Seetru Safety Relief Valves

For Steam Applications

STEAM





www.seetru.com

Seetru Limited



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

Seetru are Bristol-based manufacturers of safety relief valves and other special purpose ancillary valves for a wide range of compressed air, industrial gas, refrigerants, powder, steam, liquid and liquefied gas applications. 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. Seetru products are fully compliant with the requirements of the UK Pressure Equipment (Safety) Regulations and come with the UKCA mark.

CE 🛱 🛞 👰 CRN []][

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.



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63608	Enclosed Discharge	Brass With PPS Plastic Outlet Body	1/4 to 1/2" BSP, BSPT OR NPT	0.3 To 13.2 bar	<u>10-12</u>
936/946	Enclosed Discharge	Bronze Stainless Steel			10.10
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94605 / 946H5 / 95605 / 956H5	Enclosed Discharge	Stainless Steel	• ½" NPT, BSP & BSPT • 9/16" CONE & THREAD • 3/4" CONE & THREAD	35.0 to 1100.0 bar	<u>19-21</u>
6G6	Enclosed Discharge	Stainless Steel			
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	Enclosed Discharge		DN20 (3/4") or DN25 (1") DIN OR		
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75008	Atmospheric Discharge	Brass	1/4" TO 1/2" BSP, BSPT OR NPT INLET	0.27 To 5.0 bar	<u>29-31</u>



Optimal Performance & Safety Autoclaves & Sterilizers



MAX 1,0 ...

(5)

Optimal Performance & Safety

Seetru safety relief valves play a critical role in safeguarding autoclaves and sterilizers, the workhorses of sterilization processes in healthcare and research facilities. Here's how Seetru valves contribute to optimal performance and safety



Precise Pressure Relief

Seetru valves excel at delivering exceptional pressure control. They open rapidly and completely when pressure exceeds the preset limit, preventing dangerous overpressurization within your autoclave or sterilizer. This protects your equipment from potential damage and safeguards personnel from accidents.



Leak-Tight Sealing

Seetru valves boast exceptional leak-tight performance, crucial for maintaining sterility within your sterilization chamber. This minimizes the risk of product contamination and ensures the effectiveness of your sterilization processes.



Seetru Safety Relief Valves Valves

Reliable Protection For Liquid, Gas, and Steam Applications

About the LGS Range

The Seetru LGS[®] Multi-Purpose Safety Relief Valve range represents a state-of-the-art design with dual guided spindle as well as the Seetru Rock-Seal[™] seal technology for repeatable high-performance sealing. It is a high-quality valve of modular design and construction incorporating the Seetru proprietary compact design technology – providing a highly cost-effective range of valve solutions. LGS[®] valves have a robust and reliable construction designed for the widest range of industrial applications.



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Seetru LGS Safety Relief Valves Valves

LGS[®] Safety Relief Valves

hot water compressed air & gas

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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



- 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) •

Materials of Construction

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

Dimensions

	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)
	37.0 (1.46)	32.0 (1.26)	130.0 (5.12)	120.5 (4.74)
	42.0 (1.65)	37.0 (1.46)	156.0 (6.14)	146.5 (5.77)
	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)

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)
- WRAS
- KUKReg 4





Easing Gear / Lifting Gear Options





Unsealed lever (not gas tight) Sealed Cap (gas tight cap)



Discharge Capacities: LGS Safety Relief Valves



Discharge ca	Discharge capacity for <u>WATER</u> at 10% over-pressure ^{1,2} Kdr = 0.26														
	DN In						n (1")	32mm					n (2")		
	DN Out	15mn	n (½")	20mn	n (¾″)	25mr	n (1″)	32mm	(1¼″)	40mm	n (1½″)	50mr	n (2")		
	d _o (mm)	13	.5							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)		
		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	0.010	02076	41.0	12010 1	E2 0	21267 4	04.2	22206 E	147 2	E 4700 E	241.2	9E460 E	276.0		

