

→ **Series 410**



■ SUITABLE FOR

Air, gases and vapours neutral



■ EXAMPLES OF USE

For the protection of:

- pressure tanks and
- pressure systems

for air and other neutral, non-poisonous and non-flammable gases which can be freely discharged into the environment.

Please observe plant-specific regulations and use of appropriate valve version and sealing material.

- pneumatic control units
- pressure booster plants air-side
- waste water treatment plants
- transport- and railway applications
- pneumatic braking systems
- secondary areas in the food-, pharmaceutical- and cosmetics- industries

Safety valves are set and sealed at the factory.

■ APPROVALS

| | |
|--------------------------------------------------------------|------------------------------------------|
| TÜV Type test approval 2055 | D/G |
| ASME | G |
| CRN | G |
| EU type examination | S/G |
| TSG ZF001-2006 | D/G (S/G) |
| KGS | G |
| TR ZU 032/2013 - TR ZU 010/2011 | D/G (S/G) |
| Requirements | |
| AD 2000 Data sheet A2 DIN EN ISO 4126-1 PED 2014/68/EU | ASME-Code Sec. VIII Div. 1 KGS AA 319 |

Classification society

| | |
|---------------------------------------|---------|
| DNV | DNV |
| Lloyd's Register EMEA | LR EMEA |
| Bureau Veritas | BV |
| American Bureau of Shipping | ABS |
| Russian Maritime Register of Shipping | RS |



■ MATERIAL



■ SPECIFICATION



1/4" – 1"



– 60°C to + 225°C
depending on version



0,2 – 50 bar

■ MATERIALS

| Component | Material | DIN EN | ASME |
|----------------|-----------------|--------|-------|
| Inlet body | Stainless steel | 1.4404 | 316 L |
| Outlet body | Stainless steel | 1.4404 | 316 L |
| Internal parts | Stainless steel | 1.4404 | 316 L |
| Spring | Stainless steel | 1.4568 | 631 |

| | | |
|----------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| s | Standard | cylindrical form, atmospheric discharge, for air and similar neutral, non-toxic and non-flammable gases that can be freely discharged into the atmosphere. |
|----------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------|

■ MEDIUM

| | | |
|----------|---------|-------------------------------|
| G | gaseous | Air and similar neutral gases |
|----------|---------|-------------------------------|

■ TYPE OF LIFTING MECHANISM

| | | |
|----------|--------------------------------------------|--|
| K | Standard with twist-type lifting mechanism | |
|----------|--------------------------------------------|--|

■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

| Nominal diameter DN | 8 | 10 | 15 | 20 | 25 |
|--------------------------------------------|----------|-----------|-----------|-----------|---------|
| Inlet | 1/4" (8) | 3/8" (10) | 1/2" (15) | 3/4" (20) | 1" (25) |
| Atmospheric discharge via outlet apertures | ■ | ■ | ■ | ■ | ■ |

■ TYPE OF CONNECTION INLET / OUTLET THREADED CONNECTIONS

| | | | |
|--------------|----------|-----------------------|----------------------|
| m / - | Standard | Male thread BSP-P / - | DIN EN ISO 228-1 / - |
|--------------|----------|-----------------------|----------------------|

Other connection types possible on request

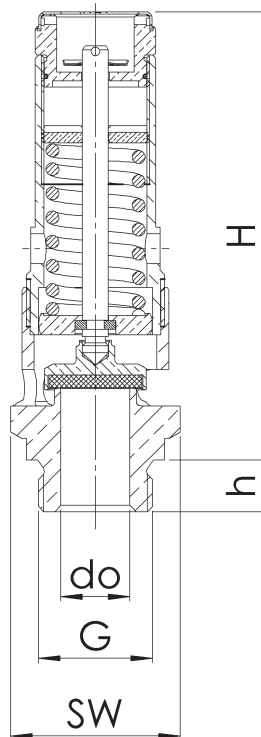
■ SEALS

| | | | |
|-------------|-------------------------|-----------------------------------|-----------------|
| FKM | Fluorocarbon | Elastomere flat seal 0,2 – 25 bar | -20°C to +200°C |
| PTFE | Polytetrafluoroethylene | Flat seal 25,1 – 50 bar | -60°C to +225°C |
| NBR | Nitrile rubber | Elastomere flat seal 0,2 – 25 bar | -30°C to +130°C |
| PTFE | Polytetrafluoroethylene | Flat seal 0,2 – 25 bar | -60°C to +225°C |

■ NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

| Series 410: Connection, installation dimensions, ranges of adjustment | | | | | | | | | |
|-----------------------------------------------------------------------|-----|----------|-----------|-----------|-----------|---------|--------|---------|--------|
| Nominal diameter | DN | 8 | 10 | 15 | 20 | 25 | | | |
| Connection DIN EN ISO 228 | G | 1/4" (8) | 3/8" (10) | 1/2" (15) | 3/4" (20) | 1" (25) | | | |
| Installation dimensions in mm | H | 60 | 65 | 78 | 66 | 79 | 94 | 104 | 111 |
| | h | 10 | 10 | 10 | 12 | 12 | 12 | 12 | 14 |
| | SW | 19 | 24 | 24 | 27 | 27 | 36 | 36 | 41 |
| | do | 7,5 | 10 | 10 | 11 | 11 | 16 | 16 | 20 |
| Weight | kg | 0,1 | 0,14 | 0,16 | 0,17 | 0,19 | 0,35 | 0,4 | 0,6 |
| Range of adjustment | bar | 0,2-50 | 0,2-9 | 9,1-50 | 0,2-7 | 7,1-50 | 0,2-9 | 9,1-50 | 0,2-50 |
| Range of adjustment ASME | psi | 15-725 | 15-130 | 131-725 | 15-102 | 103-725 | 15-130 | 131-725 | 15-725 |

■ MAIN DIMENSIONS, INSTALLATION DIMENSIONS



Series 410 ■ INDIVIDUAL SELECTION / VALVE CONFIGURATION

| Series | Valve version | Medium | Lifting device | Nominal diameter DN | Connection type | | Connection size | | Seal | Options | Set pressure | Quantity |
|--------|---------------|--------|----------------|---------------------|-----------------|--------|-----------------|--------|------|---------|--------------|----------|
| | | | | | Inlet | Outlet | Inlet | Outlet | | | | |
| 410 | s | G | K | 8 | m | – | 8 | – | FKM | 10,0 | 5 | |
| 410 | s | G | K | | m | – | | – | | | | |
| 410 | s | G | K | | m | – | | – | | | | |
| 410 | s | G | K | | m | – | | – | | | | |

■ PROPERTIES

| | | | |
|-----|------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|
| GOX | Especially for gaseous O2 applications by employment of specific materials including oil- and grease free production process | <input type="checkbox"/> | <input type="checkbox"/> |
| P01 | Oil- and grease-free production | <input type="checkbox"/> | <input type="checkbox"/> |
| | | <input type="checkbox"/> | <input type="checkbox"/> |

■ CERTIFICATES / APPROVALS

| | | | | | |
|-----|-----------------------------------------------------------------------------------------------------|--------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| C01 | Factory certificate acc. DIN EN 10204 2.2 (WKZ 2.2) | <input type="checkbox"/> | C06 | ATEX evaluation acc. to 2014/34/EU | <input type="checkbox"/> |
| C02 | Test certificate acc. DIN EN 10204 3.1 (WPZ 3.1) | <input type="checkbox"/> | C07 | SIL evaluation relating to IEC 61508-2 | <input type="checkbox"/> |
| C03 | Material test certificate acc. DIN EN 10204 3.1 (MPZ 3.1) (pressure retaining part) | <input type="checkbox"/> | C09 | Seat tightness test with helium, leak detection method under vacuum incl. Factory Inspection Certificate 3.1 acc. to DIN EN 10204 | <input type="checkbox"/> |
| C04 | TÜV/DEKRA individual inspection acc. EN 10204 3.2 (TÜV/DEKRA-APZ) | <input type="checkbox"/> | C10 | Certificate of oil- and grease free production | <input type="checkbox"/> |
| C05 | Manufacturer certification (FDA, USP 3, 3-A,...), Please indicate description of certificate: | <input type="checkbox"/> | C11 | Certification of the production process especially for gaseous oxygen applications by employment of specific materials | <input type="checkbox"/> |

■ ADMISSIONS / ACCREDITATIONS

| | | | | | |
|-----|------------------------------------------------------------------------------------------|--------------------------|-----|----------------------------------------------------------------------------------|--------------------------|
| AA1 | EC Type examination acc. to Directive 2014/68/EU | <input type="checkbox"/> | AK1 | Det Norske Veritas (DNV) type approval | <input type="checkbox"/> |
| AA2 | TÜV component test acc. to VdTÜV specification sheet SV 100 | <input type="checkbox"/> | AK2 | Lloyd's Register (LR) type approval | <input type="checkbox"/> |
| AA3 | Certification acc. to ASME Boiler and Pressure Vessel Code, Section VIII.Div 1 (ASME) | <input type="checkbox"/> | AK3 | American Bureau of Shipping (ABS) type approval | <input type="checkbox"/> |
| AA4 | EAC - certificate/declaration with passport for the valve and laser marking of the valve | <input type="checkbox"/> | AK4 | Bureau Veritas (BV) type approval | <input type="checkbox"/> |
| AA5 | Manufacture License of Special Equipment People's Republic of China (ML) | <input type="checkbox"/> | AK5 | Russian Maritime Register of Shipping (RMRS) type approval | <input type="checkbox"/> |
| AA6 | Certification acc. to Korean Gas Safety Corporation (KGS) ³ | <input type="checkbox"/> | AK6 | Registro Italiano Navale (RINA) type approval | <input type="checkbox"/> |
| AA7 | Registration according to Canadian Registration Number (CRN) ⁴ | <input type="checkbox"/> | AL | Individual inspection by notified body inspector – (body to be indicated): | <input type="checkbox"/> |

