · SV · . . . -995 · F | 0,45 | 0,42 | 0,53 |

Capacity saturated steam / air / water (incl. 10% overpressure)

| DN | | 15 | 20 | 25 | |
|----------------|--------|------------------------|-------|---------|---------|
| Inlet: Male | (inch) | G1/2" | G3/4" | G1" | |
| Outlet: Female | (inch) | G3/4" | G1" | G1 1/4" | G1 1/2" |
| do | (mm) | 12 | 15 | 18 | |
| Set pressure | | Saturated steam (kg/h) | | | |
| 0,2 | (barg) | | | 75 | 75 |
| 0,3 | (barg) | 35 | 47 | 94 | 94 |
| 0,5 | (barg) | 46 | 65 | 124 | 124 |
| 1 | (barg) | 72 | 103 | 188 | 188 |
| 2 | (barg) | 120 | 172 | 320 | 320 |
| 3 | (barg) | 162 | 238 | 430 | 430 |
| 4 | (barg) | 206 | 300 | 545 | 545 |
| 5 | (barg) | 246 | 360 | 650 | 650 |
| 6 | (barg) | 285 | 420 | 755 | 755 |
| 7 | (barg) | 325 | 480 | 860 | 860 |
| 8 | (barg) | 370 | 540 | 970 | 970 |
| 9 | (barg) | 410 | 600 | 1075 | 1075 |
| 10 | (barg) | 450 | 655 | 1180 | 1180 |
| 11 | (barg) | 490 | 715 | 1290 | 1290 |
| 12 | (barg) | 530 | 775 | 1395 | 1395 |
| 13 | (barg) | 570 | 835 | 1500 | 1500 |
| 14 | (barg) | 610 | 890 | 1605 | 1605 |
| 15 | (barg) | 650 | 950 | 1710 | 1710 |
| 16 | (barg) | 690 | 1010 | 1820 | 1820 |
| 17 | (barg) | 730 | 1070 | 1925 | 1925 |
| 18 | (barg) | 770 | 1130 | 2030 | 2030 |
| 19 | (barg) | 810 | 1190 | 2135 | 2135 |
| 20 | (barg) | 850 | 1245 | 2245 | 2245 |
| 22 | (barg) | 930 | 1365 | 2455 | 2455 |
| 24 | (barg) | 1015 | 1485 | 2670 | 2670 |
| 26 | (barg) | 1095 | 1600 | 2885 | 2885 |
| 28 | (barg) | 1175 | 1725 | 3100 | 3100 |
| 30 | (barg) | 1260 | 1845 | 3320 | 3320 |
| 32 | (barg) | 1340 | 1965 | 3535 | 3535 |
| 34 | (barg) | | | | |
| 36 | (barg) | | | | |
| 40 | (barg) | | | | |

| 15 | 20 | 25 | |
|--------------------------------|-------|---------|---------|
| G1/2" | G3/4" | G1" | |
| G3/4" | G1" | G1 1/4" | G1 1/2" |
| 12 | 15 | 18 | |
| Air 0°C and 1,013 bara (Nm³/h) | | | |
| | | 88 | 88 |
| 41 | 56 | 112 | 112 |
| 57 | 79 | 151 | 151 |
| 91 | 129 | 237 | 237 |
| 153 | 219 | 405 | 405 |
| 209 | 305 | 552 | 552 |
| 266 | 390 | 702 | 702 |
| 320 | 469 | 845 | 845 |
| 375 | 549 | 988 | 988 |
| 429 | 628 | 1130 | 1130 |
| 483 | 708 | 1275 | 1275 |
| 537 | 787 | 1415 | 1415 |
| 592 | 867 | 1560 | 1560 |
| 646 | 946 | 1705 | 1705 |
| 700 | 1026 | 1845 | 1845 |
| 754 | 1105 | 1990 | 1990 |
| 809 | 1185 | 2130 | 2130 |
| 863 | 1265 | 2275 | 2275 |
| 917 | 1345 | 2420 | 2420 |
| 971 | 1420 | 2560 | 2560 |
| 1025 | 1500 | 2705 | 2705 |
| 1080 | 1580 | 2850 | 2850 |
| 1135 | 1660 | 2990 | 2990 |
| 1240 | 1820 | 3275 | 3275 |
| 1350 | 1980 | 3560 | 3560 |
| 1460 | 2140 | 3850 | 3850 |
| 1570 | 2300 | 4135 | 4135 |
| 1675 | 2455 | 4420 | 4420 |
| 1785 | 2615 | 4705 | 4705 |
| 1895 | 2775 | 4990 | 4990 |
| 2000 | 2940 | 5270 | 5270 |
| 2220 | 3250 | 5850 | 5850 |

| 15 | 20 | 25 | |
|------------------|-------|---------|---------|
| G1/2" | G3/4" | G1" | |
| G3/4" | G1" | G1 1/4" | G1 1/2" |
| 12 | 15 | 18 | |
| Water 20°C (t/h) | | | |
| | | 3,22 | 3,22 |
| 1,49 | 2,17 | 3,94 | 3,94 |
| 1,92 | 2,80 | 5,10 | 5,10 |
| 2,72 | 3,96 | 7,19 | 7,19 |
| 3,85 | 5,60 | 10,17 | 10,17 |
| 4,71 | 6,86 | 12,46 | 12,46 |
| 5,44 | 7,92 | 14,39 | 14,39 |
| 6,08 | 8,85 | 16,10 | 16,10 |
| 6,66 | 9,70 | 17,62 | 17,62 |
| 7,20 | 10,47 | 19,04 | 19,04 |
| 7,69 | 11,20 | 20,30 | 20,30 |
| 8,16 | 11,88 | 21,60 | 21,60 |
| 8,60 | 12,52 | 22,70 | 22,70 |
| 9,02 | 13,13 | 23,80 | 23,80 |
| 9,42 | 13,72 | 24,90 | 24,90 |
| 9,81 | 14,27 | 25,90 | 25,90 |
| 10,18 | 14,81 | 26,90 | 26,90 |
| 10,54 | 15,33 | 27,90 | 27,90 |
| 10,88 | 15,84 | 28,80 | 28,80 |
| 11,22 | 16,32 | 29,70 | 29,70 |
| 11,54 | 16,80 | 30,50 | 30,50 |
| 11,86 | 17,26 | 31,40 | 31,40 |
| 12,17 | 17,71 | 32,20 | 32,20 |
| 12,76 | 18,57 | 33,70 | 33,70 |
| 13,33 | 19,40 | 35,20 | 35,20 |
| 13,87 | 20,20 | 36,70 | 36,70 |
| 14,40 | 20,90 | 38,10 | 38,10 |
| 14,90 | 21,70 | 39,40 | 39,40 |
| 15,39 | 22,40 | 40,70 | 40,70 |
| 15,86 | 23,10 | 41,90 | 41,90 |
| 16,28 | 23,8 | 43,1 | 43,1 |
| 17,21 | 25,00 | 45,50 | 45,50 |

ARI-SAFE-TC - Spring loaded Fig. 945, Low pressure steam - safety valve Fig. 946

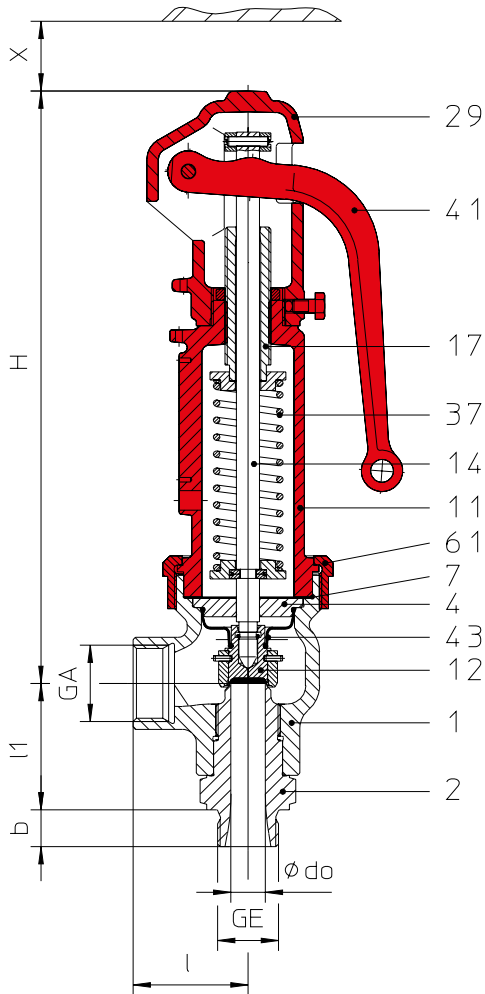


Fig.945
open lifting device,
closed bonnet

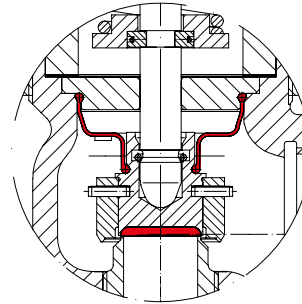


Fig.945
EPDM-disc, soft seal insert; EPDM-bellows

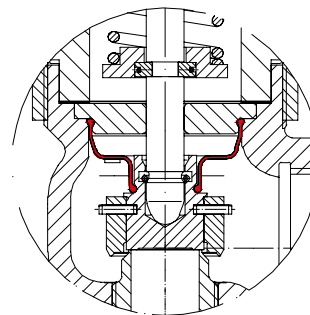


Fig.946
Disc metal seat, EPDM-Bellows seal

| Figure | Nominal pressure | Material | Nominal diameter (inlet) | Temperature range | Thread |
|--------|------------------|-----------|--------------------------|-------------------|--------------------|
| 25.945 | PN40 | EN-JS1049 | DN15 - 25 | -10°C to +120°C | DIN ISO 228 Part 1 |
| 25.946 | PN40 | EN-JS1049 | DN15 - 25 | -10°C to +120°C | DIN ISO 228 Part 1 |