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 c	Discharge capacity for HOT WATER at 10% over-pressure (Unvented Systems) ¹ Kdr = 0.38													
	DN In	15mn	n (½")	20mn	n (¾″)	25m	m (1")	32mn	n (1¼″)	40mm	n (1½″)	50mr	n (2")	
	DN Out	15mn	n (½")	20mn	n (¾")	25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")		
	d _o (mm)	13.5		15		20				32		4	0	
Set pressure (bar)	Set pressure (psi)	kW	BTU/sec		BTU/sec		BTU/sec				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 c	apacity for <u>Al</u>	<u>R</u> at 10% (over-press	ure ^{1,2,3}								Kd	r = 0.38
	DN In						m (1")	32mm	າ (1¼")		n (1½″)	50mr	
	DN Out	15mn	n (½")	20mn	n (¾″)	25m	m (1")	32mm	ו (1¼″)	40mm	n (1½″)	50mn	
		13.5				20		25		32		4	0
Set pressure (bar)	Set pressure (psi)	l/sec	SCFM	I/sec	SCFM	I/sec	SCFM	l/sec	SCFM		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
 ¹ 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 ca	Discharge capacity for <u>SATURATED STEAM</u> at 10% over-pressure ^{1,2,3,4} Kdr = 0.38														
								32mm			n (1½″)	50mm (2")			
	DN Out	15mn	n (½")	20mn	n (¾″)	25mm (1")		32mm (1¼")		40mm (1½")		50mm (2")			
	d _o (mm)	13		1		20				32		40 (1	nm)		
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
 ⁴ 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 Relief Valves

for liquid

hot water compressed air & gas

gas <u>stea</u>r

Seetru Limited

LGS®HI-FLOW

Safety valves made from Brass < Enclosed discharge with threaded connections <</p>

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



- 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)

Materials of Construction

COMPONENT	MATERIAL
Seat	Dezincification Resistant Material
Lift Aid Assembly	Dezincification Resistant Material
Body	Bronze CC491K / C83600
Piston	Dezincification Resistant Material
Spring	Steel 1.4401
Adjuster	Brass
Сар	Brass
Cover	Brass
Lever	Brass
Wire Lock	Steel & Lead
O-Ring	EPDM
Locking Slug	Nylon
Spindle	Stainless Steel
Seal	PTFE or EPDM
	COMPONENT Seat Lift Aid Assembly Body Piston Spring Adjuster Cap Cover Lever Ure Lock O-Ring Locking Slug Spindle Seal

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)

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)
- WRAS
- KUKReg 4



Valve Drawing



Easing Gear / Lifting Gear Options

• Options:





Unsealed lever (not gas tight) Sealed Cap (gas tight cap)



Discharge Capacities: LGS HI-FLOW Safety Relief Valves



HI-FLOW Discharge capacity for WATER

The Low Discharge capacity for <u>WATER</u> at 10% over-pressure													1101 - 0120		
	DN In	15mn	n (½")	20mr	n (¾")	25mr	n (1″)	32mm	n (1¼″)	40mm	(1½″)	50mn	ו (2")		
	DN Out				n (1")	32mm		40mm	ı (1½″)	50mr	n (2")	65mm (2 1/2")		
	d _o (mm)	1		2	0			3		4	0	5			
Set pressure (bar)	Set pressure (psi)	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	12191.0	53.7		
1.0	14.5	2453.4	10.8	4361.6	19.2	6815.0	30.0	11165.7	49.2	17446.4	76.9	27260.0	120.0		
2.0	29.0	3469.6	15.3	6168.2	27.2	9637.9	42.5	15790.7	69.6	24672.9	108.8	38551.4	169.7		
3.0	43.5	4249.4	18.7	7554.5	33.3	11803.9	52.0	19339.5	85.1	30218.0	133.1	47215.7	207.9		
4.0	58.0	4906.8	21.6	8723.2	38.5	13630.0	60.1	22331.4	98.5	34892.8	153.8	54519.9	240.0		
6.0	87.0	6009.6	26.5	10683.7	47.1	16693.3	73.6	27350.2	120.6	42734.7	188.4	66773.0	294.0		
8.0	116.0	6939.3	30.6	12336.5	54.4	19275.7	85.0	31581.3	139.2	49345.8	217.6	77102.8	339.5		
10.0	145.0	7758.3	34.2	13792.6	60.8	21550.9	95.0	35309.0	155.7	55170.3	243.3	86203.6	379.5		
12.0	174.0	8498.8	37.5	15109.0	66.6	23607.8	104.1	38679.1	170.5	60436.0	266.5	94431.3	415.7		
15.0	217.5	9502.0	41.9	16892.4	74.5	26394.4	116.4	43244.5	190.7	67569.6	297.9	105577.4	464.8		
20.0	290.0	10971.9	48.4	19505.7	86.0	30477.6	134.4	49934.5	220.2	78022.6	344.0	121910.3	536.7		
24.0	348.0	12019.1	53.0	21367.4	94.2	33386.5	147.2	54700.5	241.2	85469.5	376.9	133546.0	588.0		

