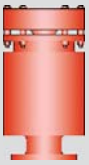
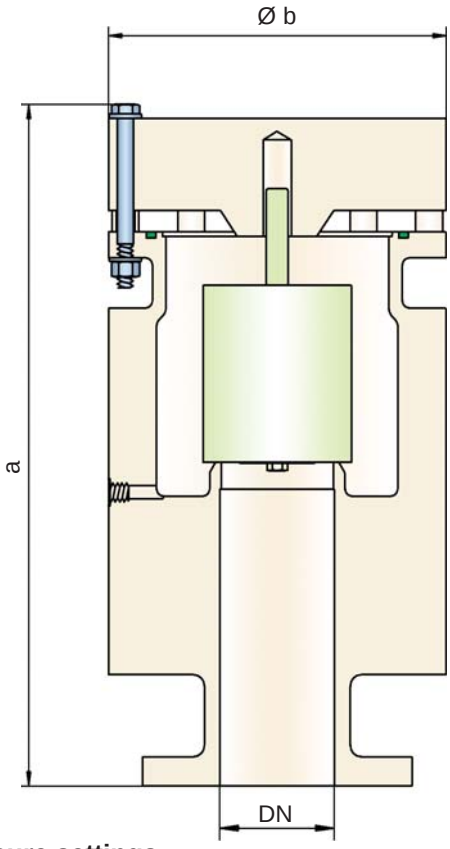


# Pressure Relief Valve

**made of plastic**

## PROTEGO® D/KSM




### Pressure settings:

| | | |
|---|---|---|
| +6.0 mbar | up to | +100 mbar (DN 50/2”) |
| +2.4 inch W.C. | up to | +40 inch W.C. |
| +4.0 mbar | up to | +100 mbar (DN 80/3”) |
| +1.6 inch W.C. | up to | +40 inch W.C. |
| +4.5 mbar | up to | +100 mbar (DN 100/4” - DN 200/8”) |
| +1.8 inch W.C. | up to | +40 inch W.C. |

Higher pressure settings upon request.

### Function and Description

The PROTEGO® valve D/KSM is a state-of-the-art pressure relief valve with excellent flow performance made out of highgrade synthetic material. It is primarily used as a safety fitting for relieving pressure in tanks, containers, and process engineering equipment. The valve prevents emission losses almost up to the set pressure. The valve is a perfect solution for corrosive, polymerizing or sticky media.

The device will start to open as soon as the set pressure is reached and only requires 10% overpressure to full lift. Continuous investments into research and development have allowed PROTEGO® to develop a low pressure valve which has the same opening characteristic as a high pressure safety relief valve. This “full lift type” technology allows the valve to be set just 10% below the maximum allowable working pressure (MAWP) of the tank and still safely vent the required mass flow.

Due to our highly developed manufacturing technology, the tank pressure is maintained up to the set pressure, with a tightness that is far superior to the conventional standard. This feature is facilitated by special valve seats made of high quality synthetic material or PTFE. After the excess pressure is discharged, the valve reseats and provides a tight seal.

The optimized fluid dynamic design of the valve body and valve pallet is a result of many years of research work, which allow a stable operation of the valve pallet and optimized performance resulting in reduction of product losses.

### Special Features and Advantages

- “full lift type” technology valve utilizes only 10% overpressure to reach full lift
- extreme tightness and hence least possible product losses and reduced environmental pollution
- the set pressure is close to the opening pressure which results in best possible pressure management of the system
- the valve pallet is guided within the housing to protect against harsh weather conditions
- corrosion resistant valve
- perfect solution for corrosive, polymerizing and sticky media
- weight reduction in comparsion to steel/stainless steel
- smooth surface
- condensate drain
- different plastics can be combined
- maintenance friendly design

### Design Types and Specifications

The valve pallet is weight-loaded, and the highest pressure levels are only attained with metal disks.

| | |
|---|---|
| Pressure valve in basic design | **D/KSM-** |
| Additional special devices available upon request | |

**Table 1: Dimensions** Dimensions in mm / inches

To select the nominal size (DN) use the flow capacity charts on the following pages

| DN | 50 / 2" | 80 / 3" | 100 / 4" | 150 / 6" | 200 / 8" |
|---|---|---|---|---|---|
| a | 376 / 14.80 | 521 / 20.51 | 563 / 22.17 (543 / 21.38)* | 687 / 27.05 (681 / 26.81)* | 952 / 37.48 |
| b | 180 / 7.09 | 250 / 9.84 | 300 / 11.81 | 350 / 13.78 (405 / 15.94)* | 560 / 22.05 (500 / 19.68)* |

* Dimensions in brackets only for PVDF

Vents for corrosive vapor service (Flyer pdf)

Vents - 10% Technology (Flyer pdf)

Leak Rate/10% Technology (Flyer pdf)