| | |
|----------|----------|
| Fig. 945 | Fig. 946 |
|----------|----------|

| Construction | | |
|--------------------|--|---|
| | Standard safety valve, spring loaded, direct loaded disc with EPDM insert, EPDM-bellows, closed spring bonnet with control hole, open lifting device, stainless steel seat and spindle | Standard safety valve, spring-/weight loaded, direct loaded with EPDM-bellows, closed bonnet with control hole, open lifting device, stainless steel seat and spindle |
| Application | | |
| | acc. to DIN EN 12828 Heating systems in buildings | For low pressure steamgenerators up to 1 bar, acc. to DIN 4750 and DIN EN 12828 Heating systems in buildings |
| Requirement | | |
| | acc. to DIN EN ISO 4126-1 / TRD 721 Part 6 | acc. to DIN EN ISO 4126-1 / TRD 721 Part 5 |
| Type-test approval | | |
| | Spring loaded: TÜV · SV · . . -997 · D/G/H | Low pressure steam - safety valve: TÜV · SV · . . -997 · D |
| Sizing | | |
| | Acc. to TRD 721 Part 6.2.5, refer to "Capacity". | refer to "Capacity" |
| Order data: | | |
| | ARI-SAFE-TC - spring loaded, Figure, DN ... / ..., PN .. / .., Material, Set pressure barg | ARI-SAFE-TC - Low pressure steam - safety valve, Figure ..., DN ... / ..., PN .. / .., Material ..., Set pressure ...barg |

| Parts | | | |
|---------------|-------|--------------------|--|
| Pos. | Sp.p. | Description | Fig. 25.945/946 |
| 1 | | Body | EN-GJS-400-18U-LT, EN-JS1049 |
| 2 | | Screwed seat | X6CrNiMoTi17-12-2, 1.4571 |
| 4 | | Spindle guide | X20Cr13+QT, 1.4021+QT |
| 7 | x | Gasket | Pure graphite (CrNi laminated with graphite) |
| 11 | | Bonnet, closed | EN-GJS-400-18U-LT, EN-JS1049 |
| 12 | x | Disc | X6CrNiMoTi17-12-2, 1.4571 |
| 14 | x | Spindle | X20Cr13+QT, 1.4021+QT |
| 17 | | Adjusting screw | X20Cr13+QT, 1.4021+QT |
| 29 | | Cap, open | EN-GJS-400-18U-LT, EN-JS1049 |
| 37 | x | Spring | FDSICr |
| 41 | | Lever, open | EN-GJS-400-18U-LT, EN-JS1049 |
| 43 | | Bellows (optional) | EPDM 70 Shore A |
| 61 | | Coupling | X6CrNiMoTi17-12-2, 1.4571 |
| L Spare parts | | | |

| DN (inlet) | 15 | 20 | 25 |
|------------|----|----|----|
|------------|----|----|----|

| Spring ranges: Standard design | | | | |
|--|-----------|--------------|--------------|-------------|
| Low pressure steam - safety valve Fig. 946 | (barü) | 0,3 - 0,6 | 0,3 - 0,5 | 0,2 - 0,4 |
| | (barü) | > 0,6 - 0,9 | > 0,5 - 0,7 | > 0,4 - 0,9 |
| | (barü) | > 0,9 - 1 | > 0,7 - 1 | > 0,9 - 1 |
| Spring loaded Fig. 945 | (barü) | > 1 - 1,35 | > 1 - 1,35 | > 1 - 1,5 |
| | (barü) | > 1,35 - 2,2 | > 1,35 - 2,1 | > 1,5 - 2,1 |
| | (barü) | > 2,2 - 3,3 | > 2,1 - 3 | > 2,1 - 2,6 |
| | (barü) | > 3,3 - 4,5 | > 3 - 4 | > 2,6 - 3,2 |
| | (barü) | > 4,5 - 5,5 | > 4 - 5,5 | > 3,2 - 4,2 |
| | (barü) | > 5,5 - 6,7 | > 5,5 - 7,7 | > 4,2 - 6,2 |
| | (barü) | > 6,7 - 8,2 | > 7,7 - 11,5 | > 6,2 - 8 |
| | (barü) | > 8,2 - 11 | > 11,5 - 15 | > 8 - 10 |
| | (barü) | > 11 - 13 | > 15 - 16 | > 10 - 15,5 |
| (barü) | > 13 - 16 | | > 15,5 - 16 | |

Information / restriction of technical rules need to be observed!

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

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

| DN (inlet) | 15 | 20 | 25 |
|------------|----|----|----|
|------------|----|----|----|

| Dimensions | | | | | |
|------------|--------------------|-------------|-----------|-------------|-------------|
| G | (inch) | 1/2" x 3/4" | 3/4" x 1" | 1" x 1 1/4" | 1" x 1 1/2" |
| d0 | (mm) | 12 | 15 | 18 | 18 |
| A0 | (mm ²) | 113 | 177 | 254 | 254 |
| GE | (inch) | 1/2" | 3/4" | 1" | 1" |
| GA | (inch) | 3/4" | 1" | 1 1/4" | 1 1/2" |
| b | (mm) | 15 | 16 | 18 | 18 |
| l | (mm) | 50 | 50 | 50 | 50 |
| l1 | (mm) | 53 | 55 | 58 | 58 |
| H | (mm) | 260 | 260 | 260 | 260 |
| X | (mm) | 120 | 120 | 120 | 120 |

| Weights | | | | | |
|----------|------|-----|-----|-----|-----|
| standard | (kg) | 3,5 | 3,5 | 3,8 | 3,8 |

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

| acc. to DIN EN 1092-2 | | | -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-JS1049 | 40 | (bar) | on request | 40 | 38,8 | 36,8 | 34,8 | 32 | 28 | -- | -- |

| Certified coefficient of discharge Kdr (Values for D/G/H variable: < 3,5 bar) | | | | | |
|---|-------|------|------|------|--|
| DN | | 15 | 20 | 25 | |
| TÜV · SV · . . . - 997 · D/G/H | (bar) | 0,64 | 0,60 | 0,75 | |

Capacity water incl. 10% overpressure

| Sizing safety valves for the volume flow of water expansion (DIN 4751 T2 - item 8.1 / DIN EN 12828 - item E.3) | | | | | | |
|--|--------|-------------------|------------|-------|-------|-------|
| Differential pressure | | | DN (inlet) | | | |
| | | | 15 | 20 | 25 | |
| 1 | (barg) | Water 20°C (kg/h) | (kg/h) | 2700 | 3900 | 7000 |
| 2 | (barg) | | (kg/h) | 3800 | 5600 | 10000 |
| 3 | (barg) | | (kg/h) | 4700 | 6800 | 12400 |
| 4 | (barg) | | (kg/h) | 5400 | 7900 | 14300 |
| 5 | (barg) | | (kg/h) | 6000 | 8800 | 16000 |
| 6 | (barg) | | (kg/h) | 6600 | 9700 | 17600 |
| 7 | (barg) | | (kg/h) | 7200 | 10400 | 19000 |
| 8 | (barg) | | (kg/h) | 7600 | 11200 | 20300 |
| 9 | (barg) | | (kg/h) | 8100 | 11800 | 21600 |
| 10 | (barg) | | (kg/h) | 8600 | 12500 | 22700 |
| 11 | (barg) | | (kg/h) | 9000 | 13000 | 23800 |
| 12 | (barg) | | (kg/h) | 9400 | 13700 | 24900 |
| 13 | (barg) | | (kg/h) | 9800 | 14200 | 25900 |
| 14 | (barg) | | (kg/h) | 10000 | 14800 | 26900 |
| 15 | (barg) | | (kg/h) | 10500 | 15300 | 27900 |
| 16 | (barg) | | (kg/h) | 10800 | 15800 | 28800 |