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 Di	HI-FLOW Discharge capacity for HOT WATER at 10% over-pressure (Unvented Systems) ¹ Kdr = 0.38													
	DN In	15mr		20mr	n (¾″)	25mr	n (1")	32mm	n (1¼″)	40mm	n (1½″)	50mn	n (2")	
Valve size	DN Out	20mr	n (¾″)	25mr	n (1″)	32mm	n (1¼″)	40mm	ו (1½")	50mr	n (2")	65mm (2 1/2")	
	d _o (mm)	1						32		40		50		
Set pressure (bar)	Set pressure (psi)	kW	BTU/sec		BTU/sec		BTU/sec				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	302.7	286.9	
1.0	14.5	46.7	44.2	83.0	78.7	129.7	122.9	212.5	201.4	332.0	314.6	518.7	491.6	
2.0		71.0	67.3	126.2	119.6	197.2	186.9	323.1	306.2	504.8	478.4	788.7	747.6	
3.0	43.5	95.3	90.3	169.4	160.6	264.7	250.8	433.6	411.0	677.6	642.3	1058.8	1003.5	
4.0	58.0	119.6	113.3	212.6	201.5	332.2	314.9	544.3	515.9	850.4	806.0	1328.8	1259.4	
6.0	87.0	168.2	159.4	299.0	283.4	467.2	442.8	765.5	725.5	1196.0	1133.6	1868.8	1771.3	
8.0	116.0	216.8	205.5	385.4	365.3	602.2	570.8	986.7	935.2	1541.7	1461.2	2408.9	2283.2	
10.0	145.0	265.4	251.6	471.8	447.2	737.2	698.8	1207.9	1144.8	1887.3	1788.8	2948.9	2795.1	
12.0	174.0	314.0	297.6	558.2	529.1	872.2	826.7	1429.1	1354.5	2232.9	2116.4	3489.0	3306.9	
15.0	217.5	386.9	366.7	687.8	652.0	1074.8	1018.7	1760.9	1669.0	2751.4	2607.8	4299.0	4074.7	
20.0	290.0	508.4	481.9	903.9	856.7	1412.3	1338.6	2313.9	2193.1	3615.5	3426.8	5649.2	5354.4	
24.0	348.0	605.6	574.0	1076.7	1020.5	1682.3	1594.5	2756.3	2612.5	4306.7	4082.0	6729.3	6378.1	

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 Di	HI-FLOW Discharge capacity for AIR at 10% over-pressure ^{1,2,3} Kdr = 0.38													
	DN In	15mn		20mn	n (¾")	25mr		32mm	n (1¼″)	40mm		50mn	າ (2")	
	DN Out		n (¾″)		n (1")	32mm		40mm	ו (1½")	50mr	n (2")	65mm (2 1/2")	
	d _o (mm)			20				32				5		
Set pressure (bar)	Set pressure (psi)		SCFM	l/sec	SCFM		SCFM	l/sec	SCFM		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	163.3	346.6	
1.0	14.5	27.6	58.6	49.0	104.1	76.6	162.7	125.5	266.5	196.1	416.4	306.4	650.1	
2.0	29.0	41.9	89.0	74.5	158.3	116.5	247.3	190.8	405.2	298.2	633.2	495.9	988.5	
3.0	43.5	56.2	119.4	100.0	212.3	156.3	331.7	256.1	543.5	400.2	849.2	625.4	1327.0	
4.0	58.0	70.6	150.0	125.6	266.7	196.2	416.7	321.5	682.7	502.3	1066.7	784.9	1665.4	
6.0	87.0	99.3	211.0	176.6	375.1	276.0	586.0	452.1	960.1	706.5	1500.2	1103.9	2342.2	
8.0	116.0	128.1	271.9	227.7	483.4	355.7	755.4	582.8	1237.6	910.6	1933.7	1422.9	3019.1	
10.0	145.0	156.8	332.9	278.7	591.8	435.5	924.7	713.5	1515.0	1114.8	2367.3	1741.8	3695.9	
12.0	174.0	185.5	393.9	329.7	700.2	515.2	1094.1	844.1	1792.5	1318.9	2800.8	2060.8	4372.7	
	217.5	228.5	485.3	406.3	862.8	634.8	1348.1	1040.1	2208.7	1625.2	3451.1	2539.3	5388.0	
	290.0	300.3	637.7	533.9	1133.7	834.2	1771.4	1366.8	2902.3	2135.6	4534.9	3336.8	7080.1	
24.0	348.0	357.7	759.6	636.0	1350.5	993.7	2110.1	1628.1	3457.2	2543.9	5401.9	3974.8	8433.8	

