

# TYPE APPROVAL CERTIFICATE

**This is to certify:****That the Pressure Regulator**

with type designation(s)

**Overflow and pressure control valves. Type series: 400.5, 417, 418, 428, 430, 431, 453, 608, 614, 617, 618, 628, 630, 631, 853, 2580**

Issued to

**Goetze KG Armaturen****Ludwigsburg, Baden-Württemberg, Germany**

is found to comply with

**DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems****DNV GL class programme DNVGL-CP-0186 – Type approval – Valves****Application :****Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.****Temperature range:** see**Max. working press.:** certificate**Sizes:** DN 8 (1/4") to DN 100 (4")Issued at **Hamburg** on **2019-10-15**This Certificate is valid until **2024-10-14**.for **DNV GL**DNV GL local station: **Augsburg**Approval Engineer: **Ana Cristina Do Carmo Insfran****Olaf Drews**  
**Head of Section**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



## Product description

Overflow and pressure control valve type series to be used for pressure control in pressurized systems. <sup>1</sup>

Threaded connections: ISO 7; DIN EN ISO 228; EN 10226

### Design pressures and temperatures

| Type               | Pressure (bar) | Temperature (°C) | Gaskets                    |
|--------------------|----------------|------------------|----------------------------|
| 400.5              | 0,4 - 16       | - 40 to + 200    | FKM, EPDM                  |
| 608, 618, 628      | 0,2 - 20       | - 60 to + 225    | NBR, FKM, PTFE             |
| 418, 428, 614, 617 | 0,2 - 30       | - 60 to + 225    | NBR, EPDM, FKM, PTFE, FFKM |
| 417                | 0,2 - 20       | - 60 to + 225    | NBR, FKM, EPDM, PTFE       |
| 430, 431, 630, 631 | 0,5 - 10       | - 20 to + 120    | EPDM, FKM                  |
| 453, 853           | 0,5 - 25       | - 60 to + 260    | NBR, EPDM, FKM, FFKM, PTFE |
| 2580               | 0,2 - 70       | -200 to + 200    | PTFE                       |

### Materials

| Type          | Materials       | DIN EN | ASME   | Nominal Sizes - DN |
|---------------|-----------------|--------|--------|--------------------|
| 400.5         | stainless steel | 1.4435 | 316L   | DN 20 - DN 32      |
| 608           | red brass       | CC499K | CC499K | 3/8"               |
| 617, 618, 628 |                 |        |        | 3/8" - 2"          |
| 614           |                 |        |        | 3/8" - 1"          |
| 630, 853      |                 |        |        | 1/2" - 2"          |
| 631           |                 |        |        | DN 15 - DN 100     |
| 430,          | stainless steel | 1.4408 | CF8M   | 1/2" - 2"          |
| 431           |                 |        |        | DN 15 - DN 100     |
| 418, 428      | stainless steel | 1.4404 | 316 L  | DN 10 - DN 32      |
|               |                 |        |        | 3/8" - 1 1/4"      |
| 417           |                 |        |        | 3/8" - 2"          |
|               |                 |        |        | DN 10 - DN 50      |
| 453           |                 |        |        | 1/2" - 2"          |
| 2580          | red brass       | CC499K | CC499K | 1/4" - 1/2"        |
|               | stainless steel | 1.4408 | CF8M   |                    |

## Application

The overflow and pressure control valve type series are type approved for applications in piping systems and on pressure vessels as specified in the Rules Pt.4 Ch.6 Piping Systems and Pt.4, Ch.7 Pressure equipment.

Operating media: liquids, oil, fuel oil, air, gases and vapours. <sup>2</sup>

### Note <sup>1</sup>

Selection of overflow valve types for specific service conditions and operating media shall be carried out with suitable materials according to the relevant DNV GL Rules and according to the instructions of manufacturer.

### Note <sup>2</sup>

Fuel oil, lubrication oil, hydraulic oil and thermal oil are in this context regarded as "Flammable liquids". See DNV GL Rules, Pt. 4 Ch. 1, Section 3 – Design principles

## Limitation

Overflow valve type series with threaded connections are NOT permitted for installation in LNG/LPG systems on board of DNV GL classed liquefied gas tankers and in ship's LNG and gas fuel systems. See DNV GL Rules Pt. 5 Ch.7 – Liquefied gas tankers, Section 5- Process pressure vessels and liquids, vapour and pressure piping systems, Item 8 – Piping fabrication and joining details, [8.2]- Direct connections / [8.2.1.3].

See also requirements provided in the IGC Code [5.8] and IGF Code [7.3.6]

For valves to be installed on board of ships the following limitations apply:

Valves for installation in systems operating with flammable gases are to be classed within Pipe Class I, see DNV GL Rules Pt. 4 Ch. 6 - Piping systems.

Threaded joints may be used for outside diameters as stated below except for piping systems conveying toxic or flammable media or services where fatigue, severe erosion or crevice corrosion is expected to occur.

- Threaded joints in CO2 systems shall be allowed only inside protected spaces and in CO2 cylinder rooms
- Threaded joints with tapered thread shall be allowed for pipe class I, outside diameter not more than 33,7 mm.
- Pipe Class II and Class III outside diameter not more than 60,3 mm.
- Threaded joints with parallel thread shall be allowed for Pipe class III, outside diameter not more than 60.3 mm.

## Tests carried out / Production testing

Test standards:

DNV GL Rules Part 4, Chapter 6,  
DNV GL Class Programme CP 0186 -Valves

Type of test

Pressure test,  
Test pressure 1,5 times the design pressure  
Set pressure test at room temperature

## Type Approval documentation

## Certification

Application in machinery and piping systems  
Valves intended to be installed in piping system listed in DNVGL Rules Pt.4, Ch.6 – Section 1  
shall be certified according to DNV GL Rules Pt.4 Ch.6 – Piping systems, Section 9

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Valve nominal size / Pressure rating

DN > 100 mm / PN > 16 bar

DN ≤ 100 mm / PN ≤ 16 bar

Type of Product Certificate (PC) / Issued by

VL Certificate / DNV GL

W Works Certificate / Manufacturer

Material certificates (valve bodies)

In accordance with DNV GL Rules Pt.4 Ch.6 – Piping systems, Section 2 – Table

## Marking of product

For traceability to this Type Approval the products are at least to be marked with:

- Manufacturer's name or trade mark
- Valve type designation
- Size
- Maximum design pressure and temperature
- Set pressure

## Periodical assessment

For retention of the Type Approval, a DNV GL Surveyor shall perform periodical assessment after two years (+/- 90 days) and after 3.5 years (+/- 90 days) to verify that the conditions for the Type Approval are complied with. Refer to DNVGL-CP-0338, Sec.4.

The main scope of the periodical assessment will normally include:

- Verification of the TA applicant's production and quality system w.r.t ensuring continued consistent production of the type approved products at the TA applicant's own premises and at other companies that are given the responsibility for manufacturing of the products.
- Review of the TA documentation and that this is still used as a basis for the production
- Review of possible changes to the design, the material and the performance of the product
- Verification of the product marking

## END OF CERTIFICATE