

# → Series 630

630

Overflow and pressure control valves  
made of gunmetal, straightway form  
with threaded connections  
–externally adjustable–



## ■ MATERIAL



## ■ SPECIFICATION



1/2" – 2"



– 20°C bis + 120°C



0,5 – 10 bar

## ■ SUITABLE FOR

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

## ■ EXAMPLES OF USE

For the protection of:

- pumps against overloading in closed circuits for neutral / non-neutral, non-sticking liquids

For the control of:

- systems under pressure for air, neutral / non-neutral gases and vapours

- test rig construction
- process equipment construction
- de-icing technology
- mechanical engineering
- industrial applications

## ■ APPROVALS

European Pressure Equipment Directive

TR ZU 032/2013 - TR ZU 010/2011

Requirements

PED 2014/68/EU

Classification society

|                                       |         |
|---------------------------------------|---------|
| DNV                                   | DNV     |
| Lloyd's Register EMEA                 | LR EMEA |
| American Bureau of Shipping           | ABS     |
| 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 | Gunmetal                               | CC499K | CC499K    |
|                | Brass                                  | CW617N | CW617N    |
| Valve seat     | Stainless steel                        | 1.4404 | 316 L     |
| Spring         | Spring steel with anti-rust protection | 1.1200 | ASTM A228 |

|   |                |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| m | with diaphragm | High-quality, heat-resistant moulded elastomere, fabric-reinforced diaphragm. Valves in straightway form, closed version. Can be adjusted under operating conditions without medium escaping into the atmosphere. Adjustment can be directly read-off an optional pressure gauge (accessory). Optimal control response and large flow volumes even in cases of small pressure differences due to diaphragm operating principle. |
|---|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Complete valve cartridge available as replacement part (order code: 630 cartridge-DN..-seal) can be exchanged without removing the valve.

Valves can be delivered unset within a pressure range or set and sealed at the factory (against surcharge).

■ MEDIUM

|    |                    |                                                                                                                                                                                            |
|----|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GF | gaseous and liquid | for water, neutral and non-sticking liquids, compressed air and neutral gases; optionally with FPM elastomere seals for non-neutral media i.e. oils, fuels, oil-laden compressed air, etc. |
|----|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

■ TYPE OF LIFTING MECHANISM

|   |                        |
|---|------------------------|
| 0 | without lifting device |
|---|------------------------|

■ AVAILABLE NOMINAL DIAMETERS AND CONNECTION SIZES

| Nominal diameter DN | 15        | 20        | 25      | 32          | 40          | 50      |
|---------------------|-----------|-----------|---------|-------------|-------------|---------|
| Inlet               | 1/2" (15) | 3/4" (20) | 1" (25) | 1 1/4" (32) | 1 1/2" (40) | 2" (50) |
| Outlet              | 1/2" (15) | 3/4" (20) | 1" (25) | 1 1/4" (32) | 1 1/2" (40) | 2" (50) |

■ TYPE OF CONNECTION INLET / OUTLET THREADED CONNECTIONS

|                 |                                                                   |                                           |                                               |
|-----------------|-------------------------------------------------------------------|-------------------------------------------|-----------------------------------------------|
| BSP-Tm / BSP-Tm | Standard threaded connections                                     | Male thread BSP-T / Male thread BSP-T     | DIN EN 10226, ISO 7-1 / DIN EN 10226, ISO 7-1 |
| f / f           | Version with female thread available in sizes DN15, DN20 and DN25 | Female thread BSP-P / Female thread BSP-P | DIN EN ISO 228-1 / DIN EN ISO 228-1           |

