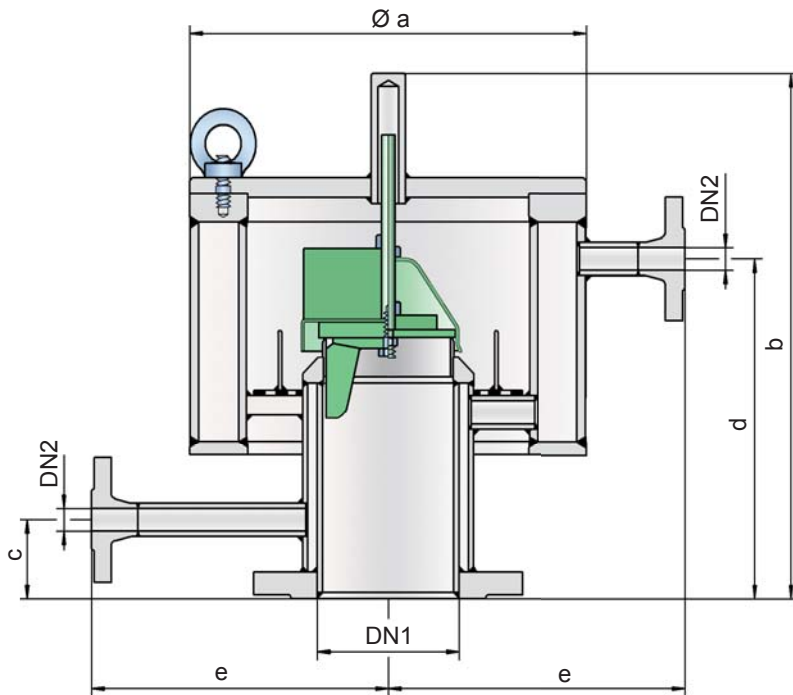


## Pressure Relief Valve in heat jacketed design

**PROTEGO® SD/BS-H**



### Pressure Settings:

+5.0 mbar up to +210 mbar  
+2.0 inch W.C. up to +84 inch W.C.  
Higher pressure settings upon request.

### Function and Description

The SD/BS-H type PROTEGO® valve is a highly developed pressure relief valve with a heating jacket down to the flange. It is primarily used as pressure relief device for vessels and process engineering equipment under difficult operating conditions. This includes extreme weather conditions or products that tend to form polymers at certain temperatures, adhere, or form deposits that negatively influence function (such as bitumen, tar, dust). The valve offers reliable protection against overpressure and prevents the unacceptable loss of product vapors close to the set pressure.

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 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 set pressure, with a tightness that is far superior to the conventional standard. This feature is achieved by valve seats made of high-grade stainless steel with precisely lapped valve pallets and a reinforced housing design. After the excess pressure is discharged, the valve reseats and provides a tight seal again.

### 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
- set pressure is close to the opening pressure which results in best possible pressure management of the system
- high flow capacity
- the valve pallet is guided within the housing to protect against harsh weather conditions
- can be used in areas subject to an explosion hazard
- heating jacketed design down to the flange to avoid cold bridges
- maximum permissible heating medium temperature of 320°C / 608°F (at 6 bar / 87 psi)
- a special design with a heatable valve cover is available
- at low pressure settings, an optimized valve pallet cover prevents the set pressure from being distorted by dust or condensate
- reinforced housing design
- a special design with a mechanical vent pallet lift device is available

### Design Types and Specifications

The valve pallet is weight-loaded. Starting at a set pressure of 30 mbar, a vane guide is also used.

Pressure valve in basic design with heating jacket **SD/BS - H**

Additional special devices available upon request

**Table 1: Dimensions**

Dimensions in mm / inches

To select the nominal size (DN), use the flow capacity chart on the following page

DN1	DN2	a	b		c	d		e
			≤ 30 mbar ≤ 12 inch W.C.	> 30 mbar > 12 inch W.C.		≤ 30 mbar ≤ 12 inch W.C.	> 30 mbar > 12 inch W.C.	
80 / 3" *	15 / ½"	325 / 12.80	400 / 15.75	515 / 20.28	70 / 2.76	250 / 9.84	390 / 15.35	250 / 9.84
100 / 4"	15 / ½"	325 / 12.80	400 / 15.75	505 / 19.88	60 / 2.36	250 / 9.84	380 / 14.96	250 / 9.84
150 / 6"	15 / ½"	405 / 15.94	460 / 18.11	595 / 23.43	60 / 2.36	315 / 12.40	470 / 18.50	290 / 11.42
200 / 8"	15 / ½"	510 / 20.08	470 / 18.50	575 / 22.64	65 / 2.56	305 / 12.01	445 / 17.52	340 / 13.39

