

# → Series 4420

**4420**

**Safety valves made of stainless steel, angle-type with threaded connections**



## ■ MATERIAL



## ■ SPECIFICATION



3/8" – 1 1/4"



– 50°C to + 205°C  
depending on version



0,2 – 25 bar  
depending on version

## ■ SUITABLE FOR

|                        |                         |  |
|------------------------|-------------------------|--|
| Liquids                | neutral and non-neutral |  |
| Air, gases and vapours | neutral and non-neutral |  |
| Steam                  |                         |  |

## ■ EXAMPLES OF USE

For the protection of:

- Pressure-vessels/-systems for neutral / non-neutral vapours, gases and liquids

- Steam boilers and steam plants

taking into account the plant-specific regulations and making use of the suitable valve versions and sealing materials.

- Mechanical engineering
- Cooling/refrigeration systems
- Chemical plants, biogas plants
- Desalination plants
- Apparatus engineering and medical technology
- Shipbuilding and ship equipment
- Secondary sectors of the food, beverage, pharmaceutical and cosmetics industries

**Safety valves are set and sealed at the factory.**

## ■ APPROVALS

|                        |                     |
|------------------------|---------------------|
| TÜV Type test approval | D/G,F (from 2024)   |
| EU type examination    | S/G, L (from 2024)  |
| ASME                   | S, G, L (from 2024) |
| CRN                    | S, G, L (from 2024) |

### Requirements

AD 2000 Data sheet A2  
DIN EN ISO 4126-1  
PED 2014/68/EU

ASME-Code Sec. XIII

## ■ MATERIALS

| Component             | Material        | DIN EN          | ASME        |
|-----------------------|-----------------|-----------------|-------------|
| Inlet body            | Stainless steel | 1.4404          | 316 L       |
| Outlet body           | Stainless steel | 1.4408          | CF8M        |
| Internal parts        | Stainless steel | 1.4408 / 1.4404 | CF8M / 316L |
| Internal wetted parts | Stainless steel | 1.4404          | 316 L       |
| Spring                | Stainless steel | 1.4310 / 1.4568 | 302 / 631   |

|   |                                                |                                                                                                                                 |
|---|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| m | Standard with diaphragm (DN15 - DN32)          | The diaphragm prevents the medium entering into the spring housing and protects moving parts from being affected by the medium. |
| t | gastight version of spring housing (DN10-DN25) | for neutral and non-neutral media, not back pressure compensated.<br>Environment protected from the effects of the medium.      |

■ MEDIUM

|    |                    |                                                                       |
|----|--------------------|-----------------------------------------------------------------------|
| GF | gaseous and liquid | Air, vapours, gases, liquids and - depending on seal - also for steam |
|----|--------------------|-----------------------------------------------------------------------|

■ TYPE OF LIFTING MECHANISM

|   |                        |
|---|------------------------|
| L | Lifting lever          |
| 0 | without lifting device |

■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

| Nominal diameter DN |             | 10        | 15        | 20        | 25      | 32          |
|---------------------|-------------|-----------|-----------|-----------|---------|-------------|
| Inlet               |             | 3/8" (10) | 1/2" (15) | 3/4" (20) | 1" (25) | 1 1/4" (32) |
| Outlet              | 3/8" (10)   | ■         |           |           |         |             |
|                     | 1/2" (15)   |           | ■         |           |         |             |
|                     | 3/4" (20)   |           |           | ■         |         |             |
|                     | 1" (25)     |           |           |           | ■       |             |
|                     | 1 1/4" (32) |           |           |           |         | ■           |

■ TYPE OF CONNECTION INLET / OUTLET

|               |          |                                           |                                     |                               |
|---------------|----------|-------------------------------------------|-------------------------------------|-------------------------------|
| f / f         | Standard | Female thread BSP-P / Female thread BSP-P | DIN EN ISO 228-1 / DIN EN ISO 228-1 |                               |
| m / f         |          | Male thread BSP-P / Female thread BSP-P   | DIN EN ISO 228-1 / DIN EN ISO 228-1 |                               |
| NPT-f / NPT-f |          | Female thread NPT-f / Female thread NPT-f | ANSI B1.20.1 / ANSI B1.20.1         |                               |
| NPT-m / NPT-f |          | Male thread NPT-m / Female thread NPT-f   | ANSI B1.20.1 / ANSI B1.20.1         |                               |
| KLSISO/f      |          | Clamp connection / Female thread BSP-P    | DIN 32676-B / DIN EN ISO 228-1      | Pipe Standard DIN EN ISO 1127 |

Other connection types possible on request

■ SEAT SEALS / DIAPHRAGMS (FOR VERSION m)

|             |                                                            |                                 |                  |
|-------------|------------------------------------------------------------|---------------------------------|------------------|
| PTFE / EPDM | Polytetrafluorethylen / Ethylen-Propylene-Diene (Standard) | Flat seal and moulded diaphragm | -50°C to +205°C  |
| EPDM / EPDM | Ethylen-Propylene-Diene / Ethylen-Propylene-Diene          | Flat seal and moulded diaphragm | -50°C bis +150°C |
| PTFE / FKM  | Polytetrafluorethylen / Fluorcarbon                        | Flat seal and moulded diaphragm | -30°C to +200°C  |
| FKM / FKM   | Fluorcarbon / Fluorcarbon                                  | Flat seal and moulded diaphragm | -20°C to +200°C  |

