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The Company reserve the right to amend any product without notice.

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CRANE BUILDING SERVICES & UTILITIES

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NABIC™

Safety & Control Valves

For Air, Steam & Water

OUR GENIUS IS VALVES

CRANE BUILDING SERVICES & UTILITIES

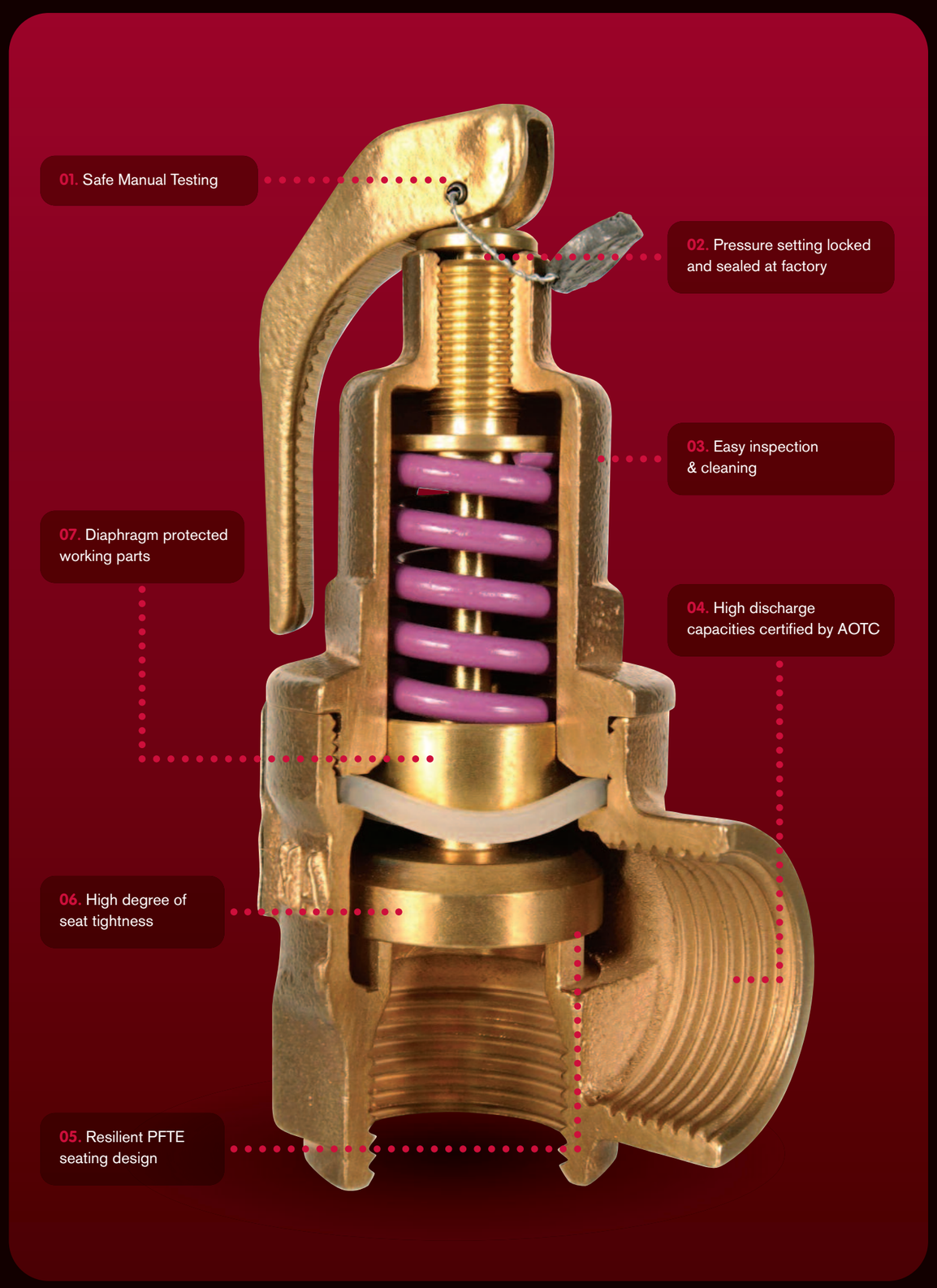
Whatever valve you need talk to the experts

A leading brand of Crane Building Services & Utilities, NABIC offers a complete range of safety and pressure relief valves.

