Seetru Limited

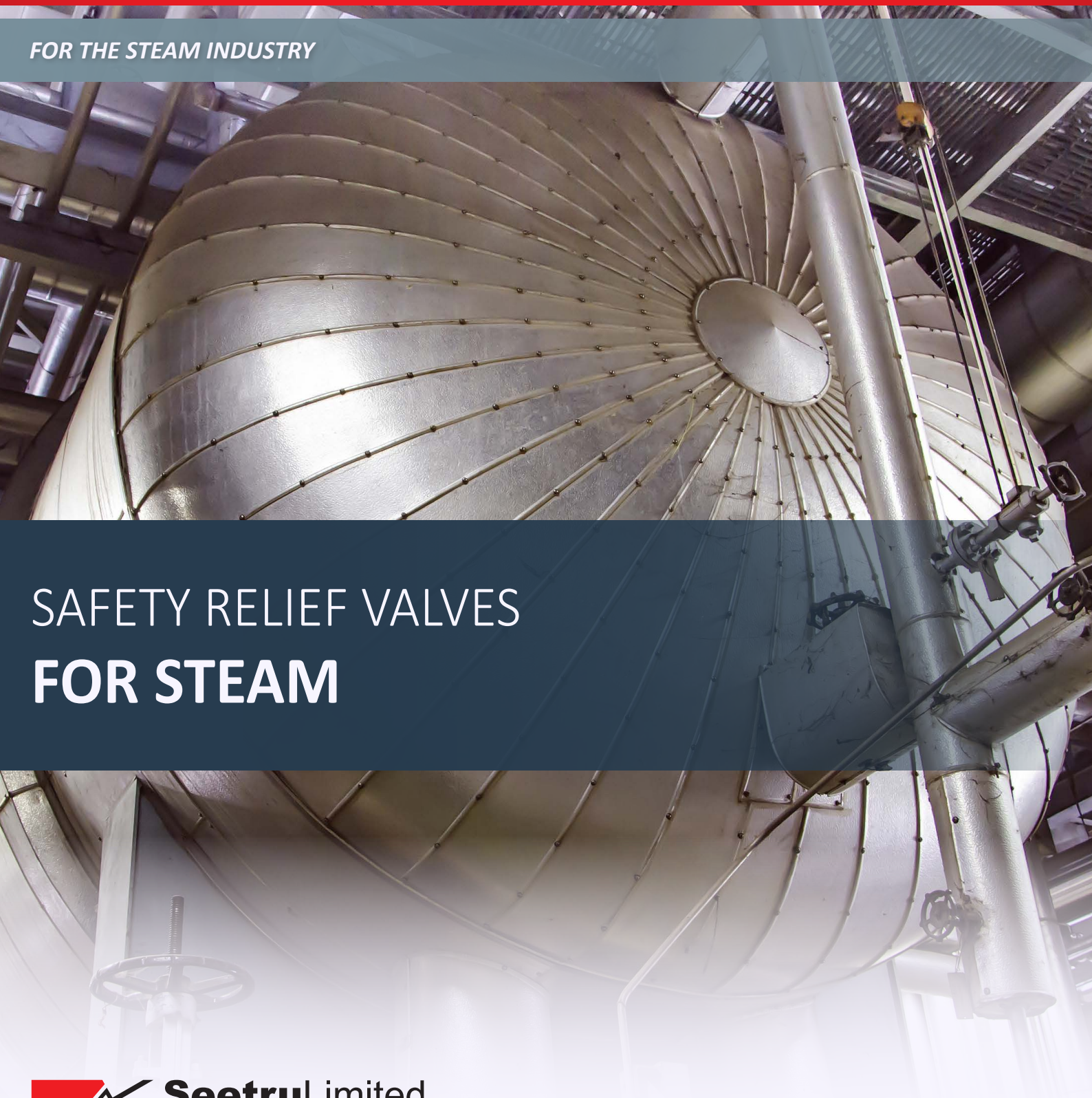
Seetru are Bristol-based manufacturers of safety relief and other special purpose ancillary valves for a wide range of compressed air, industrial gas, refrigerants, powder, steam, liquid and liquefied gas applications. Seetru change-over valves offer increased plant and process efficiency.

Seetru liquid level gauges are primarily of two types, sight gauges and magnetic float bypass gauges. Many of the gauges are direct reading though most have optional electronic remote reading systems and computer interfaces.

SEETRU

Seetru *Safety Relief Valves*

FOR THE STEAM INDUSTRY



SAFETY RELIEF VALVES
FOR STEAM

SeetruLimited
That's Safety!

Edition 4 (18.1.2024)

Seetru Limited

Bristol-based Manufacturers of Safety and Relief Valves

Seetru Limited was founded in 1949 with the aim of producing the finest liquid level gauges so customers could “see the true” level even under the most severe conditions. This philosophy of making the finest through innovation continued with the introduction of the Seetru range of pressure relief devices, circa 1950 the Seetru Tutchtite-sealing system revolutionized the safety valve market with valves that do not leak even after repeated popping even at high pressures.

Today, Seetru have an extensive range of Pressure Relief Valves and Liquid Level Gauges which carry a wide range of international approvals and are supplied worldwide.

Our Products

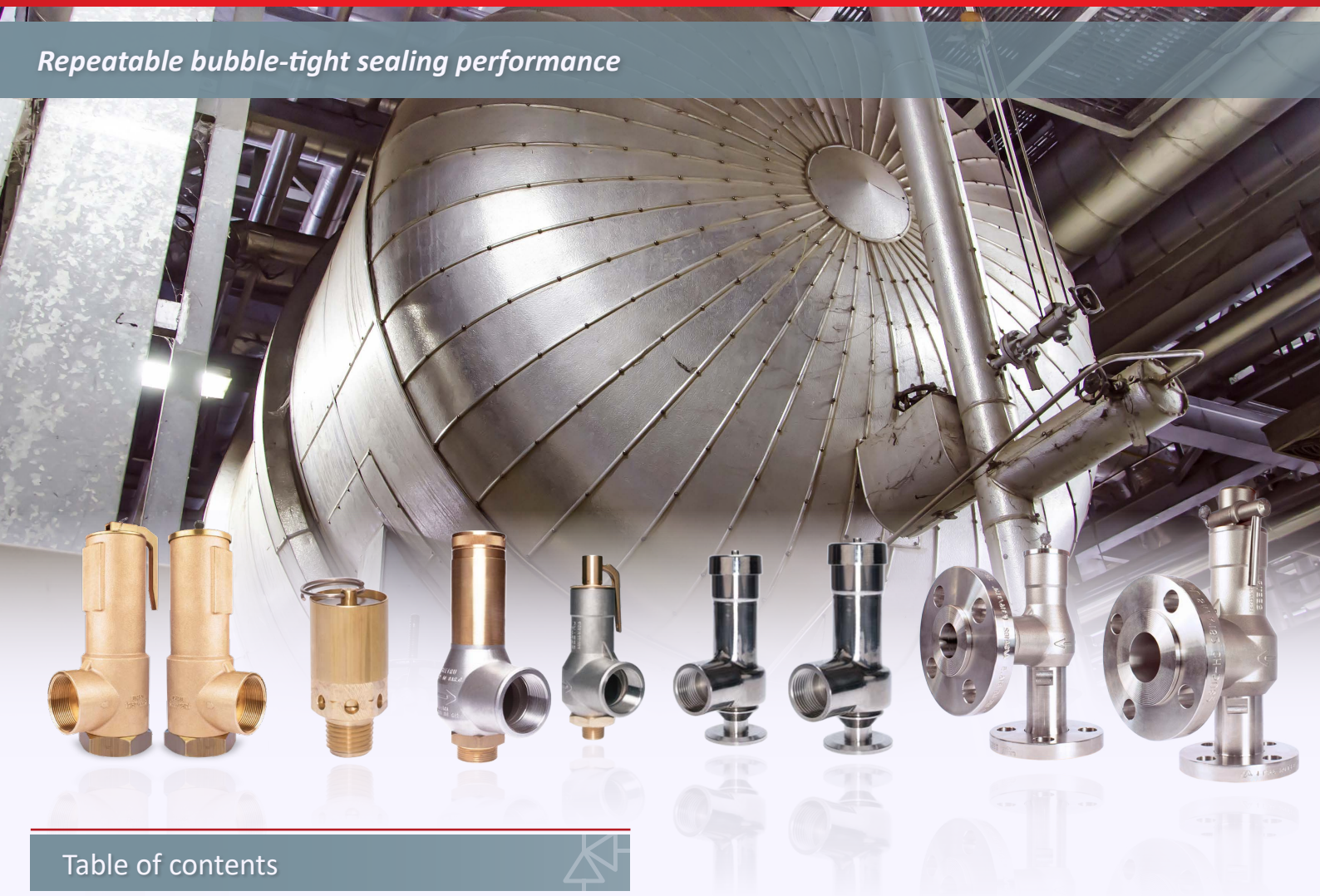
These valves meet important international standards which include: ISO-4126-1 &-7 and ASME BPVC VIII.1 & XIII design codes as well as type test approvals from TÜV and the National Board. These products comply with the requirements of the European Pressure Equipment Directive (PED) and are available with both the CE mark as well as the UV stamp, and have wide international approvals such as the EAC (TR CU) customs union certification and declaration and the Canadian CRN. Seetru products are fully compliant with the requirements of the UK Pressure Equipment (Safety) Regulations and come with the UKCA mark.