■ SEAT SEALS / SEALS (FOR VERSION t)

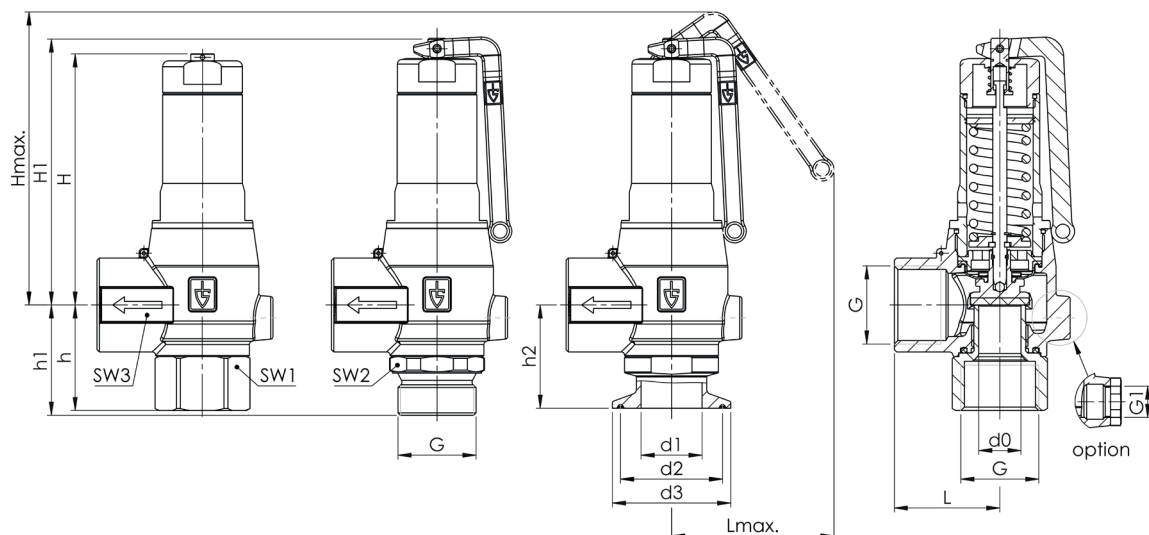
|       |                                  |           |                 |
|-------|----------------------------------|-----------|-----------------|
| PTFE¹ | Polytetrafluorethylen (Standard) | Flat seal | -50°C to +200°C |
| FKM   | Fluorcarbon                      | Flat seal | -30°C to +200°C |
| EPDM  | Ethylen-Propylene-Diene          | Flat seal | -50°C to +150°C |

¹For PTFE seat seals, secondary seals are made of FKM as standard. Secondary seals are optionally available in EPDM (order code S24).

| Series 4420: Connection, installation dimensions, ranges of adjustment |           |                |           |           |           |          |             |
|------------------------------------------------------------------------|-----------|----------------|-----------|-----------|-----------|----------|-------------|
| Nominal diameter                                                       |           | DN             | 10        | 15        | 20        | 25       | 32          |
| Connection DIN EN ISO 228                                              |           | G              | 3/8" (10) | 1/2" (15) | 3/4" (20) | 1 " (25) | 1 1/4" (32) |
| Outlet DIN EN ISO 228                                                  |           | G              | 3/8" (10) | 1/2" (15) | 3/4" (20) | 1 " (25) | 1 1/4" (32) |
| Installation dimensions<br>in mm                                       |           | L              | 30        | 35,5      | 42,5      | 45       | 48          |
|                                                                        |           | Lmax           | 63        | 63        | 75        | 77       | 102         |
|                                                                        |           | H              | 78        | 82        | 97        | 107      | 132         |
|                                                                        |           | H1             | 98        | 95        | 110       | 119      | 148         |
|                                                                        |           | h              | 29        | 35        | 42        | 45       | 53          |
|                                                                        |           | h1             | 31        | 35        | 42        | 47       | 55          |
|                                                                        |           | h2             | 34        | 34        | 39        | 44       | 51          |
|                                                                        |           | Hmax           | 107       | 107       | 125       | 137      | 168         |
|                                                                        |           | d1             | 14        | 18,1      | 23,7      | 29,7     | 38,4        |
|                                                                        |           | d2             | 22,2      | 43,5      | 43,5      | 43,5     | 56,5        |
|                                                                        |           | d3             | 25        | 50,5      | 50,5      | 50,5     | 64          |
|                                                                        |           | SW1            | 22        | 30        | 36        | 36       | 50          |
|                                                                        |           | SW2            | 22        | 30        | 36        | 38       | 50          |
|                                                                        |           | SW3            | 22        | 27        | 34        | 41       | 50          |
|                                                                        |           | G1             | -         | -         | -         | 1/4"     | 1/4"        |
|                                                                        |           | do             | 9         | 13        | 15        | 18       | 23          |
| Coefficients of flow<br>ISO 4126-1                                     | version m | αw /Kdr (F)    | -         | 0,45      | 0,45      | 0,43     | 0,43        |
|                                                                        | version m | αw /Kdr (D/G)* | -         | 0,64      | 0,64      | 0,63     | 0,63        |
|                                                                        | version t | αw /Kdr (F)    | 0,4       | 0,41      | 0,41      | 0,4      | -           |
|                                                                        | version t | αw /Kdr (D/G)* | 0,6       | 0,6       | 0,6       | 0,58     | -           |
| Coefficients of flow ASME-<br>Code Sec. XIII                           | version m | αw /Kdr (F)    | -         | 0,43      | 0,43      | 0,43     | 0,43        |
|                                                                        | version m | αw /Kdr (D/G)  | -         | 0,65      | 0,65      | 0,65     | 0,65        |
|                                                                        | version t | αw /Kdr (F)    | -         | 0,418     | 0,418     | 0,418    | -           |
|                                                                        | version t | αw /Kdr (D/G)  | 0,638     | 0,638     | 0,638     | 0,638    | -           |
| Weight                                                                 |           | kg             | 0,35      | 0,5       | 0,9       | 1,1      | 1,9         |
| Range of adjustment                                                    | version m | bar            | -         | 0,5 - 16  | 0,5 - 16  | 0,5 - 16 | 0,5 - 16    |
|                                                                        | version t | bar            | 0,2 - 25  | 0,2 - 25  | 0,2 - 25  | 0,2 - 25 | -           |
| Range of adjustment<br>ASME                                            | version m | psi            | -         | 15 - 232  | 15 - 232  | 15 - 232 | 15 - 232    |
|                                                                        | version t | psi            | 15 - 363  | 15 - 363  | 15 - 363  | 15 - 363 | -           |

