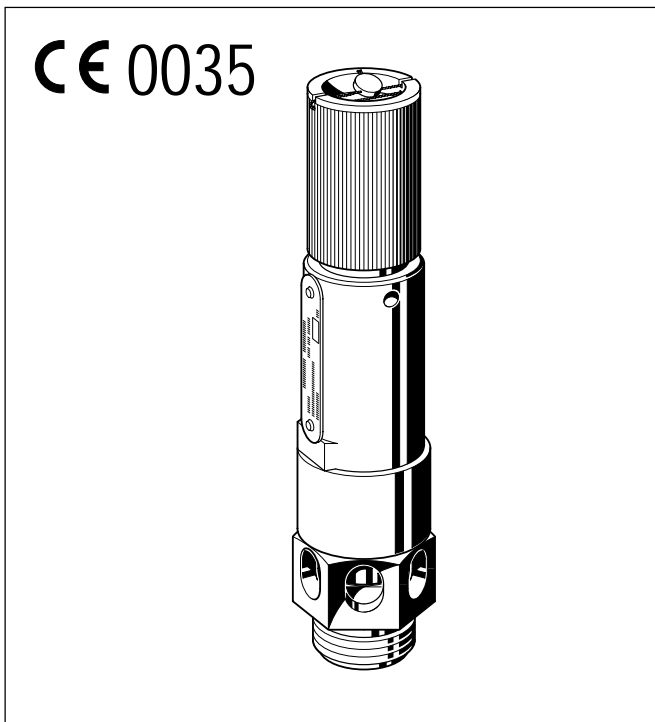


S245B/S245BH

Safety Valves

High performance valves for compressed air

Product specification sheet



Construction

- Body
- Spring-bonnet
- Valve cone
- Spring

S245B = Soft seat version

S245BH = Metal seat version

Materials

- Body of brass
- Bonnet of brass (sizes 1/2" to 1")
- Bonnet of cast iron (sizes 1 1/4" to 2"), powder coated
- Valve cone type S245B of brass; type S245BH of stainless steel
- Spring of stainless steel or spring steel
- Disc seal of Viton (on type S245B)

Application

The S245B and S245BH safety valves are direct loaded high performance safety valves with lifting device. They protect pressurized compressed air vessels (cylinders, tanks) against excessive pressure. S245B and S245BH safety valves are used for compressors and other industrial purposes.

Special Features

- Sturdy metal construction
- Shakeproof lifting mechanism admitting no additional load
- Type S 245 B approved by VdTÜV for pressure range from 0.5 - 30.0 bar and approved by ASME (American Society of Mechanical Engineers) for pressure range 2.8 - 30.0 bar (41 - 435 PSI)
- Type S 245 BH approved by VdTÜV for pressure range from 0.5 - 30.0 bar
- Types S 245 B / S245 BH certified to Pressure Equipment Directive 97/23/EC, Reference No. CE 0035
- Set pressure adjustment at factory
- Set pressure settings possible between 0.5 and 30 bar in steps of 0.1 bar
- Low weight
- Reliable and proved

Range of Application

Compressed air

Non-toxic, non-corrosive and non inflammable gases which may be discharged to atmosphere.

Not suitable for steam

Technical Data

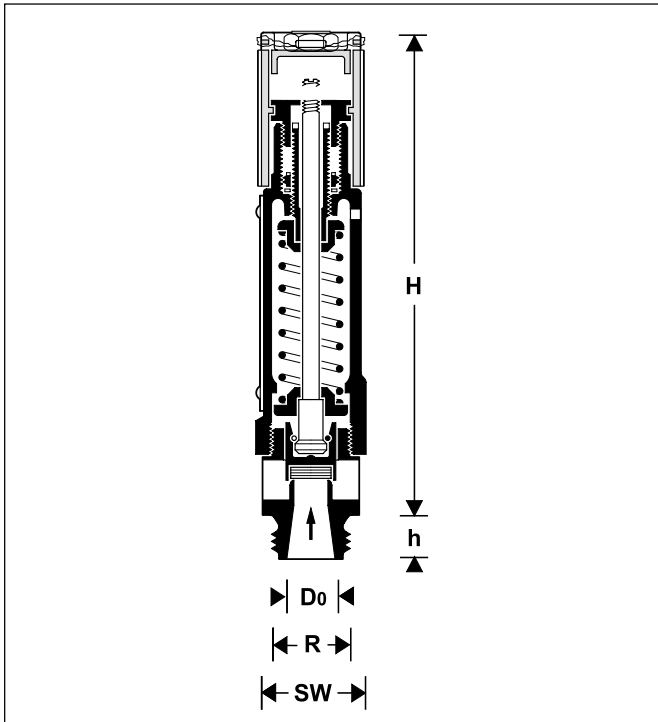
Working temperature max. 180 °C for version S245B
max. 250 °C for version S245BH

