

Enclosed Discharge Safety Relief Valves

Seetru Limited

for compressed Air & Gas

hydrogen

Type 636 / 631 656 / 651

Safety valves with bronze body <
Enclosed discharge valve with threaded connections <

Example Applications

- Air / gas compressors
- Pressure vessels
- Pneumatic systems
- Medical gases
- Technical gases

Specifications

- Inlet connections: 3/8" to 2" (depending on bore size)
- Temperature: -40°C to +200°C (depending on seal material)
- Pressure range: 0.32 to 55.2 bar (depending on bore size)

Materials of Construction

Component	Material	Grade
Inlet	Brass ^(636 / 631)	CW614N
	Stainless Steel ^(656 / 651)	1.4401 (316)
Body	Bronze	CC491K SB-62 C83600
Wetted Parts	Brass ^(636 / 631)	CW614N
	Stainless Steel ^(656 / 651)	1.4401 (316)
Spring	Stainless Steel	1.4310 (302)

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



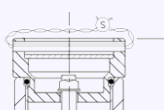
Seal Materials

Seal Material	Temperature Range
Viton® (FKM)	-15°C to +200°C
Nitrile (NBR)	-40°C to +120°C

Standard seal materials shown, others are available.

Easing Gear / Lifting Gear Options

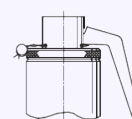
- **Standard option:**
Rota-lift, twist type
(not gas tight)



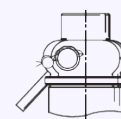
- **Other Options:**



Sealed Cap (gas tight cap)



Unsealed lever (not gas tight)



Sealed lever (gas tight)

Technical information by bore size



Bore size	9.5/10mm			13.7mm			17mm			20mm			25mm		
Inlet Size	3/8"	1/2"	3/4"	1/2"	3/4"	1"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1 1/4"	1 1/2"	2"
Outlet Size	3/4"			1"			1 1/2"			2"			2"		
Flow Area	70.9mm ² (above 1.55 bar)			147.7mm ²			227mm ²			314mm ²			490.4mm ²		
H - Height (Rota-lift cap version)	102mm (up to 33 bar) 116mm (33-55.2 bar)			143mm (up to 35 bar) 172.5mm (35-49 bar)			204mm			227mm			252mm		
TÜV allotted outflow coefficient	0.77 above 1.55 bar			0.77			0.77			0.77			0.77		
NB Certified rated slope (ASME)	1.74 scfm/psia			3.47 scfm/psia			5.60 scfm/psia			7.77 scfm/psia			12.26 scfm/psia		
Weight (approximate) Kg	0.8			1.1			3.6			4.0			5.1		
Set Pressure range - PED (CE) bar	0.48 to 55.2			0.32 to 49.0			1.0 to 35.0			3.0 to 35.0			5.65 to 30.0		
Set Pressure range - ASME (UV) psi	22.5 to 800.4			20.3 to 710.5			34.8 to 507.5			43.5 to 507.5			82.0 to 435.0		
Relieving pressure/fully open pressure	Set Pressure +10%														
Reseating pressure	Set Pressure -10% (0.3 bar minimum)														

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 Thread Connection Types



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

Standard Outlet Connection Types



- BSP Parallel female thread
- NPT female thread

Valve Selection Guide



Approval Required	Valve type	Select Bore	Inlet Size	Thread Type	Outlet Thread Type	Easing Gear	Seal Material
PED (CE)	636 (Brass inlet)	Select bore size from above table	Select inlet size from above table	Select Inlet thread type	Select Outlet thread type	Select easing gear/top fitting	Viton® (FKM)
	656 (St. Steel inlet)						Nitrile (NRB)
PED (CE), ASME (UV) & CR	631 (Brass inlet)						Other
	651 (St. Steel inlet)						

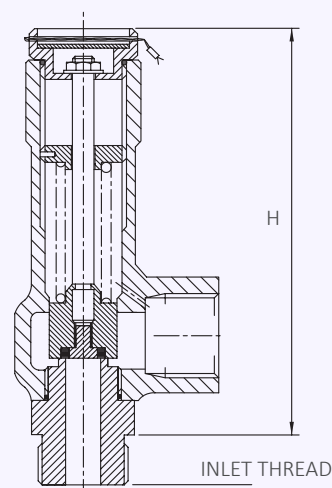
EAC marking available upon request

*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	636	20	1 1/2"	BSP Taper	BSP parallel	Rota-lift	Viton	10.5 bar
	Approval	Valve Type	Bore = 20mm	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 636/656: Flow rates at 10% above the set pressure



Set Pressure		Bore Size (D0)				
		9.5mm	13.7mm	17mm	20mm	25mm
bar	psi	Nm³/Hour	Nm³/Hour	Nm³/Hour	Nm³/Hour	Nm³/Hour
0.32	4.64		123.9			
0.48	6.96		138.2			
1	14.5	51.5	178.9	251.6		
2	29	119.4	248.4	385.5		
3	43.5	160.4	333.5	513.5	710.7	
4	58	201.2	418.5	644.4	891.9	
5	72.5	242.1	503.6	775.4	1073.2	
5.65	81.93	268.7	558.8	860.5	1191.0	1860.9
6	87	283.0	588.6	906.3	1254.5	1960.1
7	101.5	323.9	673.6	1037.3	1435.7	2243.3
8	116	364.8	758.7	1168.2	1616.9	2526.5
9	130.5	405.7	843.7	1299.2	1798.2	2809.7
10	145	446.6	928.8	1430.2	1979.4	3092.9
15	217.5	651.1	1354.0	2084.9	2885.7	4508.9
20	290	855.6	1779.3	2739.7	3791.9	5924.9
25	362.5	1060.0	2204.5	3394.4	4698.2	7340.9
30	435	1264.5	2629.7	4049.2	5604.4	8756.9
35	507.5	1468.9	3054.9	4703.9	6510.7	
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 631/651: Flow rates at 10% above the set pressure



Set Pressure		Bore Size (D0)				
		9.5mm	13.7mm	17mm	20mm	25mm
psi	bar	SCFM	SCFM	SCFM	SCFM	SCFM
20.3	1.40		131.9			
22.5	2.50	68.7	139.4			
30	2.07	81.5	165.5			
34.8	2.80	90.6	183.8	296.7		
40	2.76	100.4	203.7	328.7		
43.5	3.00	106.9	217.0	350.2	486.0	
50	3.45	119.2	241.8	390.3	541.5	
82	5.66	179.3	363.9	587.3	814.9	1285.8
100	6.90	213.2	432.6	698.1	968.7	1528.4
150	10.34	307.2	623.4	1006.1	1395.9	2202.6
200	13.79	401.2	814.2	1314.0	1823.2	2876.8
250	17.24	495.3	1005.0	1621.9	2250.4	3550.8
300	20.69	589.3	1195.8	1929.8	2677.6	4224.9
350	24.14	683.3	1386.6	2237.8	3104.9	4899.1
400	27.59	777.4	1577.4	2545.7	3532.2	5573.3
435	30.00	843.2	1711.0	2761.2	3831.2	6045.2
450	31.03	871.4	1768.2	2853.6	3959.3	
500	34.48	965.4	1959.0	3161.5	4386.6	
507.5	35.00	979.5	1987.6	3207.7	4450.7	
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				

For any intermediate pressures/flows please contact Seetru