

Enclosed Discharge Safety Relief Valves

Seetru Limited

for compressed air or gases

cryogenic & liquefied gas

steam

refrigeration

hydrogen

Type 946 Flanged

Safety valves made from Stainless Steel <
Enclosed discharge valve with flanged connections <
Metal to metal sealing <

Example Applications

- Air / gas compressors
- Pressure vessels
- Medical gases/Technical gases
- Refrigeration (including ammonia)
- Thermal relief
- Steam systems
- Hydrogen

Specifications

- Inlet connections: DN15 (1/2), DN20 (3/4") or DN25 (1") flange – DIN EN1092 and ANSI flanges are available
- Temperature range: -196°C to +250°C (depending on body o'ring material)
- Pressure range: 0.3 to 28.0 bar

Materials of Construction

Component	Material	Grade
Inlet & Outlet Flanges	Stainless Steel	1.4401 (316)
Body	Stainless Steel	1.4408 (316)
Internal Parts	Stainless Steel	1.4401 (316)
Spring	Stainless Steel	1.4310 (302)
Disc	Stainless Steel	S20910

Approvals

- Designed in accordance with BS EN ISO-4126-1 &-7
- PED 2014/68/EU (CE)
- PE(S)R UK SI 2016 No. 1105 (UKCA)
- Leak tightness at 90% set pressure to API 527 and in accordance with EN ISO 4126-1



Seal Materials

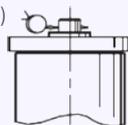
This valve using metal to metal sealing. There is a choice of o'ring used for the sealed cap/lever.

O'ring material – Top cap	Temperature Range
Viton® (FKM)	-20°C to +200°C
Nitrile (NBR)	-20°C to +120°C
Silicone	-50°C to +200°C
EPDM	-55°C to +130°C
PTFE	-196°C to +200°C

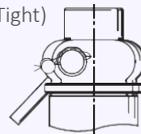
Standard seal materials shown, others are available.

Easing Gear / Lifting Gear / Top Fitting Options

- Sealed Cap (Gas Tight Cap)

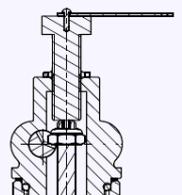


- Sealed lever (Gas Tight)



- Sealed lever (With Test Gag)

A test gag is used to prevent the valve from opening at the set pressure during hydraulic testing when commissioning a system. Once tested, the gag screw is removed and replaced with a short blanking plug before the valve is place in service.



Technical information by bore size



Bore size	10mm (94610)			15mm (94615)
	DN15 (1/2")	DN20 (3/4")	DN25 (1")	DN25 (1")
Inlet Size	DN15 (1/2")	DN20 (3/4")	DN25 (1")	DN25 (1")
Outlet Size	DN25 (1")			DN40 (1 1/2")
Flow Area	78.5mm ²			177mm ²
H - Height (Sealed Lever version)	200mm			253mm
TÜV allotted outflow coefficient	0.85 (0.7 below 0.8 bar)			0.85 (0.7 below 0.8 bar)
Weight (approximate) Kg	3.0			5.3
Set Pressure range - PED (CE) bar	0.3 to 28.0			0.3 to 28.0
Relieving pressure/fully open pressure	Set pressure +10% (0.1 bar below 1.0 bar)			
Reseating pressure	Set pressure -10% (0.3 bar below 3.0 bar)			

- TÜV allotted outflow coefficients for pressures above 3.0 bar, for lower pressures please see the flow rate tables or contact Seetru.
- Maximum permissible built up back pressure = 10% of set pressure at or below which flow is not reduced.
- Stable operation on flows down to 50% of valve rated capacity.
- Leak tightness at 90% set pressure to API 527 and in accordance with EN ISO 4126-1.