Seetru also have a wide range of special purpose valves. The range includes Change-Over Valves (designed for switching parallel safety valves without interrupting operation), Minimum Pressure Check Valves (typically suitable for application on compressors), Air-Start Valves (designed to handle a two-stage operation for air starting of engines). We also manufacture a range of Air Receiver & In-line Check Valves.

Seetru liquid level gauges are primarily of two types, sight gauges and magnetic float by-pass gauges. Many of the gauges are direct reading though most have optional electronic remote reading systems and computer interfaces. The range includes the Quickmount, Seemag and CPI gauges for industrial and chemical applications, and the Seeflex and Seemag for marine applications. The Company’s substantial design and development department, which includes TÜV approved testing facilities, enable us to provide extensive bespoke design, advisory and manufacturing services to develop or adapt individual products for new applications.

Seetru *Safety Relief Valves*

Repeatable bubble-tight sealing performance



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LGS® Safety Relief Valves

for liquid | *hot water* | *compressed air & gas* | *steam*

Seetru Limited

LGS®

Safety valves made from Brass <
Enclosed discharge with threaded connections <

Example Applications

- Hot water, including boilers (vented and unvented)
- Steam boilers and steam plants
- Pump and thermal relief
- Bypass relief
- Process liquids and gases
- Pressure vessels and lines
- Heating and cooling systems
- Heat exchangers and industrial cooling systems
- Refrigeration systems
- Pressure booster systems
- Solar power systems
- District heating systems

Specifications

- Size range: DN15 to DN65
  (1/2" to 2 1/2" BSP female connections)
- Temperature: -60°C to +200°C
  (with PTFE seals (EPDM-45°C to +140°C)
- Pressure range: 0.2 to 24 bar (depending on seal and duty)

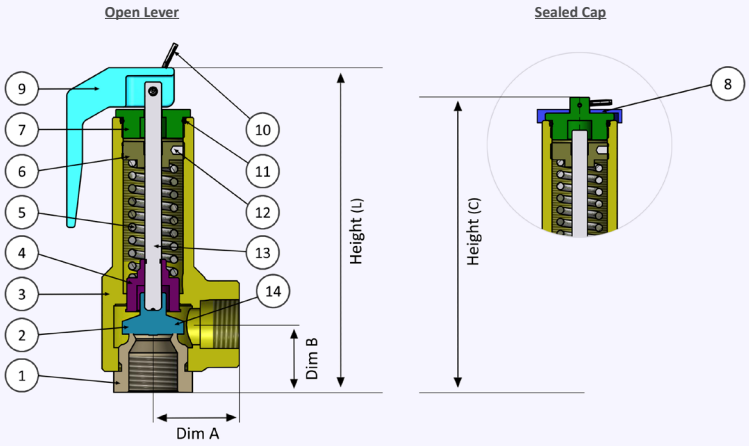
Approvals

- Designed in accordance with BS EN ISO-4126-1 &-7
- PED 2014/68/EU (CE)
- PE(S)R UK SI 2016 No. 1105 (UKCA)
- EAC
- WRAS
- KUKReg 4

Materials of Construction

	COMPONENT	MATERIAL
1	Seat	Dezincification Resistant Material
2	Lift Aid Assembly	Dezincification Resistant Material
3	Body	Bronze CC491K / C83600
4	Piston	Dezincification Resistant Material
5	Spring	Steel 1.4401
6	Adjuster	Brass
7	Cap	Brass
8	Cover	Brass
9	Lever	Brass
10	Wire Lock	Steel & Lead
11	O-Ring	EPDM
12	Locking Slug	Nylon
13	Spindle	Stainless Steel
14	Seal	PTFE or EPDM

Valve Drawing

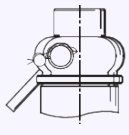


Dimensions

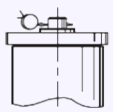
Size (Inlet x Outlet)	Dim A mm (inches)	Dim B mm (inches)	Height (L) mm (inches)	Height (C) mm (inches)
DN15 (½")	33.0 (1.29)	26.0 (1.02)	124.0 (4.88)	114.5 (4.51)
DN20 (¾")	37.0 (1.46)	32.0 (1.26)	130.0 (5.12)	120.5 (4.74)
DN25 (1")	42.0 (1.65)	37.0 (1.46)	156.0 (6.14)	146.5 (5.77)
DN32 (1 ¼")	50.0 (1.97)	42.0 (1.65)	174.0 (6.85)	164.5 (6.48)
DN40 (1 ½")	59.0 (2.32)	50.0 (1.97)	222.5 (8.76))	211.5 (8.33)
DN50 (2")	69.0 (2.72)	59.0 (2.32)	256.5 (9.70)	246.5 (9.70)
DN65 (2 ½")	78.0 (3.07)	83.5 (3.28)	320 (12.60)	310 (12.20)

Easing Gear / Lifting Gear Options

- **Options:**



Sealed lever (gas tight)



Sealed Cap (gas tight cap)

Discharge Capacities

LGS Safety Relief Valves

Discharge capacity for WATER at 10% over-pressure[1,2] — Kdr = 0.26

Valve size	DN In	15mm (½")		20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")	
	DN Out	15mm (½")		20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")	
	d_o (mm)	13.5		15		20		25		32		40	
Set pressure (bar)	Set pressure (psi)	kg/hr	GPM (US)	kg/hr	GPM (US)	kg/hr	GPM (US)	kg/hr	GPM (US)	kg/hr	GPM (US)	kg/hr	GPM (US)
0.2	2.9	849.7	3.7	1097.2	4.8	1950.6	8.6	3047.8	13.4	4993.4	22.0	7802.3	34.4
1.0	14.5	1899.9	8.4	2453.4	10.8	4361.6	19.2	6815.0	30.0	11165.7	49.2	17446.4	76.9
2.0	29.0	2686.9	11.8	3469.6	15.3	6168.2	27.2	9637.9	42.5	15790.7	69.6	24672.9	108.8
4.0	58.0	3799.8	16.8	4906.8	21.6	8723.2	38.5	13630.0	60.1	22331.4	98.5	34892.8	153.8
6.0	87.0	4653.8	20.5	6009.6	26.5	10683.7	47.1	16693.3	73.6	27350.2	120.6	42734.7	188.4
8.0	116.0	5373.8	23.7	6939.3	30.6	12336.5	54.4	19275.7	85.0	31581.3	139.2	49345.8	217.6
10.0	145.0	6008.0	26.5	7758.3	34.2	13792.6	60.8	21550.9	95.0	35309.0	155.7	55170.3	243.3
12.0	174.0	6581.5	29.0	8498.8	37.5	15109.0	66.6	23607.8	104.1	38679.1	170.5	60436.0	266.5
15.0	217.5	7358.3	32.4	9502.0	41.9	16892.4	74.5	26394.4	116.4	43244.5	190.7	67569.6	297.9
20.0	290.0	8496.7	37.5	10971.9	48.4	19505.7	86.0	30477.6	134.4	49934.5	220.2	78022.6	344.0
24.0	348.0	9307.6	41.0	12019.1	53.0	21367.4	94.2	33386.5	147.2	54700.5	241.2	85469.5	376.9