\*Flow coefficients for blow-off pressures < 3,5 bar.

■ MAIN DIMENSIONS, INSTALLATION DIMENSIONS



| Series | Valve version | Medium | Lifting device | Nominal diameter DN | Connection type |        | Connection size |        | Seal      | Options | Set pressure | Quantity |
|--------|---------------|--------|----------------|---------------------|-----------------|--------|-----------------|--------|-----------|---------|--------------|----------|
|        |               |        |                |                     | Inlet           | Outlet | Inlet           | Outlet |           |         |              |          |
| 4420   | m             | GF     | L              | 15                  | f               | f      | 15              | 15     | PTFE/EPDM |         | 6            | 2        |
| 4420   | t             | GF     | O              | 25                  | m               | f      | 25              | 25     | FKM       |         | 2            | 4        |
| 4420   |               | GF     |                |                     |                 | f      |                 |        |           |         |              |          |
| 4420   |               | GF     |                |                     |                 | f      |                 |        |           |         |              |          |

■ TECHNICAL FINISHES, VARIANTS, ACCESSORIES

|     |                                              |                          |
|-----|----------------------------------------------|--------------------------|
| A02 | Connection for condensate in the outlet body | <input type="checkbox"/> |
| S24 | Side seals made of EPDM                      | <input type="checkbox"/> |
|     |                                              | <input type="checkbox"/> |

■ PROPERTIES

|     |                                 |                          |  |                          |
|-----|---------------------------------|--------------------------|--|--------------------------|
| 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 | Sealing material<br>Manufacturer certification (FDA, USP 3, 3-A,...),<br>Please indicate description of certificate: ..... | <input type="checkbox"/> |     |                                                                                                                                   | <input type="checkbox"/> |

■ ADMISSIONS / ACCREDITATIONS

|     |                                                                              |                          |    |                                                                                  |                          |
|-----|------------------------------------------------------------------------------|--------------------------|----|----------------------------------------------------------------------------------|--------------------------|
| AA1 | EC Type examination acc. to Directive 2014/68/EU                             | <input type="checkbox"/> | AL | Individual inspection by notified body inspector – (body to be indicated): ..... | <input type="checkbox"/> |
| AA2 | TÜV component test acc. to VdTÜV specification sheet SV 100                  | <input type="checkbox"/> |    |                                                                                  | <input type="checkbox"/> |
| AA3 | Certification acc. to ASME Boiler and Pressure Vessel Code, Sec. XIII (ASME) | <input type="checkbox"/> |    |                                                                                  | <input type="checkbox"/> |
|     |                                                                              | <input type="checkbox"/> |    |                                                                                  | <input type="checkbox"/> |
|     |                                                                              | <input type="checkbox"/> |    |                                                                                  | <input type="checkbox"/> |

■ ENQUIRY

Copy and send to: [order@goetze.de](mailto:order@goetze.de).

