

# Enclosed Discharge Safety Relief Valves

for compressed air or gases

steam

refrigeration

Seetru Limited

## Type 946 Threaded

Safety valves made from Stainless Steel <  
Enclosed discharge valve with threaded 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: 1/2" to 2" threaded connections (depending on valve bore size) \*For flanged connections see datasheet 946 Flanged
- Temperature range: -50°C to +250°C (depending on body o'ring material)
- Pressure range: 0.3 to 28.0 barg (depending on valve bore size)

### Materials of Construction

Component	Material	Grade
Inlet	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	AISI 440B

### Approvals

- TÜV Type test approval 1016
- Designed in accordance with BS EN ISO 4126-1
- PED 2014/68/EU
- EAC
- Leak tightness at 90% set pressure to API 527 and in accordance with EN ISO 4126-1



### Seal Materials

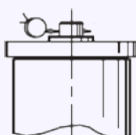
This valve using metal to metal sealing. There is a choice of o'ring used for the sealed cap/lever.

O'ring material – Top cap	Temperature Range
Viton® (FKM)	-20°C to +250°C
Nitrile (NBR)	-30°C to +150°C
Silicone	-50°C to +250°C
EPDM	-40°C to +150°C

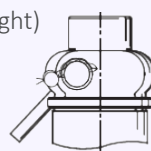
Standard seal materials shown, others are available.

### Easing Gear / Lifting Gear / Top Fitting Options

- Sealed Cap (gas tight cap)



- Sealed lever (gas tight)



- Rota-lift (not gas tight)

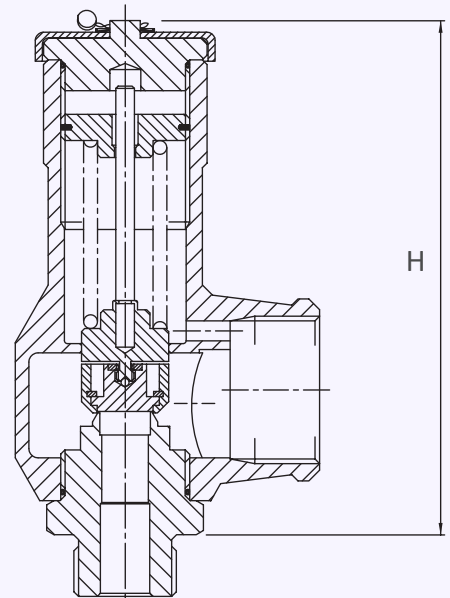


## Technical information by bore size

Bore size	10mm (94610)			15mm (94615)			20mm (94620)			25mm (94625)			
Inlet Size	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	2"
Outlet Size	1"			1 1/2"			2"			2"			
Flow Area	78.5mm <sup>2</sup>			177mm <sup>2</sup>			314mm <sup>2</sup>			491mm <sup>2</sup>			
H - Height (Sealed Lever version)	114mm			168mm			141mm			225mm			
TÜV allotted outflow coefficient	0.83 (above 3.0 bar)			0.74 (above 3.0 bar)			0.8 (above 4.0 bar)			0.8 (above 4.0 bar)			
Weight (approximate) Kg	1.0			2.1			3.5			4.2			
Set Pressure range - PED (CE) Bar g	0.3 to 28.0			0.3 to 28.0			0.3 to 28.0			0.3 to 20.0			
Relieving pressure/fully open pressure	Set pressure +10% (0.1 bar g below 1.0 bar g)												
Reseating pressure	Set pressure -10% (0.3 bar g below 3.0 bar g)												

- TÜV allotted outflow coefficients for pressures above 3.0/4.0 bar g, 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

## Valve Drawing



## Standard INLET Connection Types

- BSP parallel male thread
- BSP taper male thread
- NPT male thread
- BSP parallel female thread (limited option)

## Standard OUTLET Connection Types

- BSP parallel female thread

## Valve Selection Guide

Valve type	Select Bore	Inlet Size	Inlet Thread Type	Top Fitting	O'ring material (for cap)	Set pressure
946	Select bore size from above table	Select inlet size from above table	Select Inlet Thread type	Select easing gear/top fitting	See table	Set pressure from available range

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	15	1"	BSP parallel	Sealed Lever	Viton	17.5 barg
	Valve Type	Bore = 15mm	Inlet Size	Inlet Thread Type	Top Fitting	O'ring	Set Pressure

## Capacity Table - In accordance with TÜV, AIR at 0°C and 1013mbar. Normal m<sup>3</sup>/hour

### Type 946: Flow rates at 10% above the set pressure



Set Pressure		Bore Size (D0)				
		10mm	15mm	20mm	25mm	
Bar g	Psi g	Nm <sup>3</sup> /Hour	Nm <sup>3</sup> /Hour	Nm <sup>3</sup> /Hour	Nm <sup>3</sup> /Hour	
0.3	4.35	39	76	174	220	
0.5	7.25	56	104	238	304	
1	14.5	84	155	354	458	
2	29	135	270	554	838	
3	43.5	191	384	738	1154	
4	58	240	482	926	1448	
5	72.5	289	580	1115	1742	
6	87.00	338	678	1303	2036	
7	101.5	386	776	1491	2330	
8	116	425	874	1679	2625	
9	130.5	484	972	1868	2919	
10	145	533	1070	2056	3213	
15	217.5	777	1560	2998	4685	
20	290	1021	2049	3939	5848	
25	362.5	1266	2539	4881		
28	406	1412	2833	5446		

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	20mm	25mm	
Bar g	Psi g	Kg/hour of Steam	Kg/hour of Steam	Kg/hour of Steam	Kg/hour of Steam	
0.3	4.35	32.5	63.3	145.3	182.3	
0.5	7.25	44.5	82.5	188.7	242.2	
1	14.5	66.1	121.7	278.4	361.9	
2	29	106.2	213.4	437.8	663.0	
3	43.5	149	299	576	901	
4	58	186	373	718	1122	
5	72.5	222	446	860	1343	
6	87.00	259	520	1000	1563	
7	101.5	295	592	1142	1784	
8	116	332	666	1283	2004	
9	130.5	368	738	1423	2224	
10	145	405	812	1563	2442	
15	217.5	585	1174	2261	3533	
20	290	765	1535	2957	4389	
25	362.5	947	1900	3655		
28	406	1055	2116	4078		

For any intermediate pressures/flows please contact Seetru