TÜV approval reference $TÜV \cdot SV \cdot 00 \cdot 340 \cdot D_0 \cdot D/G \cdot 0.73 \cdot p$
P = set pressure
D₀ = nozzle diameter

ASME approval reference 30,492

Discharge rate TÜV $\alpha_w = 0.73$
ASME Kd = 0.863

Connection sizes G 1/2" - G 2"



Method of Operation

S245B and S245BH safety valves are direct-acting. The disc seal is pushed up by the pressure from the system against a spring which is holding the valve closed. If the opening force exceeds the force exerted by the spring, then the valve disc is lifted off the valve seat and the valve discharges the medium. In accordance with the requirements of the standard, the full discharge capacity of the valve will be achieved when the system pressure climbs to no more than 10% above the set pressure of the valve. Full shutoff must be achieved if the system pressure falls to below 90% of the nominal set pressure value.

Options

Set pressure within the range of	Soft seat version	Metal seat version
1.0 -12.0 bar	S245B-... ZA*...	S245BH-... ZA*...
< 1.0 or >12.0 bar	S245B-... ZB*...	S245BH-... ZB*...

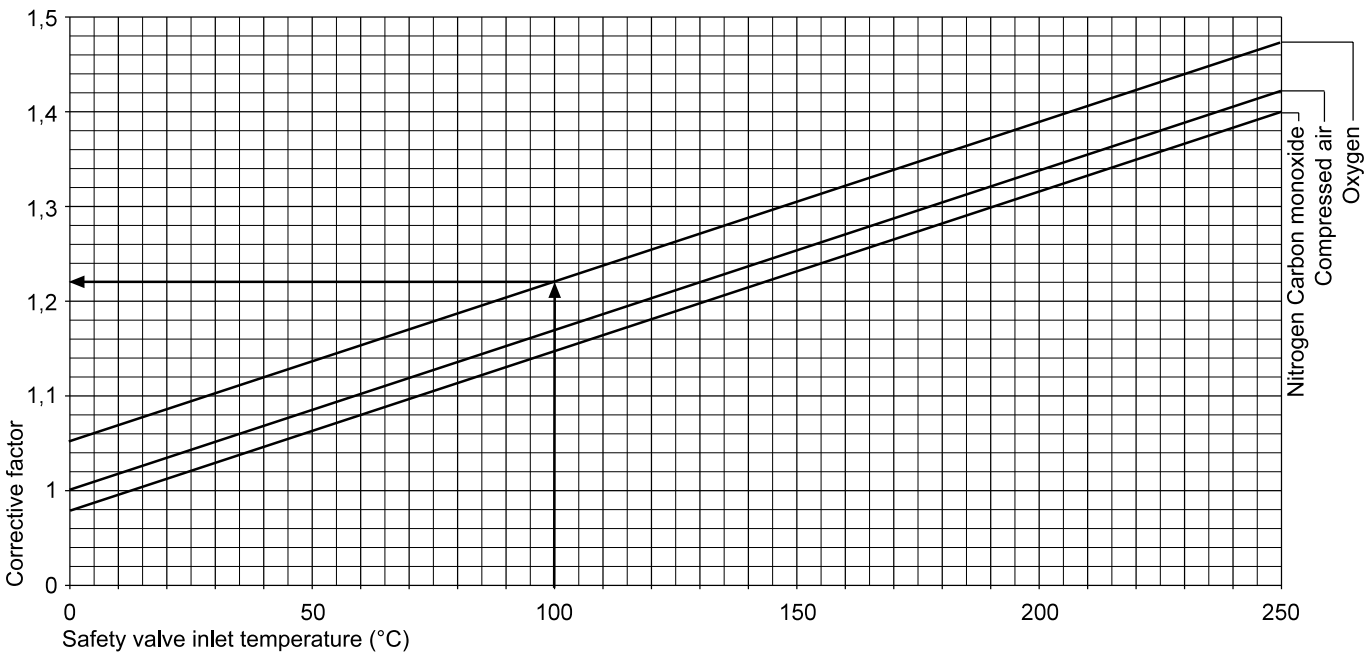
Ordering size
Ordering size
Set pressure
Set pressure

Connection size	G	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Weight	(kg)	0,4	0,6	0,9	1,7	3,0	8,0
Dimensions	(mm)						
	D0	10	15	20	25	32	40
	h	12	15	16	18	20	22
	H	138	153	185	231	293	367
	SW	27	36	41	50	60	80