■ CAPACITY TABLE ACC. TO ISO 4126-1 / AD2000 A2

| Series 4420 - Version m (with diaphragm): Blowing-off rates at 10% above set pressure |     |      |     |      |      |      |      |      |      |      |      |      |      |
|---------------------------------------------------------------------------------------|-----|------|-----|------|------|------|------|------|------|------|------|------|------|
| Nominal diameter DN                                                                   |     | 15   |     |      | 20   |      |      | 25   |      |      | 32   |      |      |
| Set pressure bar                                                                      |     | I    | II  | III  | I    | II   | III  | I    | II   | III  | I    | II   | III  |
| Air I<br>Nm³/h                                                                        | 0,5 | 76   | 62  | 2,3  | 101  | 83   | 3,1  | 143  | 117  | 4,3  | 234  | 191  | 7,0  |
|                                                                                       | 1   | 110  | 88  | 3,2  | 147  | 117  | 4,2  | 207  | 165  | 5,8  | 338  | 269  | 9,5  |
|                                                                                       | 2   | 180  | 142 | 4,5  | 240  | 189  | 6,0  | 340  | 268  | 8,2  | 556  | 437  | 13,5 |
| Steam II<br>kg/h                                                                      | 3   | 248  | 193 | 5,5  | 330  | 257  | 7,3  | 468  | 365  | 10,1 | 764  | 595  | 16,5 |
|                                                                                       | 4   | 312  | 242 | 6,4  | 416  | 322  | 8,5  | 592  | 458  | 11,7 | 966  | 748  | 19,1 |
|                                                                                       | 5   | 376  | 290 | 7,1  | 501  | 386  | 9,5  | 712  | 549  | 13,1 | 1163 | 896  | 21,3 |
| Water III<br>m³/h                                                                     | 6   | 440  | 337 | 7,8  | 586  | 449  | 10,4 | 833  | 639  | 14,3 | 1359 | 1043 | 23,4 |
|                                                                                       | 7   | 503  | 385 | 8,4  | 670  | 513  | 11,2 | 953  | 729  | 15,5 | 1556 | 1190 | 25,2 |
|                                                                                       | 8   | 567  | 432 | 9,0  | 755  | 576  | 12,0 | 1074 | 819  | 16,5 | 1753 | 1337 | 27,0 |
|                                                                                       | 9   | 631  | 480 | 9,6  | 840  | 639  | 12,7 | 1194 | 908  | 17,5 | 1950 | 1483 | 28,6 |
|                                                                                       | 10  | 694  | 527 | 10,1 | 925  | 702  | 13,4 | 1315 | 998  | 18,5 | 2147 | 1629 | 30,2 |
|                                                                                       | 11  | 758  | 574 | 10,6 | 1009 | 765  | 14,1 | 1435 | 1088 | 19,4 | 2343 | 1776 | 31,7 |
|                                                                                       | 12  | 822  | 622 | 11,1 | 1094 | 828  | 14,7 | 1556 | 1177 | 20,2 | 2540 | 1922 | 33,1 |
|                                                                                       | 13  | 885  | 669 | 11,5 | 1179 | 891  | 15,3 | 1676 | 1266 | 21,1 | 2737 | 2068 | 34,4 |
|                                                                                       | 14  | 949  | 716 | 11,9 | 1264 | 954  | 15,9 | 1797 | 1356 | 21,9 | 2934 | 2214 | 35,7 |
|                                                                                       | 15  | 1013 | 764 | 12,4 | 1348 | 1017 | 16,5 | 1917 | 1446 | 22,6 | 3130 | 2361 | 37,0 |
|                                                                                       | 16  | 1076 | 811 | 12,8 | 1433 | 1080 | 17,0 | 2038 | 1535 | 23,4 | 3327 | 2507 | 38,2 |

