

## → Series 684



### ■ SUITABLE FOR

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

### ■ EXAMPLES OF USE

For the protection of:

- commercial and industrial plants against too high supply pressure.

Use of pressure reducing valves, when in a piping system inspite of varying pressures on the inlet side a specific pressure on the outlet side must be kept.

- Compressed air supply plants
- Pneumatic control units
- Pressure booster plants air-side
- Shipbuilding industry and offshore plants
- Industrial gas plant construction
- PET blow moulding machines
- Blasting plants



### ■ MATERIAL



### ■ SPECIFICATION



1/4" – 2"



– 40°C to + 120°C  
depending on  
version



**Inlet pressure:**  
up to 60 bar  
**Outlet pressure:**  
0,5 to 50 bar  
depending on version

### ■ APPROVALS

European Pressure Equipment Directive

TR ZU 032/2013 - TR ZU 010/2011

#### Requirements

PED 2014/68/EU  
UK PESR 2016 No. 1105

#### Classification society

|                                       |         |
|---------------------------------------|---------|
| DNV                                   | DNV     |
| Lloyd's Register EMEA                 | LR EMEA |
| Bureau Veritas                        | BV      |
| Russian Maritime Register of Shipping | RS      |
| Registro Italiano Navale              | RINA    |

### ■ MATERIALS

| Component      | Material                               | DIN EN | ASME      |
|----------------|--|--------|-----------|
| Inlet body     | Gunmetal                               | CC499K | CC499K    |
| Outlet body    | Gunmetal                               | CC499K | CC499K    |
| Internal parts | Brass                                  | CW617N | CW617N    |
| Spring         | Spring steel with anti-rust protection | 1.1200 | ASTM A228 |

|          |                |   |
|----------|----------------|---|
| <b>m</b> | with diaphragm | High-quality heat-resistant elastomere, fabric reinforced diaphragm. Adjustment by means of non-rising spindle. Balanced single seat valve, pressure gauge connection G1/4" on both sides of body. Please take note of the outlet pressure range. |
| <b>k</b> | with piston    | Brass piston with seal and support ring. Adjustment by means of non-rising spindle. Balanced single seat valve, pressure gauge connection G1/4" on both sides of body. Please take note of the outlet pressure ranges.                            |

## ■ MEDIUM

|            |  |  |
|------------|--|--|
| <b>GS</b>  | gaseous with secondary venting               | Compressed air and gases.<br>Non-neutral, poisonous gases only in combination with ducted exhaust. |
| <b>GFO</b> | gaseous and liquid without secondary venting | for water and non-sticking liquids, compressed air and gases                                       |

## ■ OUTLET PRESSURE RANGES

|           |                                   |                              |                                |
|-----------|-----------------------------------|------------------------------|--------------------------------|
| <b>SM</b> | Standard version with diaphragm   | Inlet pressure: up to 60 bar | Outlet pressure: 0,5 to 15 bar |
| <b>SK</b> | Standard version with piston      | Inlet pressure: up to 60 bar | Outlet pressure: 5 to 30 bar   |
| <b>HK</b> | High-pressure version with piston | Inlet pressure: up to 60 bar | Outlet pressure: 10 to 50 bar  |

## ■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

| Nominal diameter DN      | 8        | 10        | 15        | 20        | 25      | 40          | 50      |
|--------------------------|----------|-----------|-----------|-----------|---------|-------------|---------|
| Inlet female connection  | 1/4" (8) | 3/8" (10) | 1/2" (15) | 3/4" (20) | 1" (25) | 1 1/2" (40) | 2" (50) |
| Outlet female connection | 1/4" (8) | 3/8" (10) | 1/2" (15) | 3/4" (20) | 1" (25) | 1 1/2" (40) | 2" (50) |

## ■ TYPE OF CONNECTION INLET / OUTLET THREADED CONNECTIONS

|              |          |   |                                     |
|--------------|----------|---|-------------------------------------|
| <b>f / f</b> | Standard | Female thread BSP-P / Female thread BSP-P | DIN EN ISO 228-1 / DIN EN ISO 228-1 |
|--------------|----------|---|-------------------------------------|