One of the UK's leading suppliers of gunmetal safety valves, NABIC has long been recognised as the industry standard for commercial and industrial hot water applications. In fact, our valves are ideal for hot water supply, heating, pump relief, bypass relief, outside installation and for use with difficult gases and liquids.

Designed and tested to the latest British Standards with third party certified discharge capacities, NABIC valves are manufactured under an ISO 9001 quality assurance system. Every valve is tested after assembly and again before despatch to ensure high product quality is maintained.

NABIC valves are available ex-stock. Same day order processing ensures delivery within 24 hours.



Safety Valves Copper Alloy

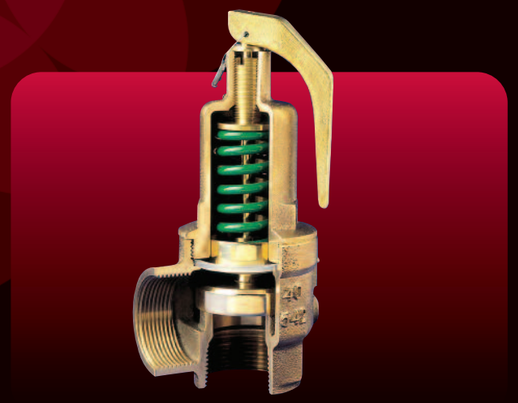


Fig 542 Safety Relief Valve

The Fig 542 Safety Valve is an extremely versatile valve, suitable for use on hot water, steam or air. Although designed primarily for the protection of hot water boilers, it's wide range of applicants make it an ideal valve for stocking as a general purpose safety valve.

Body Material | Gunmetal
Maximum Pressure | 10.5 bar
Maximum Temperature | 195˚C

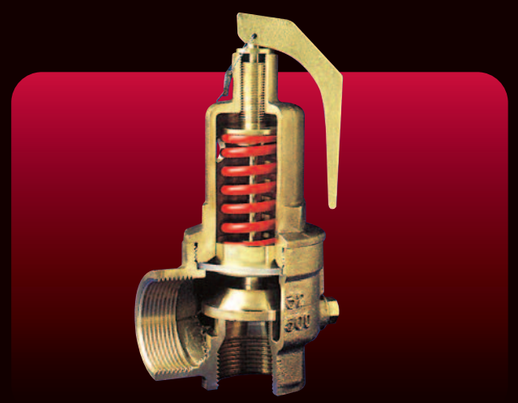


Fig 500 High Lift Safety Valve

The Fig 500 High Lift Safety Valve has been designed primarily for use on unvented hot water heating systems, where a high capacity, emergency steam relief capability is required. High capacity and resilient PTFE seating, also make it ideal for steam, air and inert gas applications. A PTFE to Viton seating design is also available where greater seal tightness is required.

Body Material | Gunmetal
Maximum Pressure | 12.5 bar
Maximum Temperature | 195˚C

Fig 500T Combined Pressure and Temperature Relief Valve

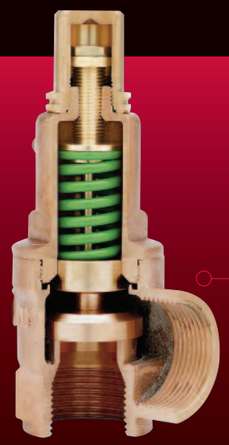
The Fig 500T Combined Pressure & Temperature Relief Valve has been designed for use on unvented hot water supply systems, where protection against excess temperature is required in addition to pressure protection. Pressure and temperature elements of the valve operate independently, thereby providing dual safety protection in the one valve.