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 Di	scharge capac	ity for SA	TURATED S	STEAM at	10% over-	pressure ^{1,2}	2,3,4			Kdr = 0.38			
	DN In	15mr	n (½″)	20mn	n (¾″)	25mr	n (1")	32mm	n (1¼″)	40mm	(1½″)		
	DN Out	20mr	nm (¾")		32mm	n (1¼″)	40mm	ו (1½")	50mm (2″)		65mm (2 1/2")		
	d _o (mm)	15 20		0	25		32		40		50		
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	37.6	95.8	66.9	170.4	104.5	266.2	171.3	436.2	267.6	681.6	426.4	940.2
1.0	14.5	77.1	164.2	137.0	292.0	214.1	456.2	350.8	747.5	548.1	1167.9	856.7	1888.6
2.0	29.0	115.8	249.7	205.9	444.0	321.7	693.7	527.1	1136.6	823.6	1775.9	1286.6	2836.4
3.0	43.5	154.0	339.6	273.9	603.9	428.0	943.6	701.2	1545.9	1095.7	2415.6	1712.0	3774.3
4.0	58.0	192.1	420.7	341.5	748.0	533.7	1168.7	874.4	1914.8	1366.2	2991.9	2134.6	4705.9
6.0	87.0	267.6	591.7	475.8	1052.0	743.4	1643.7	1218.0	2693.0	1903.1	4207.9	2973.6	6555.6
8.0	116.0	342.7	762.7	609.2	1356.0	951.9	2118.7	1559.5	3471.3	2436.8	5423.8	3807.4	8393.8
10.0	145.0	417.5	933.7	742.3	1660.0	1159.8	2593.7	1900.3	4249.5	2969.2	6639.8	4639.3	10227.8
12.0	174.0	492.1	1104.7	874.8	1963.9	1366.9	3068.7	2239.5	5027.7	3499.2	7855.8	5467.4	12053.5
14.0	217.5	566.7	1275.7	1007.5	2267.9	1574.2	3543.7	2579.2	5805.9	4030.0	9071.8	6296.9	13882.1

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
 ⁴ Calculations for saturated starm only
 ⁴ PTFE seals up to 14 bar, EPDM seals up to 2.5 bar - contact Sectur for details on maximum steam pressure for other seal materials



Atmospheric Discharge Safety Relief Valves

Compressed Air & Gas

Seetru Limited

Туре 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



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

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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



Bore size		7.9mm (63608)	
Inlet Size	1/4"	3/8"	1/2"
Outlet Size		3/8"	
Flow Area		49.02mm ²	
H - Height (Rota-lift cap version)		57mm	
TÜV alloted outflow coefficient		0.68	
Weight (approximate) Kg		0.5	
Set Pressure range - PED (CE) bar		0.3 to 13.2	
Relieving pressure/fully open pressure	Set pressu	re +10% (Below 1 ba	r = 0.1 bar)
Reseating pressure	Set pres	sure-10% (0.3 bar m	inimum)

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 Select	tion Guide					Ľ. ↓
Approval Required	Valve type	Inlet Size	Inlet Thread Type	Outlet Thread Type	Easing Gear	Seal Material
						Viton [®] (FKM)
PED (CE)	63608	Select inlet size from above table	Select Inlet thread type	Select Outlet thread type	Select easing gear/top fitting	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 Se	lection Pro	cess					\ ↓
Evample	CE/PED	63608	1/2"	BSP Taper	BSP parallel	Rota-lift	Viton	10.5 bar
Selection	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 bar psi 0.3 4.35 0.8 11.6 1.4 20.3 2 29 3 43.5 4 58 5 72.50 6 87 7 101.5 8 116 9 130.5 10 145 13.2 191.4		Bore Size (D0)									
Set Pressure		7.9mm									
bar	psi	Nm³/Hour									
0.3	4.35	29.4									
0.8	11.6	43.4									
1.4	20.3	57.9									
2	29	72.9									
3	43.5	97.9									
4	58	122.9									
5	72.50	147.9									
6	87	172.9									
7	101.5	197.3									
8	116	222.8									
9	130.5	247.7									
10	145	272.7									
13.2	191.4	352.7									

For any intermediate pressures/flows please contact Seetru



Enclosed Discharge Safety Relief Valves

for compressed air or gases steam cryogenics & liquefied gases

Seetru Limited

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: -60°C to +250°C (depending on body o'ring material)
- Pressure range: 0.3 to 28.0 bar (depending on valve bore size)



Approvals

hydrogen

- Designed in accordance with BS EN ISO-4126-1 &-7
- PED 2014/68/EU (CE)

Seal Materials

Viton[®] (FKM)

Nitrile (NBR)

Silicone

PTFE

EPDM

• PE(S)R UK SI 2016 No. 1105 (UKCA)

Standard seal materials shown, others are available.