■ CAPACITY TABLE ACC. TO ASME-CODE SEC. XIII

| Series 4420 - Version m (with diaphragm): Blowing-off rates at 10% above set pressure |     |                                             |        |       |                                             |        |       |                                             |        |       |                                             |        |       |
|---------------------------------------------------------------------------------------|-----|---------------------------------------------|--------|-------|---------------------------------------------|--------|-------|---------------------------------------------|--------|-------|---------------------------------------------|--------|-------|
| Nominal diameter DN                                                                   |     | 15                                          |        |       | 20                                          |        |       | 25                                          |        |       | 32                                          |        |       |
|                                                                                       |     | d0 = 13,0 mm (0,5118 in)<br>A0 = 0,2057 in² |        |       | d0 = 15,0 mm (0,5906 in)<br>A0 = 0,2739 in² |        |       | d0 = 18,0 mm (0,7087 in)<br>A0 = 0,3944 in² |        |       | d0 = 23,0 mm (0,9055 in)<br>A0 = 0,6440 in² |        |       |
| Set pressure bar                                                                      |     | Air                                         | Steam  | Water | Air                                         | Steam  | Water | Air                                         | Steam  | Water | Air                                         | Steam  | Water |
| psi (g)                                                                               |     | SCFM                                        | PPH    | GPM   | SCFM                                        | PPH    | GPM   | SCFM                                        | PPH    | GPM   | SCFM                                        | PPH    | GPM   |
| Air I<br>SCFM                                                                         | 15  | 80,2                                        | 225,2  | 14,2  | 106,8                                       | 299,8  | 18,9  | 153,8                                       | 431,8  | 27,2  | 251,1                                       | 704,9  | 44,5  |
|                                                                                       | 30  | 117,0                                       | 328,5  | 19,2  | 155,8                                       | 437,4  | 25,6  | 224,3                                       | 629,8  | 36,9  | 366,2                                       | 1028,3 | 60,2  |
|                                                                                       | 40  | 144,0                                       | 404,3  | 22,2  | 191,7                                       | 538,2  | 29,6  | 276,0                                       | 775,0  | 42,6  | 450,7                                       | 1265,4 | 69,5  |
| Steam II<br>PPH                                                                       | 50  | 171,0                                       | 480,0  | 24,8  | 227,6                                       | 639,1  | 33,1  | 327,8                                       | 920,3  | 47,6  | 535,2                                       | 1502,6 | 77,8  |
|                                                                                       | 60  | 197,9                                       | 555,8  | 27,2  | 263,5                                       | 739,9  | 36,2  | 379,5                                       | 1065,5 | 52,2  | 619,6                                       | 1739,7 | 85,2  |
|                                                                                       | 70  | 224,9                                       | 631,5  | 29,4  | 299,5                                       | 840,8  | 39,1  | 431,2                                       | 1210,8 | 56,3  | 704,1                                       | 1976,8 | 92,0  |
| Water III<br>GPM                                                                      | 80  | 251,9                                       | 707,3  | 31,4  | 335,4                                       | 941,7  | 41,8  | 483,0                                       | 1356,0 | 60,2  | 788,5                                       | 2214,0 | 98,3  |
|                                                                                       | 90  | 278,9                                       | 783,1  | 33,3  | 371,3                                       | 1042,5 | 44,4  | 534,7                                       | 1501,2 | 63,9  | 873,0                                       | 2451,1 | 104,3 |
|                                                                                       | 100 | 305,9                                       | 858,8  | 35,1  | 407,2                                       | 1143,4 | 46,8  | 586,4                                       | 1646,5 | 67,3  | 957,4                                       | 2688,2 | 110,0 |
|                                                                                       | 110 | 332,9                                       | 934,6  | 36,8  | 443,1                                       | 1244,2 | 49,1  | 638,1                                       | 1791,7 | 70,6  | 1041,9                                      | 2925,4 | 115,3 |
|                                                                                       | 120 | 359,8                                       | 1010,3 | 38,5  | 479,1                                       | 1345,1 | 51,2  | 689,9                                       | 1936,9 | 73,8  | 1126,4                                      | 3162,5 | 120,5 |
|                                                                                       | 130 | 386,8                                       | 1086,1 | 40,1  | 515,0                                       | 1446,0 | 53,3  | 741,6                                       | 2082,2 | 76,8  | 1210,8                                      | 3399,6 | 125,4 |
|                                                                                       | 140 | 413,8                                       | 1161,8 | 41,6  | 550,9                                       | 1546,8 | 55,3  | 793,3                                       | 2227,4 | 79,7  | 1295,3                                      | 3636,8 | 130,1 |
|                                                                                       | 150 | 440,8                                       | 1237,6 | 43,0  | 586,8                                       | 1647,7 | 57,3  | 845,0                                       | 2372,7 | 82,5  | 1379,7                                      | 3873,9 | 134,7 |
|                                                                                       | 160 | 467,8                                       | 1313,3 | 44,4  | 622,8                                       | 1748,5 | 59,2  | 896,8                                       | 2517,9 | 85,2  | 1464,2                                      | 4111,0 | 139,1 |
|                                                                                       | 170 | 494,7                                       | 1389,1 | 45,8  | 658,7                                       | 1849,4 | 61,0  | 948,5                                       | 2663,1 | 87,8  | 1548,6                                      | 4348,2 | 143,4 |
|                                                                                       | 180 | 521,7                                       | 1464,9 | 47,1  | 694,6                                       | 1950,3 | 62,7  | 1000,2                                      | 2808,4 | 90,4  | 1633,1                                      | 4585,3 | 147,5 |
|                                                                                       | 190 | 548,7                                       | 1540,6 | 48,4  | 730,5                                       | 2051,1 | 64,5  | 1052,0                                      | 2953,6 | 92,8  | 1717,5                                      | 4822,4 | 151,6 |
|                                                                                       | 200 | 575,7                                       | 1616,4 | 49,7  | 766,4                                       | 2152,0 | 66,1  | 1103,7                                      | 3098,9 | 95,2  | 1802,0                                      | 5059,5 | 155,5 |
|                                                                                       | 210 | 602,7                                       | 1692,1 | 50,9  | 802,4                                       | 2252,8 | 67,8  | 1155,4                                      | 3244,1 | 97,6  | 1886,5                                      | 5296,7 | 159,3 |
|                                                                                       | 220 | 629,7                                       | 1767,9 | 52,1  | 838,3                                       | 2353,7 | 69,4  | 1207,1                                      | 3389,3 | 99,9  | 1970,9                                      | 5533,8 | 163,1 |
|                                                                                       | 230 | 656,6                                       | 1843,6 | 53,3  | 874,2                                       | 2454,6 | 70,9  | 1258,9                                      | 3534,6 | 102,1 | 2055,4                                      | 5770,9 | 166,8 |
|                                                                                       | 232 | 662,0                                       | 1858,8 | 53,5  | 881,4                                       | 2474,7 | 71,2  | 1269,2                                      | 3563,6 | 102,6 | 2072,3                                      | 5818,4 | 167,5 |