**Tabelle 2: Material selection for housing**

| Design | A | B | C | |
|---|---|---|---|---|
| Housing | PE | PP | PVDF | |
| Valve seats | PE | PP | PVDF | Special materials upon request |
| Sealing | FPM | FPM | FPM | |
| Valve pallet | A, C, D | B, C, D | C, D | |

**Table 3: Material selection for pressure valve pallet**

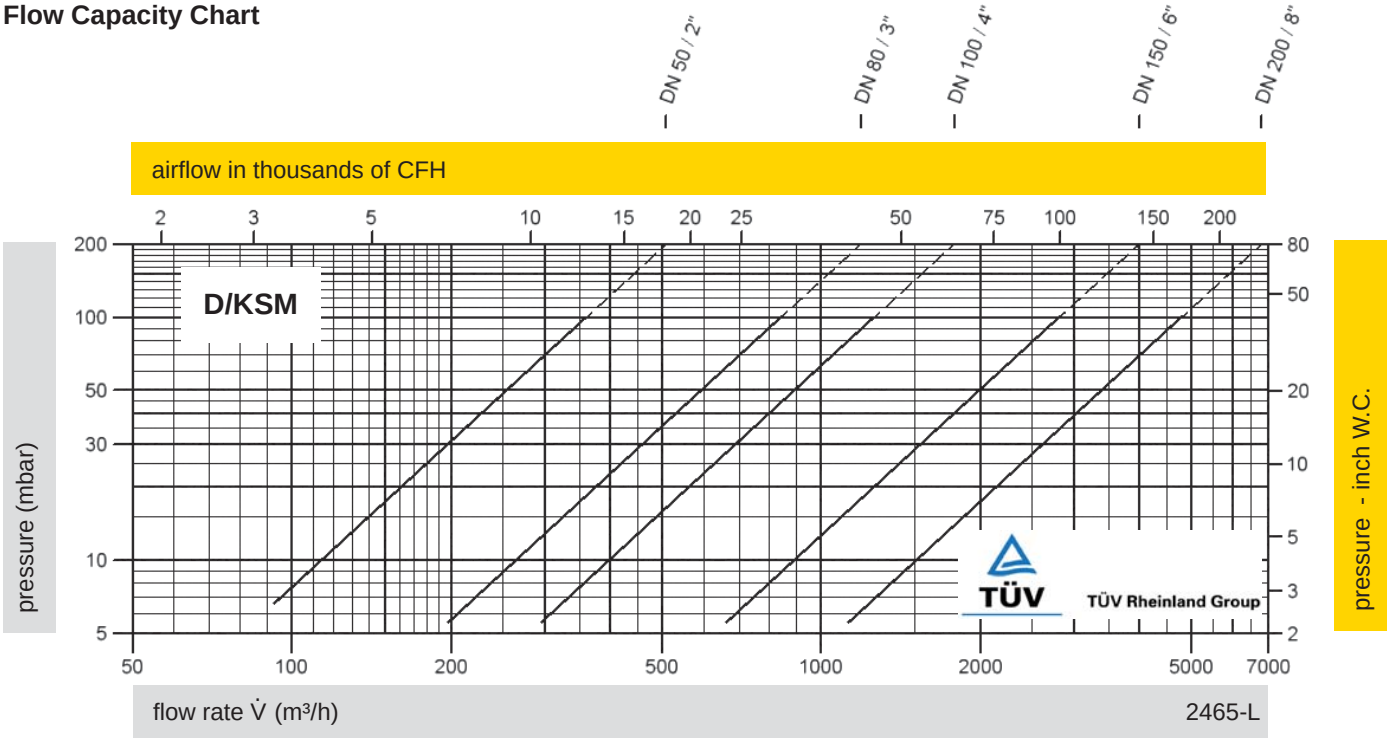
| Design | A | B | C | D |
|---|---|---|---|---|
| Pressure range (mbar)<br>(inch W.C.) | +6.0 up to +16<br>+2.4 up to +6.4 | +5.5 up to +16<br>+2.2 up to +6.4 | +9.5 up to +30<br>+3.8 up to +12 | +30 up to +100<br>+12 up to +40 |
| Valve pallet | PE | PP | PVDF | Hastelloy |
| Sealing | PTFE | PTFE | PTFE | PTFE |
| Spindle guide | PE | PP | PVDF | Hastelloy |
| Weights | PE | PP | PVDF | Hastelloy |

Special materials and other pressure settings are available upon request

**Table 4: Flange connection type**

| | |
|---|---|
| EN 1092-1, Form A | other types upon request |
| ASME B16.5; 150 lbs FFSF | |

## Flow Capacity Chart




The flow capacity chart has been determined with a calibrated and TÜV certified flow capacity test rig.

Volume flow V̇ in (m³/h) and CFH refer to the standard reference conditions of air ISO 6358 (20°C, 1bar).
Conversion to other densities and temperatures refer to Vol. 1: “Technical Fundamentals”.

PROTEGO
*for safety and environment*