- 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

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Materials of Cons	struction	
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	S20910

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)

-20°C to +250°C

-20°C to +120°C

-50°C to +200°C -60°C to +200°C

-55°C to +130°C





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Bore size	1	0mm (9361	0)	1!	5mm (9361	5)	20	0mm (9362	20)		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	п	
Flow Area		78.5mm²			177mm²			314mm²			491ı	nm²	
H - Height (Sealed Lever version)		114mm			168mm			141mm			225	mm	
TÜV alloted outflow coefficient	0.85 (0.7 below 0	.8 bar)	0.85 (0).7 below 0	.8 bar)	0.85 (0.7 below 0).8 bar)	0.85	(0.7 be	low 0.8	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 pressur	e +10% (0.1	bar below	1.0 bar)					
Reseating pressure				:	Set pressur	e -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

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

Fxample	936	15	1"	BSP parallel	Rota Lift	Viton	17.5 bar
Selection	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

		Bore Size (D0)				
Set Pressure		10mm	15mm	20mm	25mm	
bar	psi	Nm³/Hour	Nm³/Hour	Nm³/Hour	Nm³∕Hour	
0.3	4.35	48.5	109.2	194.2	303.5	
0.5	7.25	59.0	132.9	236.2	369.1	
1	14.5	96.1	216.2	384.4	600.6	
2	29	146.1	328.7	584.4	913.2	
3	43.5	196.1	441.3	784.5	1225.8	
4	58	246.1	553.8	948.6	1538.4	
5	72.5	296.1	666.4	1184.7	1851.1	
6	87.00	346.2	778.9	1384.8	2163.7	
7	101.5	396.2	891.4	1584.8	2476.3	
8	116	446.2	1004.0	1784.9	2788.9	
9	130.5	496.2	1116.5	1985.0	3101.6	
10	145	546.7	1229.1	2185.1	3414.2	
15	217.5	796.3	1791.8	3185.5	4977.3	
20	290	1046.4	2354.6	4185.9	6540.4	
25	362.5	1296.5	2917.3	5186.3		
28	406	1446.6	3254.9	5786.5		

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									
		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	37.6	84.5	150.2	234.7				
0.5	7.25	46.6	104.8	186.3	291.1				
1	14.5	76.6	172.5	306.6	479.0				
2	29	115.1	259.0	460.5	719.5				
3	43.5	153.2	344.6	612.7	957.4				
4	58	190.9	429.7	763.9	1193.7				
5	72.5	228.6	514.3	914.4	1428.7				
6	87.00	266.1	598.6	1064.2	1662.9				
7	101.5	303.4	682.6	1213.5	1896.2				
8	116	340.6	766.5	1362.6	2129.1				
9	130.5	377.9	850.4	1511.8	2362.2				
10	145	415.1	933.9	1660.4	2594.4				
15	217.5	600.3	1350.7	2401.3	3752.0				
20	290	785.4	1767.2	3141.7	4909.0				
25	362.5	970.5	2183.7	3882.2					
28	406	1081.9	2434.4	4327.9					

For any intermediate pressures/flows please contact Seetru



Enclosed Discharge Safety Relief Valves

for compressed air or gases steam cryogenics & liquefied gases

Seetru Limited

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) .

Type 946 Threaded

- 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: -196°C to +250°C (depending on body o'ring material)
- Pressure range: 0.3 to 28.0 bar (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	S20910

Easing Gear / Lifting Gear / Top Fitting Options

Sealed Cap (gas tight cap)



Sealed lever (gas tight)



Rota-lift (not gas tight)





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Approvals

hydrogen

- 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

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Seal Materials

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.



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			314mm ²			491mm ²			
H - Height (Sealed Lever version)	114mm			168mm		141mm			225mm				
TÜV alloted outflow coefficient	0.85 (0.7 below 0	.8 bar)	0.85 (0.7 below 0.8 bar)		0.85 (0.7 below 0.8 bar)		.8 bar)	0.85	6 (0.7 be	low 0.8	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



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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

Fxample	946	15	1"	BSP parallel	Sealed Lever	Viton	17.5 bar
Selection	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)	Bore Size (D0)						
		10mm	15mm	20mm	25mm				
bar	psi	Nm³/Hour	Nm³∕Hour	Nm³/Hour	Nm³/Hour				
0.3	4.35	48.5	109.2	194.2	303.5				
0.5	7.25	59.0	132.9	236.2	369.1				
1	14.5	96.1	216.2	384.4	600.6				
2	29	146.1	328.7	584.4	913.2				
3	43.5	196.1	441.3	784.5	1225.8				
4	58	246.1	553.8	948.6	1538.4				
5	72.5	296.1	666.4	1184.7	1851.1				
6	87.00	346.2	778.9	1384.8	2163.7				
7	101.5	396.2	891.4	1584.8	2476.3				
8	116	446.2	1004.0	1784.9	2788.9				
9	130.5	496.2	1116.5	1985.0	3101.6				
10	145	546.7	1229.1	2185.1	3414.2				
15	217.5	796.3	1791.8	3185.5	4977.3				
20	290	1046.4	2354.6	4185.9	6540.4				
25	362.5	1296.5	2917.3	5186.3					
28	406	1446.6	3254.9	5786.5					