Sizing: 1 l/h $\hat{=}$ 1 kW

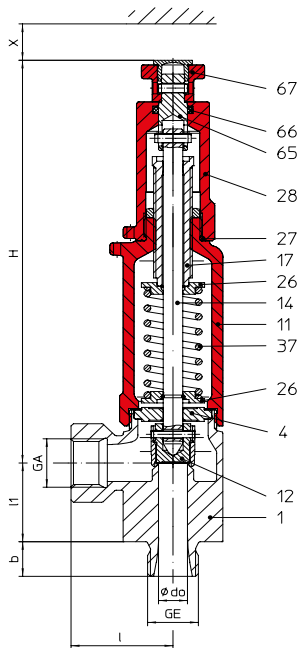
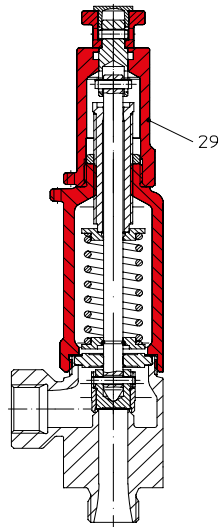
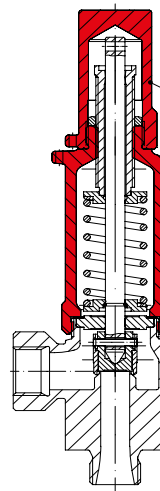
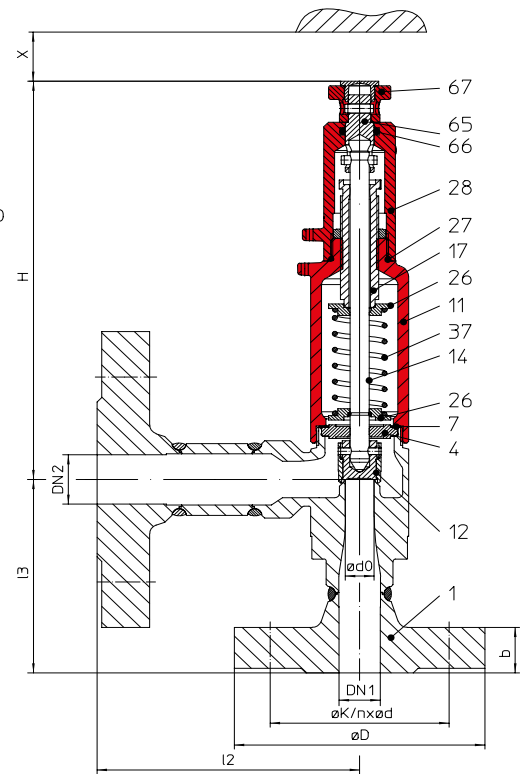
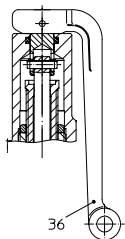
Fig. 945: Capacity saturated steam incl. 10% overpressure

| Set pressure | | DN (inlet) | | | |
|--------------|--------|------------|-----|------|------|
| | | 15 | 20 | 25 | |
| 1 | (barg) | (kg/h) | 72 | 103 | 188 |
| | | (kW) | 44 | 63 | 115 |
| 1,5 | (barg) | (kg/h) | 97 | 136 | 254 |
| | | (kW) | 58 | 82 | 154 |
| 2 | (barg) | (kg/h) | 120 | 172 | 320 |
| | | (kW) | 72 | 103 | 191 |
| 2,5 | (barg) | (kg/h) | 142 | 205 | 376 |
| | | (kW) | 85 | 122 | 224 |
| 3 | (barg) | (kg/h) | 162 | 238 | 430 |
| | | (kW) | 96 | 140 | 253 |
| 3,5 | (barg) | (kg/h) | 185 | 272 | 489 |
| | | (kW) | 109 | 159 | 287 |
| 4 | (barg) | (kg/h) | 206 | 300 | 545 |
| | | (kW) | 120 | 176 | 316 |
| 4,5 | (barg) | (kg/h) | 226 | 331 | 596 |
| | | (kW) | 131 | 192 | 346 |
| 5 | (barg) | (kg/h) | 246 | 360 | 650 |
| | | (kW) | 142 | 208 | 375 |
| 5,5 | (barg) | (kg/h) | 267 | 391 | 703 |
| | | (kW) | 153 | 224 | 403 |
| 6 | (barg) | (kg/h) | 285 | 420 | 755 |
| | | (kW) | 164 | 240 | 432 |
| 6,5 | (barg) | (kg/h) | 307 | 450 | 810 |
| | | (kW) | 174 | 256 | 460 |
| 7 | (barg) | (kg/h) | 325 | 480 | 860 |
| | | (kW) | 185 | 271 | 488 |
| 7,5 | (barg) | (kg/h) | 348 | 509 | 917 |
| | | (kW) | 195 | 286 | 516 |
| 8 | (barg) | (kg/h) | 370 | 540 | 970 |
| | | (kW) | 206 | 302 | 543 |
| 9 | (barg) | (kg/h) | 410 | 600 | 1075 |
| | | (kW) | 227 | 332 | 598 |
| 10 | (barg) | (kg/h) | 450 | 655 | 1180 |
| | | (kW) | 247 | 362 | 651 |
| 11 | (barg) | (kg/h) | 490 | 715 | 1290 |
| | | (kW) | 267 | 391 | 705 |
| 12 | (barg) | (kg/h) | 530 | 775 | 1395 |
| | | (kW) | 287 | 421 | 757 |
| 13 | (barg) | (kg/h) | 570 | 835 | 1500 |
| | | (kW) | 307 | 449 | 809 |
| 14 | (barg) | (kg/h) | 610 | 890 | 1605 |
| | | (kW) | 326 | 478 | 860 |
| 15 | (barg) | (kg/h) | 650 | 950 | 1710 |
| | | (kW) | 346 | 506 | 911 |
| 16 | (barg) | (kg/h) | 690 | 1010 | 1820 |
| | | (kW) | 365 | 534 | 962 |

Fig. 946: Capacity saturated steam incl. 10% overpressure

| Set pressure | | DN (inlet) | | | |
|--------------|--------|------------|----|-----|-----|
| | | 15 | 20 | 25 | |
| 0,2 | (barg) | (kg/h) | -- | -- | 67 |
| 0,3 | (barg) | (kg/h) | 32 | 43 | 86 |
| 0,4 | (barg) | (kg/h) | 38 | 53 | 103 |
| 0,5 | (barg) | (kg/h) | 44 | 62 | 117 |
| 0,6 | (barg) | (kg/h) | 50 | 71 | 133 |
| 0,7 | (barg) | (kg/h) | 56 | 78 | 146 |
| 0,8 | (barg) | (kg/h) | 62 | 86 | 163 |
| 0,9 | (barg) | (kg/h) | 67 | 95 | 175 |
| 1 | (barg) | (kg/h) | 72 | 103 | 188 |

Conversion rates: 1 kW = 860 kcal/h* = 0,86 Mcal/h* = 3,6 MJ/h * not lawful units
 1 Mcal/h* = 1000 kcal/h* = 1,163 kW

ARI-SAFE-TCP - Standard safety valve D/G/F

Fig.961
 closed lifting device

Fig.962
 open lifting device

Fig.963
 gastight cap

Fig.961 / 962 / 963
 optional with flange

Fig.961 / 962 / 963
 optional with lever

| Figure | Nominal pressure | Material | Nominal diameter | Temperature range | Connection |
|-------------------------|------------------|-------------------------|------------------|--|---------------------------|
| 67.961 / 962 / 963 | PN100 | 1.4581/EN-JS1049 | DN15 - 25 | -10°C to +300°C (up to +400°C on request) | Thread DIN ISO 228 Part 1 |
| 57.961 / 963 | PN100 | 1.4581 | DN15 - 25 | -60°C to +300°C (up to +400°C on request) | Thread DIN ISO 228 Part 1 |
| 67.961 / 962 / 963....1 | PN100* | 1.4581/1.4571/EN-JS1049 | DN15- 25 | -10°C to +300°C (up to +400°C on request) | Flange DIN EN 1092-1 |
| 57.961 / 963....1 | PN100* | 1.4581/1.4571 | DN15- 25 | -10°C to +300°C (up to +400°C on request) | Flange DIN EN 1092-1 |

* optional flange ANSI600 EN 1759-1

Construction

Safety valve, spring loaded, direct loaded

Requirement

Acc. to EN ISO 4126-1, VdTÜV-leaflet 100, AD2000-A2

Type-test approval

| | | |
|------------------------|------------------|--------------------------|
| Standard safety valve: | Fig. 961/962/963 | TÜV · SV ... -1041 · D/G |
| Standard safety valve: | Fig. 961/963 | TÜV · SV ... -1041 · F |

Sizing

for steam, air and water refer to capacity tables, calculations acc. to EN ISO 4126-1, TRD 421 and AD2000-A2

Details required

| | |
|-----------------|---|
| Medium gasform: | Mass flow (kg/h), molar mass (kg/kmol), Isotropic exponent, temperature (°C), set pressure (barg), back pressure (barg) |
| Medium liquid: | Mass flow (kg/h), density (kg/m ³), viscosity, temperature (°C), set pressure (barg), back pressure (barg) |

Order data:

ARI-SAFE-TCP - Safety valve, Figure, DN ... / ..., PN .. / .., Material, Set pressure bar

standard: without metal bellows
Superimposed back pressure

no backpressure allowed

Built up back pressure

max. 10% from set pressure (higher on request)

| Parts | | | | |
|-------|-------|--|--|---------------------------|
| Pos. | Sp.p. | Description | Fig. 67.961/962/963 | Fig. 57.961/963 |
| 1 | | Body | GX5CrNiMoN19-11-2, 1.4581 | |
| 4 | | Spindle guide | X6CrNiMoTi17-12-2, 1.4571 | |
| 7 | x | Gasket | Pure graphite (CrNi laminated with graphite) | |
| 11 | | Bonnet, closed | EN-GJS-400-18U-LT, EN-JS1049 | GX5CrNiMoN19-11-2, 1.4581 |
| 12 | | Disc | X6CrNiMoTi17-12-2, 1.4571 | |
| 14 | x | Spindle | X6CrNiMoTi17-12-2, 1.4571 | |
| 17 | | Adjusting screw | X2CrNiMo17-12-2, 1.4404 | |
| 27 | x | O-ring | FPM | |
| 28 | | Cap, closed | GX5CrNiMoN19-11-2, 1.4581 | |
| 29 | | Cap, open | GX5CrNiMoN19-11-2, 1.4581 | |
| 30 | | Cap, gastight | EN-GJS-400-18U-LT, EN-JS1049 | GX5CrNiMoN19-11-2, 1.4581 |
| 36 | | Lever, closed (optional: Fig.961 / Fig.962) | EN AC-4420 (Al) | |
| 37 | x | Spring | FDSiCr | X10CrNi18-8, 1.4310 |
| 65 | | Coupling | X6CrNiMoTi17-12-2, 1.4571 | |
| 66 | | O-ring | FPM | |
| 67 | | Lift button | X6CrNiMoTi17-12-2, 1.4571 | |
| | | L Spare parts | | |

| DN | 15 | 20 | 25 |
|----|----|----|----|
|----|----|----|----|

| Spring ranges: Standard design | | |
|---|--------|--------------|
| Standard safety valve Fig. 961/962/963 | (barg) | 0,2 - 0,25 |
| | (barg) | > 0,25 - 0,5 |
| | (barg) | > 0,5 - 1 |
| | (barg) | > 1 - 1,4 |
| | (barg) | > 1,4 - 2,95 |
| | (barg) | > 2,95 - 4,9 |
| | (barg) | > 4,9 - 12 |
| | (barg) | > 12 - 20 |
| | (barg) | > 20 - 27 |
| | (barg) | > 27 - 35 |
| | (barg) | > 35 - 45 |
| | (barg) | > 45 - 59 |
| | (barg) | > 59 - 100 |

Information / restriction of technical rules need to be observed!

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

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

| DN | 15 | | | 20 | | | 25 |
|-----------|------------|------------|-----------|-----------|------------|------------|------------|
| NPS | 1/2 x 1/2 | 1/2 x 3/4 | | 3/4 x 1/2 | 3/4 x 3/4 | 3/4 x 1 | 1 x 1 |
| DN1 / DN2 | DN 15 / 15 | DN 15 / 20 | DN15 / 25 | | DN 20 / 20 | DN 20 / 25 | DN 25 / 25 |

| Dimensions | | | | | | | | |
|------------|--------------------|-----|-----|-----|-----|-----|-----|-----|
| d0 | (mm) | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| A0 | (mm ²) | 113 | 113 | 113 | 113 | 113 | 113 | 113 |
| GE | (inch) | 1/2 | 1/2 | -- | 3/4 | 3/4 | 3/4 | 1 |
| GA | (inch) | 1/2 | 3/4 | -- | 1/2 | 3/4 | 1 | 1 |
| b | (mm) | 15 | 15 | -- | 16 | 16 | 16 | 18 |
| l | (mm) | 42 | 47 | -- | 42 | 47 | 50 | 50 |
| l1 | (mm) | 34 | 34 | -- | 34 | 34 | 34 | 34 |
| l2 | (mm) | 110 | 110 | 110 | -- | 110 | 110 | 110 |
| l3 | (mm) | 85 | 85 | 85 | -- | 85 | 85 | 120 |
| H | (mm) | 189 | 189 | 110 | 189 | 189 | 189 | 189 |
| X | (mm) | 100 | 100 | 85 | 100 | 100 | 100 | 100 |

| Weights | | | | | | | | |
|-------------------------|------|-----|-----|-----|-----|-----|-----|-----|
| standard | (kg) | 1,2 | 1,2 | -- | 1,2 | 1,2 | 1,2 | 1,2 |
| optional: flange design | (kg) | 3,7 | 4,5 | 5,0 | -- | 5,4 | 5,9 | 6,6 |

| DN | 15 | | 20 | | 25 | |
|-------------------------------------|------|-----|----|-----|----|-----|
| Flange acc. to DIN EN 1092-1 | | | | | | |
| ØD | (mm) | 105 | | 130 | | 140 |
| b | (mm) | 20 | | 22 | | 24 |

| Standard-Flangeholes | | | | | | |
|----------------------|------|------|--|------|--|------|
| ØK | (mm) | 75 | | 90 | | 100 |
| n x Ød | (mm) | 4x14 | | 4x18 | | 4x18 |

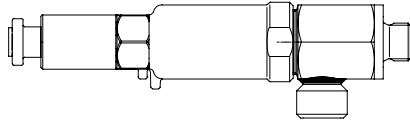
| Pressure-temperature-ratings | Intermediate values for max. permissible operational pressures can be determined by linear interpolation of the given temperature / pressure chart. | | | | | | | | | |
|------------------------------|---|--|--|--|--|--|--|--|--|--|
|------------------------------|---|--|--|--|--|--|--|--|--|--|

| acc. to DIN EN 1092-1 | | | -60°C to <-10°C | -10°C to 100°C | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C |
|-----------------------|-----|-------|-----------------|----------------|-------|-------|-------|-------|-------|-------|-------|
| 1.4581 | 100 | (bar) | 50 | 100 | 98 | 93,3 | 88,5 | 83,3 | 80,4 | 78 | -- |

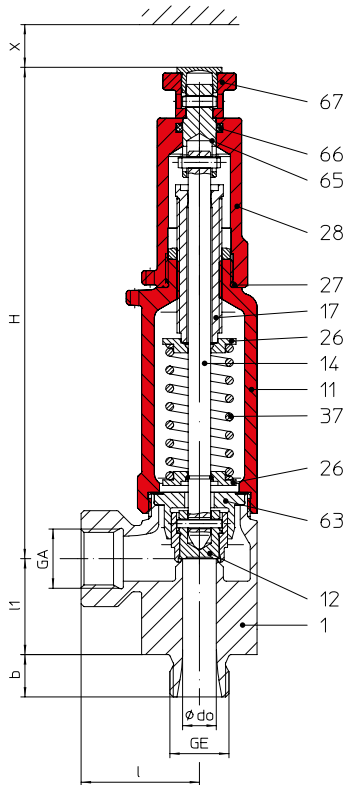
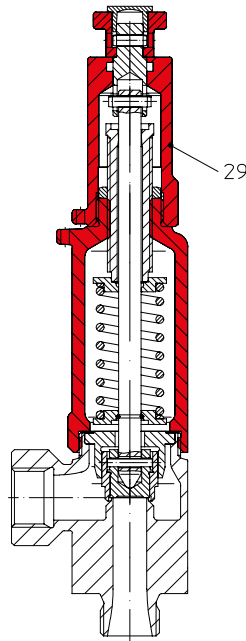
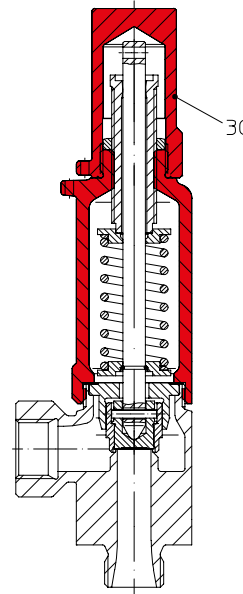
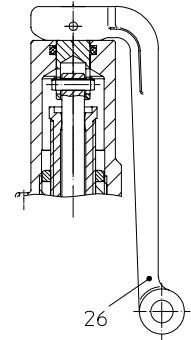
| Certified coefficient of discharge Kdr (Values for D/G variable: < 4 bar) | | | | | | |
|---|----|--|------|--|----|--|
| DN | 15 | | 20 | | 25 | |
| TÜV · SV · . . . - 1041 · D/G | | | 0,30 | | | |
| TÜV · SV · . . . - 1041 · F | | | 0,23 | | | |

Capacity saturated steam / Air / Water (incl. 10% overpressure)