## ■ SEALS

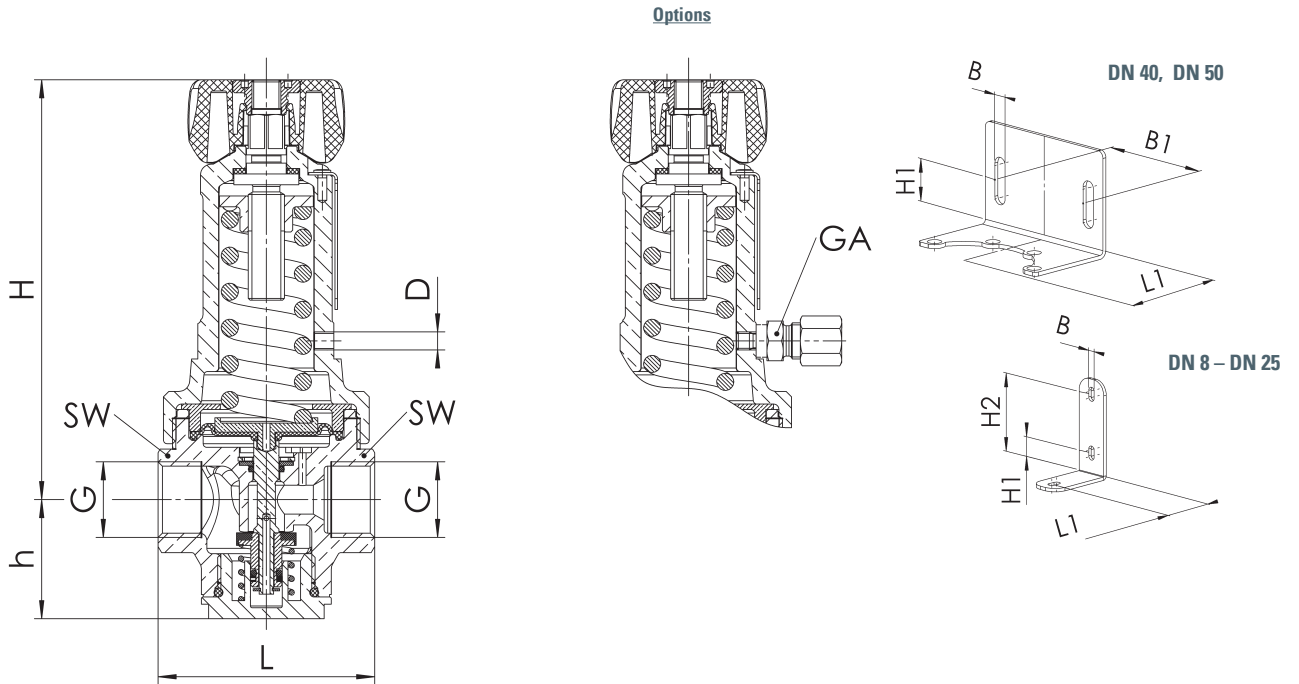
|             |                          |  |                 |
|-------------|--------------------------|--|-----------------|
| <b>FKM</b>  | Fluorocarbon             | Elastomere moulded diaphragm and seals | -10°C to +120°C |
| <b>EPDM</b> | Ethylene propylene diene | Elastomere moulded diaphragm and seals | -40°C to +120°C |

■ NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

| Series 684: Connection, installation dimensions, ranges of adjustment |                   |          |           |           |           |         |             |           |
|---|-------------------|----------|-----------|-----------|-----------|---------|-------------|-----------|
| Nominal diameter  | DN                | 8        | 10        | 15        | 20        | 25      | 40          | 50        |
| Connection DIN EN ISO 228   | G                 | 1/4" (8) | 3/8" (10) | 1/2" (15) | 3/4" (20) | 1" (25) | 1 1/2" (40) | 2" (50)   |
| Inlet pressure up to  | bar               | 60       | 60        | 60        | 60        | 60      | 60          | 60        |
| Outlet pressure:  | SM                | 0,5-15   | 0,5-15    | 0,5-15    | 0,5-15    | 0,5-15  | 0,5-15      | 0,5-15    |
|   | SK                | 5-30     | 5-30      | 5-30      | 5-30      | 5-30    | 5-30        | 5-30      |
|   | HK                | 10-50    | 10-50     | 10-50     | 10-50     | 10-50   | 10-50       | 10-50     |
| Installation dimensions in mm   | L                 | 68       | 68        | 60        | 78        | 102     | 136         | 136       |
|   | H                 | 120      | 120       | 120       | 180       | 215     | 260         | 270       |
|   | h                 | 33       | 33        | 33        | 40        | 56      | 63          | 70        |
|   | SW                | 26       | 26        | 26        | 32        | 44      | 58          | 70        |
| Ducted exhaust connection   | D                 | 1/8"     | 1/8"      | 1/8"      | 1/8"      | 1/8"    | 1/8"        | 1/8"      |
| Dimensions of optional wall mount                                     | L1                | 38       | 38        | 38        | 51        | 61      | 85          | 85        |
|   | H1 / H2           | 18 / 62  | 18 / 62   | 18 / 62   | 18 / 58   | 22 / 80 | 15          | 15        |
|   | B / B1            | 5,5      | 5,5       | 5,5       | 6,5       | 8,5     | 10,5 / 90   | 10,5 / 90 |
| Weight  | kg                | 1,2      | 1,2       | 1,2       | 2,8       | 5,3     | 9,4         | 10,2      |
| Coefficient of flow $K_{vs}$  | m <sup>3</sup> /h | 1,6      | 1,6       | 1,6       | 3,4       | 5,5     | 12,7        | 12,7      |

The  $K_{vs}$  value was determined according to DIN EN 60534-2-3. Instructions on how to determine size and capacity are to be found under section 2.