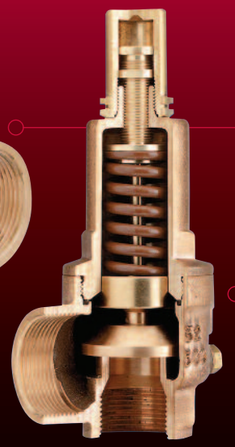
Body Material | Gunmetal
Maximum Working Temperature | 75˚C
Maximum Pressure | 12.5 bar
Maximum Temperature | 95˚C

Fig 520 Double Spring Safety Valve

The Fig 520 High Lift Safety Valve has been designed and tested to BS6759. Based on the proven design of the Fig 500 Safety Value, the high capacity and resilient PTFE seating make the Fig 520 ideal for steam, hot water, air and inert gas applications.

Body Material | Gunmetal
Maximum Pressure | 12.5 bar
Maximum Temperature | 195˚C





NABIC Pressure Relief Valves are intended for use where pressure tightness is required on the discharge side of the valve. They are ideal for pump relief, bypass relief, outside installations, and on cold water mains to protect from PRV failure.

Fig 542L Pressure Relief Valve

Body Material | Gunmetal
Maximum Pressure | 10.5 bar
Maximum Temperature | 195˚C

Fig 500L Pressure Relief Valve

Body Material | Gunmetal
Maximum Pressure | 12.5 bar
Maximum Temperature | 195˚C

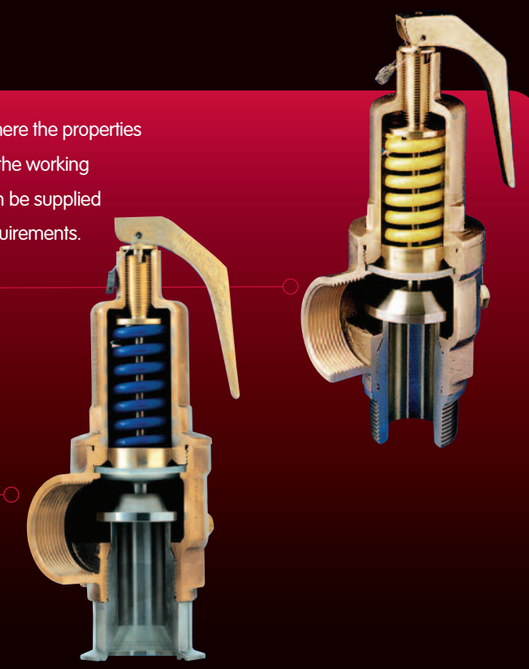
This version of the Fig 500 has been produced for applications where the properties of stainless steel are required for the service fluid being used but the working environment does not necessitate a full stainless steel valve. It can be supplied with a test lever or as a sealed dome version to suit customer requirements.

Fig 500ST High Lift Safety Valve
with Stainless Steel Wetted Parts

Wetted Parts | Stainless Steel
Body Material | Gunmetal
Maximum Set Pressure | 12.5 bar
Maximum Temperature | 195˚C

Fig 500SS Pressure Relief Valve
with Stainless Steel Wetted Parts

Wetted Parts | Stainless Steel
Body Material | Gunmetal
Maximum Set Pressure | 12.5 bar
Maximum Temperature | 195˚C



Safety Valves Stainless Steel

The Stainless Steel version of the Fig. 500 High Lift Safety Valve has been specifically developed for use where difficult fluids or gases are encountered. It's anti-corrosion properties, high discharge capacities and excellent seat tightness make it an ideal valve for these applications. For other specific technical requirements please consult the NABIC technical department.