| DN | | | 15 | 20 | 25 | 15 | 20 | 25 | 15 | 20 | 25 |
|---|---------------|--------|------------------------|------------|---------|--------------------------------|------------|---------|------------------|------------|---------|
| Connections | DIN EN 228-1 | (inch) | G1/2 x 1/2 | G3/4 x 1/2 | G1 x 1 | G1/2 x 1/2 | G3/4 x 1/2 | G1 x 1 | G1/2 x 1/2 | G3/4 x 1/2 | G1 x 1 |
| | | (inch) | G1/2 x 3/4 | G3/4 x 3/4 | | G1/2 x 3/4 | G3/4 x 3/4 | | G1/2 x 3/4 | G3/4 x 3/4 | |
| | | (inch) | | G3/4 x 1 | | | G3/4 x 1 | | | G3/4 x 1 | |
| | DIN EN 1092-1 | (mm) | DN15/15 | DN20/20 | DN25/25 | DN15/15 | DN20/20 | DN25/25 | DN15/15 | DN20/20 | DN25/25 |
| | | (mm) | DN15/20 | DN20/25 | | DN15/20 | DN20/25 | | DN15/20 | DN20/25 | |
| | | (mm) | DN15/25 | | | DN15/25 | | | DN15/25 | | |
| do | (mm) | 12 | | | 12 | | | 12 | | | |
| Set pressure | | | Saturated steam (kg/h) | | | Air 0°C and 1,013 bara (Nm³/h) | | | Water 20°C (t/h) | | |
| ↓ max. set pressure stainless steel version | 0,2 | (barg) | 14 | 14 | 14 | 16 | 16 | 16 | 0,62 | 0,62 | 0,62 |
| | 0,5 | (barg) | 24 | 24 | 24 | 29 | 29 | 29 | 0,98 | 0,98 | 0,98 |
| | 1 | (barg) | 35 | 35 | 35 | 44 | 44 | 44 | 1,39 | 1,39 | 1,39 |
| | 2 | (barg) | 56 | 56 | 56 | 71 | 71 | 71 | 1,97 | 1,97 | 1,97 |
| | 3 | (barg) | 75 | 75 | 75 | 96 | 96 | 96 | 2,41 | 2,41 | 2,41 |
| | 4 | (barg) | 96 | 96 | 96 | 125 | 125 | 125 | 2,78 | 2,78 | 2,78 |
| | 5 | (barg) | 116 | 116 | 116 | 150 | 150 | 150 | 3,11 | 3,11 | 3,11 |
| | 6 | (barg) | 135 | 135 | 135 | 176 | 176 | 176 | 3,41 | 3,41 | 3,41 |
| | 7 | (barg) | 153 | 153 | 153 | 201 | 201 | 201 | 3,68 | 3,68 | 3,68 |
| | 8 | (barg) | 172 | 172 | 172 | 227 | 227 | 227 | 3,93 | 3,93 | 3,93 |
| | 9 | (barg) | 191 | 191 | 191 | 252 | 252 | 252 | 4,17 | 4,17 | 4,17 |
| | 10 | (barg) | 210 | 210 | 210 | 277 | 277 | 277 | 4,40 | 4,40 | 4,40 |
| | 11 | (barg) | 229 | 229 | 229 | 303 | 303 | 303 | 4,61 | 4,61 | 4,61 |
| | 12 | (barg) | 248 | 248 | 248 | 328 | 328 | 328 | 4,82 | 4,82 | 4,82 |
| | 13 | (barg) | 267 | 267 | 267 | 354 | 354 | 354 | 5,01 | 5,01 | 5,01 |
| | 14 | (barg) | 286 | 286 | 286 | 379 | 379 | 379 | 5,20 | 5,20 | 5,20 |
| | 15 | (barg) | 304 | 304 | 304 | 405 | 405 | 405 | 5,39 | 5,39 | 5,39 |
| | 16 | (barg) | 323 | 323 | 323 | 430 | 430 | 430 | 5,56 | 5,56 | 5,56 |
| | 17 | (barg) | 342 | 342 | 342 | 455 | 455 | 455 | 5,73 | 5,73 | 5,73 |
| | 18 | (barg) | 361 | 361 | 361 | 481 | 481 | 481 | 5,90 | 5,90 | 5,90 |
| | 19 | (barg) | 380 | 380 | 380 | 506 | 506 | 506 | 6,06 | 6,06 | 6,06 |
| 20 | (barg) | 399 | 399 | 399 | 532 | 532 | 532 | 6,22 | 6,22 | 6,22 | |
| 25 | (barg) | 494 | 494 | 494 | 659 | 659 | 659 | 6,95 | 6,95 | 6,95 | |
| 30 | (barg) | 590 | 590 | 590 | 786 | 786 | 786 | 7,62 | 7,62 | 7,62 | |
| 35 | (barg) | 686 | 686 | 686 | 913 | 913 | 913 | 8,23 | 8,23 | 8,23 | |
| 40 | (barg) | 784 | 784 | 784 | 1040 | 1040 | 1040 | 8,79 | 8,79 | 8,79 | |
| 45 | (barg) | 883 | 883 | 883 | 1165 | 1165 | 1165 | 9,33 | 9,33 | 9,33 | |
| 50 | (barg) | 983 | 983 | 983 | 1295 | 1295 | 1295 | 9,83 | 9,83 | 9,83 | |
| 55 | (barg) | 1085 | 1085 | 1085 | 1420 | 1420 | 1420 | 10,31 | 10,31 | 10,31 | |
| 60 | (barg) | 1185 | 1185 | 1185 | 1550 | 1550 | 1550 | 10,77 | 10,77 | 10,77 | |
| 65 | (barg) | 1290 | 1290 | 1290 | 1675 | 1675 | 1675 | 11,21 | 11,21 | 11,21 | |
| 70 | (barg) | 1400 | 1400 | 1400 | 1800 | 1800 | 1800 | 11,63 | 11,63 | 11,63 | |
| 75 | (barg) | 1500 | 1500 | 1500 | 1930 | 1930 | 1930 | 12,04 | 12,04 | 12,04 | |
| 80 | (barg) | | | | 2055 | 2055 | 2055 | 12,44 | 12,44 | 12,44 | |
| 85 | (barg) | | | | 2185 | 2185 | 2185 | 12,82 | 12,82 | 12,82 | |
| 90 | (barg) | | | | 2310 | 2310 | 2310 | 13,19 | 13,19 | 13,19 | |
| 95 | (barg) | | | | 2438 | 2438 | 2438 | 13,5 | 13,5 | 13,5 | |
| 100 | (barg) | | | | 2565 | 2565 | 2565 | 13,76 | 13,76 | 13,76 | |

ARI-SAFE-TCS - Standard safety valve D/G/F

ALSO FOR HORIZONTAL APPLICATION

(please indicate installation position horizontal/vertical up to 5 bar set pressure with your order)


Fig.951
 closed lifting device

Fig.952
 open lifting device

Fig.953
 gastight cap

Fig.951 / Fig.952
 optional with lever

| Figure | Nominal pressure | Material | Nominal diameter | Temperature range | Thread |
|--------------------|------------------|------------------|------------------|--|--------------------|
| 67.951 / 952 / 953 | PN100 | 1.4581/EN-JS1049 | DN15 - 25 | -10°C to +300°C (up to +400°C on request) | DIN ISO 228 Part 1 |
| 57.951 / 953 | PN100 | 1.4581 | DN15 - 25 | -60°C to +300°C (up to +400°C on request) | DIN ISO 228 Part 1 |

Flange design on request.

| Construction | |
|--|---|
| Safety valve, spring loaded, direct loaded | |
| Requirement | |
| acc. to EN ISO 4126-1, VdTÜV-leaflet 100, AD2000-A2 | |
| Type-test approval | |
| Standard safety valve: | Fig. 951/952/953 TÜV · SV ... -1041 · D/G |
| Standard safety valve: | Fig. 951/953 TÜV · SV ... -1041 · F |
| Sizing | |
| for steam, air and water refer to capacity tables, calculations acc. to EN ISO 4126-1, TRD 421 and AD2000-A2 | |
| Details required | |
| Medium gasform: | Mass flow (kg/h), molar mass (kg/kmol), Isotropic exponent, temperature (°C), set pressure (barg), back pressure (barg) |
| Medium liquid: | Mass flow (kg/h), density (kg/m ³), viscosity, temperature (°C), set pressure (barg), back pressure (barg) |
| Order data: | |
| ARI-SAFE-TCS - Safety valve, Figure, DN ... / ..., PN .. / .., Material, Set pressure bar, Installation position | |
| | standard: without metal bellows |
| Superimposed back pressure | no backpressure allowed |
| Built up back pressure | max. 10% from set pressure (higher on request) |

| Parts | | | | |
|-------|-------|--|--|---------------------------|
| Pos. | Sp.p. | Description | Fig. 67.961/962/963 | Fig. 57.961/963 |
| 1 | | Body | GX5CrNiMoN19-11-2, 1.4581 | |
| 7 | x | Gasket | Pure graphite (CrNi laminated with graphite) | |
| 11 | | Bonnet, closed | EN-GJS-400-18U-LT, EN-JS1049 | GX5CrNiMoN19-11-2, 1.4581 |
| 12 | | Disc | X6CrNiMoTi17-12-2, 1.4571 | |
| 14 | x | Spindle | X6CrNiMoTi17-12-2, 1.4571 | |
| 17 | | Adjusting screw | X2CrNiMo17-12-2, 1.4404 | |
| 27 | | O-ring | FPM | |
| 28 | | Cap, closed | GX5CrNiMoN19-11-2, 1.4581 | |
| 29 | | Cap, open | GX5CrNiMoN19-11-2, 1.4581 | |
| 30 | | Cap, gasticht | EN-GJS-400-18U-LT, EN-JS1049 | GX5CrNiMoN19-11-2, 1.4581 |
| 36 | | Lever, closed (optional: Fig.951 / Fig.952) | EN AC-4420 (Al) | |
| 37 | x | Spring | FDSiCr | X10CrNi18-8, 1.4310 |
| 63 | | Guide bush | X6CrNiMoTi17-12-2, 1.4571 | |
| 65 | | Coupling | X6CrNiMoTi17-12-2, 1.4571 | |
| 66 | | O-ring | FPM | |
| 67 | | Lift button | X6CrNiMoTi17-12-2, 1.4571 | |
| | | L Spare parts | | |

| DN | 15 | 20 | 25 |
|----|----|----|----|
|----|----|----|----|

| Spring ranges: Standard design | | |
|---|--------|--------------|
| Standard safety valve Fig. 951/952/953 | (barg) | 0,5 |
| | (barg) | > 0,5 - 1 |
| | (barg) | > 1 - 1,4 |
| | (barg) | > 1,4 - 2,95 |
| | (barg) | > 2,95 - 4,9 |
| | (barg) | > 4,9 - 12 |
| | (barg) | > 12 - 20 |
| | (barg) | > 20 - 27 |
| | (barg) | > 27 - 35 |
| | (barg) | > 35 - 45 |
| | (barg) | > 45 - 59 |
| | (barg) | > 59 - 100 |

Information / restriction of technical rules need to be observed!

