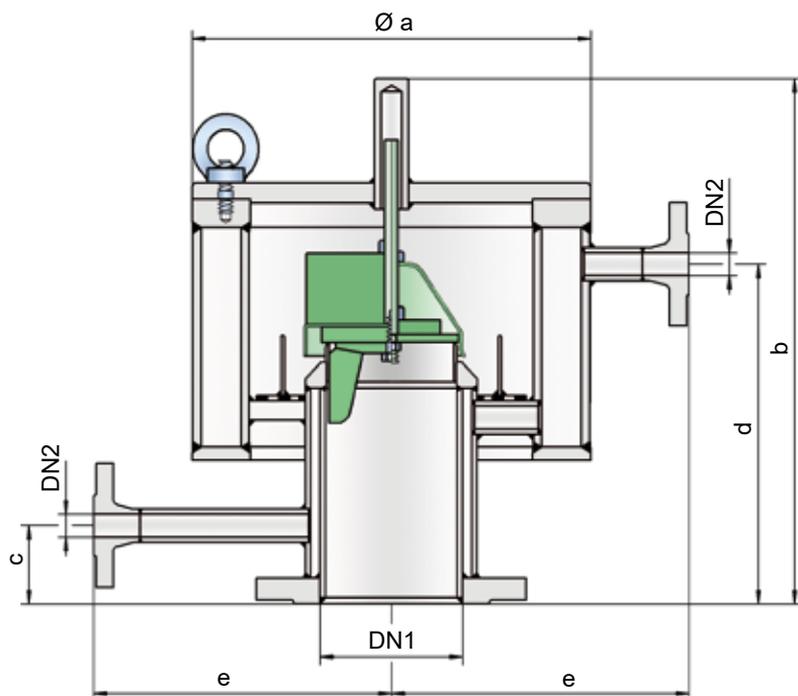


# Pressure Relief Valve in heat jacketed design

**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, stick together, or form deposits that negatively influence function (such as bitumen, tar, dust). The valve offers reliable protection against overpressure and prevents excessive 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 in and a commitment to 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. With this "full lift type" technology, the valve can be set at 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 sturdy housing design. After the excess pressure is released, the valve re-seats and provides a tight seal again.

### Special Features and Advantages

- 10% technology for minimum pressure increase up to full lift
- extreme tightness, resulting in lowest possible product losses and reduced environmental pollution
- set pressure close to opening pressure for optimum pressure maintenance in the system
- high flow capacity
- valve pallet is guided inside the housing to protect against harsh weather conditions
- can be used in areas subject to an explosion hazard
- complete heating jacket up to the flange to avoid ice build-up
- maximum allowable heating medium temperature of 320°C / 608°F (at 6 bar / 87 psi)
- available in a special design with a heatable valve cover
- for low pressure settings, an optimized valve pallet cover prevents the set pressure from being adjusted due to dust deposits or condensate
- sturdy housing design
- available in a special design with lifting device

### Design Types and Specifications

The valve pallet is weight-loaded. Starting at a set pressure of 30 mbar, a wing 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"



Vents - 10% Technology  
(Flyer pdf)



Leak Rate/10% Technology  
(Flyer pdf)

**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	

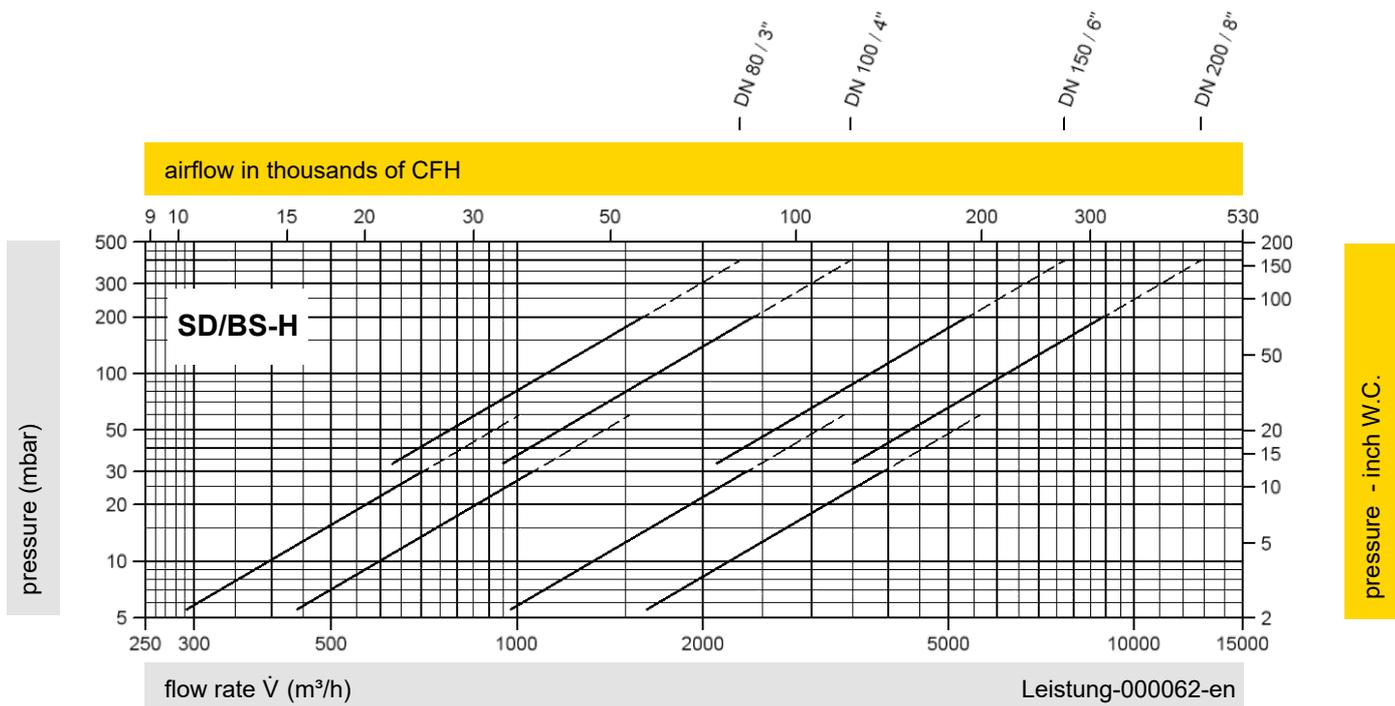
**Table 3: Material selection for pressure valve pallet**

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	Aluminum	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 CL 150 R.F.	

## Flow Capacity Chart



The flow capacity charts have 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 in ISO 6358 (20°C, 1bar). For conversion to other densities and temperatures, refer to Sec. 1: "Technical Fundamentals."