[1] *Metric units are calculated to BS EN ISO4126-7:2013 and displayed in their customary units*
[2] *Imperial units are calculated to ASME Section VIII Division 1 and displayed in their customary units*

Discharge capacity for HOT WATER at 10% over-pressure (Unvented Systems)[1] — Kdr = 0.38

Valve size	DN In	15mm (½")		20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")	
	DN Out	15mm (½")		20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")	
	d_o (mm)	13.5		15		20		25		32		40	
Set pressure (bar)	Set pressure (psi)	kW	BTU/sec	kW	BTU/sec	kW	BTU/sec	kW	BTU/sec	kW	BTU/sec	kW	BTU/sec
0.2	2.9	21.1	20.0	27.2	25.8	48.4	45.9	75.7	71.7	124.0	117.5	193.7	183.6
1.0	14.5	36.2	34.3	46.7	44.2	83.0	78.7	129.7	122.9	212.5	201.4	332.0	314.6
2.0	29.0	55.0	52.1	71.0	67.3	126.2	119.6	197.2	186.9	323.1	306.2	504.8	478.4
4.0	58.0	92.6	87.8	119.6	113.3	212.6	201.5	332.2	314.9	544.3	515.9	850.4	806.0
6.0	87.0	130.2	123.5	168.2	159.4	299.0	283.4	467.2	442.8	765.5	725.5	1196.0	1133.6
8.0	116.0	167.9	159.1	216.8	205.5	385.4	365.3	602.2	570.8	986.7	935.2	1541.7	1461.2
10.0	145.0	205.5	194.8	265.4	251.6	471.8	447.2	737.2	698.8	1207.9	1144.8	1887.3	1788.8
12.0	174.0	243.2	230.5	314.0	297.6	558.2	529.1	872.2	826.7	1429.1	1354.5	2232.9	2116.4
15.0	217.5	299.6	284.0	386.9	366.7	687.8	652.0	1074.8	1018.7	1760.9	1669.0	2751.4	2607.8
20.0	290.0	393.7	373.2	508.4	481.9	903.9	856.7	1412.3	1338.6	2313.9	2193.1	3615.5	3426.8
24.0	348.0	469.0	444.5	605.6	574.0	1076.7	1020.5	1682.3	1594.5	2756.3	2612.5	4306.7	4082.0

[1] *Calculations based on Hot Water at or above 100°C, using the Kdr of Gas*
[2] *Calculations are in accordance to BS EN ISO 4126-1:2004 National Annex NA*

Discharge capacity for AIR at 10% over-pressure[1,2,3] — Kdr = 0.38

Valve size	DN In	15mm (½")		20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")	
	DN Out	15mm (½")		20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")	
	d_o (mm)	13.5		15		20		25		32		40	
Set pressure (bar)	Set pressure (psi)	l/sec	SCFM	l/sec	SCFM	l/sec	SCFM	l/sec	SCFM	l/sec	SCFM	l/sec	SCFM
0.2	2.9	12.5	26.5	16.1	34.2	28.6	60.7	44.7	94.9	73.2	155.5	114.4	243.0
1.0	14.5	21.4	45.3	27.6	58.6	49.0	104.1	76.6	162.7	125.5	266.5	196.1	416.4
2.0	29.0	32.5	69.0	41.9	89.0	74.5	158.3	116.5	247.3	190.8	405.2	298.2	633.2
4.0	58.0	54.7	116.2	70.6	150.0	125.6	266.7	196.2	416.7	321.5	682.7	502.3	1066.7
6.0	87.0	76.9	163.4	99.3	211.0	176.6	375.1	276.0	586.0	452.1	960.1	706.5	1500.2
8.0	116.0	99.2	210.6	128.1	271.9	227.7	483.4	355.7	755.4	582.8	1237.6	910.6	1933.7
10.0	145.0	121.4	257.8	156.8	332.9	278.7	591.8	435.5	924.7	713.5	1515.0	1114.8	2367.3
12.0	174.0	143.6	305.0	185.5	393.9	329.7	700.2	515.2	1094.1	844.1	1792.5	1318.9	2800.8
15.0	217.5	177.0	375.8	228.5	485.3	406.3	862.8	634.8	1348.1	1040.1	2208.7	1625.2	3451.1
20.0	290.0	290.0	493.8	300.3	637.7	533.9	1133.7	834.2	1771.4	1366.8	2902.3	2135.6	4534.9
24.0	348.0	277.0	588.3	357.7	759.6	636.0	1350.5	993.7	2110.1	1628.1	3457.2	2543.9	5401.9

[1] *Metric units are calculated to BS EN ISO4126-7:2013 and converted to l/sec at 1.013 bar a. @ 15°C*
[2] *Imperial units are calculated to ASME Section VIII Division 1 and displayed in their customary units*
[3] *To convert from l/sec (1.013 bar a. @ 15°C) to Nm3/hr (1.013 bar a. @ 0°C) multiply by 3.413*

Discharge capacity for SATURATED STEAM at 10% over-pressure[1,2,3,4] — Kdr = 0.38

Valve size	DN In	15mm (½")		20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")	
	DN Out	15mm (½")		20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")	
	d_o (mm)	13.5		15		20		25		32		40 (mm)	
Set pressure (bar)	Set pressure (psi)	kg/hr	lb/hr	kg/hr	lb/hr	kg/hr	lb/hr	kg/hr	lb/hr	kg/hr	lb/hr	kg/hr	lb/hr
0.2	2.9	29.1	74.2	37.6	95.8	66.9	170.4	104.5	266.2	171.3	436.2	267.6	681.6
1.0	14.5	59.7	127.2	77.1	164.2	137.0	292.0	214.1	456.2	350.8	747.5	548.1	1167.9
2.0	29.0	89.7	193.4	115.8	249.7	205.9	444.0	321.7	693.7	527.1	1136.6	823.6	1775.9
4.0	58.0	148.8	325.8	192.1	420.7	341.5	748.0	533.7	1168.7	874.4	1914.8	1366.2	2991.9
6.0	87.0	207.3	458.2	267.6	591.7	475.8	1052.0	743.4	1643.7	1218.0	2693.0	1903.1	4207.9
8.0	116.0	265.4	590.7	342.7	762.7	609.2	1356.0	951.9	2118.7	1559.5	3471.3	2436.8	5423.8
10.0	145.0	323.3	723.1	417.5	933.7	742.3	1660.0	1159.8	2593.7	1900.3	4249.5	2969.2	6639.8
12.0	174.0	381.1	855.5	492.1	1104.7	874.8	1963.9	1366.9	3068.7	2239.5	5027.7	3499.2	7855.8
14.0	203.0	438.9	987.9	566.7	1275.7	1007.5	2267.9	1574.2	3543.7	2579.2	5805.9	4030.0	9071.8