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



For any intermediate pressures/flows please contact Seetru



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Enclosed Discharge Safety Relief Valves

for compressed air or gase

nic & liquefied gas hydrogen

Seetru Limited

Туре

94605 / 946H5 / 95605 / 956H5

Safety valves made from stainles steel < Enclosed discharge with threaded connections <</p>

Example Applications

- Air/Gas Compression
- Air/Gas Boosters
- Natural Gas
- Pressure Vessels
- Hydrogen Production
- Hydrogen Storage

Specifications



- ½" NPT, BSP & BSPT
- 9/16" Cone & Thread
- 3/4" Cone & Thread
- Outlet Connections
 - ½" NPT & BSP
 - ∘ ¾″ NPT & BSP
 - 1" NPT & BSP
- Temperature Range
 - Type 94605 and 946H5 = 0° to 250°C
 - \circ ~ Type 95605 and 956H5 (H2 option) =-196°C to 250°C ~
- Temperature Range (Special Options)
 - High temperature option, up to 300°C, available upon request
 - \circ ~ -269°C version (up to 300 bar) available upon request
- Pressure Range
 - 35.0 to 515 bar (9*605)
 - 35.0 to 1100 bar (9*6H5)
 - *Maximum set pressure for steam is 85 bar

Materials of Construction								
Component	Valve Type 2nd Digit	Material	Grade					
Seat	4	Stainless	1.4057					
	5		S20910					
Body	4 & 5	Stainless	1.4401					
Disc	4	Stainless	1.4057					
	5	Cera	mic					
Spring	4 & 5	Stainless	1.4401					
Gaskets 4 & 5 PTFE		FE						

For Hydrogen applications above 515 bar, a ceramic disc is required, use type 956H5



Key Features

- Compact and space saving design
- Designed and built for repeatable operation
- Advanced sealing technology with super-lapped hard-faced seat and disc, designed to offer robust high-performance sealing
- Orientable gas-tight packed lever option (9*6H5 only)
- Simple and robust design with three moving parts
- Maintenance friendly design
- Designed with Hydrogen embrittlement resistant materials (H, option)

Approvals

- BS EN ISO 4126-1
- PED 2014/68/EU
 - Module B TÜV Rheinland
 - Module D LRQA Deutschland
- PE(S)R 2016 (UKCA)
 - Module B TÜV UK
 - Module D LRQA UK

Seat tightness better than API 527

EAC marking available upon request

Top Fitting Options

Sealed Cap (gas tight cap)



Sealed lever (gas tight)



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FEMALE CONE & THREAD INLET



Standard INLET Connection Types

- BSP (male) max 515 bar
- BSPT (male) max 515 bar
- NPT (male) max 1034 bar
- Cone & Thread (female) max 1100 bar

Standard OUTLET Connection Types

- BSP (female)
- NPT (female)

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

Valve Selection Guide - Type 94605, 946H5, 95605 & 956H5								
Valve type	H ₂ or low t valve typ	H ₂ or low temperature valve type 2 nd digit		Inlet Size Inlet Connection		Outlet Connection	Easing Lever	
	Yes	No					(Sealed Lever)	
9*605			9/16" & 3/4"	C&T	1/2"			
5 5	-		1/2"		,			
5	5 4	1/2"	NPT, BSP, BSPT		NPT, BSP 1/2", 3/4", 1"			
9*6H5			9/16" & 3/4"	C&T			1/2", 3/4", 1"	

Example of Valve Selection Process for Order Code 956H5F1297									
Example	Approval	Materials from above Table	Bore	Inlet Size	Inlet Thread	Outlet Size	Outlet Thread	Duty	Set Pressure
Selection	PED and UKCA (ASME in process)	5 = Body=1.4401, Seat=S20910, Disc=Ceramic	4.6mm	1/2"	NPT	3/4"	NPT	Hydrogen	1000 bar



Capacity Table -Per EN 4126-7 and at 10% Overpressure Type 94605 / 946H5 / 95605 / 956H5: Flow rates at 10% above the set pressure.