■ SEALS

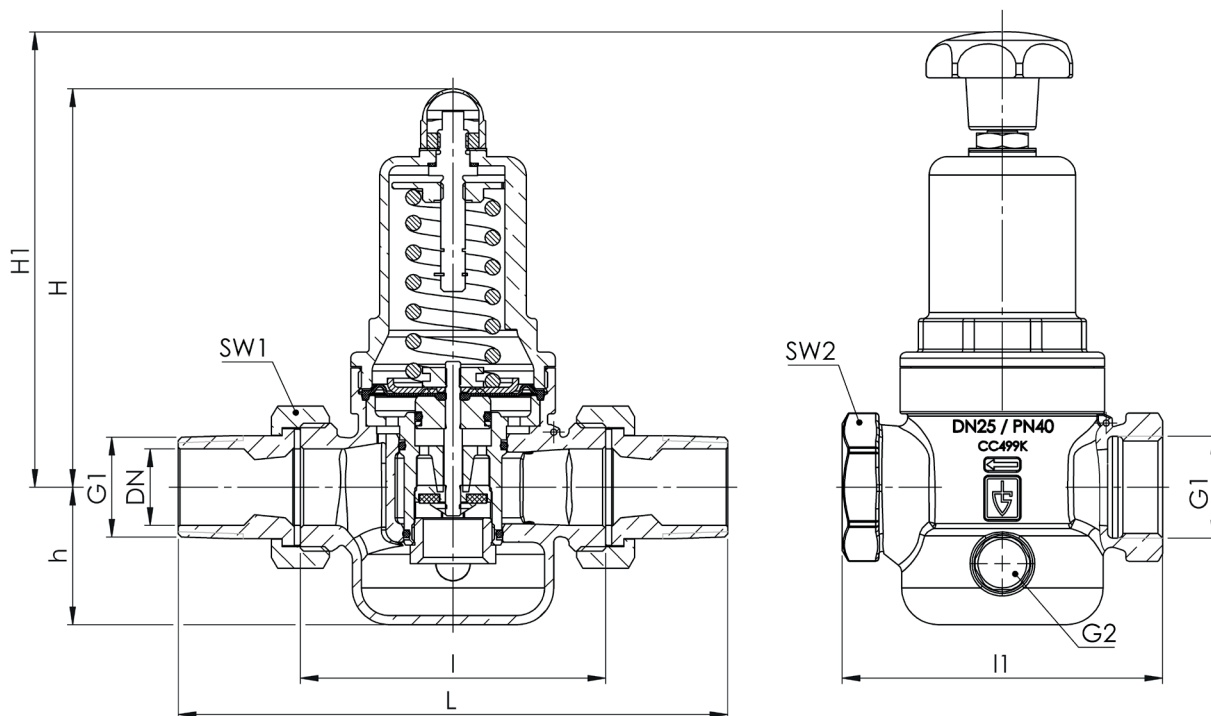
|      |                          |                                                                                        |                                                                                              |
|------|--------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| EPDM | Ethylene propylene diene | Elastomere moulded diaphragm and seals approvals according to drinking water directive | -20°C to +120°C (up to 6 bar outlet pressure)<br>-20°C to +95°C (from 6 bar outlet pressure) |
| FKM  | Fluorocarbon             | Elastomere moulded diaphragm and seals                                                 | -10°C to +120°C (up to 6 bar outlet pressure)<br>-10°C to +95°C (from 6 bar outlet pressure) |

## ■ NOMINAL DIAMETERS, CONNECTIONS, INSTALLATION DIMENSIONS

| Series 630: Connection, installation dimensions, ranges of adjustment |      |            |            |            |             |             |            |
|-----------------------------------------------------------------------|------|------------|------------|------------|-------------|-------------|------------|
| Nominal diameter                                                      | DN   | 15         | 20         | 25         | 32          | 40          | 50         |
| Inlet DIN EN 10226                                                    | G1   | 1/2" (15)  | 3/4" (20)  | 1" (25)    | 1 1/4" (32) | 1 1/2" (40) | 2" (50)    |
| Outlet DIN EN 10226                                                   | G1   | 1/2" (15)  | 3/4" (20)  | 1" (25)    | 1 1/4" (32) | 1 1/2" (40) | 2" (50)    |
| Installation dimensions in mm                                         | L    | 142        | 158        | 180        | 193         | 226         | 252        |
|                                                                       | I    | 80         | 90         | 100        | 105         | 130         | 140        |
|                                                                       | I1   | 85         | 95         | 105        |             |             |            |
|                                                                       | H    | 102        | 102        | 130        | 130         | 165         | 165        |
|                                                                       | H1   | 124        | 124        | 161        | 161         | 198         | 198        |
|                                                                       | h    | 33         | 33         | 45         | 45          | 70          | 70         |
|                                                                       | SW1  | 30         | 37         | 46         | 52          | 65          | 75         |
|                                                                       | SW2  | 28         | 35         | 43         | 48          | 57          | 68         |
| Pressure gauge connection                                             | G2   | 1/4" axial | 1/4" axial | 1/4" axial | 1/4" axial  | 1/4" axial  | 1/4" axial |
| Weight                                                                | kg   | 1,2        | 1,4        | 2,4        | 2,6         | 5,5         | 6          |
| Set pressure                                                          | bar  | 0,5-10     | 0,5-10     | 0,5-10     | 0,5-10      | 0,5-10      | 0,5-10     |
| Range of adjustment                                                   | bar  | 0,5-2      | 0,5-2      | 0,5-2      | 0,5-2       | 0,5-2       | 0,5-2      |
|                                                                       |      | 1,5-6      | 1,5-6      | 1,5-6      | 1,5-6       | 1,5-6       | 1,5-6      |
|                                                                       |      | 5,5-10     | 5,5-10     | 5,5-10     | 5,5-10      | 5,5-10      | 5,5-10     |
| Coefficient of flow $K_{vs}$                                          | m³/h | 2,1        | 2,4        | 5,1        | 5,5         | 10,5        | 11,5       |