\* also available with special flange DN 50 / 2"

**Table 2: Material selection for housing**

Design	A	B	Special materials upon request
Housing	Steel	Stainless Steel	
Heating Jacket	Steel	Stainless Steel	
Valve Seat	Stainless Steel	Stainless Steel	

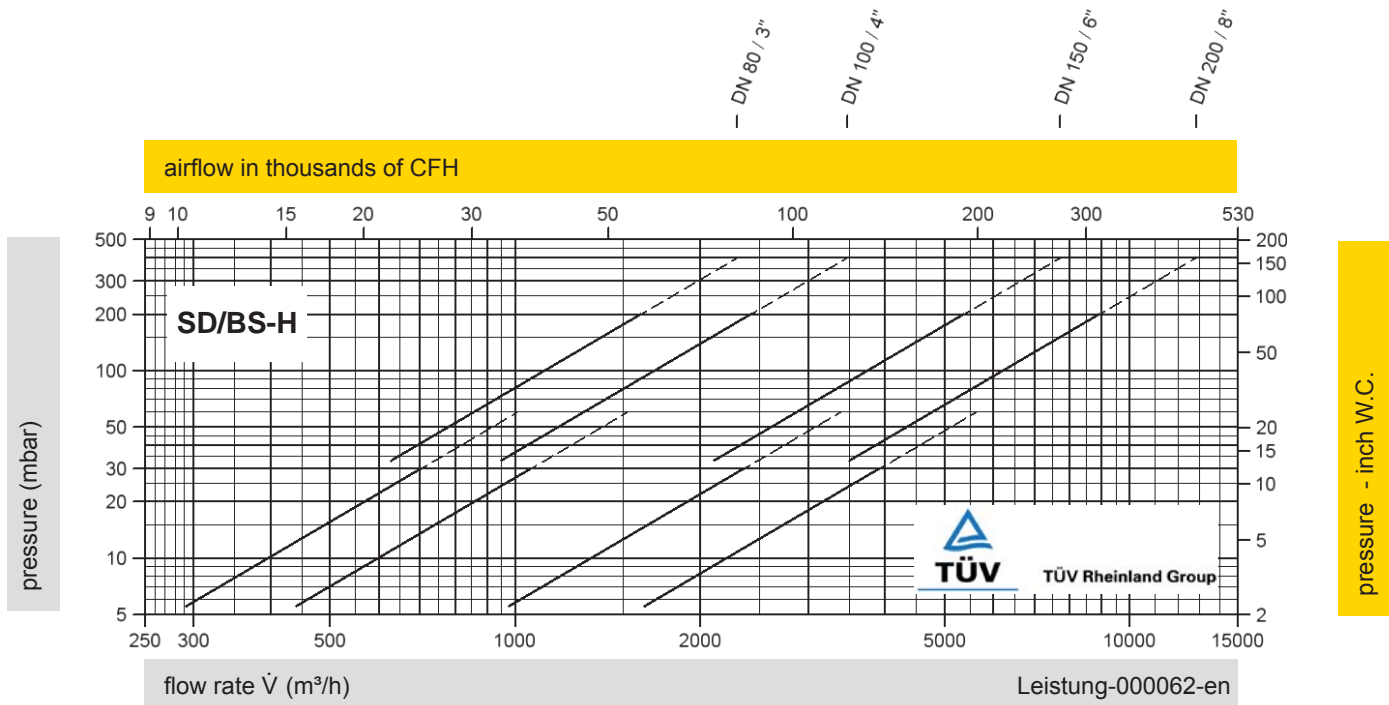
**Table 3: Material selection for pressure valve pallet**

Design	A	B	C	Special materials and higher pressure settings upon request
Pressure range (mbar) (inch W.C.)	+5 up to +25 +2 up to +10	>+10 up to +30 >+4 up to +12	>+30 up to +210 >+12 up to +84	
Valve pallet	Aluminium	Stainless Steel	Stainless Steel	
Valve pallet hood	Stainless Steel	Stainless Steel	-	
Sealing	Metal to Metal	Metal to Metal	Metal to Metal	

**Table 4: Flange connection type**

EN 1092-1; Form B1	other types upon request
ASME B16.5; 150 lbs RFSF	

## Flow Capacity Chart



The flow capacity chart has been determined with a calibrated and TÜV certified flow capacity test rig. Volume flow  $\dot{V}$  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".