[1] *Metric units are calculated to BS EN ISO4126-7:2013 and displayed in their customary units*
[2] *Imperial units are calculated to ASME Section VIII Division 1 and displayed in their customary units*
[3] *Calculations for saturated steam only*
[4] *PTFE seals up to 14 bar, EPDM seals up to 2.5 bar - contact Seetru for details on maximum steam pressure for other seal materials*

LGS®HI-FLOW

Safety valves made from Brass <
Enclosed discharge with threaded connections <

Example Applications

- Hot water, including boilers (vented and unvented)
- Steam boilers and steam plants
- Pump and thermal relief
- Bypass relief
- Process liquids and gases
- Pressure vessels and lines
- Heating and cooling systems
- Heat exchangers and industrial cooling systems
- Refrigeration systems
- Pressure booster systems
- Solar power systems
- District heating systems

Specifications

- Size range: DN15 to DN50 (½" BSP to 2" BSP)
- Temperature: -60°C to +200°C
  (with PTFE seals (EPDM-45°C to +140°C)
- Pressure range: 0.2 to 24 bar (depending on seal and duty)

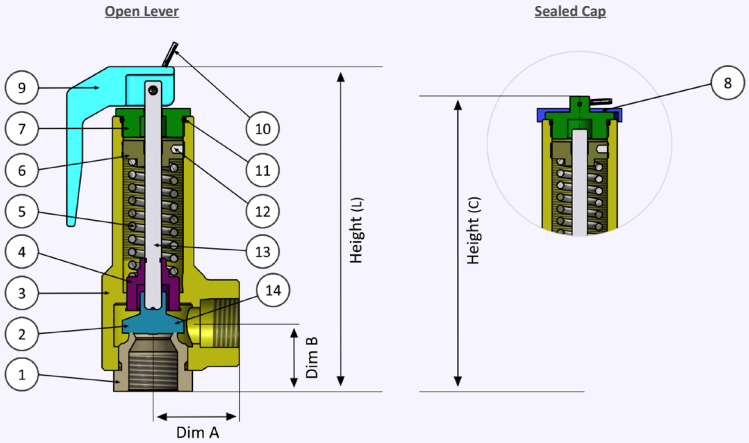
Approvals

- Designed in accordance with BS EN ISO-4126-1 &-7
- PED 2014/68/EU (CE)
- PE(S)R UK SI 2016 No. 1105 (UKCA)
- EAC
- WRAS
- KUKReg 4

Materials of Construction

	COMPONENT	MATERIAL
1	Seat	Dezincification Resistant Material
2	Lift Aid Assembly	Dezincification Resistant Material
3	Body	Bronze CC491K / C83600
4	Piston	Dezincification Resistant Material
5	Spring	Steel 1.4401
6	Adjuster	Brass
7	Cap	Brass
8	Cover	Brass
9	Lever	Brass
10	Wire Lock	Steel & Lead
11	O-Ring	EPDM
12	Locking Slug	Nylon
13	Spindle	Stainless Steel
14	Seal	PTFE or EPDM

Valve Drawing

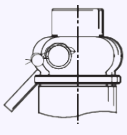


Dimensions

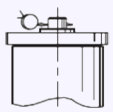
Size (Inlet x Outlet)	Dim A mm (inches)	Dim B mm (inches)	Height (L) mm (inches)	Height (C) mm (inches)
DN15 (½") x DN20 (¾")	37.0 (1.46)	32.0 (1.26)	130.0 (5.12)	120.5 (4.74)
DN20 (¾") x DN25 (1")	42.0 (1.65)	37.0 (1.46)	156.0 (6.14)	146.5 (5.77)
DN25 (1") x DN32(1 ¼")	50.0 (1.97)	42.0 (1.65)	174.0 (6.85)	164.5 (6.48)
DN32 (1 ¼") x DN40 (1 ½")	59.0 (2.32)	50.0 (1.97)	222.5 (8.76)	211.5 (8.33)
DN40 (1 ½") x DN50 (2")	69.0 (2.72)	59.0 (2.32)	256.5 (9.70)	246.5 (9.70)
DN50 (2") x DN65 (2 ½")	78 (3.07)	83.5 (3.28)	320.0 (12.60)	310 (12.20)

Easing Gear / Lifting Gear Options

- **Options:**



Sealed lever (gas tight)



Sealed Cap (gas tight cap)

Discharge Capacities

LGS HI-FLOW Safety Relief Valves

HI-FLOW Discharge capacity for WATER at 10% over-pressure[1,2] — Kdr = 0.26

Valve size	DN In	15mm (½")		20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")	
	DN Out	20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")	
	d_0(mm)	15		20		25		32		40	
Set pressure (bar)	Set pressure (psi)	kg/hr	GPM (US)	kg/hr	GPM (US)	kg/hr	GPM (US)	kg/hr	GPM (US)	kg/hr	GPM (US)
0.2	2.9	1097.2	4.8	1950.6	8.6	3047.8	13.4	4993.4	22.0	7802.3	34.4
1.0	14.5	2453.4	10.8	4361.6	19.2	6815.0	30.0	11165.7	49.2	17446.4	76.9
2.0	29.0	3469.6	15.3	6168.2	27.2	9637.9	42.5	15790.7	69.6	24672.9	108.8
4.0	58.0	4906.8	21.6	8723.2	38.5	13630.0	60.1	22331.4	98.5	34892.8	153.8
6.0	87.0	6009.6	26.5	10683.7	47.1	16693.3	73.6	27350.2	120.6	42734.7	188.4
8.0	116.0	6939.3	30.6	12336.5	54.4	19275.7	85.0	31581.3	139.2	49345.8	217.6
10.0	145.0	7758.3	34.2	13792.6	60.8	21550.9	95.0	35309.0	155.7	55170.3	243.3
12.0	174.0	8498.8	37.5	15109.0	66.6	23607.8	104.1	38679.1	170.5	60436.0	266.5
15.0	217.5	9502.0	41.9	16892.4	74.5	26394.4	116.4	43244.5	190.7	67569.6	297.9
20.0	290.0	10971.9	48.4	19505.7	86.0	30477.6	134.4	49934.5	220.2	78022.6	344.0
24.0	348.0	12019.1	53.0	21367.4	94.2	33386.5	147.2	54700.5	241.2	85469.5	376.9

[1] Metric units are calculated to BS EN ISO4126-7:2013 and displayed in their customary units
[2] Imperial units are calculated to ASME Section VIII Division 1 and displayed in their customary units

HI-FLOW Discharge capacity for HOT WATER at 10% over-pressure (Unvented Systems)[1] — Kdr = 0.38

Valve size	DN In	15mm (½")		20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")	
	DN Out	20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")	
	d_0(mm)	15		20		25		32		40	
Set pressure (bar)	Set pressure (psi)	kW	BTU/sec	kW	BTU/sec	kW	BTU/sec	kW	BTU/sec	kW	BTU/sec
0.2	2.9	27.2	25.8	48.4	45.9	75.7	71.7	124.0	117.5	193.7	183.6
1.0	14.5	46.7	44.2	83.0	78.7	129.7	122.9	212.5	201.4	332.0	314.6
2.0	29.0	71.0	67.3	126.2	119.6	197.2	186.9	323.1	306.2	504.8	478.4
4.0	58.0	119.6	113.3	212.6	201.5	332.2	314.9	544.3	515.9	850.4	806.0
6.0	87.0	168.2	159.4	299.0	283.4	467.2	442.8	765.5	725.5	1196.0	1133.6
8.0	116.0	216.8	205.5	385.4	365.3	602.2	570.8	986.7	935.2	1541.7	1461.2
10.0	145.0	265.4	251.6	471.8	447.2	737.2	698.8	1207.9	1144.8	1887.3	1788.8
12.0	174.0	314.0	297.6	558.2	529.1	872.2	826.7	1429.1	1354.5	2232.9	2116.4
15.0	217.5	386.9	366.7	687.8	652.0	1074.8	1018.7	1760.9	1669.0	2751.4	2607.8
20.0	290.0	508.4	481.9	903.9	856.7	1412.3	1338.6	2313.9	2193.1	3615.5	3426.8
24.0	348.0	605.6	574.0	1076.7	1020.5	1682.3	1594.5	2756.3	2612.5	4306.7	4082.0