³KGS only in combination with ASME | ⁴CRN only in combination with ASME

■ ENQUIRY

Copy and send to: order@goetze-armaturen.de.

Order form easily to be found online under the section for each series.

| Series 410: Blowing-off rates at 10% above set pressure | | | | | | |
|---------------------------------------------------------|------|------|------|------|------|------|
| Nominal diameter DN | | 8 | 10 | 15 | 20 | 25 |
| Set pressure bar | | | | | | |
| Air Nm ³ /h | 0,2 | 20 | 35 | 46 | 100 | 133 |
| | 0,3 | 25 | 45 | 54 | 119 | 144 |
| | 0,4 | 29 | 52 | 67 | 137 | 167 |
| | 0,5 | 32 | 58 | 74 | 158 | 185 |
| | 0,6 | 35 | 64 | 82 | 172 | 211 |
| | 0,7 | 37 | 70 | 87 | 187 | 235 |
| | 0,8 | 41 | 74 | 95 | 200 | 260 |
| | 0,9 | 43 | 80 | 101 | 213 | 282 |
| | 1 | 46 | 85 | 107 | 227 | 305 |
| | 1,5 | 60 | 108 | 137 | 286 | 408 |
| | 2 | 73 | 132 | 166 | 346 | 506 |
| | 3 | 100 | 182 | 222 | 465 | 699 |
| | 4 | 125 | 228 | 279 | 584 | 889 |
| | 5 | 151 | 274 | 336 | 703 | 1070 |
| | 6 | 176 | 321 | 393 | 821 | 1251 |
| | 7 | 201 | 367 | 450 | 940 | 1432 |
| | 8 | 227 | 414 | 507 | 1059 | 1613 |
| | 9 | 252 | 460 | 564 | 1178 | 1794 |
| | 10 | 278 | 507 | 621 | 1297 | 1975 |
| | 11 | 303 | 553 | 678 | 1416 | 2156 |
| | 12 | 329 | 599 | 735 | 1535 | 2337 |
| | 13 | 354 | 646 | 791 | 1654 | 2518 |
| | 14 | 380 | 692 | 848 | 1773 | 2700 |
| | 15 | 405 | 739 | 905 | 1891 | 2881 |
| | 16 | 431 | 785 | 962 | 2010 | 3062 |
| | 17 | 456 | 832 | 1019 | 2129 | 3243 |
| | 18 | 482 | 878 | 1076 | 2248 | 3424 |
| | 19 | 507 | 925 | 1133 | 2367 | 3605 |
| | 20 | 533 | 971 | 1190 | 2486 | 3786 |
| | 21 | 558 | 1017 | 1247 | 2605 | 3967 |
| 22 | 584 | 1064 | 1304 | 2724 | 4148 | |
| 23 | 609 | 1110 | 1361 | 2843 | 4329 | |
| 24 | 635 | 1157 | 1417 | 2961 | 4510 | |
| 25 | 660 | 1203 | 1474 | 3080 | 4691 | |
| 26 | 685 | 1250 | 1531 | 3199 | 4872 | |
| 27 | 711 | 1296 | 1588 | 3318 | 5053 | |
| 28 | 736 | 1342 | 1645 | 3437 | 5234 | |
| 29 | 762 | 1389 | 1702 | 3556 | 5415 | |
| 30 | 787 | 1435 | 1759 | 3675 | 5597 | |
| 31 | 813 | 1482 | 1816 | 3794 | 5778 | |
| 32 | 838 | 1528 | 1873 | 3913 | 5959 | |
| 33 | 864 | 1575 | 1930 | 4031 | 6140 | |
| 34 | 889 | 1621 | 1986 | 4150 | 6321 | |
| 35 | 915 | 1667 | 2043 | 4269 | 6502 | |
| 36 | 940 | 1714 | 2100 | 4388 | 6683 | |
| 37 | 966 | 1760 | 2157 | 4507 | 6864 | |
| 38 | 991 | 1807 | 2214 | 4626 | 7045 | |
| 39 | 1017 | 1853 | 2271 | 4745 | 7226 | |
| 40 | 1042 | 1900 | 2328 | 4864 | 7407 | |
| 41 | 1068 | 1946 | 2385 | 4983 | 7588 | |
| 42 | 1093 | 1993 | 2442 | 5101 | 7769 | |
| 43 | 1119 | 2039 | 2499 | 5220 | 7950 | |
| 44 | 1144 | 2085 | 2556 | 5339 | 8131 | |
| 45 | 1170 | 2132 | 2612 | 5458 | 8313 | |
| 46 | 1195 | 2178 | 2669 | 5577 | 8494 | |
| 47 | 1220 | 2225 | 2726 | 5696 | 8675 | |
| 48 | 1246 | 2271 | 2783 | 5815 | 8856 | |
| 49 | 1271 | 2318 | 2840 | 5934 | 9037 | |
| 50 | 1297 | 2364 | 2897 | 6053 | 9218 | |

