

LGS® Safety Relief Valves

Seetru Limited

for liquid

hot water

compressed air & gas

steam

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)
- WRAS
- KUKReg 4



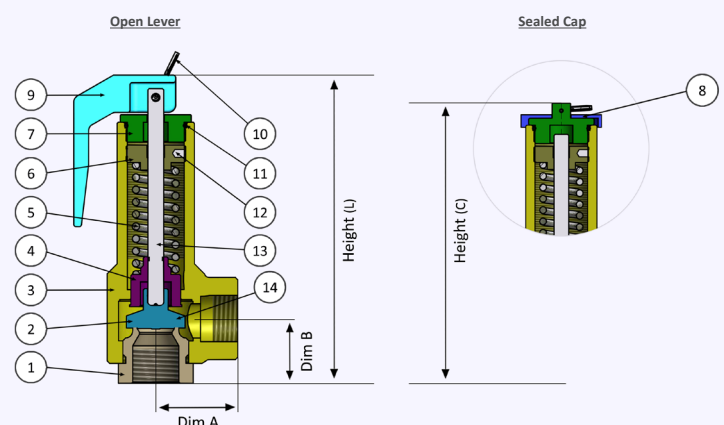
Materials of Construction

	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

Dimensions

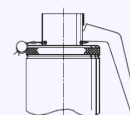
Size (Inlet x Outlet)	Dim A mm (inches)	Dim B mm (inches)	Height (L) mm (inches)	Height (C) mm (inches)
DN15 (1/2")	33.0 (1.29)	26.0 (1.02)	124.0 (4.88)	114.5 (4.51)
DN20 (3/4")	37.0 (1.46)	32.0 (1.26)	130.0 (5.12)	120.5 (4.74)
DN25 (1")	42.0 (1.65)	37.0 (1.46)	156.0 (6.14)	146.5 (5.77)
DN32 (1 1/4")	50.0 (1.97)	42.0 (1.65)	174.0 (6.85)	164.5 (6.48)
DN40 (1 1/2")	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 1/2")	78.0 (3.07)	83.5 (3.28)	320 (12.60)	310 (12.20)

Valve Drawing



Easing Gear / Lifting Gear Options

- Options:



Unsealed lever (not 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 _i (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 ₀ (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 ₀ (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 ₀ (mm)	13.5		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	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