Set Pres	ssure	Flow of Air
bar	psi	Nm³/hr
35	507.5	335.5
50	725	475.5
75	1087.5	709.0
100	1450	942.5
150	2175	1409.4
200	2900	1876.4
250	3625	2343.3
300	4350	2810.3
350	5075	3277.2
400	5800	3744.2
450	6525	4211.1
500	7250	4678.1
550	7975	5145.1
600	8700	5612.0
650	9425	6078.9
700	10150	6545.9
750	10875	7012.8
800	11600	7479.8
850	12325	7946.7
900	13050	8413.7
950	13775	8880.6
1000	14500	9347.6
1050	15225	9814.5
1100	15950	10281.5

Set Pres	ssure	Flow of Hydrogen
bar	psi	Nm³/hr
35	507.5	1273.2
50	725	1804.9
75	1087.5	2691.1
100	1450	3577.2
150	2175	5349.5
200	2900	7121.8
250	3625	8894.1
300	4350	10666.3
350	5075	12438.6
400	5800	14210.9
450	6525	15983.3
500	7250	17755.5
550	7975	19527.8
600	8700	21300.1
650	9425	23072.4
700	10150	24844.7
750	10875	26617.1
800	11600	28389.2
850	12325	30161.5
900	13050	31933.8
950	13775	33706.1
1000	14500	35478.5
1050	15225	37250.7
1100	15950	39023.0



Your Pharmaceutical Partner Delivering Safety and Precision



Safety & Precision

Seetru Limited understands the critical nature of safety and precision in the pharmaceutical industry. We manufacture safety relief valves specifically designed to meet the stringent demands of your clean processing applications.

Our valves are constructed from materials that resist corrosion by various process fluids, they minimize contamination risks and ensure long-term functionality. Furthermore, these valves deliver precise pressure control to prevent dangerous overpressurisation, while their exceptional leak-tight sealing safeguards both product integrity and personnel.



Seetru Safety Relief Valves Valves

Enclosed Discharge Safety Relief Valves

for compressed air or gases

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

Materials of Construction

- Medical gasesTechnical gases
- Hygienic applicationsPressure vessels
- 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.

ComponentMaterialGradeInletStainless Steel1.4404 (316)BodyStainless Steel1.4408 (316)Internal partsStainless Steel1.4401 (316)SpringStainless Steel1.4310 (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 $\mu inches$, 1.5 $\mu m.$



Standard option:





Cooled Con (and tight con)

Cooled lover (ass tight)



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
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.



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Other Options:



Bore size	9.5mm (6G	610/6G110)	 13.7mm (6G613/6G113)		
Inlet Size	1/2"	3/4"	3/4"	1"	
Outlet Size	3,	/4"	1"		
Flow Area	70.9mm ² 147.7mm ²			7mm²	
H - Height (Sealed cap version)	160)mm	180mm		
TÜV alloted outflow coefficient	0.77 abov	ve 1.55 bar	0.77		
NB Certified rated slope (ASME)	1.71 sc	fm/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	o 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	Select inlet size	Select easing	Perfluroelastomer (FFKM)
PED (CE), ASME (UV) & CR	6G1	from above table	from above table	gear/top fitting	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				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

		Bore Size (D0)				
Set Pressul		9.5mm (6G610)	13.7mm (6G613)			
bar	psi	Nm³/Hour	Nm³∕Hour			
0.32	4.64		123.9			
0.48	6.96	46.5	138.2			
1	14.5	71.4	178.8			
2	29	119.5	248.4			
3	43.5	160.4	333.5			
4	58	201.3	418.5			
5	72.5	242.1	503.6			
6	87	283.0	588.6			
7	101.5	323.9	673.6			
8	116	364.8	758.7			
9	130.5	405.7	843.7			
10	145	446.6	928.8			
15	217.5	651.1	1354.0			
20	290	855.5	1779.2			
25	362.5	1060.0	2204.5			
30	435	1264.5	2629.7			
35	507.5	1468.9	3054.9			
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 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

		Bore Size (D0)			
Set Pressu	re	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 cryogenic & liquefied gas 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: -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	

Easing Gear / Lifting Gear / Top Fitting Options

Sealed Cap (Gas Tight Cap)





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.







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

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Seal Materials

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.

Bore size

Inlet Size

Outlet Size

Flow Area

H - Height (Sealed Lever version)

Set Pressure range - PED (CE) bar

Relieving pressure/fully open pressure

Weight (approximate) Kg

Reseating pressure



15mm (94615)

DN25 (1")

DN40 (1 1/2")

177mm²

253mm

0.85 (0.7 below 0.8 bar)

5.3

0.3 to 28.0

Val	VA	1)ra	awing	
vu	V C		avvilia	



15mm bore - 94615



(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.

