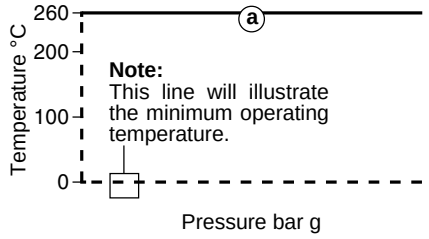
Cert. No. LRQ 0963008

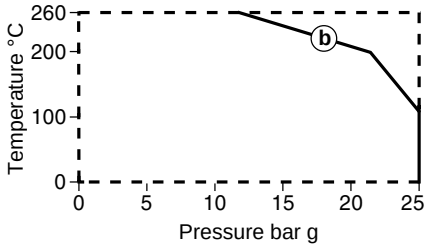
ISO 9001

Pressure/Temperature Limits for Safety Valves

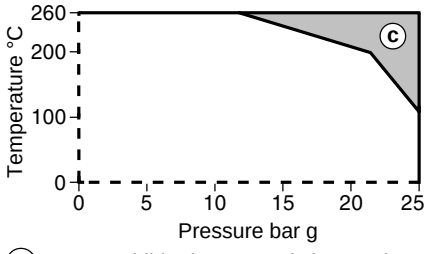
Safety valve Technical Information sheets (TI's) contain a 'Pressure / temperature limits' diagram. This diagram indicates the envelope of the product(s) at the full range of pressures and temperatures. Note: The construction of this diagram and a typical example (no specific product) is displayed below:



a - Is the maximum allowable temperature to which the shell of the product can be permanently raised, at a pressure of 0 bar g.

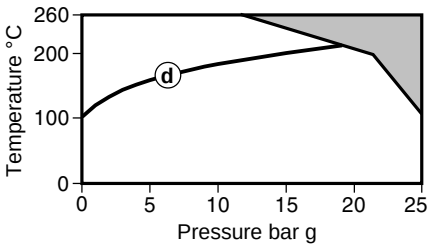


b - Is the maximum pressure which can be tolerated within the safety valve inlet tract. It is a function of the PN rating and and the body design/material.



c - Is a prohibited area and the product **must not** be used in this region and will be worded:

The product **must not** be used in this region.

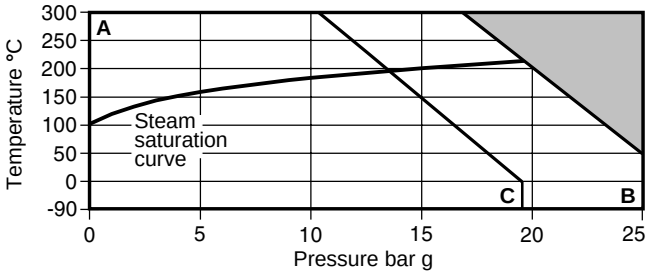


d - The steam saturation curve is added when relevant to enable users to easily find the specific operating points, e.g. 10 bar g saturated steam @ 185°C, 10 bar g steam with 20°C superheat or 10 bar g/250°C steam.

Typical 'Pressure / temperature limits' diagram and table for a safety valve:

Pressure / temperature limits

Please contact: Spirax Sarco, when so required, for relevant details regarding the maximum allowable limits that the shell can withstand.



The product **must not** be used in this region.

A - B Flanged PN25.
A - C Flanged ANSI 150.

Note: For hygienic/sanitary clamp ends the maximum pressure / temperature may be restricted by the gasket or sanitary clamp used. Please consult Spirax Sarco.

Body design conditions			PN25
Set pressure range	Maximum	DN15 - DN32	18 bar g
		DN40 - DN50	14 bar g
	Minimum		0.3 bar g
Temperature	Metal seat	Minimum	-90°C
		Maximum	+300°C
	Nitrile seat	Minimum	-30°C
		Maximum	+120°C
	EPDM seat	Minimum	-50°C
		Maximum	+150°C
	Viton seat	Minimum	-20°C
		Maximum	+200°C
Performance data	Overpressure	Steam	5%
		Gas, liquid	10%
	Blowdown limits	Steam, gas, liquid	10%
	Derated coefficient of discharge values	Steam, gas	0.71
		Liquid	0.52

Designed for a maximum inlet cold hydraulic test pressure of 37.5 bar g
Note: If a test gag is fitted, test pressure must not exceed 25 bar g

Local regulations may restrict the use of this product to below the conditions quoted.
In the interests of development and improvement of the product, we reserve the right to change the specification.