Standard INLET Connection Types



- DIN EN1092 Flange PN16, PN25 or PN40
- ASME Flange CL150, CL300 or CL600

Standard OUTLET Connection Types



- DIN EN1092 Flange PN16, PN25 or PN40
- ASME Flange CL150 or CL300

Valve Selection Guide



Valve type	Select Bore	Inlet Size	Inlet Flange Type	Outlet Flange Type	Easing Gear	O'ring material (for cap)
946	Select bore size from above table	Select inlet size from above table	Select Inlet Flange type	Select Outlet Flange type	Select easing gear/top fitting	See table

EAC marking available upon request

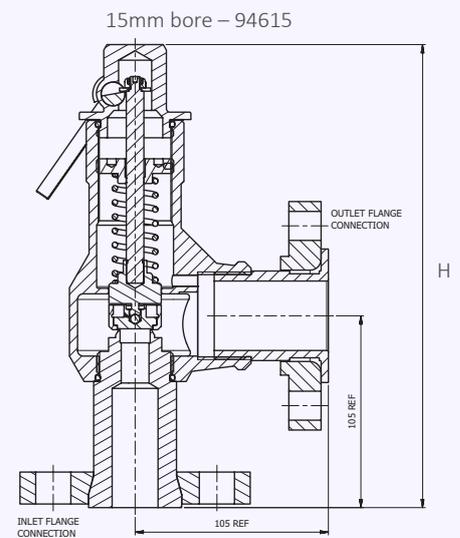
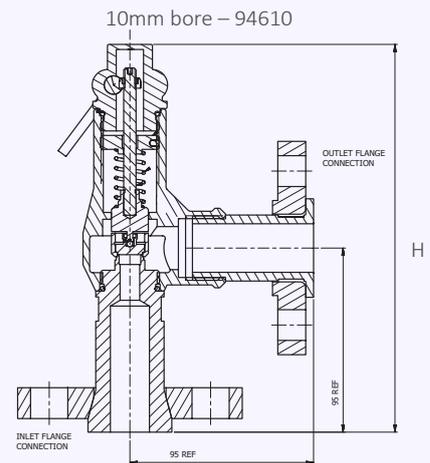
***Please send your selected details to Seetru and we can provide the full ordering code, price and lead-time.**

Example of Valve Selection Process

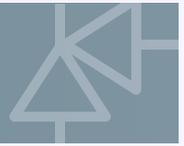


Example Selection	946	10	DN20	DIN EN1092 Flange PN16	DIN EN1092 Flange PN16	Sealed Lever	Viton	10.5 bar	16.2 bar
	Valve Type	Bore = 10mm	Inlet Size	Inlet Flange Type	Outlet Flange Type	Top Fitting	O'ring	Set Pressure	Set Pressure

Valve Drawing



Capacity Table - In accordance with TÜV, AIR at 0°C and 1013mbar. Normal m³/hour Type 946: Flow rates at 10% above the set pressure



Set Pressure		Bore Size (D0)			
		10mm	15mm		
bar	psi	Nm ³ /Hour	Nm ³ /Hour		
0.3	4.35	48.5	109.2		
0.5	7.25	59.0	132.9		
1	14.5	96.1	216.2		
2	29	146.1	328.7		
3	43.5	196.1	441.3		
4	58	246.1	553.8		
5	72.5	296.1	666.4		
6	87.00	346.2	778.9		
7	101.5	396.2	891.4		
8	116	446.2	1004.0		
9	130.5	496.2	1116.5		
10	145	546.7	1229.1		
15	217.5	796.3	1791.8		
20	290	1046.4	2354.6		
25	362.5	1296.5	2917.3		
28	406	1446.6	3254.9		

For any intermediate pressures/flows please contact Seetru

Capacity Table - In accordance with TÜV, STEAM. Kg/hour Type 946: Flow rates at 10% above the set pressure



Set Pressure		Bore Size (D0)			
		10mm	15mm		
bar	psi	Kg/hour of Steam	Kg/hour of Steam		
0.3	4.35	37.6	84.5		
0.5	7.25	46.6	104.8		
1	14.5	76.6	172.5		
2	29	115.1	259.0		
3	43.5	153.2	344.6		
4	58	190.9	429.7		
5	72.5	228.6	514.3		
6	87.00	266.1	598.6		
7	101.5	303.4	682.6		
8	116	340.6	766.5		
9	130.5	377.9	850.4		
10	145	415.1	933.9		
15	217.5	600.3	1350.7		
20	290	785.4	1767.2		
25	362.5	970.5	2183.7		
28	406	1081.9	2434.4		

For any intermediate pressures/flows please contact Seetru