[1] Calculations based on Hot Water at or above 100°C, using the Kdr of Gas
[2] Calculations are in accordance to BS EN ISO 4126-1:2004 National Annex NA

HI-FLOW Discharge capacity for AIR at 10% over-pressure[1,2,3] — Kdr = 0.38

Valve size	DN In	15mm (½")		20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")	
	DN Out	20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")	
	d_0(mm)	15		20		25		32		40	
Set pressure (bar)	Set pressure (psi)	l/sec	SCFM	l/sec	SCFM	l/sec	SCFM	l/sec	SCFM	l/sec	SCFM
0.2	2.9	16.1	34.2	28.6	60.7	44.7	94.9	73.2	155.5	114.4	243.0
1.0	14.5	27.6	58.6	49.0	104.1	76.6	162.7	125.5	266.5	196.1	416.4
2.0	29.0	41.9	89.0	74.5	158.3	116.5	247.3	190.8	405.2	298.2	633.2
4.0	58.0	70.6	150.0	125.6	266.7	196.2	416.7	321.5	682.7	502.3	1066.7
6.0	87.0	99.3	211.0	176.6	375.1	276.0	586.0	452.1	960.1	706.5	1500.2
8.0	116.0	128.1	271.9	227.7	483.4	355.7	755.4	582.8	1237.6	910.6	1933.7
10.0	145.0	156.8	332.9	278.7	591.8	435.5	924.7	713.5	1515.0	1114.8	2367.3
12.0	174.0	185.5	393.9	329.7	700.2	515.2	1094.1	844.1	1792.5	1318.9	2800.8
15.0	217.5	228.5	485.3	406.3	862.8	634.8	1348.1	1040.1	2208.7	1625.2	3451.1
20.0	290.0	300.3	637.7	533.9	1133.7	834.2	1771.4	1366.8	2902.3	2135.6	4534.9
24.0	348.0	357.7	759.6	636.0	1350.5	993.7	2110.1	1628.1	3457.2	2543.9	5401.9

[1] Metric units are calculated to BS EN ISO4126-7:2013 and converted to l/sec at 1.013 bar a. @ 15°C
[2] Imperial units are calculated to ASME Section VIII Division 1 and displayed in their customary units
[3] To convert from l/sec (1.013 bar a. @ 15°C) to Nm3/hr (1.013 bar a. @ 0°C) multiply by 3.413

HI-FLOW Discharge capacity for SATURATED STEAM at 10% over-pressure[1,2,3,4] — Kdr = 0.38

Valve size	DN In	15mm (½")		20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")	
	DN Out	20mm (¾")		25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")	
	d_0(mm)	15		20		25		32		40	
Set pressure (bar)	Set pressure (psi)	kg/hr	lb/hr	kg/hr	lb/hr	kg/hr	lb/hr	kg/hr	lb/hr	kg/hr	lb/hr
0.2	2.9	37.6	95.8	66.9	170.4	104.5	266.2	171.3	436.2	267.6	681.6
1.0	14.5	77.1	164.2	137.0	292.0	214.1	456.2	350.8	747.5	548.1	1167.9
2.0	29.0	115.8	249.7	205.9	444.0	321.7	693.7	527.1	1136.6	823.6	1775.9
4.0	58.0	192.1	420.7	341.5	748.0	533.7	1168.7	874.4	1914.8	1366.2	2991.9
6.0	87.0	267.6	591.7	475.8	1052.0	743.4	1643.7	1218.0	2693.0	1903.1	4207.9
8.0	116.0	342.7	762.7	609.2	1356.0	951.9	2118.7	1559.5	3471.3	2436.8	5423.8
10.0	145.0	417.5	933.7	742.3	1660.0	1159.8	2593.7	1900.3	4249.5	2969.2	6639.8
12.0	174.0	492.1	1104.7	874.8	1963.9	1366.9	3068.7	2239.5	5027.7	3499.2	7855.8
14.0	217.5	566.7	1275.7	1007.5	2267.9	1574.2	3543.7	2579.2	5805.9	4030.0	9071.8

[1] Metric units are calculated to BS EN ISO4126-7:2013 and displayed in their customary units
[2] Imperial units are calculated to ASME Section VIII Division 1 and displayed in their customary units
[3] Calculations for saturated steam only
[4] PTFE seals up to 14 bar, EPDM seals up to 2.5 bar - contact Seetru for details on maximum steam pressure for other seal materials

Type 63608

Safety valves with brass body and plastic outlet <
Enclosed discharge valve with threaded connections <

Example Applications

- Air / gas compressors
- Pressure vessels
- Pneumatic systems
- Medical gases (non-flammable)
- Technical gases (non-flammable)

Specifications

- Inlet connections: 1/4” to 1/2”
- Temperature:-40°C to +200°C (depending on seal material)
- Pressure range: 0.3 to 13.2 bar

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)
- EAC

CE UKCA EAC

Materials of Construction

Component	Material	Grade
Inlet Body	Brass	CW602N
Outlet Body	PPS Plastic	40% glass filled
Internal parts	Brass	CW602N
Spring	Stainless Steel	1.4310 (302)

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 cap, twist type

Technical information by bore size

Bore size	7.9mm (63608)		
Inlet Size	1/4"	3/8"	1/2"
Outlet Size	3/8"		
Flow Area	49.02mm²		
H - Height (Rota-lift cap version)	57mm		
TÜV alloted outflow coefficient	0.46 from 0.3 to 0.8 bar 0.56 from 1.4 to 3.24 bar 0.63 from 3.24 to 13.2 bar		
Weight (approximate) Kg	0.5		
Set Pressure range - PED (CE) bar	0.3 to 13.2		
Relieving pressure/fully open pressure	Set pressure +10% (Below 1 bar = 0.1 bar)		
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.

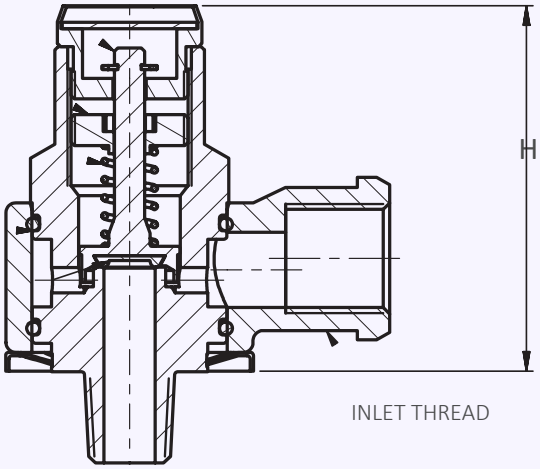
Standard Thread Connection Types

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

Standard OUTLET Thread Connection Types

- BSP Parallel female thread

Valve Drawing



Valve Selection Guide

Approval Required	Valve type	Inlet Size	Inlet Thread Type	Outlet Thread Type	Easing Gear	Seal Material
PED (CE)	63608	Select inlet size from above table	Select Inlet thread type	Select Outlet thread type	Select easing gear/top fitting	Viton® (FKM) Nitrile (NBR) Other

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	63608	1/2"	BSP Taper	BSP parallel	Rota-lift	Viton	10.5 bar
	Approval	Valve Type	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 63608: Flow rates at 10% above the set pressure

Set Pressure		Bore Size (D0)				
		7.9mm				
bar	psi	Nm³/Hour				
0.3	4.35	20.6				
0.8	11.6	29.1				
1.4	20.3	47.7				
2	29	60.0				
3	43.5	80.6				
4	58	113.8				
5	72.50	137.0				
6	87	160.1				
7	101.5	183.2				
8	116	206.4				
9	130.5	229.5				
10	145	252.7				
13.2	191.4	326.6				

