Enclosed Discharge Safety Relief Valves

for refrigeration

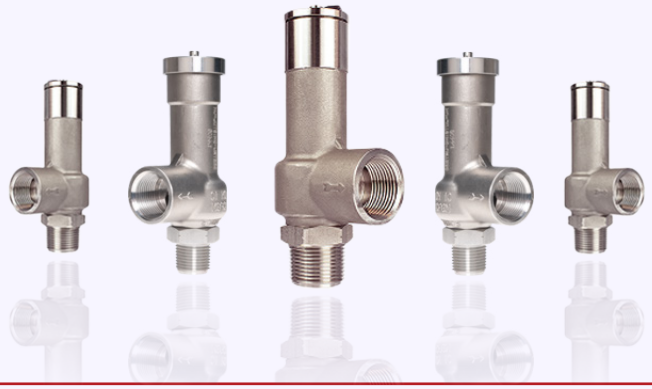
Seetru Limited

Type 646 / 641

Safety valves with stainless steel body <
Enclosed discharge valve with threaded connections <

Example Applications

- Compressor manufacture
- Industrial refrigeration
- Commercial refrigeration
- Ice making machinery
- Air conditioning



Specifications

- Inlet connections: 3/8” to 1 1/2” (depending on bore size)
- Temperature:-30°C to +200°C
- Pressure range: 6.6 to 55.2 bar (depending on bore size)

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)
- ASME BPVC VIII.1 & XIII (UV)
- CRN
- EAC

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)

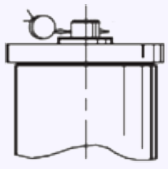
Seal Materials

Seal Material	Temperature Range
Perfluroelastomer (FFKM)	-30°C to +200°C

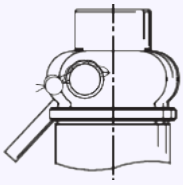
Standard seal materials shown, others are available.

Valve cap / Top Fitting

- **Standard option** – Sealed Cap (gas tight cap)



- **Other option** – Sealed lever (gas tight)



Technical information by bore size

Bore size	9.5			13.7mm			17mm		
Inlet Size	3/8"	1/2"	3/4"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"
Outlet Size	3/4"			1"			1 1/2"		
Flow Area	70.9mm²			147.7mm²			227mm²		
H - Height (Sealed cap version)	99mm (up to 33 bar) 113mm (33-55.2 bar)			135mm (up to 33 bar) 168mm (33-49 bar)			204mm		
TÜV alloted outflow coefficient	0.77			0.77			0.77		
NB Certified rated slope (ASME)	1.74 scfm/psia			3.47 scfm/psia			5.60 scfm/psia		
Weight (approximate) Kg	0.8			1.1			3.6		
Set Pressure range - PED (CE) bar	7.0 to 55.2			7.0 to 49.0			6.6 to 35.0		
Set Pressure range - ASME (UV) psi	101.5 to 800.4			101.5 to 710.5			95.7 to 507.5		
Relieving pressure/fully open pressure	**Set pressure +10%**								
Reseating pressure	**Set pressure -10%**								

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.

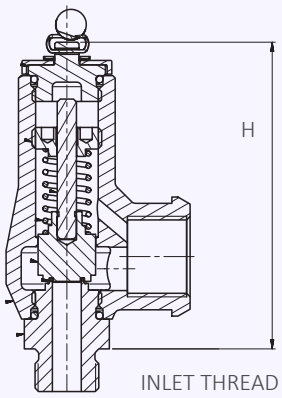
Standard INLET Thread Connection Types

- BSP Parallel male thread
- BSP Taper male thread
- NPT male thread

Standard OUTLET Thread Connection Types

- BSP Parallel female thread
- NPT female thread

Valves with Rota-lift Easing Gear



Valve Selection Guide

Approval Required	Valve type	Select Bore	Inlet Size	Inlet Thread Type	Outlet Threa Type	Easing Gear	Seal Material
PED (CE)	646	Select bore size from above table	Select inlet size from above table	Select Inlet thread type	Select Outlet thread type	Sealed Cap is the standard option.	Perfluroelastomer (FFKM)
PED (CE), ASME (UV) & CRN	641						

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	CE/PED, ASME/UV & CRN	641	9.5	3/4"	NPT	NPT	Sealed Cap	FFKM	16.2 bar
	Approval	Valve Type	Bore = 9.5mm	Inlet Size	Inlet Thread Type	Outlet Thread Type	Easing Gear	Seal	Set Pressure

Capacity Table - In accordance with TÜV, AIR at 0°C and 1013mbar. Normal m³/hour
Type 646: Flow rates at 10% above the set pressure

Set Pressure		Bore Size (D0)				
		9.5mm	13.7mm	17mm		
bar	psi	Nm³/Hour	Nm³/Hour	Nm³/Hour		
7	101.5	323.9	673.6	1037.3		
8	116	364.8	758.7	1168.2		
9	130.5	405.7	843.7	1299.2		
10	145	446.6	928.8	1430.2		
15	217.5	651.1	1354.0	2084.9		
20	290	855.6	1779.3	2739.7		
25	362.5	1060.0	2204.5	3394.4		
30	435	1264.5	2629.7	4049.2		
35	507.5	1468.9	3054.9	4703.9		
40	580	1673.4	3480.2			
45	652.5	1877.9	3905.4			
49	710.5	2041.5	4245.6			
50	725	2082.4				
55.2	800.4	2295.0				

For any intermediate pressures/flows please contact Seetru

Capacity Table - In accordance with ASME BPVC.XIII, AIR at 60°F and 14.7 psia/scfm. SCFM
Type 641: Flow rates at 10% above the set pressure

Set Pressure		Bore Size (D0)				
		9.5mm	13.7mm	17mm		
psi	bar	SCFM	SCFM	SCFM		
100	6.90	213.2	432.6	698.1		
150	10.34	307.2	623.4	1006.1		
200	13.79	401.2	814.2	1314.0		
250	17.24	495.3	1005.0	1621.9		
300	20.69	589.3	1195.8	1929.8		
350	24.14	683.3	1386.6	2237.8		
400	27.59	777.4	1577.4	2545.7		
435	30.00	843.2	1711.0	2761.2		
450	31.03	871.4	1768.2	2853.6		
500	34.48	965.4	1959.0	3161.5		
507.5	35.00	979.5	1987.6	3207.7		
550	37.93	1059.4	2149.8			
600	41.38	1153.4	2340.6			
650	44.83	1247.5	2531.4			
700	48.28	1341.5	2722.2			
710.5	49.00	1361.3	2762.3			
750	51.72	1435.5				
800.4	55.20	1530.3				

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