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

Resistance and fitness must be verified (contact manufacturer for information, refer to Product overview and Resistance list).

| | | | |
|-----------|-----------|-----------|-----------|
| DN | 15 | 20 | 25 |
|-----------|-----------|-----------|-----------|

| Dimensions | | | | | | | |
|-------------------|--------------------|-------------|-------------|-------------|-------------|-----------|---------|
| G | (inch) | 1/2" x 1/2" | 1/2" x 3/4" | 3/4" x 1/2" | 3/4" x 3/4" | 3/4" x 1" | 1" x 1" |
| d0 | (mm) | 12 | 12 | 12 | 12 | 12 | 12 |
| A0 | (mm ²) | 113 | 113 | 113 | 113 | 113 | 113 |
| GE | (inch) | 1/2" | 1/2" | 3/4" | 3/4" | 3/4" | 1" |
| GA | (inch) | 1/2" | 3/4" | 1/2" | 3/4" | 1" | 1" |
| b | (mm) | 15 | 15 | 16 | 16 | 16 | 18 |
| l | (mm) | 42 | 47 | 42 | 47 | 50 | 50 |
| l1 | (mm) | 34 | 34 | 34 | 34 | 34 | 34 |
| H | (mm) | 189 | 189 | 189 | 189 | 189 | 189 |
| X | (mm) | 100 | 100 | 100 | 100 | 100 | 100 |

| Weights | | | | | | | |
|----------------|------|-----|-----|-----|-----|-----|-----|
| standard | (kg) | 1,2 | 1,2 | 1,2 | 1,2 | 1,2 | 1,2 |

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

| acc. to DIN EN 1092-1 | | | -60°C to <-10°C | -10°C to 100°C | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C |
|-----------------------|-----|-------|-----------------|----------------|-------|-------|-------|-------|-------|-------|-------|
| 1.4581 | 100 | (bar) | 50 | 100 | 98 | 93,3 | 88,5 | 83,3 | 80,4 | 78 | -- |

| Certified coefficient of discharge Kdr (Values for D/G variable: < 3 bar) | | | |
|--|-----------|-----------|-----------|
| DN | 15 | 20 | 25 |
| TÜV · SV · ... - 1041 · D/G | | 0,26 | |
| TÜV · SV · ... - 1041 · F | | 0,19 | |

Capacity saturated steam / air / water (incl. 10% overpressure)

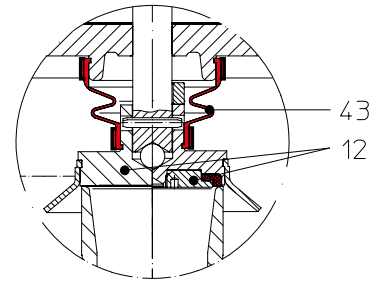
| DN | | 15 | 20 | 25 | 15 | 20 | 25 | 15 | 20 | 25 |
|---|------------|------------------------|--------------|----------|--------------------------------|--------------|----------|------------------|--------------|----------|
| Connections | (inch) | G1/2" x 1/2" | G3/4" x 1/2" | G1" x 1" | G1/2" x 1/2" | G3/4" x 1/2" | G1" x 1" | G1/2" x 1/2" | G3/4" x 1/2" | G1" x 1" |
| | (inch) | G1/2" x 3/4" | G3/4" x 3/4" | | G1/2" x 3/4" | G3/4" x 3/4" | | G1/2" x 3/4" | G3/4" x 3/4" | |
| | | | G3/4" x 1" | | | G3/4" x 1" | | | G3/4" x 1" | |
| do | (mm) | 12 | | | 12 | | | 12 | | |
| Set pressure | | Saturated steam (kg/h) | | | Air 0°C and 1,013 bara (Nm³/h) | | | Water 20°C (t/h) | | |
| horizontal application ↓ | 0,5 (barg) | 20 | 20 | 20 | 24 | 24 | 24 | 0,81 | 0,81 | 0,81 |
| | 1 (barg) | 30 | 30 | 30 | 37 | 37 | 37 | 1,15 | 1,15 | 1,15 |
| | 2 (barg) | 48 | 48 | 48 | 62 | 62 | 62 | 1,62 | 1,62 | 1,62 |
| | 3 (barg) | 68 | 68 | 68 | 86 | 86 | 86 | 1,99 | 1,99 | 1,99 |
| | 4 (barg) | 84 | 84 | 84 | 108 | 108 | 108 | 2,30 | 2,30 | 2,30 |
| ← max. set pressure stainless steel version | 5 (barg) | 100 | 100 | 100 | 130 | 130 | 130 | 2,57 | 2,57 | 2,57 |
| | 6 (barg) | 117 | 117 | 117 | 152 | 152 | 152 | 2,81 | 2,81 | 2,81 |
| | 7 (barg) | 133 | 133 | 133 | 174 | 174 | 174 | 3,04 | 3,04 | 3,04 |
| | 8 (barg) | 149 | 149 | 149 | 196 | 196 | 196 | 3,25 | 3,25 | 3,25 |
| | 9 (barg) | 166 | 166 | 166 | 218 | 218 | 218 | 3,45 | 3,45 | 3,45 |
| | 10 (barg) | 182 | 182 | 182 | 240 | 240 | 240 | 3,63 | 3,63 | 3,63 |
| | 11 (barg) | 198 | 198 | 198 | 262 | 262 | 262 | 3,81 | 3,81 | 3,81 |
| | 12 (barg) | 215 | 215 | 215 | 284 | 284 | 284 | 3,98 | 3,98 | 3,98 |
| | 13 (barg) | 231 | 231 | 231 | 306 | 306 | 306 | 4,14 | 4,14 | 4,14 |
| | 14 (barg) | 247 | 247 | 247 | 328 | 328 | 328 | 4,3 | 4,3 | 4,3 |
| | 15 (barg) | 264 | 264 | 264 | 351 | 351 | 351 | 4,45 | 4,45 | 4,45 |
| | 16 (barg) | 280 | 280 | 280 | 373 | 373 | 373 | 4,59 | 4,59 | 4,59 |
| | 17 (barg) | 297 | 297 | 297 | 395 | 395 | 395 | 4,74 | 4,74 | 4,74 |
| | 18 (barg) | 313 | 313 | 313 | 417 | 417 | 417 | 4,87 | 4,87 | 4,87 |
| | 19 (barg) | 329 | 329 | 329 | 439 | 439 | 439 | 5,01 | 5,01 | 5,01 |
| | 20 (barg) | 346 | 346 | 346 | 461 | 461 | 461 | 5,14 | 5,14 | 5,14 |
| | 25 (barg) | 428 | 428 | 428 | 571 | 571 | 571 | 5,74 | 5,74 | 5,74 |
| | 30 (barg) | 512 | 512 | 512 | 681 | 681 | 681 | 6,29 | 6,29 | 6,29 |
| | 35 (barg) | 595 | 595 | 595 | 791 | 791 | 791 | 6,80 | 6,80 | 6,80 |
| | 40 (barg) | 680 | 680 | 680 | 901 | 901 | 901 | 7,26 | 7,26 | 7,26 |
| | 45 (barg) | 765 | 765 | 765 | 1010 | 1010 | 1010 | 7,71 | 7,71 | 7,71 |
| | 50 (barg) | 852 | 852 | 852 | 1120 | 1120 | 1120 | 8,12 | 8,12 | 8,12 |
| | 55 (barg) | 940 | 940 | 940 | 1230 | 1230 | 1230 | 8,52 | 8,52 | 8,52 |
| | 60 (barg) | 1030 | 1030 | 1030 | 1340 | 1340 | 1340 | 8,90 | 8,90 | 8,90 |
| 65 (barg) | 1120 | 1120 | 1120 | 1450 | 1450 | 1450 | 9,26 | 9,26 | 9,26 | |
| 70 (barg) | 1200 | 1200 | 1200 | 1560 | 1560 | 1560 | 9,61 | 9,61 | 9,61 | |
| 75 (barg) | 1300 | 1300 | 1300 | 1675 | 1675 | 1675 | 9,95 | 9,95 | 9,95 | |
| 80 (barg) | | | | 1785 | 1785 | 1785 | 10,27 | 10,27 | 10,27 | |
| 85 (barg) | | | | 1895 | 1895 | 1895 | 10,59 | 10,59 | 10,59 | |
| 90 (barg) | | | | 2005 | 2005 | 2005 | 10,90 | 10,90 | 10,90 | |
| 95 (barg) | | | | 2110 | 2110 | 2110 | 11,16 | 11,16 | 11,16 | |
| 100 (barg) | | | | 2220 | 2220 | 2220 | 11,36 | 11,36 | 11,36 | |