For any intermediate pressures/flows please contact Seetru

Type 936 Threaded

Safety valves made with brass inlets<
Enclosed discharge valve with threaded connections<
Metal to metal sealing<

Example Applications

- Air / gas compressors
- Pressure vessels
- Medical gases/Technical gases
- Thermal relief
- Steam systems

Specifications

- Inlet connections: 1/2" to 2" threaded connections (depending on valve bore size) (for flanged connections see 946 Flanged datasheet).
- Temperature range:-196°C to +250°C (depending on body o'ring material)
- Pressure range: 0.3 to 28.0 bar (depending on valve 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)
- EAC
- Leak tightness at 90% set pressure to API 527 and in accordance with EN ISO 4126-1
- Materials meet the requirements of BAM (Germany) for oxygen service

CE UKCA EAC

Materials of Construction

Component	Material	Grade
Inlet	Brass	CZ132 / CW602N
Outlet Body (10mm bore valve)	Bronze	SB-62 C8360
Outlet Body (15, 20 & 25mm bore valves)	Stainless Steel	1.4408 (316)
Spring	Stainless Steel	1.4310 (302)
Disc	Stainless Steel	1.4401 (316)

Seal Materials

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

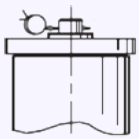
O'ring material	Temperature Range
Viton® (FKM)	-20°C to +250°C
Nitrile (NBR)	-196°C to +150°C
Silicone	-50°C to +250°C
PTFE	-196°C to +250°C
EPDM	-40°C to +150°C

-196°C is only suitable for sealed cap/sealed lever valves

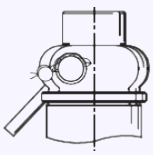
Standard seal materials shown, others are available.

Easing Gear / Lifting Gear / Top Fitting Options

- Sealed Cap (gas tight cap)

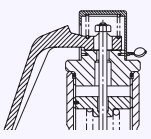


- Sealed lever (gas tight)



- Rota-lift (not gas tight)

- Open Lever (not gas tight)

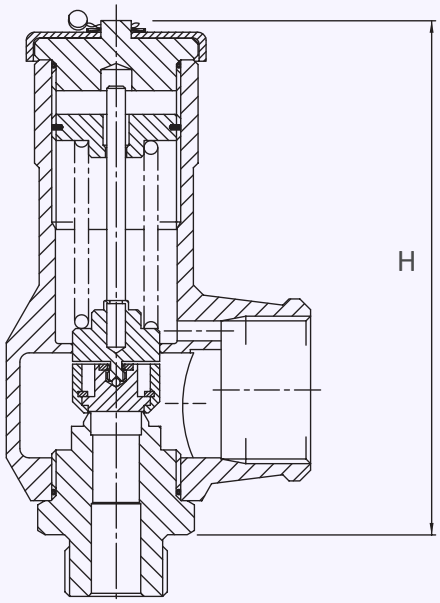


Technical information by bore size

Bore size	10mm (93610)			15mm (93615)			20mm (93620)			25mm (93625)			
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	78.5mm²			177mm²			314mm²			491mm²			
H - Height (Sealed Lever version)	114mm			168mm			141mm			225mm			
TÜV alloted 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	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 below 1.0 bar)												
Reseating pressure	**Set pressure -10%** (0.3 bar below 3.0 bar)												

- TÜV alloted outflow coefficients for pressures above 3.0/4.0 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

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
936	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	936	15	1"	BSP parallel	Rota Lift	Viton	17.5 bar
	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 m³/hour
Type 936: Flow rates at 10% above the set pressure

Set Pressure		Bore Size (D0)				
		10mm	15mm	20mm	25mm	
bar	psi	Nm³/Hour	Nm³/Hour	Nm³/Hour	Nm³/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 936: Flow rates at 10% above the set pressure

Set Pressure		Bore Size (D0)				
		10mm	15mm	20mm	25mm	
bar	psi	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

Enclosed Discharge Safety Relief Valves

for compressed air or gases | *steam* | *cryogenics & liquefied gases* | *hydrogen*

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 bar (depending on valve 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)
- EAC
- Leak tightness at 90% set pressure to API 527 and in accordance with EN ISO 4126-1

CE UKCA 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)
Disc	Stainless Steel	AISI 440B

Seal Materials

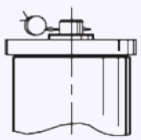
This valve using metal to metal sealing. There is a choice of o’ring used for the sealed cap/lever.

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

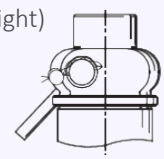
Standard seal materials shown, others are available.

Easing Gear / Lifting Gear / Top Fitting Options

- Sealed Cap (gas tight cap)



- Sealed lever (gas tight)



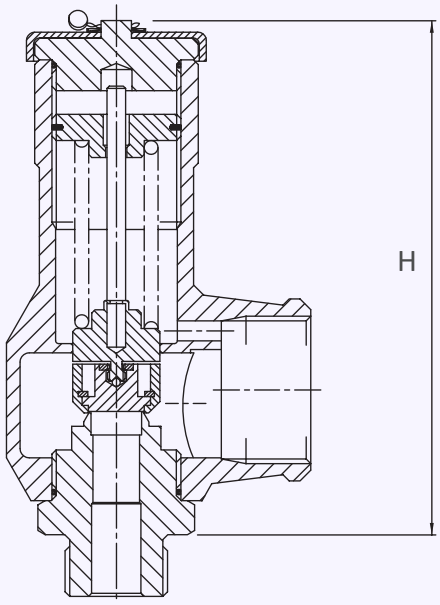
- Rota-lift (not gas tight)

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	78.5mm²			177mm²			314mm²			491mm²			
H - Height (Sealed Lever version)	114mm			168mm			141mm			225mm			
TÜV alloted 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	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 below 1.0 bar)												
Reseating pressure	**Set pressure -10%** (0.3 bar below 3.0 bar)												

- TÜV alloted outflow coefficients for pressures above 3.0/4.0 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

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 bar
	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 m³/hour
Type 946: Flow rates at 10% above the set pressure

Set Pressure		Bore Size (D0)			
		10mm	15mm	20mm	25mm
bar	psi	Nm³/Hour	Nm³/Hour	Nm³/Hour	Nm³/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	psi	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

Enclosed Discharge Safety Relief Valves

for compressed air or gases | *steam* | *hygienic*

Seetru Limited

Type 6G6 / 6G1

Clean Service/Hygienic Safety valves with Stainless Steel body <
Enclosed discharge valve with Tri-Clamp inlet connections <

Safety valve for food industry & other hygienic applications including clean steam & gas applications

Example Applications

- Compressed air or gas
- Food production plants
- Hygienic applications
- Pressure vessels
- Medical gases
- Technical gases
- Steam systems

Specifications

- Inlet connections: 1/2" to 1" Tr-Clamp (depending on bore size)
- Temperature:-15°C to +200°C (depending on seal material)
- Pressure range: 0.32 to 55.2 bar (depending on bore size)
  – Maximum 12 bar for Steam Applications.

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	1.4404 (316)
Body	Stainless Steel	1.4408 (316)
Internal parts	Stainless Steel	1.4401 (316)
Spring	Stainless Steel	1.4310 (302)

SURFACE FINISH
Process Contact Surface
In accordance with ASME BPE-2005 Table SF-5.
Surface designation Ra Max 15 µinches, 0.4 µm, Electropolished.

Other Surfaces
Not greater than 60 µinches, 1.5 µm.

Seal Materials

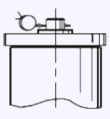
Seal Material	Temperature Range
Perfluoroelastomer (FFKM)	-15°C to +200°C

Standard seal materials shown, others are available.
Elastomer soft sealing specifically developed for food & pharmaceutical industries.