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 | Valve version | Medium | Lifting device | Nominal diameter DN | Connection type |         | Connection size |        | Seal | Options | Pressure range / set pressure | Quantity |
|--------|---------------|--------|----------------|---------------------|-----------------|---------|-----------------|--------|------|---------|-------------------------------|----------|
|        |               |        |                |                     | Inlet           | Outlet  | Inlet           | Outlet |      |         |                               |          |
| 630    | m             | GF     | 0              | 25                  | BSP-T m         | BSP-T m | 25              | 25     | FKM  |         | 7,0                           | 1        |
| 630    | m             | GF     | 0              | 20                  | f               | f       | 20              | 20     | EPDM |         | 5,5 - 10                      | 2        |
| 630    | m             | GF     | 0              |                     |                 |         |                 |        |      |         |                               |          |
| 630    | m             | GF     | 0              |                     |                 |         |                 |        |      |         |                               |          |

## ■ TECHNICAL FINISHES, VARIANTS, ACCESSORIES

|     |                                                                                     |                          |  |                          |
|-----|-------------------------------------------------------------------------------------|--------------------------|--|--------------------------|
| S15 | Hand wheel (plastic) for tool-free setting of setpressure <sup>1</sup>              | <input type="checkbox"/> |  | <input type="checkbox"/> |
| S17 | Supply with manometers suitable for the valve finish                                | <input type="checkbox"/> |  | <input type="checkbox"/> |
| S71 | Preliminary setup for protection against manipulation of the preset pressure (seal) | <input type="checkbox"/> |  | <input type="checkbox"/> |

<sup>1</sup>For nominal diameters DN15 to DN50 for the pressure ranges 0,5-2 and 1,5-6,0 bar

## ■ PROPERTIES

|     |                                                                                                                              |                          |     |                                   |                          |
|-----|------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----|-----------------------------------|--------------------------|
| G0X | Especially for gaseous O2 applications by employment of specific materials including oil- and grease free production process | <input type="checkbox"/> | P03 | Galvanically nickel-plated finish | <input type="checkbox"/> |
| P01 | Oil- and grease-free production                                                                                              | <input type="checkbox"/> | P04 | Chrome-plated finish              | <input type="checkbox"/> |
| P02 | Chemically nickel-plated finish                                                                                              | <input type="checkbox"/> | FE  | Setting and sealing               | <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"/> |
| C02-1 | Test certificate acc. DIN EN 10204 3.1 (WPZ 3.1) for non TÜV-CE valves marking of individual serial number is required     | <input type="checkbox"/> | C10 | Certificate of oil- and grease free production                                                                         | <input type="checkbox"/> |
| C03   | Material test certificate acc. DIN EN 10204 3.1 (MPZ 3.1) (pressure retaining part)                                        | <input type="checkbox"/> | C11 | Certification of the production process especially for gaseous oxygen applications by employment of specific materials | <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"/> | AK1 | Det Norske Veritas (DNV) type approval                                           | <input type="checkbox"/> |
| AA4  | EAC - certificate/declaration with passport for the valve and laser marking of the valve | <input type="checkbox"/> | AK2 | Lloyd's Register (LR) type approval                                              | <input type="checkbox"/> |
| AA11 | UK Type examination acc. to Directive UK PESR 2016 No. 1105                              | <input type="checkbox"/> | AK3 | American Bureau of Shipping (ABS) type approval                                  | <input type="checkbox"/> |
|      |                                                                                          | <input type="checkbox"/> | AK4 | Bureau Veritas (BV) type approval                                                | <input type="checkbox"/> |
|      |                                                                                          | <input type="checkbox"/> | AK5 | Russian Maritime Register of Shipping (RMRS) type approval                       | <input type="checkbox"/> |
|      |                                                                                          | <input type="checkbox"/> | AK6 | Registro Italiano Navale (RINA) type approval                                    | <input type="checkbox"/> |
|      |                                                                                          | <input type="checkbox"/> | AL  | Individual inspection by notified body inspector – (body to be indicated): ..... | <input type="checkbox"/> |