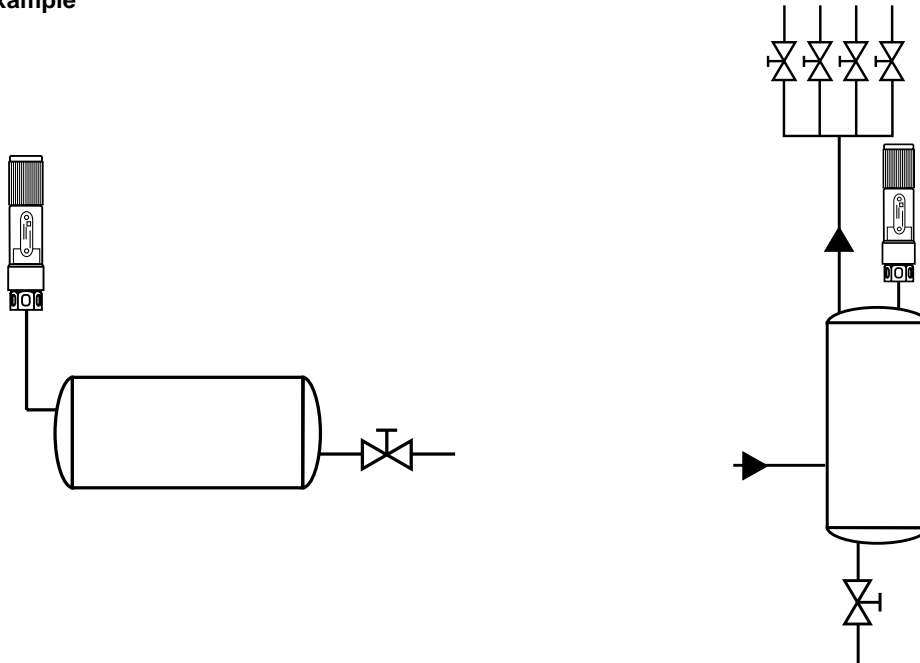
Ordering Examples

- S245B-3/4ZA* 5.8 = Safety valve (soft seat version), size 3/4", set pressure 5.8 bar
- S245B-1ZB* 0.8 = Safety valve (soft seat version), size 1", set pressure 0.8 bar
- S245BH-1 1/4ZA* 11.5 = Safety valve (metal seat version), size 1 1/4", set pressure 11.5 bar

Corrective Factor



Example: For an oxygen throughput of 2000 m³/h at a pressure of 1.0 bar and a temperature of 100 °C (212°F), a safety valve with a response pressure of 10 bar has to be determined.
 Corrective factor from diagram: 1,22 → 2000 m³/h x 1,22 = 2440 m³/h
 With the aid of this value, valve size 1 1/4" is selected from the throughput table relating to VdTÜV approval.

Installation Example**Installation Guidelines**

- Safety valves for compressed air shall be fitted in a vertical upwards pointing pipework or on top of a pressurized compressed air vessel.
- The connections through all pipe, fittings and nonreclosing pressure relief devices (if installed) between a pressure vessel and its safety valve shall have at least the area of the safety valve inlet.
- The characteristics of the upstream system shall be such that the pressure drop will not reduce the relieving capacity below that required or adversely affect the proper operation of the safety valve.
- The opening in the vessel wall shall be designed to provide unobstructed flow between the vessel and its safety valve.
- There shall be no intervening stop valves between the vessel and its safety valves.

Inspection

A set pressure function test should be carried out at least once per year. The detailed test procedure is determined by the user.

Typical Applications

Safety valves are normally fitted where there is a risk of excess or extreme pressures which may injure people or damage equipment

Typically they can be found on

- Air supplies to a factory
- Portable compressor units
- Paint spray units
- Pressure tanks

Discharge capacity for compressed air (TÜV) Type S245B / S245BH [Approval reference TÜV · SV · 00 · 340 · D0 · D/G · aw · p]

Table with 8 columns: Set pressure (bar, psi) and Amount of air in Nm³/h (0 °C, 1,013 bar) for sizes 1/2", 3/4", 1", 1 1/4", 1 1/2", and 2. Rows range from 0.5 to 15 bar.

Table with 8 columns: Set pressure (bar, psi) and Amount of air in N m³/h (0 °C, 1,013 bar) for sizes 1/2", 3/4", 1", 1 1/4", 1 1/2", and 2. Rows range from 15.5 to 30 bar.

Discharge capacity for compressed air (ASME) Type S245B only [Approval reference ASME 30,492]

Table with 8 columns: Set pressure (bar, psi) and Discharge capacity in SCFM* (60 °F, 14.5 PSI) for sizes 1/2", 3/4", 1", 1 1/4", 1 1/2", and 2. Rows range from 2.8 to 16.0 bar.

Table with 8 columns: Set pressure (bar, psi) and Discharge capacity in SCFM* (60 °F, 14.5 PSI) for sizes 1/2", 3/4", 1", 1 1/4", 1 1/2", and 2. Rows range from 16.5 to 30 bar.

Certified coefficient of discharge (TÜV) αw = 0,73
Certified coefficient of discharge (ASME) Kd = 0,863 SCFM = standard cubic feet minute

Automation and Control Products

Honeywell GmbH Phone: (49) 6261 810
Hardhofweg Fax: (49) 6261 81309
D-74821 Mosbach braukmann@honeywell.com



<http://europe.hbc.honeywell.com>