■ MAIN DIMENSIONS, INSTALLATION DIMENSIONS



Series 684 ■ INDIVIDUAL SELECTION / VALVE CONFIGURATION

| Series | Valve version | Medium     | Outlet pressure | Nominal diameter DN | Connection type |          | Connection size |           | Seal | Options     | Optional: fixed setting | Quantity |
|--------|---------------|------------|-----------------|---------------------|-----------------|----------|-----------------|-----------|------|-------------|-------------------------|----------|
|        |               |            |                 |                     | Inlet           | Outlet   | Inlet           | Outlet    |      |             |                         |          |
| 684    | <i>m</i>      | <i>GS</i>  | <i>SM</i>       | <i>20</i>           | <b>f</b>        | <b>f</b> | <i>20</i>       | <i>20</i> |      | <i>FKM</i>  | <i>S17</i>              | <i>5</i> |
| 684    | <i>k</i>      | <i>GFO</i> | <i>SK</i>       | <i>40</i>           | <b>f</b>        | <b>f</b> | <i>40</i>       | <i>40</i> |      | <i>EPDM</i> |                         | <i>1</i> |
| 684    |               |            |                 |                     | <b>f</b>        | <b>f</b> |                 |           |      |             |                         |          |
| 684    |               |            |                 |                     | <b>f</b>        | <b>f</b> |                 |           |      |             |                         |          |

■ PROPERTIES

|            |   |                          |                          |
|------------|---|--------------------------|--------------------------|
| <b>S17</b> | Supply with manometers suitable for the valve finish                                      | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>S27</b> | Without hand wheel, plastic cap. To be set by means of hexagon wrench                     | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>S68</b> | Wall mount  | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>S69</b> | Inside coating for improving the dry run properties with strong solvents such as e.g. CO2 | <input type="checkbox"/> | <input type="checkbox"/> |

\*Only valid for nominal width DN 8, DN 10, DN 15 and DN 25.

■ OPTIONS

|            |  |                          |            |   |                          |
|------------|--|--------------------------|------------|---|--------------------------|
| <b>GOX</b> | Especially for gaseous O2 applications by employment of specific materials including oil- and grease free production process | <input type="checkbox"/> | <b>P10</b> | Ducted secondary venting of non-neutral gases in case of medium G                   | <input type="checkbox"/> |
| <b>P01</b> | Oil- and grease-free production  | <input type="checkbox"/> | <b>FE</b>  | Setting and sealing   | <input type="checkbox"/> |
| <b>P02</b> | Chemically nickel-plated finish  | <input type="checkbox"/> | <b>S71</b> | Preliminary setup for protection against manipulation of the preset pressure (seal) | <input type="checkbox"/> |
| <b>P03</b> | Galvanically nickel-plated finish  | <input type="checkbox"/> |            |   | <input type="checkbox"/> |

■ CERTIFICATES / APPROVALS

|            |   |                          |            |  |                          |
|------------|---|--------------------------|------------|--|--------------------------|
| <b>C01</b> | Factory certificate acc. DIN EN 10204 2.2 (WKZ 2.2)                                 | <input type="checkbox"/> | <b>C05</b> | Sealing material<br>Manufacturer certification (FDA, USP 3, 3-A,...),<br>Please indicate description of certificate: ..... | <input type="checkbox"/> |
| <b>C02</b> | Test certificate acc. DIN EN 10204 3.1 (WPZ 3.1)                                    | <input type="checkbox"/> | <b>C06</b> | ATEX evaluation acc. to 2014/34/EU   | <input type="checkbox"/> |
| <b>C03</b> | Material test certificate acc. DIN EN 10204 3.1 (MPZ 3.1) (pressure retaining part) | <input type="checkbox"/> | <b>C10</b> | Certificate of oil- and grease free production   | <input type="checkbox"/> |
| <b>C04</b> | TÜV/DEKRA individual inspection acc. EN 10204 3.2 (TÜV/DEKRA-APZ)                   | <input type="checkbox"/> |            |  | <input type="checkbox"/> |

■ ADMISSIONS / ACCREDITATIONS

|             |  |                                     |            |  |                          |
|-------------|--|-------------------------------------|------------|--|--------------------------|
| <b>AA1</b>  | EC Type examination acc. to Directive 2014/68/EU   | <input checked="" type="checkbox"/> | <b>AK1</b> | Det Norske Veritas (DNV) type approval                                     | <input type="checkbox"/> |
| <b>AA4</b>  | EAC - certificate/declaration with passport for the valve and laser marking of the valve | <input type="checkbox"/>            | <b>AK2</b> | Lloyd's Register (LR) type approval  | <input type="checkbox"/> |
| <b>AA11</b> | UK Type examination acc. to Directive UK PESR 2016 No. 1105                              | <input type="checkbox"/>            | <b>AK3</b> | American Bureau of Shipping (ABS) type approval                            | <input type="checkbox"/> |
|             |  | <input type="checkbox"/>            | <b>AK5</b> | Russian Maritime Register of Shipping (RMRS) type approval                 | <input type="checkbox"/> |
|             |  | <input type="checkbox"/>            | <b>AK6</b> | Registro Italiano Navale (RINA) type approval                              | <input type="checkbox"/> |
|             |  | <input type="checkbox"/>            | <b>AL</b>  | Individual inspection by notified body inspector – (body to be indicated): | <input type="checkbox"/> |

■ ENQUIRY

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