Compliant to:
1. FDA 21 CFR 177.2600
2. United States Pharmacopoeia (USP) Class VI
3. SP3A Sanitary Standards for Multiple Use Rubber Dairy Equipment No 18-03.

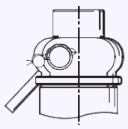
Easing Gear / Lifting Gear Options

- **Standard option**:



Sealed Cap (gas tight cap)

- **Other Options:**



Sealed lever (gas tight)

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Technical information by bore size

Bore size	9.5mm (6G610/6G110)		13.7mm (6G613/6G113)	
Inlet Size	1/2"	3/4"	3/4"	1"
Outlet Size	3/4"		1"	
Flow Area	70.9mm²		147.7mm²	
H - Height (Sealed cap version)	160mm		180mm	
TÜV alloted outflow coefficient	0.78		0.71	
NB Certified rated slope (ASME)	1.71 scfm/psia		3.47 scfm/psia	
Weight (approximate) Kg	0.9		1.3	
Set Pressure range - PED (CE) bar	0.48 to 55.2 (max 12 bar for Steam)		0.32 to 49.0 (max 12 bar for Steam)	
Set Pressure range - ASME (UV) psi	22.5 to 800.4		20.3 to 710.5	
Relieving pressure/fully open pressure	**Set pressure +10% (0.1 bar below 1.0 bar)**		**Set pressure + 10% (0.3 bar below 1.4 bar)**	
Reseating pressure	**Set pressure -10% (0.3 bar minimum)**			

Stable operation on flows down to 50% of valve rated capacity.

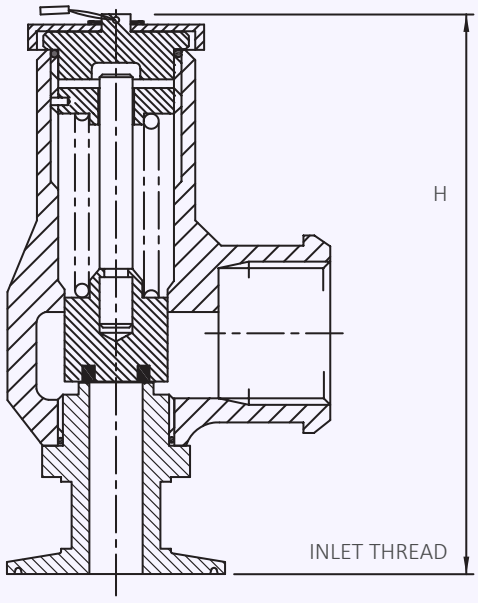
Standard Thread Connection Types

- Tri-Clamp® compatable generally in accordance with ASME BPE 2005 & BS 4825-3.

Standard Outlet Connection Types

- BSP Female Pipe threads (G)

Valve drawing



Valve Selection Guide

Approval Required	Valve type	Select Bore	Inlet Size	Easing Gear	Seal Material
PED (CE)	6G6	Select bore size from above table	Select inlet size from above table	Select easing gear/top fitting	Perfluroelastomer (FFKM)
PED (CE), ASME (UV) & CR	6G1				Other

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	PED, ASME & CRN	6G1	9.5mm	1/2"	Sealed Cap	Perfluroelastomer (FFKM)	3.5 bar
	Approval	Valve Type	Bore Size	Inlet Size	Easing Gear	Seal	Set Pressure

Capacity Table - In accordance with TÜV, AIR at 0°C and 1013mbar. Normal m³/hour

Type 6G6: Flow rates at 10% above the set pressure

Set Pressure		Bore Size (D0)	
		9.5mm (6G610)	13.7mm (6G613)
bar	psi	Nm³/Hour	Nm³/Hour
0.32	4.64		114.2
0.48	6.96	48.9	124.5
1	14.5	76.9	164.9
2	29	121.0	229.1
3	43.5	162.4	307.5
4	58	203.8	385.9
5	72.5	245.3	464.3
5.65	81.93	272.2	515.3
6	87	286.7	542.7
7	101.5	328.1	621.2
8	116	369.5	699.6
9	130.5	410.9	778.0
10	145	452.4	856.4
15	217.5	659.5	1248.5
20	290	866.6	1640.6
25	362.5	1073.8	2032.7
30	435	1280.9	2424.8
35	507.5	1488.1	2816.9
40	580	1695.2	3209.0
45	652.5	1902.3	3601.1
49	710.5	2068.0	3914.8
50	725	2109.4	
55.2	800.4	2324.8	

For any intermediate pressures/flows please contact Seetru

Capacity Table - In accordance ASME section VIII Div I, AIR at 60°F and 14.7 psia/scfm. SCFM

Type 6G1: Flow rates at 10% above the set pressure

Set Pressure		Bore Size (D0)	
		9.5mm (6G610)	13.7mm (6G613)
psi	bar	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
40	2.76	100.4	203.7
43.5	3.00	106.9	217.0
50	3.45	119.2	241.8
82	5.66	179.3	363.9
100	6.90	213.2	432.6
150	10.34	307.2	623.4
200	13.79	401.2	814.2
250	17.24	495.3	1005.0
300	20.69	589.3	1195.8
350	24.14	683.3	1386.6
400	27.59	777.4	1577.4
435	30.00	843.2	1711.0
450	31.03	871.4	1768.2
500	34.48	965.4	1959.0
507.5	35.00	979.5	1987.6
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

Enclosed Discharge Safety Relief Valves

for compressed air or gases | *steam* | *refrigeration* | *hydrogen*

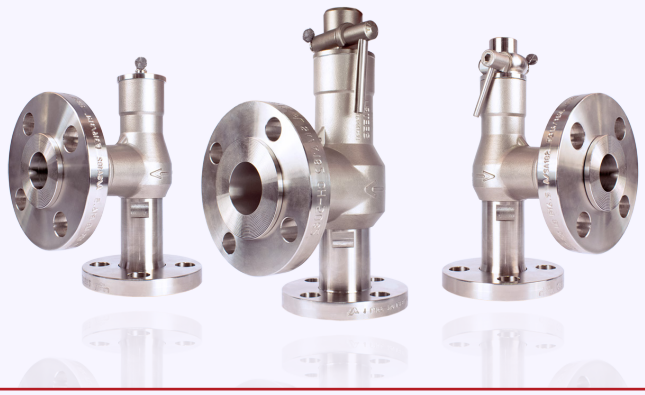
Seetru Limited

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:-50°C to +250°C (depending on body o'ring material)
- Pressure range: 0.3 to 28.0 bar

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)
- EAC
- Leak tightness at 90% set pressure to API 527 and in accordance with EN ISO 4126-1

CE UKCA EAC

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	AISI 440B

Seal Materials

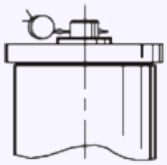
This valve using metal to metal sealing. There is a choice of o'ring used for the sealed cap/lever.

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

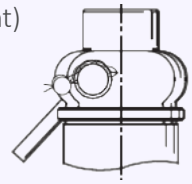
Standard seal materials shown, others are available.