■ CAPACITY TABLE

| Series 630: Kv values at 1 bar overpressure |             |        |             |        |             |       |             |        |             |        |             |
|---------------------------------------------|-------------|--------|-------------|--------|-------------|-------|-------------|--------|-------------|--------|-------------|
| Nominal diameter<br>DN                      | 15          |        | 20          |        | 25          |       | 32          |        | 40          |        | 50          |
|                                             | Air [Nm³/h] |        | Air [Nm³/h] |        | Air [Nm³/h] |       | Air [Nm³/h] |        | Air [Nm³/h] |        | Air [Nm³/h] |
| Pressure range<br>bar                       | 0,5-2       | 5,5-10 | 1,5-6       | 0,5-2  | 5,5-10      | 1,5-6 | 0,5-2       | 5,5-10 | 1,5-6       | 0,5-2  | 5,5-10      |
| Set pressure bar                            | 1,5-6       |        | 0,5-2       | 5,5-10 | 1,5-6       | 0,5-2 | 5,5-10      | 1,5-6  | 0,5-2       | 5,5-10 | 1,5-6       |
| 0,5                                         | 73          |        | 77          |        | 189         |       | 193         |        | 417         |        | 445         |
| 1                                           | 89          |        | 94          |        | 231         |       | 239         |        | 498         |        | 537         |
| 1,5                                         | 102         | 103    | 108         | 107    | 264         | 185   | 273         | 196    | 587         | 370    | 624 408     |
| 2                                           | 117         | 119    | 121         | 126    | 303         | 226   | 314         | 238    | 636         | 429    | 683 472     |
| 3                                           | 146         |        | 153         |        | 282         |       | 291         |        | 506         |        | 557         |
| 4                                           | 170         |        | 176         |        | 330         |       | 338         |        | 543         |        | 615         |
| 5                                           | 187         |        | 194         |        | 367         |       | 379         |        | 625         |        | 684         |
| 5,5                                         | 195         | 139    | 206         | 157    | 386         | 183   | 394         | 186    | 653         | 375    | 719 417     |
| 6                                           | 203         | 147    | 216         | 163    | 405         | 194   | 418         | 202    | 708         | 395    | 760 443     |
| 7                                           | 162         |        | 178         |        | 223         |       | 229         |        | 400         |        | 502         |
| 8                                           | 179         |        | 190         |        | 259         |       | 264         |        | 407         |        | 517         |
| 9                                           | 218         |        | 225         |        | 285         |       | 289         |        | 432         |        | 564         |
| 10                                          | 255         |        | 261         |        | 303         |       | 314         |        | 465         |        | 601         |

| Kv values at 1 bar overpressure |              |        |              |        |              |       |              |        |              |        |              |
|---------------------------------|--------------|--------|--------------|--------|--------------|-------|--------------|--------|--------------|--------|--------------|
| Nominal diameter<br>DN          | 15           |        | 20           |        | 25           |       | 32           |        | 40           |        | 50           |
|                                 | Water [m³/h] |        | Water [m³/h] |        | Water [m³/h] |       | Water [m³/h] |        | Water [m³/h] |        | Water [m³/h] |
| Pressure range<br>bar           | 0,5-2        | 5,5-10 | 1,5-6        | 0,5-2  | 5,5-10       | 1,5-6 | 0,5-2        | 5,5-10 | 1,5-6        | 0,5-2  | 5,5-10       |
| Set pressure bar                | 1,5-6        |        | 0,5-2        | 5,5-10 | 1,5-6        | 0,5-2 | 5,5-10       | 1,5-6  | 0,5-2        | 5,5-10 | 1,5-6        |
| 0,5                             | 2,7          |        | 2,9          |        | 5,5          |       | 6,2          |        | 12,4         |        | 12,9         |
| 1                               | 2,9          |        | 3,3          |        | 6,1          |       | 6,9          |        | 12,9         |        | 13,8         |
| 1,5                             | 3,4          | 3,1    | 3,6          | 3,4    | 6,6          | 5,6   | 7,5          | 6,4    | 13,2         | 9,0    | 14,4 9,4     |
| 2                               | 3,6          | 3,2    | 3,9          | 3,4    | 6,9          | 5,7   | 7,8          | 6,4    | 13,5         | 9,1    | 14,9 9,4     |
| 3                               | 3,3          |        | 3,5          |        | 5,9          |       | 6,5          |        | 9,3          |        | 9,5          |
| 4                               | 3,4          |        | 3,7          |        | 6,1          |       | 7,2          |        | 9,5          |        | 9,9          |
| 5                               | 3,3          |        | 3,7          |        | 6,2          |       | 7,5          |        | 9,7          |        | 10,2         |
| 5,5                             | 3,0          | 2,3    | 3,6          | 2,7    | 5,8          | 3,2   | 6,9          | 4,1    | 10,1         | 7,2    | 10,5 7,7     |
| 6                               | 2,9          | 2,4    | 3,6          | 2,7    | 5,4          | 3,3   | 6,7          | 4,2    | 10,4         | 7,3    | 10,9 8,0     |
| 7                               | 2,4          |        | 2,6          |        | 3,9          |       | 4,5          |        | 7,5          |        | 8,1          |
| 8                               | 2,4          |        | 2,6          |        | 3,8          |       | 4,4          |        | 7,3          |        | 7,8          |
| 9                               | 2,3          |        | 2,5          |        | 3,7          |       | 4,2          |        | 6,9          |        | 7,4          |
| 10                              | 2,2          |        | 2,5          |        | 3,6          |       | 4,0          |        | 6,5          |        | 7,1          |