



BOSS™ FIG 959

HIGH LIFT SAFETY VALVE

Data Sheet

General Description

A WRAS approved High Lift Safety Relief Valve in Bronze, in sizes from ½" to 2".

Codes:

Various depending on pressure setting requirement. See Page 3.

Technical Specification

Sizes

½" to 2"

Connections:

Screwed BSPT Female

Outlet one size larger than inlet

Pressure Range

0.2 to 24.0 bar (up to 14.0 barg for steam)

Working Temperature:

-60°C to +200°C

Test Lever:

Open Lever Lift

Materials of Construction

Body:

Bronze

Seat:

Brass

Seal:

PTFE

Spring:

Stainless Steel

See Page 2 for full list of materials

Standards/Approvals

WRAS Approved.

Designed in accordance with BS EN ISO 4126-1:2013.

P.E.D 2014/68/EU.

Applications

Designed for use with non hazardous fluids, hot and cold water, steam, compressed air and inert gases.

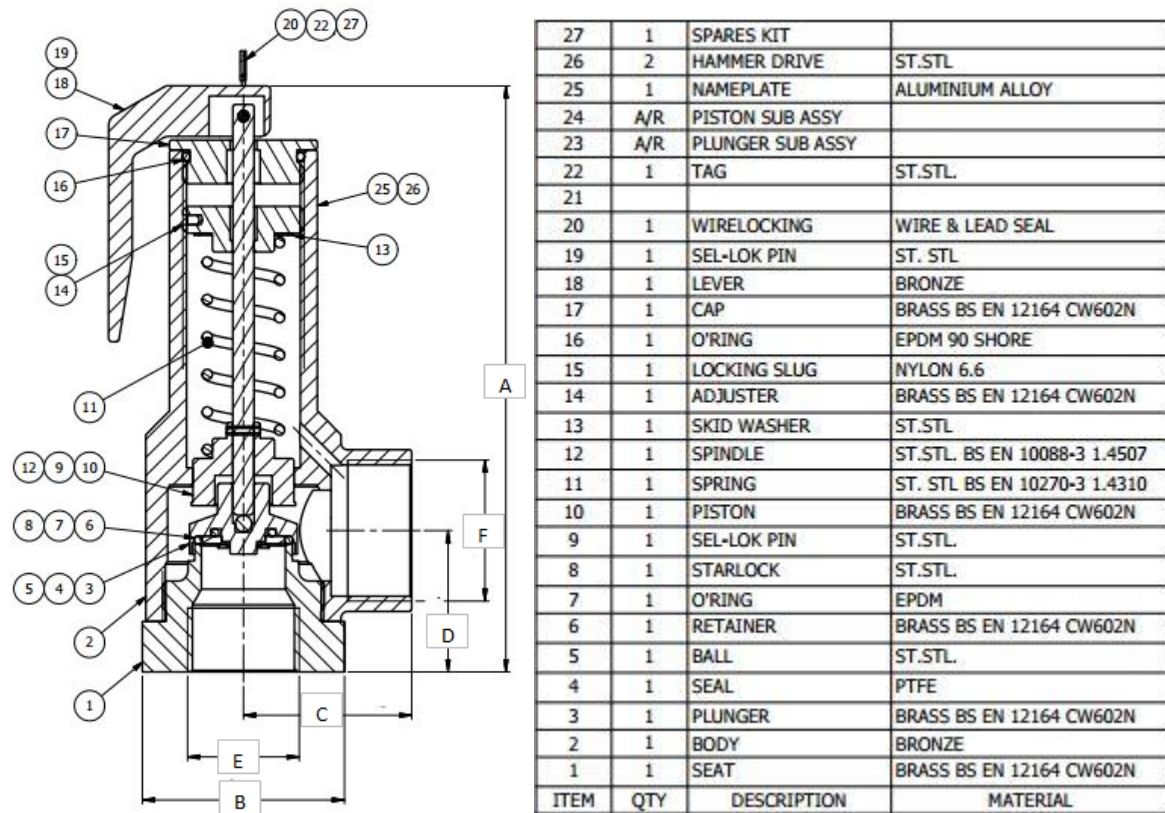
Product Testing

Valves are preset in our own Engineering Facility and tested individually, clearly labelled and sealed with an anti tamper proof lead seal before being delivered ready for installation.

Certification

Test certification can be provided if required on request.

Dimensions and Materials of Construction



DN	A (mm)	B (mm) A/F Hex	C (mm)	D (mm)	E Inlet	F Outlet	Weight (Kg)
15	130	38.1	11.5	32	½"	¾"	0.75
20	156	50.8	15	37	¾"	1"	1.31
25	174	60	17.5	42	1	1 ¼"	1.85
32	222.5	65	16.5	50	1 ¼"	1 ½"	3.33
40	257.5	75	17.5	59	1 ½"	2"	4.89
50	320	100	25	83.5	2"	2 ½"	11

Product Codes - BOSS™ FIG 959 High Lift Safety Valves

DN15

0.2 - 0.8 bar	0.9 - 1.6 bar	1.7 - 2.0 bar	2.1 - 3.1 bar	3.2 - 4.6 bar	4.7 - 9.5 bar	9.6 - 15.5 bar
27640002	27640013	27640024	27640035	27640046	27640057	27640068
15.6 - 24.0 bar						
27640079						

DN20

0.2 - 0.9 bar	1.0 - 1.5 bar	1.6 - 2.2 bar	2.3 - 4.6 bar	4.7 - 5.7 bar	5.8 - 8.5 bar	8.6 - 12.1 bar
27640164	27640175	27640186	27640197	27640205	27640216	27640227
12.2 - 16.0 bar	16.1 - 24.0 bar					3.0 bar
27640238	27640249					27640260

DN25

0.2 - 0.9 bar	1.0 - 1.6 bar	1.7 - 2.4 bar	2.5 - 3.1 bar	3.2 - 4.5 bar	4.6 - 5.5 bar	5.6 - 7.3 bar
27640334	27640345	27640356	27640367	27640378	27640389	27640408
7.4 - 8.3 bar	8.4 - 9.2 bar	9.3 - 11.8 bar	11.9 - 13.0 bar	13.1 - 16.2 bar	16.3 - 18.0 bar	18.1 - 24.0 bar
27640419	27640430	27640441	27640452	27640463	27640474	27640485
						3.0 bar
						27640496

DN32

0.2 - 0.6 bar	0.7 to 1.2 bar	1.3 - 1.7 bar	1.8 to 2.8 bar	2.9 - 4.8 bar	4.9 - 9.0 bar	9.1 - 16.0 bar
27640570	27640581	27640592	27640600	27640611	27640622	27640633
16.1 - 24.0 bar						
27640644						

DN40

0.2 - 0.6 bar	0.7 - 1.6 bar	1.7 - 2.5 bar	2.6 - 4.0 bar	4.1 - 5.0 bar	5.1 - 6.4 bar	6.5 - 10 bar
27640718	27640729	27640740	27640751	27640762	27640773	27640784
10.1 - 12.5 bar	12.6 - 16.0 bar	16.1 - 19.7 bar	19.8 - 24.0 bar			
27640795	27640803	27640814	27640825			

DN50

0.2 - 0.7 bar	0.8 - 1.6 bar	1.7 - 2.6 bar	2.7 - 4.1 bar	4.2 - 5.5 bar	5.6 - 7.0 bar	7.1 - 10.0 bar
27640910	27640921	27640932	27640943	27640954	27640965	27640976
10.1 - 14.5 bar	14.6 - 24 bar					
27640987	27640998					

BOSS 959 - Flow rates

Discharge capacity for **WATER** at 10% over-pressure^{1,2}

kdr: 0.26

Valve size	DN in	15mm (1/2")		20mm (3/4")		25mm (1")		32mm (1 1/4")		40mm (1 1/2")		50mm (2")	
	DN out	20mm (3/4")		25 (1")		32mm (1 1/4")		40mm (1 1/2")		50mm (2")		65mm (2 1/2")	
	d0 (mm)	15		20		25		32		40		50	
Set pressure (bar g.)	Set pressure (psi g.)	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	1097.2	4.8	1950.6	8.6	3047.8	13.4	4993.4	22.0	7802.3	34.4	12191.0	53.8
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	120.2
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	170.0
4.0	58.0	4906.8	21.6	8723.2	38.5	13630.0	60.1	22331.4	98.5	34892.8	153.8	54520.0	240.4
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	294.4
8.0	116.0	6939.3	30.6	12336.5	54.4	19275.7	85.0	31581.3	139.2	49345.8	217.6	77102.9	340.0
10.0	145.0	7758.3	34.2	13792.6	60.8	21550.9	95.0	35309.0	155.7	55170.3	243.3	86206.6	380.1
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	416.4
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	465.5
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	537.5
24.0	348.0	12019.1	53.0	21367.4	94.2	33386.5	147.2	54700.5	241.2	85469.5	376.9	133546.1	588.8

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

Discharge capacity for **HOT WATER** at 10% over-pressure (unvented Systems)^{1,2} **kdr: 0.38**

Valve size	DN in	15mm (1/2")		20mm (3/4")		25mm (1")		32mm (1 1/4")		40mm (1 1/2")		50mm (2")	
	DN out	20mm (3/4")		25 (1")		32mm (1 1/4")		40mm (1 1/2")		50mm (2")		65mm (2 1/2")	
	d0 (mm)	15		20		25		32		40		50	
Set pressure (bar g.)	Set pressure (psi g.)	kW	BTU/sec	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	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	29.0	71.0	67.3	126.2	119.6	197.2	186.9	323.1	306.2	504.8	478.4	788.7	747.6
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	2795.0
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	5649.1	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	6729.2	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

Discharge capacity for **AIR** at 10% over-pressure^{1,2,3}

kdr: 0.38

Valve size	DN in	15mm (1/2")		20mm (3/4")		25mm (1")		32mm (1 1/4")		40mm (1 1/2")		50mm (2")	
	DN out	20mm (3/4")		25 (1")		32mm (1 1/4")		40mm (1 1/2")		50mm (2")		65mm (2 1/2")	
	d0 (mm)	15		20		25		32		40		50	
Set pressure (bar g.)	Set pressure (psi g.)	l/sec	SCFM	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	178.8	379.7
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	650.6
2.0	29.0	41.9	89.0	74.5	158.3	116.5	247.3	190.8	405.2	298.2	633.2	465.9	989.3
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	1666.7
6.0	87.0	99.3	211.0	176.6	375.1	276.0	586.0	452.1	960.1	706.5	1500.2	1103.9	2344.1
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	3021.5
10.0	145.0	156.8	332.9	278.7	591.8	435.5	924.7	713.5	1515.0	1114.8	2367.3	1741.9	3698.8
12.0	174.0	185.5	393.9	329.7	700.2	515.2	1094.1	844.1	1792.5	1318.9	2800.8	2060.9	4376.2
15.0	217.5	228.5	485.3	406.3	862.8	634.8	1348.1	1040.1	2208.7	1625.2	3451.1	2539.4	5392.3
20.0	290.0	300.3	637.7	533.9	1133.7	834.2	1771.4	1366.8	2902.3	2135.6	4534.9	3336.8	7085.7
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	8440.5

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 (1/2")		20mm (3/4")		25mm (1")		32mm (1 1/4")		40mm (1 1/2")		50mm (2")	
	DN out	20mm (3/4")		25 (1")		32mm (1 1/4")		40mm (1 1/2")		50mm (2")		65mm (2 1/2")	
	d0 (mm)	15		20		25		32		40		50	
Set pressure (bar g.)	Set pressure (psi g.)	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	418.2	1064.9
1.0	14.5	77.1	164.2	137.0	292.0	214.1	456.2	350.8	747.5	548.1	1167.9	856.4	1824.9
2.0	29.0	115.8	249.7	205.9	444.0	321.7	693.7	527.1	1136.6	823.6	1775.9	1286.8	2774.9
4.0	58.0	192.1	420.7	341.5	748.0	533.7	1168.7	874.4	1914.8	1366.2	2991.9	2134.7	4674.8
6.0	87.0	267.6	591.7	475.8	1052.0	743.4	1643.7	1218.0	2693.0	1903.1	4207.9	2973.7	6574.8
8.0	116.0	342.7	762.7	609.2	1356.0	951.9	2118.7	1559.5	3471.3	2436.8	5423.8	3807.5	8474.8
10.0	145.0	417.5	933.7	742.3	1660.0	1159.8	2593.7	1900.3	4249.5	2969.2	6639.8	4639.4	10374.7
12.0	174.0	492.1	1104.7	874.8	1963.9	1366.9	3068.7	2239.5	5027.7	3499.2	7855.8	5467.5	12274.7
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	14174.6
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 g., EPDM seals up to 2.5 bar g. - contact Seetru for details on maximum steam pressure for other seal materials													