Easing Gear / Lifting Gear / Top Fitting Options

- Sealed Cap (gas tight cap)



- Sealed lever (gas tight)



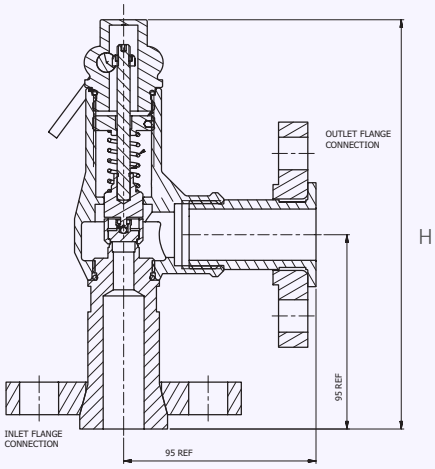
Technical information by bore size

Bore size	10mm (94610)			15mm (94615)
Inlet Size	DN15 (1/2")	DN20 (3/4")	DN25 (1")	DN25 (1")
Outlet Size	DN25 (1")			DN40 (1 1/2")
Flow Area	78.5mm²			177mm²
H - Height (Sealed Lever version)	200mm			253mm
TÜV alloted outflow coefficient	0.83 (above 3.0 bar)			0.74 (above 3.0 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)**			

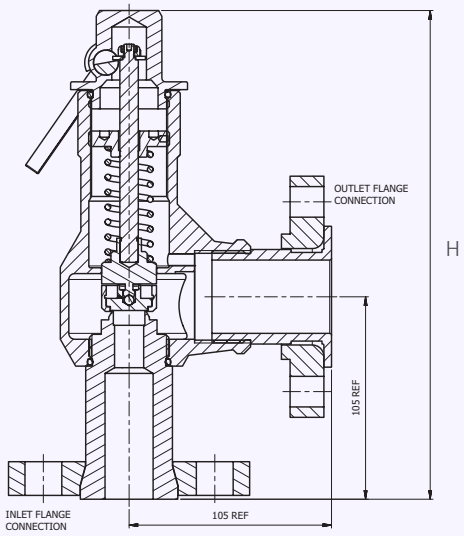
- TÜV alloted outflow coefficients for pressures above 3.0 bar, for lower pressures please see the flow rate tables or contact Seetru.
- Maximum permissible built up back pressure = 10% of set pressure at or below which flow is not reduced.
- Stable operation on flows down to 50% of valve rated capacity.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

Valve Drawing

10mm bore – 94610



15mm bore – 94615



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

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	Nm³/Hour	Nm³/Hour			
0.3	4.35	39	76			
0.5	7.25	56	104			
1	14.5	84	155			
2	29	135	270			
3	43.5	191	384			
4	58	240	482			
5	72.5	289	580			
6	87.00	338	678			
7	101.5	386	776			
8	116	425	874			
9	130.5	484	972			
10	145	533	1070			
15	217.5	777	1560			
20	290	1021	2049			
25	362.5	1266	2539			
28	406	1412	2833			

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	32.5	63.3			
0.5	7.25	44.5	82.5			
1	14.5	66.1	121.7			
2	29	106.2	213.4			
3	43.5	149	299			
4	58	186	373			
5	72.5	222	446			
6	87.00	259	520			
7	101.5	295	592			
8	116	332	666			
9	130.5	368	738			
10	145	405	812			
15	217.5	585	1174			
20	290	765	1535			
25	362.5	947	1900			
28	406	1055	2116			

For any intermediate pressures/flows please contact Seetru

Type 75008

Safety valves made from Brass <
Atmospheric discharge with threaded connections <

Example Applications

- Small steam vessels
- Industrial coffee machines
- Autoclaves / Steam sterilisers
- Small steam boilers

Specifications

- Inlet connections: 1/4” to 1/2”
- Temperature: Up to 150°C (depending on seal material)
- Pressure range: 0.27 to 5.0 bar

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)
- EAC

CE UKCA EAC

Materials of Construction

Component	Material	Grade
Body	Brass	BS2874 CZ132
Internal Parts	Brass	BS2874 CZ132
Spring	Stainless Steel	302 S56)

Seal Materials

Seal Material	Temperature Range
Silicone	-40°C to +150°C
EPDM	-45°C to +140°C
Aflas	-20°C to +200°C

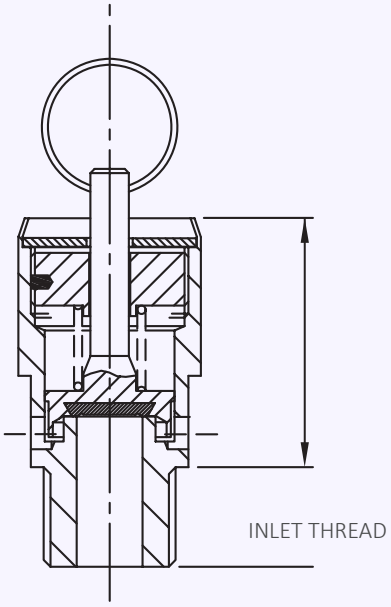
Easing Gear / Lifting Gear Options

- **Standard option** – Ring Pull
- Other options – Rota Lift or Spindle lift

Technical information by bore size

Bore size	7.9mm		
Inlet Size	1/4"	3/8"	1/2"
Flow Area	49mm²		
TÜV alloted outflow coefficient	0.63		
Weight (approximate) Kg	0.1		
Set Pressure range - PED (CE) bar	0.27 to 5.0 bar		
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)		

Valves with Rota-lift Easing Gear



Standard Thread Connection Types

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

Valve Selection Guide

Approval Required	Valve type	Inlet Size	Thread Type	Easing Gear	Seal Material
PED (CE)	75008	Select inlet size from above table	Select thread type	Ring-Pull is the standard option (see other options)	Silicone
					EPDM
					Aflas

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	75008	1/4"	BSP Taper	Pull-Ring	Silicone	1.5 bar
	Approval	Valve Type	Inlet Size	Thread Type	Easing Gear	Seal	Set Pressure

Capacity Table - In accordance with TÜV, STEAM Kg/Hr
Type 75008 Flow rates at 10% above the set pressure

Set Pressure		Bore Size (D0)				
		3.2mm				
bar	psi	Kg/Hr of Steam				
0.27	3.9	16.7				
0.5	7.3	20.9				
1.0	14.5	32.2				
1.5	21.8	42.4				
2.0	29.0	51.6				
3.0	43.5	71.0				
4.0	58.0	88.4				
5.0	72.5	105.3				

Valves from Stock: Same-Day-Despatch

Our products are recognised globally for their exceptional quality and reliability, and in recent years Seetru have worked hard to maximise the efficiency of our manufacturing processes, to ensure that we are able to meet demands for supply and distribution. We now hold a large variety of safety valves in stock, allowing customers to purchase certain quantities from our website, and see them despatched on the same day.

Seetru offer atmospheric discharge safety valves and pipped discharge safety valves in brass / bronze or stainless steel. The Seetru LGS® range of pressure relief valves (for liquid, steam, and gasses) are available in bronze construction, with open-lever and sealed-cap options. These valves can be fitted with PTFE or EPDM seals, with both types having the WRAS approval- for installation on public water supply systems.

Seetru also operate a standardised three-day-despatch delivery service, which covers the entire range of valves we manufacture.

Safety Valve Testing Equipment: The Seetru Quikctester™

This compact, lightweight and portable design is very robust and able to meet the demands of a busy maintenance workshop or mobile operation. The Seetru Quicktester™ can be used with plant generated air supplies or with mobile bottled gas. This test-bench can be supplied with a range of adaptors allowing connection between 1/4” to 1” BSP as standard, additional adaptors are available increasing the connection sizes up to 2” BSP. The Quicktester™ is also available with NPT connection adaptors upon request. It is suitable for use with a wide range of elastomer sealed valves

Liquid Level Gauges

There are many industrial applications that require the monitoring of the liquid level in tanks. While the function of a level gauge is relatively simple, there are a variety of options available. The suitability and robustness of construction materials play a role in determining which gauge is required, as do the operating temperature and pressure requirements. Seetru liquid level gauges are primarily of two types, sight gauges and magnetic float by-pass gauges. Many of the Seetru gauges are direct reading though most have optional electronic remote reading systems and computer interfaces. The range includes the Quickmount, Seemag and CPI gauges for industrial and chemical applications and the Seeflex and Seemag for marine applications.

Seetru Limited, Albion Dockside Works, Bristol, BS1 6UT, England.