| Soft sealing disc | | | | | | |
|--------------------------------------|------|-------------|-----------------------|--|-------------------|--------------|
| Body design | Pos. | Description | P min. | Material | Temperature range | Abbreviation |
| EN-JL1040, EN-JS1049, 1.0619+N | 12 | Disc | 0,5 bar | X20Cr13+QT, 1.4021+QT / EPDM | -40 °C to +150 °C | E |
| | | | 0,5 bar | X20Cr13+QT, 1.4021+QT / FPM Viton (FKM) | -20 °C to +180 °C | V |
| | | | 0,5 bar | X20Cr13+QT, 1.4021+QT / CR Neoprene | -30 °C to +100 °C | N |
| | | | 1,0 bar ¹⁾ | X20Cr13+QT, 1.4021+QT / SHR ²⁾ | -20 °C to +220 °C | S |
| 1.4408, 1.4581 | 12 | Disc | 0,5 bar | X6CrNiMoTi17-12-2, 1.4571 / EPDM | -40 °C to +150 °C | E |
| | | | 0,5 bar | X6CrNiMoTi17-12-2, 1.4571 / FPM Viton (FKM) | -20 °C to +180 °C | V |
| | | | 0,5 bar | X6CrNiMoTi17-12-2, 1.4571 / CR Neoprene | -30 °C to +100 °C | N |
| | | | 1,0 bar ¹⁾ | X6CrNiMoTi17-12-2, 1.4571 / SHR ²⁾ | -20 °C to +220 °C | S |
| SA216WCB | 12 | Disc | 0,5 bar | SA276 Gr. 440 / EPDM | -40 °C to +150 °C | E |
| | | | 0,5 bar | SA276 Gr. 440 / FPM Viton (FKM) | -20 °C to +180 °C | V |
| | | | 0,5 bar | SA276 Gr. 440 / CR Neoprene | -30 °C to +100 °C | N |
| | | | 1,0 bar | SA276 Gr. 440 / SHR | -20 °C to +220 °C | S |

Fig. 950/960 with soft sealing disc max. 40 bar

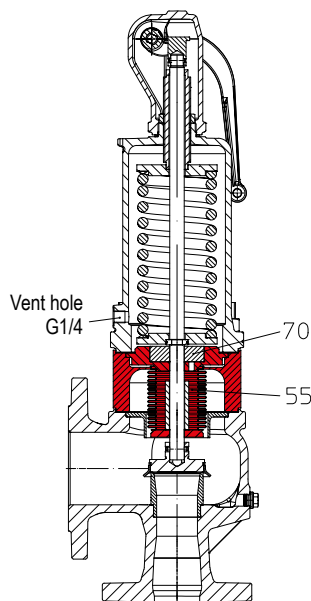
¹⁾ DN20/32 min. 2,0 bar ²⁾ only Fig. 900

| EPDM-Bellows seal (DN15 - 150) | | | |
|--------------------------------|-------------------|-----------------|-------------------|
| Pos. | Description | Material | Temperature range |
| 43 | EPDM-Bellows seal | EPDM 70 Shore A | -10 °C to +120 °C |

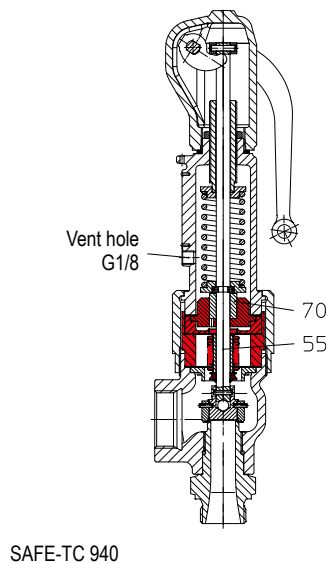


| Balanced stainless steel-bellows (Only for closed version!) | | |
|--|----------------------------|--|
| Pos. | Description | Material |
| 55 | Bellows unit | X6CrNiMoTi17-12-2, 1.4571; SA240 / SA479 Gr.316 Ti (SAFE-SN ANSI) |
| 70 | Balanced piston (DN15-100) | X6CrNiMoTi17-12-2, 1.4571; SA479 Gr.316 Ti (SAFE-SN ANSI) |

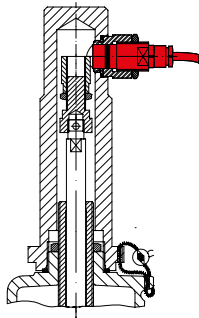
Test: German "TA-Air TÜV-Test-No. 922-960324"



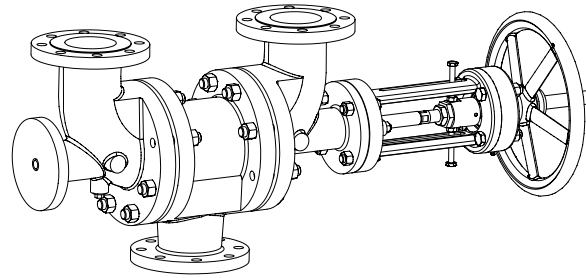
SAFE 900



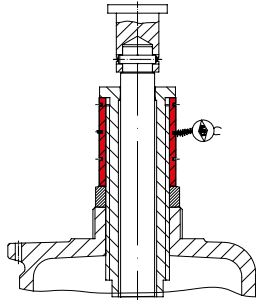
SAFE-TC 940



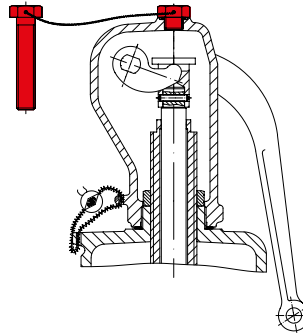
Proximity switch



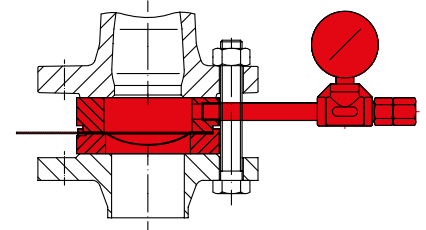
Changeover valve



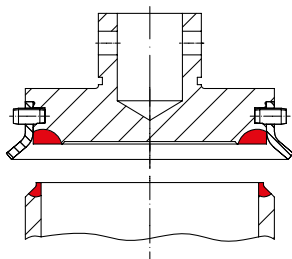
Lock bushing



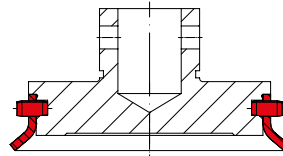
Test gag



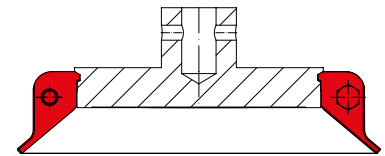
Rupture disc
(Sizing refer to page 40.)



Seat 1.4571 / Stellite No. 21
Disc 1.4571 / Stellite No. 6
Sitz SA479Gr.316Ti / Stellite No. 21 (SAFE-SN ANSI)
Kegel SA479Gr.316Ti / Stellite No. 6 (SAFE-SN ANSI)
removable lifting aid

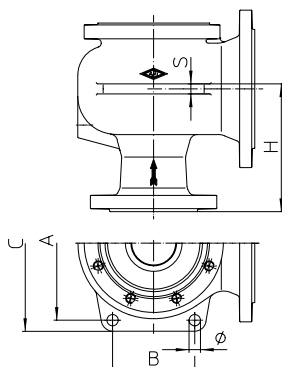


DN15-100



DN125-250

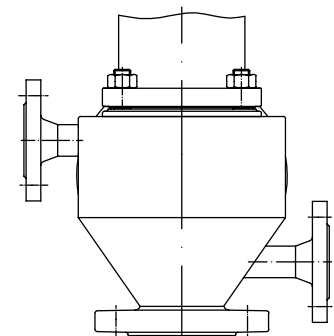
removable lifting aid



| Body-Material | DN1 x DN2 (mmxmm) | A (mm) | B (mm) | C (mm) | Ø (mm) | S (mm) | H (mm) |
|---------------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1.0619+N | 50 x 80 | 176 | 70 | 204 | 14 | 12 | 155 |
| 1.4408 | 65 x 100 | 212 | 90 | 242 | | | 175 |
| EN-JL1040 | 80 x 125 | 245 | 130 | 280 | 18 | 16 | 205 |
| EN-JS1049 | 100 x 150 | 295 | 165 | 332 | | | 230 |
| 1.0619+N | 125 x 200 | 318 | 183 | 362 | 22 | 20 | 260 |
| 1.4408 | 150 x 250 | 360 | 200 | 408 | | | 295 |
| EN-JL1040 | 125 x 125 | 226 | 110 | 254 | 14 | 10 | 205 |
| 1.0619+N | 150 x 150 | 262 | 146 | 298 | | | 232 |
| EN-JS1049 | 200 x 300 | 465 | 256 | 521 | 26 | 22 | 305 |
| 1.0619+N | 250 x 350 | 544 | 300 | 600 | | | 337 |

| Body-Material | NPS (inch) | A (mm) | B (mm) | C (mm) | Ø (mm) | S (mm) | H (mm) |
|---------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|
| SA216WCB | 2" x 3" | 176 | 70 | 204 | 14 | 12 | 143 |
| | 3" x 4" | 212 | 90 | 242 | | | 162 |
| | 4" x 6" | 295 | 165 | 332 | 18 | 16 | 186 |
| | 6" x 8" | 318 | 183 | 362 | 22 | 20 | 248 |
| | 6" x 10" | 360 | 200 | 405 | 22 | 22 | 251 |