| Series 4420 - Version t (without diaphragm): Blowing-off rates at 10% above set pressure |     |     |     |      |      |      |      |      |      |      |      |      |      |
|------------------------------------------------------------------------------------------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|
| Nominal diameter DN                                                                      |     | 10  |     |      | 15   |      |      | 20   |      |      | 25   |      |      |
| Set pressure bar                                                                         |     | I   | II  | III  | I    | II   | III  | I    | II   | III  | I    | II   | III  |
| Air I                                                                                    | 0,2 | 21  | 18  | 0,7  | 45   | 38   | 1,5  | 60   | 51   | 2,0  | 84   | 71   | 2,8  |
| Nm³/h                                                                                    | 0,5 | 32  | 27  | 1,0  | 69   | 57   | 2,1  | 92   | 75   | 2,8  | 130  | 106  | 4,0  |
|                                                                                          | 1   | 48  | 38  | 1,4  | 103  | 82   | 2,9  | 137  | 109  | 3,8  | 191  | 153  | 5,4  |
| Steam II                                                                                 | 1,5 | 64  | 51  | 1,7  | 137  | 109  | 3,5  | 183  | 145  | 4,7  | 256  | 202  | 6,6  |
| kg/h                                                                                     | 2   | 79  | 62  | 1,9  | 169  | 133  | 4,1  | 225  | 177  | 5,5  | 318  | 250  | 7,7  |
|                                                                                          | 2,5 | 94  | 74  | 2,1  | 200  | 156  | 4,6  | 266  | 208  | 6,1  | 376  | 294  | 8,6  |
| Water III                                                                                | 3   | 108 | 84  | 2,4  | 231  | 180  | 5,0  | 308  | 240  | 6,7  | 434  | 338  | 9,4  |
|                                                                                          | 3,5 | 122 | 95  | 2,5  | 263  | 204  | 5,4  | 350  | 272  | 7,2  | 489  | 380  | 10,2 |
| m³/h                                                                                     | 4   | 136 | 105 | 2,7  | 294  | 227  | 5,8  | 391  | 303  | 7,7  | 545  | 421  | 10,9 |
|                                                                                          | 4,5 | 150 | 116 | 2,9  | 324  | 250  | 6,2  | 431  | 332  | 8,2  | 601  | 463  | 11,5 |
|                                                                                          | 5   | 164 | 126 | 3,0  | 354  | 272  | 6,5  | 472  | 362  | 8,6  | 656  | 504  | 12,1 |
|                                                                                          | 5,5 | 178 | 136 | 3,2  | 384  | 295  | 6,8  | 512  | 392  | 9,1  | 712  | 546  | 12,7 |
|                                                                                          | 6   | 192 | 147 | 3,3  | 414  | 317  | 7,1  | 552  | 422  | 9,5  | 768  | 587  | 13,3 |
|                                                                                          | 6,5 | 206 | 157 | 3,5  | 445  | 339  | 7,4  | 592  | 452  | 9,9  | 824  | 628  | 13,9 |
|                                                                                          | 7   | 220 | 167 | 3,6  | 475  | 361  | 7,7  | 632  | 481  | 10,2 | 880  | 670  | 14,4 |
|                                                                                          | 7,5 | 234 | 178 | 3,7  | 505  | 384  | 8,0  | 672  | 511  | 10,6 | 936  | 711  | 14,9 |
|                                                                                          | 8   | 248 | 188 | 3,8  | 535  | 406  | 8,2  | 712  | 540  | 10,9 | 992  | 752  | 15,4 |
|                                                                                          | 8,5 | 262 | 198 | 4,0  | 565  | 428  | 8,5  | 753  | 570  | 11,3 | 1048 | 793  | 15,8 |
|                                                                                          | 9   | 276 | 209 | 4,1  | 596  | 450  | 8,7  | 793  | 600  | 11,6 | 1104 | 835  | 16,3 |
|                                                                                          | 9,5 | 290 | 219 | 4,2  | 626  | 473  | 9,0  | 833  | 629  | 11,9 | 1160 | 876  | 16,8 |
|                                                                                          | 10  | 304 | 229 | 4,3  | 656  | 495  | 9,2  | 874  | 659  | 12,2 | 1216 | 917  | 17,2 |
|                                                                                          | 11  | 332 | 250 | 4,5  | 717  | 539  | 9,6  | 954  | 717  | 12,8 | 1328 | 999  | 18,0 |
|                                                                                          | 12  | 360 | 270 | 4,7  | 778  | 583  | 10,1 | 1035 | 776  | 13,4 | 1441 | 1081 | 18,8 |
|                                                                                          | 13  | 388 | 291 | 4,9  | 838  | 627  | 10,5 | 1116 | 835  | 14,0 | 1554 | 1162 | 19,6 |
|                                                                                          | 14  | 417 | 311 | 5,1  | 899  | 672  | 10,9 | 1197 | 894  | 14,5 | 1667 | 1245 | 20,3 |
|                                                                                          | 15  | 445 | 332 | 5,3  | 960  | 716  | 11,3 | 1278 | 953  | 15,0 | 1780 | 1326 | 21,1 |
|                                                                                          | 16  | 473 | 352 | 5,4  | 1021 | 760  | 11,6 | 1360 | 1012 | 15,5 | 1893 | 1408 | 21,8 |
|                                                                                          | 17  | 502 | 372 | 5,6  | 1082 | 804  | 12,0 | 1441 | 1070 | 16,0 | 2006 | 1490 | 22,4 |
| 18                                                                                       | 530 | 393 | 5,8 | 1144 | 848  | 12,3 | 1523 | 1129 | 16,4 | 2120 | 1571 | 23,1 |      |
| 19                                                                                       | 558 | 413 | 5,9 | 1205 | 892  | 12,7 | 1604 | 1188 | 16,9 | 2233 | 1653 | 23,7 |      |
| 20                                                                                       | 587 | 434 | 6,1 | 1267 | 936  | 13,0 | 1686 | 1247 | 17,3 | 2347 | 1735 | 24,3 |      |
| 21                                                                                       | 615 | 454 | 6,2 | 1328 | 981  | 13,3 | 1768 | 1306 | 17,7 | 2461 | 1817 | 24,9 |      |
| 22                                                                                       | 644 | 475 | 6,4 | 1390 | 1025 | 13,6 | 1850 | 1364 | 18,2 | 2575 | 1899 | 25,5 |      |
| 23                                                                                       | 672 | 495 | 6,5 | 1451 | 1069 | 13,9 | 1932 | 1423 | 18,6 | 2690 | 1981 | 26,1 |      |
| 24                                                                                       | 701 | 516 | 6,7 | 1513 | 1113 | 14,2 | 2015 | 1482 | 19,0 | 2804 | 2063 | 26,6 |      |
| 25                                                                                       | 730 | 536 | 6,8 | 1575 | 1157 | 14,5 | 2097 | 1541 | 19,4 | 2919 | 2145 | 27,2 |      |