10mm (94610)

(1/2") (3/4") (1")

DN25 (1")

78.5mm²

200mm

0.85 (0.7 below 0.8 bar)

3.0

0.3 to 28.0

Set pressure +10%

(0.1 bar below 1.0 bar)

Set pressure -10%

DN20 DN25

DN15

- 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 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

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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	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



For any intermediate pressures/flows please contact Seetru



Atmospheric Discharge Safety Relief Valves

Seetru Limited

for steam

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)

C€ 2₽ [#[

Materials of Construction					
Component	Material	Grade			
Body	Brass	BS2874 CZ132			
Internal Parts	Brass	BS2874 CZ132			
Spring	Stainless Steel	302 \$56)			

Easing Gear / Lifting Gear Options

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

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





Bore size	7.9mm			
Inlet Size	1/4"	3/8"	1/2"	
Flow Area	49mm²			
TÜV alloted outflow coefficient	0.66			
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 Sele	ction Guide				
Approval Required			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	21.1					
0.5	7.3	27.4					
1.0	14.5	37.1					
1.5	21.8	46.5					
2.0	29.0	55.8					
3.0	43.5	74.2					
4.0	58.0	92.5					
5.0	72.5	110.7					



Supplied by Seetru

Pressure Reducing Valves / Pressure Regulating Valve / Overflow Valves

SCHLEY ARMATUREN GMBH Valve manufacturer since 1913



SCHLEY

Reliable products ...sourced and supplied by Seetru

Alongside our own manufactured items, Seetru also offers a range of pressure regulating valves, pressure reducing valves, and overflow valves. They are mainly used in industrial plants, plant engineering, and process engineering. Pressure-reducing valves can be supplied with flanges, weld ends, or threaded connections.



About SCHLEY Products

SCHLEY valves are first-class quality and therefore of long lifetime and low maintenance. Thanks to their self-regulating mode of operation, they work extremely reliably and accurately in a compact design. We not only offer valves for your standard applications, but also customized valve solutions are one of our strengths. We will be pleased to design the valves precisely according to your specifications and support you in project management.



SCHLEY Pressure Reducing Valves





Same-Day Despatch Order Before 2pm on a Seetru Business Day

About the Seetru Same-Day Despatch Range

Seetru offers atmospheric and piped discharge relief valves with brass or stainless steel construction. Also available is our LGS and LGS HI-FLOW range, these multi-purpose safety valves are manufactured in bronze and are suitable for liquid, gas, and steam applications. The Seetru P3W Pressure & Temperature Relief Valve provides protection against both excess temperature as well as over pressurisation.



Visit SeetruDirect.com

Explore Seetru's Product Range Quality & Innovation





Seetru safety relief valves are known for their reliability, performance, and safety. These valves are manufactured in bronze, brass, or stainless steel and offer a wide range of connections, for applications up to 250 °C

Pressure & Temperature Valves

The Seetru P3W Pressure & Temperature relief valve provides protection against both excess temperature as well as over pressurisation. Each of the lift mechanisms will work independently of each other. The valve is designed to be used in hot water boiler applications.

Pressure Reducing Valves

Alongside our own manufactured items, Seetru also offers a range of pressure-regulating valves, pressure-reducing valves, and overflow valves. They are mainly used in industrial plants, plant engineering, and process engineering. Pressure-reducing valves can be supplied with flanges, weld ends, or threaded connections.

Change-Over Valves

Change-over valves are critical components in various industrial applications, enabling seamless switching between fluid sources or flow paths. Typically used where plant shut-down is impossible or undesirable for process, engineering, or commercial reasons.

Auxiliary Valves

From preventing backflow with check valves to guaranteeing precise pressure with minimum pressure valves, each compact valve plays a vital role. Air start valves deliver rapid pressure bursts while isolating valves segment flow for maintenance.

Testing Equipment

The Seetru Quicktester™ is compact, lightweight, and portable design is very robust and able to meet the demands of a busy maintenance workshop or mobile operation. he Quicktester™ can be used with plant-generated air supplies or with mobile bottled gas.

Liquid Level Gauges

Accurate liquid level monitoring is crucial, whether you're navigating the high seas or managing critical industrial processes. Seetru offers a comprehensive range of liquid-level gauges and indicators designed for precise, reliable measurement in diverse applications.

Circular Window Sight Glasses

Seetru circular window sight glasses are compact low-cost assemblies that provide reliable level indication and positive indication when liquid is present. These screw-in plugs are fitted with high-quality glass.



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Seetru is a global company with an extensive distributor network. This means that wherever you are on the planet, you can access our industry-leading safety valves and receive exceptional service.



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