| Series 410: Blowing-off rates at 10% above set pressure | | | | | | |
|---------------------------------------------------------|-----|-----|------|------|------|------|
| Nominal diameter DN | | 8 | 10 | 15 | 20 | 25 |
| Set pressure bar psi(g) | | | | | | |
| Air | 15 | 31 | 55 | 67 | 142 | 221 |
| | 30 | 45 | 81 | 98 | 207 | 323 |
| SCFM | 40 | 56 | 99 | 120 | 254 | 397 |
| | 50 | 66 | 118 | 143 | 302 | 472 |
| | 60 | 77 | 137 | 165 | 350 | 546 |
| | 70 | 87 | 155 | 188 | 397 | 621 |
| | 87 | 105 | 187 | 226 | 478 | 747 |
| | 90 | 108 | 192 | 233 | 493 | 770 |
| | 100 | 119 | 211 | 255 | 540 | 844 |
| | 110 | 129 | 230 | 278 | 588 | 919 |
| | 120 | 140 | 248 | 300 | 636 | 993 |
| | 130 | 150 | 267 | 323 | 683 | 1068 |
| | 140 | 161 | 286 | 345 | 731 | 1142 |
| | 150 | 171 | 304 | 368 | 779 | 1217 |
| | 160 | 182 | 323 | 391 | 826 | 1291 |
| | 170 | 192 | 341 | 413 | 874 | 1366 |
| | 180 | 203 | 360 | 436 | 922 | 1440 |
| | 190 | 213 | 379 | 458 | 969 | 1515 |
| | 200 | 223 | 397 | 481 | 1017 | 1589 |
| | 210 | 234 | 416 | 503 | 1065 | 1663 |
| | 220 | 244 | 434 | 526 | 1112 | 1738 |
| | 230 | 255 | 453 | 548 | 1160 | 1812 |
| | 240 | 265 | 472 | 571 | 1208 | 1887 |
| | 250 | 276 | 490 | 593 | 1255 | 1961 |
| | 260 | 286 | 509 | 616 | 1303 | 2036 |
| | 270 | 297 | 528 | 638 | 1351 | 2110 |
| | 280 | 307 | 546 | 661 | 1398 | 2185 |
| | 290 | 318 | 565 | 683 | 1446 | 2259 |
| | 300 | 328 | 583 | 706 | 1494 | 2334 |
| | 320 | 349 | 621 | 751 | 1589 | 2483 |
| | 340 | 370 | 658 | 796 | 1684 | 2632 |
| | 360 | 391 | 695 | 841 | 1780 | 2781 |
| | 380 | 412 | 732 | 886 | 1875 | 2929 |
| | 400 | 433 | 770 | 931 | 1970 | 3078 |
| | 420 | 454 | 807 | 976 | 2066 | 3227 |
| | 440 | 475 | 844 | 1021 | 2161 | 3376 |
| | 460 | 496 | 881 | 1066 | 2256 | 3525 |
| | 480 | 517 | 919 | 1111 | 2351 | 3674 |
| | 500 | 538 | 956 | 1157 | 2447 | 3823 |
| | 520 | 559 | 993 | 1202 | 2542 | 3972 |
| | 540 | 580 | 1030 | 1247 | 2637 | 4121 |
| | 560 | 600 | 1067 | 1292 | 2733 | 4270 |
| | 580 | 621 | 1105 | 1337 | 2828 | 4419 |
| | 600 | 642 | 1142 | 1382 | 2923 | 4568 |
| | 620 | 663 | 1179 | 1427 | 3019 | 4717 |
| | 640 | 684 | 1216 | 1472 | 3114 | 4866 |
| | 660 | 705 | 1254 | 1517 | 3209 | 5015 |
| | 680 | 726 | 1291 | 1562 | 3305 | 5164 |
| | 700 | 747 | 1328 | 1607 | 3400 | 5313 |
| | 725 | 773 | 1375 | 1663 | 3519 | 5499 |