Support tongues, drilled



Heating jacket

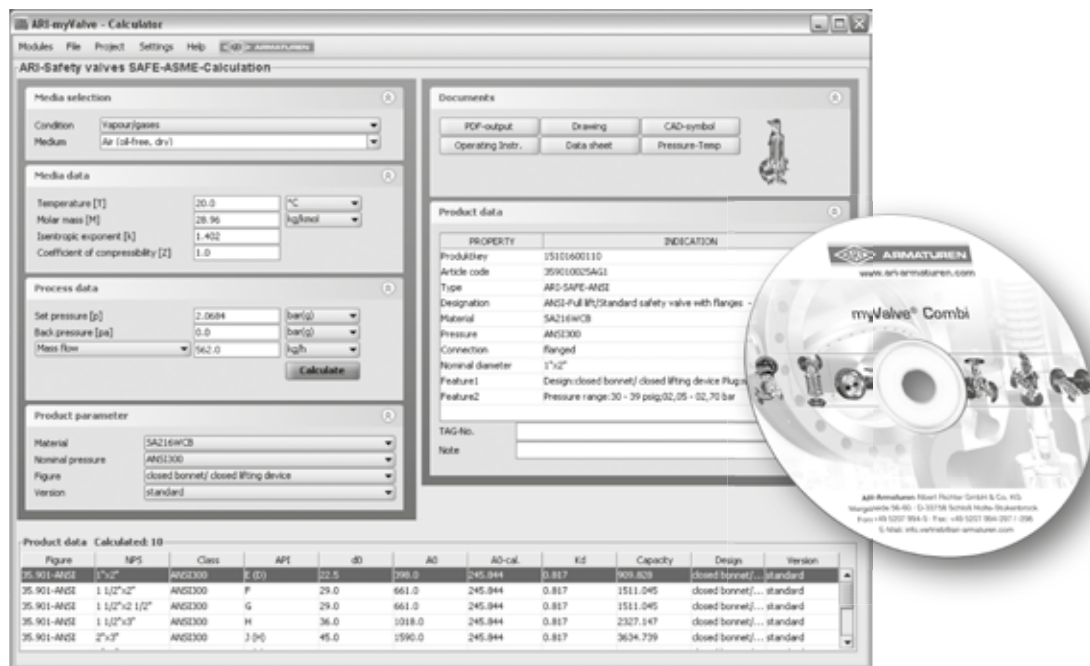
| | SAFE Fig. 900 | | | SAFE-SN BR 900 | SAFE-P Fig. 920 | SAFE-TC Fig. 940 | | | SAFE- TCS/ TCP Fig. 950 / 960 |
|--|------------------|----------|----------|-------------------|--------------------|---------------------|----------|----------|-------------------------------------|
| | Fig. 901-912 | Fig. 903 | Fig. 904 | Fig. 901-912 | Fig. 921-924 | Fig. 941-943 | Fig. 945 | Fig. 946 | Fig. 951-953 Fig. 961-963 |
| Pressure equipment directive PED 2014/68/EU Module H1, B+D | X | X | X | X | X | X | X | X | X |
| BV Bureau Veritas Frankreich / France | X | -- | -- | X | X | X | -- | -- | X |
| DNV Det Norske Veritas Norwegen / Norway | X | -- | -- | X | X | X | X | X | X |
| GL Germanischer Lloyd | X | -- | -- | X | X | X | -- | -- | X |
| LROS (LRS) Lloyds Register of Shipping | X | -- | -- | X | X | X | -- | -- | -- |
| SELO (SQLO) China / Chine | X | X | X | X | X | X | X | X | X |
| ASME Code Section VIII-Division 1 (UV-stamp) | -- | -- | -- | X | -- | -- | -- | -- | -- |
| Canada Registration (UV-stamp) | X | -- | -- | X | -- | -- | -- | -- | -- |
| EAC Russland / Russia | X | X | X | X | X | X | X | X | X |
| RMROS (RS) Russian Maritime Register of Shipping | X | X | X | X | X | X | X | X | X |
| Promatomnadzor White russia (Rep. of Belarus) | X | X | X | X | X | X | X | X | X |
| Prombezpeka Ukraine | X | X | X | X | X | X | X | X | X |
| Rostekhnadzor (Gosgortekhnadzor) Russland / Russia | X | X | X | X | X | X | X | X | X |

Single approvals

| | | | | | | | | | |
|--|---|----|----|---|---|---|----|----|----|
| Arbejdstilsynet Danish emploment protection | X | X | X | X | X | X | X | X | X |
| ABS American Bureau of Shipping | X | X | X | X | X | X | X | X | X |
| AIB Vincotte Belgien / Belgium | X | X | X | X | X | X | X | X | X |
| IBR Indien Boiler Regulations | X | -- | -- | X | X | X | -- | -- | -- |
| ISPESL Italien / Italy | X | X | X | X | X | X | X | X | X |
| RINA Italien / Italy | X | -- | -- | X | X | X | -- | -- | -- |
| Stoomwezen Niederlande / Netherlands | X | X | X | X | X | X | X | X | X |
| NK Japan | X | X | X | X | X | X | X | X | X |
| UDT Polen / Poland | X | X | X | X | X | X | X | X | X |

myValve® - Your Valve Sizing-Program.

myValve® is a powerful software tool that not only helps you size your system components; it also gives you instant access to all other data about the selected product, such as order information, spare parts drawings, operating instructions, data sheets, etc., whenever you need it.



Contents:

Module ARI-Safety valve SAFE-Calculation

- Sizing of valve-size with given capacity, temperature, set pressure and back pressure;
- Sizing acc. to SAFE DIN EN, AD2000, ASME VIII, API520.

Media:

Integrated media-databank (more than 160 media) with conditions:

- Vapours / gases
- Steam (saturated and superheated)
- Liquids

Special features:

- Project administration of the calculation and product data incl. spare part drawings concerning to project and tag number.
- Direct output of calculation and product data in PDF format.
- Product data could be taken for a direct order.
- SI- and ANSI-units with direct conversion to another databank.
- Settings with over pressure or absolute pressure.
- All ARI valves are integrated in a databank.
- Direct access relating to the product on data sheets, operating instructions, pressure-temperature-diagram, controller characteristics, spare part drawings and CAD-symbols on the website.
- Operation in company networks possible (no complex installations on individually PC's necessary).
- Extensive catalogue extending over several product groups.

System requirements:

Windows operating systems, Linux, etc.

To ARI-Armaturen to the att. of Mrs./Mr. Fax No. +49 52 07 / 994 -

If the type of bursting disc is not yet determined, we are offering our assistance for sizing.
Please send us the questionnaire containing the appropriate data.

Customer:
.....
Handled by:
Date:

Telephone:
Fax:
E-mail:

Necessary data

Medium:
 liquid gas

Temperature:°C

Safety valve

| | | | |
|---------------------------------------|------------------|--|-----------------------|
| Type / Figure: | | Set pressure: | bar(g) |
| Nominal diameter: (Input / Output) | DN / | Flow diameter d_0 : | mm |
| Nominal pressure: (Input / Output) | PN / | Flow cross-section A_0 : | mm ² |
| | | Certified coefficient of discharge K_{dr} (α_w): | |

Rupture disc

| | | | |
|--|--|-----------|--|
| Bursting pressure: | bar(g) | Material: | <input type="checkbox"/> 1.4401 |
| (Bursting pressure = Set pressure of the safety valve) | | | <input type="checkbox"/> Nickel |
| Tolerance: | <input type="checkbox"/> + 10% | | <input type="checkbox"/> Inconel |
| | <input type="checkbox"/>% | | <input type="checkbox"/> Monel |
| Quantity: | piece | | <input type="checkbox"/> Aluminium |
| (incl. reserve) | (minimum 3 pieces recommended) | | <input type="checkbox"/> Teflon foil medium side |
| TÜV-approval: | <input type="checkbox"/> yes <input type="checkbox"/> no | | <input type="checkbox"/> other |

Halter (incl. 1/4"-vent)

| | | | |
|--------------------|-------------|-----------|--------------------------------------|
| Nominal pressure: | PN | Material: | <input type="checkbox"/> 1.4571 |
| Quantity (Holder): | piece | | <input type="checkbox"/> other |

Indication device

(Pressure gauge / excess flow valve)

Quantity: piece

Burst disc alarm

Quantity: piece

Bursting disc selection

Construction

Reverse buckling bursting disc
 other

Manufacturer / Type:

Nominal size selection of the bursting disc

• Acc. to DIN EN ISO 4126-3 and API 520 „90%-determination“
Example:

| | |
|---|---|
| Max. capacity SAFE 900, DN 50, 10 bar without bursting disc | = 9610 Nm ³ /h |
| Max. capacity SAFE 900, DN 50, 10 bar with bursting disc | = 0,9 x 9610 Nm ³ /h = 8649 Nm ³ /h |

• Acc. to AD2000-A1 (5.4.2.2)

$$A_{geom} \times \alpha > 1,5 \times A_0 \times \alpha_w$$

DN

Remark:

