



# NABIC® Safety Relief Valve Fig 542

## Data Sheet

RS Stock No.	Valve Size.	Port Size	Set Pressure
	DN	BSP	Bar
389-0597	15	1/2"	3
389-1449	15	1/2"	4
389-0604	20	3/4"	2.5
389-1461	20	3/4"	3
389-1477	20	3/4"	3.5
389-1483	20	3/4"	4
389-0610	25	1"	3
389-1499	25	1"	4
389-1506	25	1"	5

### Applications

Hot Water - Vented systems, unvented heating systems.

Steam - Boiler, pipeline, vessel protection.

Air - Compressor, pipeline and receiver protection

### Design

All Nabic safety valves are designed and tested in accordance with the requirements of BS 6759. Boilers and pressure vessels, designed to BS specifications, usually require the fitting of a safety valve which complies with BS 6759.

### Performance

Comprehensive performance tests have been carried out on each range of Nabic valves. Discharge capacities are certified by the Associated Offices Technical Committee (AOTC).

### Materials

Materials used in Nabic safety valves form no risk to health when used in their intended manner. Each range of valves has been tested and approved for use on potable water, by the Water Research Centre (WrC).

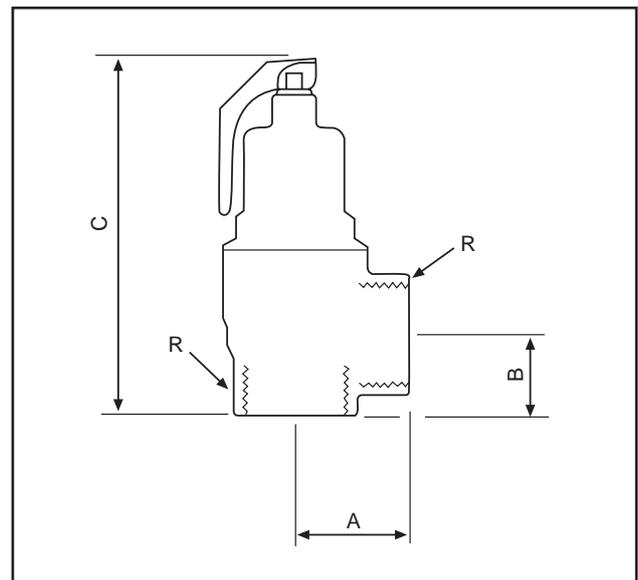
### Construction

The Fig. 542 is of gunmetal construction, with diaphragm protected working parts and PTFE to metal seating. All wetted parts are manufactured from dezincification resistant materials, approved by the Water Research Centre for use on potable water. Inlet and outlet connections are of equal size, with female threads to BS 21.

### Features

- Resilient PTFE seating design
- Suitable for hot water, steam or air
- High degree of seat tightness
- Diaphragm protected working parts
- Safe manual testing
- Easy inspection and cleaning
- Pressure setting locked & sealed
- Designed and tested to BS 6759
- Capacities certified by AOTC
- Approved by water research centre
- UKWFBS listed

### Dimensions



Size DN	R BSP	A mm	B mm	C mm
15	1/2	30	23	113
20	3/4	34	23	118
25	1	39	27	132

### Technical Specification

Maximum set pressure: \_\_\_\_\_ 10.5 bar

Maximum temperature: \_\_\_\_\_ 195°C

### Set Pressure

To prevent unnecessary operation of the valve, there must be an adequate margin between the set pressure of a safety valve and the normal working pressure of the system.

The set pressure should be at least 10% above the system working pressure, with a minimum margin of 0.7 bar for water and liquid applications, and 0.35 bar for steam, air and gas applications.

For open vented hot water heating systems the following table can be used:

Static Head m	9	18	27	36
Set Pressure bar	1.6	2.5	3.4	4.3

Static Head ft	30	60	90	120
Set Pressure psi	23	36	49	62

**Warning:** The set pressure of a safety valve must **NOT** exceed the design pressure of the vessel or system being protected.

**Discharge Capacities**

The discharge capacity of a safety valve must be equal to or greater than the output of the boiler or system it is protecting. To ensure that the correct method of sizing is used, reference should be made to the relevant BS specification for the design of the boiler or system. Fig. 542 capacities are tabulated below to assist selection.

Hot Water - Vented System		
Size	DN20	DN25
kW	264	352

To convert to Btu/hr multiply by 3400.

The capacities tabulated above include a vent allowance and must only be used for open vented systems.

Hot Water - Unvented Systems - 10% Overpressure			
Set Pressure Bar	kW		
	DN15*	DN20	DN25
1.0	23	41	64
2.0	35	63	98
3.0	47	84	132
4.0	60	106	166
6.0	84	149	233
8.0	108	192	301
10.5	139	246	385

To convert to Btu/hr multiply by 3400.

Steam - 10% Overpressure			
Set Pressure Bar	kg/hr		
	DN15*	DN20	DN25
1.0	37	66	103
2.0	56	100	157
3.0	76	135	211
4.0	95	169	264
6.0	134	238	372
8.0	173	307	480
10.5	221	393	615

To convert to lb/hr multiply by 2.2

\* The minimum bore size permitted by BS specifications for steam and hot water boilers is 20mm.

Capacities given for the DN15 size in the above table are for applications outside the scope of these standards.

Air - 10% Overpressure			
Set Pressure Bar	std. litres/sec		
	DN15*	DN20	DN25
1.0	14	24	38
2.0	21	37	58
3.0	28	50	77
4.0	35	62	97
6.0	49	88	137
8.0	64	113	176
10.5	81	145	226

To convert to ft<sup>3</sup>/min multiply by 2.1

The unvented hot water, steam and air discharge capacities tabulated above, have been calculated in accordance with BS 6759, using a derated coefficient of discharge (Kdr) of 0.19, approved by AOTC.

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