| Series 4420 - Version t (without diaphragm): Blowing-off rates at 10% above set pressure |     |                                           |        |       |                                            |        |       |                                            |        |       |                                            |        |       |
|------------------------------------------------------------------------------------------|-----|-------------------------------------------|--------|-------|--------------------------------------------|--------|-------|--------------------------------------------|--------|-------|--------------------------------------------|--------|-------|
| Nominal diameter DN                                                                      |     | 10                                        |        |       | 15                                         |        |       | 20                                         |        |       | 25                                         |        |       |
|                                                                                          |     | d0 = 9,0mm (0,3543 in)<br>A0 = 0,0986 in² |        |       | d0 = 13,0mm (0,5118 in)<br>A0 = 0,2057 in² |        |       | d0 = 15,0mm (0,5906 in)<br>A0 = 0,2739 in² |        |       | d0 = 18,0mm (0,7087 in)<br>A0 = 0,3944 in² |        |       |
|                                                                                          |     | Air                                       | Steam  | Water | Air                                        | Steam  | Water | Air                                        | Steam  | Water | Air                                        | Steam  | Water |
| Set pressure bar (g)                                                                     |     | I                                         | II     | III   | I                                          | II     | III   | I                                          | II     | III   | I                                          | II     | III   |
| psi (g)                                                                                  |     | SCFM                                      | PPH    | GPM   | SCFM                                       | PPH    | GPM   | SCFM                                       | PPH    | GPM   | SCFM                                       | PPH    | GPM   |
| Air I                                                                                    | 15  | 37,7                                      | 105,9  | -     | 78,7                                       | 221,0  | 13,8  | 104,8                                      | 294,3  | 18,4  | 150,9                                      | 423,8  | 26,5  |
|                                                                                          | 30  | 55,0                                      | 154,5  | -     | 114,8                                      | 322,4  | 18,7  | 152,9                                      | 429,3  | 25,0  | 220,2                                      | 618,2  | 35,9  |
| SCFM                                                                                     | 40  | 67,7                                      | 190,2  | -     | 141,3                                      | 396,8  | 21,6  | 188,2                                      | 528,3  | 28,8  | 270,9                                      | 760,7  | 41,5  |
|                                                                                          | 50  | 80,4                                      | 225,8  | -     | 167,8                                      | 471,2  | 24,2  | 223,4                                      | 627,3  | 32,2  | 321,7                                      | 903,3  | 46,4  |
| Steam II                                                                                 | 60  | 93,1                                      | 261,5  | -     | 194,3                                      | 545,5  | 26,5  | 258,7                                      | 726,3  | 35,3  | 372,5                                      | 1045,8 | 50,8  |
| PPH                                                                                      | 70  | 105,8                                     | 297,1  | -     | 220,8                                      | 619,9  | 28,6  | 293,9                                      | 825,3  | 38,1  | 423,3                                      | 1188,4 | 54,9  |
|                                                                                          | 80  | 118,5                                     | 332,7  | -     | 247,3                                      | 694,2  | 30,6  | 329,2                                      | 924,3  | 40,8  | 474,0                                      | 1331,0 | 58,7  |
|                                                                                          | 90  | 131,2                                     | 368,4  | -     | 273,7                                      | 768,6  | 32,5  | 364,4                                      | 1023,3 | 43,2  | 524,8                                      | 1473,5 | 62,3  |
|                                                                                          | 100 | 143,9                                     | 404,0  | -     | 300,2                                      | 843,0  | 34,2  | 399,7                                      | 1122,3 | 45,6  | 575,6                                      | 1616,1 | 65,6  |
| Water III                                                                                | 110 | 156,6                                     | 439,7  | -     | 326,7                                      | 917,3  | 35,9  | 435,0                                      | 1221,3 | 47,8  | 626,4                                      | 1758,6 | 68,8  |
| GPM                                                                                      | 120 | 169,3                                     | 475,3  | -     | 353,2                                      | 991,7  | 37,5  | 470,2                                      | 1320,3 | 49,9  | 677,1                                      | 1901,2 | 71,9  |
|                                                                                          | 130 | 182,0                                     | 510,9  | -     | 379,7                                      | 1066,0 | 39,0  | 505,5                                      | 1419,3 | 52,0  | 727,9                                      | 2043,7 | 74,8  |
|                                                                                          | 140 | 194,7                                     | 546,6  | -     | 406,2                                      | 1140,4 | 40,5  | 540,7                                      | 1518,3 | 53,9  | 778,7                                      | 2186,3 | 77,6  |
|                                                                                          | 150 | 207,4                                     | 582,2  | -     | 432,6                                      | 1214,7 | 41,9  | 576,0                                      | 1617,3 | 55,8  | 829,4                                      | 2328,9 | 80,4  |
|                                                                                          | 160 | 220,1                                     | 617,9  | -     | 459,1                                      | 1289,1 | 43,3  | 611,3                                      | 1716,3 | 57,6  | 880,2                                      | 2471,4 | 83,0  |
|                                                                                          | 170 | 232,7                                     | 653,5  | -     | 485,6                                      | 1363,5 | 44,6  | 646,5                                      | 1815,3 | 59,4  | 931,0                                      | 2614,0 | 85,6  |
|                                                                                          | 180 | 245,4                                     | 689,1  | -     | 512,1                                      | 1437,8 | 45,9  | 681,8                                      | 1914,3 | 61,1  | 981,8                                      | 2756,5 | 88,0  |
|                                                                                          | 190 | 258,1                                     | 724,8  | -     | 538,6                                      | 1512,2 | 47,2  | 717,0                                      | 2013,3 | 62,8  | 1032,5                                     | 2899,1 | 90,5  |
|                                                                                          | 200 | 270,8                                     | 760,4  | -     | 565,1                                      | 1586,5 | 48,4  | 752,3                                      | 2112,3 | 64,4  | 1083,3                                     | 3041,6 | 92,8  |
|                                                                                          | 210 | 283,5                                     | 796,1  | -     | 591,5                                      | 1660,9 | 49,6  | 787,6                                      | 2211,3 | 66,0  | 1134,1                                     | 3184,2 | 95,1  |
|                                                                                          | 220 | 296,2                                     | 831,7  | -     | 618,0                                      | 1735,3 | 50,8  | 822,8                                      | 2310,2 | 67,6  | 1184,9                                     | 3326,8 | 97,3  |
|                                                                                          | 230 | 308,9                                     | 867,3  | -     | 644,5                                      | 1809,6 | 51,9  | 858,1                                      | 2409,2 | 69,1  | 1235,6                                     | 3469,3 | 99,5  |
|                                                                                          | 240 | 321,6                                     | 903,0  | -     | 671,0                                      | 1884,0 | 53,0  | 893,3                                      | 2508,2 | 70,6  | 1286,4                                     | 3611,9 | 101,7 |
|                                                                                          | 250 | 334,3                                     | 938,6  | -     | 697,5                                      | 1958,3 | 54,1  | 928,6                                      | 2607,2 | 72,1  | 1337,2                                     | 3754,4 | 103,8 |
|                                                                                          | 260 | 347,0                                     | 974,2  | -     | 724,0                                      | 2032,7 | 55,2  | 963,9                                      | 2706,2 | 73,5  | 1387,9                                     | 3897,0 | 105,8 |
|                                                                                          | 270 | 359,7                                     | 1009,9 | -     | 750,4                                      | 2107,0 | 56,2  | 999,1                                      | 2805,2 | 74,9  | 1438,7                                     | 4039,5 | 107,8 |
|                                                                                          | 280 | 372,4                                     | 1045,5 | -     | 776,9                                      | 2181,4 | 57,3  | 1034,4                                     | 2904,2 | 76,3  | 1489,5                                     | 4182,1 | 109,8 |
|                                                                                          | 290 | 385,1                                     | 1081,2 | -     | 803,4                                      | 2255,8 | 58,3  | 1069,6                                     | 3003,2 | 77,6  | 1540,3                                     | 4324,7 | 111,7 |
|                                                                                          | 300 | 397,8                                     | 1116,8 | -     | 829,9                                      | 2330,1 | 59,3  | 1104,9                                     | 3102,2 | 78,9  | 1591,0                                     | 4467,2 | 113,7 |
|                                                                                          | 310 | 410,5                                     | 1152,4 | -     | 856,4                                      | 2404,5 | 60,3  | 1140,1                                     | 3201,2 | 80,2  | 1641,8                                     | 4609,8 | 115,5 |
|                                                                                          | 320 | 423,1                                     | 1188,1 | -     | 882,9                                      | 2478,8 | 61,2  | 1175,4                                     | 3300,2 | 81,5  | 1692,6                                     | 4752,3 | 117,4 |
|                                                                                          | 330 | 435,8                                     | 1223,7 | -     | 909,3                                      | 2553,2 | 62,2  | 1210,7                                     | 3399,2 | 82,8  | 1743,4                                     | 4894,9 | 119,2 |
|                                                                                          | 340 | 448,5                                     | 1259,4 | -     | 935,8                                      | 2627,6 | 63,1  | 1245,9                                     | 3498,2 | 84,0  | 1794,1                                     | 5037,4 | 121,0 |
|                                                                                          | 350 | 461,2                                     | 1295,0 | -     | 962,3                                      | 2701,9 | 64,0  | 1281,2                                     | 3597,2 | 85,3  | 1844,9                                     | 5180,0 | 122,8 |
|                                                                                          | 360 | 473,9                                     | 1330,6 | -     | 988,8                                      | 2776,3 | 64,9  | 1316,4                                     | 3696,2 | 86,5  | 1895,7                                     | 5322,6 | 124,5 |
|                                                                                          | 363 | 477,7                                     | 1341,3 | -     | 996,7                                      | 2798,6 | 65,2  | 1327,0                                     | 3725,9 | 86,8  | 1910,9                                     | 5365,3 | 125,0 |