Fig 500FN High Lift Safety Valve

Body Material | Stainless Steel
Maximum Pressure | 11 bar
Maximum Temperature | 195˚C

Fig 500FS High Lift Safety Valve

Body Material | Stainless Steel
Maximum Pressure | 11 bar
Maximum Temperature | 195˚C

Fig 500FF High Lift Safety Valve

Body Material | Stainless Steel
Maximum Pressure | 11 bar
Maximum Temperature | 195˚C

Connection options are:
FN-Screwed x Screwed
FS-Flanged x Screwed
FF-Flanged x Flanged

Designed for hygienic applications, these full stainless steel constructed valves have connections to BS 4285. The Fig 500AA has clamp type couplings which conform to part 3 and the Fig 500DF has threaded (IDF type) couplings to part 4. Both range of valves are highly polished, with inlet bore finish of 0.4 µm. For other specific requirements please consult the NABIC technical department.

Fig 500AA High Lift Safety Valve

Body Material | Stainless steel
Maximum Set Pressure | 11 bar
Maximum Temperature | 195˚C

Fig 500AS High Lift Safety Valve

Body Material | Stainless steel
Maximum Set Pressure | 11 bar
Maximum Temperature | 195˚C

Fig 500DF High Lift Safety Valve

Body Material | Stainless steel
Maximum Set Pressure | 11 bar
Maximum Temperature | 195˚C

Connection options are:
AA-Hygenic Clamp x Hygenic Clamp
AS-Hygenic Clamp x Screwed
DF-IDF Thread x IDF Thread

Anti-Vacuum Valves

Fig 568 Anti-Vacuum Valves are used to protect drying cylinders, calorifiers and tankers from collapse due to internal vacuum. They are also used on steam systems, to assist condensate drainage and to prevent suction of contents from vats.Vacuum valves are normally fitted vertically, at the top of the vessel or pipeline being protected. Horizontal revolving cylinders however should have a Fig 568 fitted at each end, diametrically opposite one another.

Fig 568SS Stainless Steel Anti-Vacuum Valve

Body Material | Stainless Steel
Maximum Set Pressure | 13.5 bar
Maximum Temperature | 195˚C

Fig 568 Anti-Vacuum Valve

Body Material | Gunmetal
Maximum Set Pressure | 13.5 bar
Maximum Temperature | 195˚C

Boiler System Valves

The Fig 100 Automatic Air Vent is an extremely efficient valve designed for use on central heating installations where the removal of large air bubbles trapped in the system helps to reduce noise levels, maintain circulation and improve heat output. They can also be fitted to other fluid systems where air inclusion causes problems

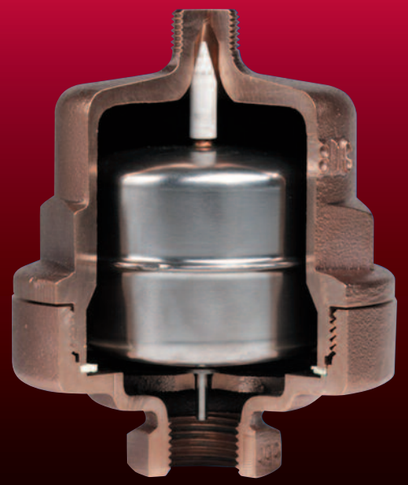
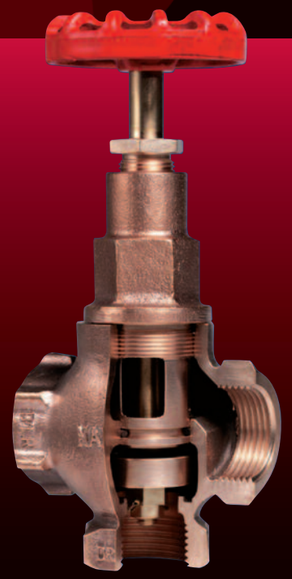


Fig 100 Automatic Air Vent

Body Material | Gunmetal
Float | Stainless Steel
Maximum Pressure | 10 bar
Minimum Pressure | 0.15 bar
Maximum Temperature | 93˚C

Boiler System Valves



The Fig 503 Three Way Valve has been designed for use on vented hot water systems, to ensure there is a permanent connection from the boiler or calorifier to atmosphere. Fitting a Fig 503 allows the use of a single common vent pipe, and permits continued operation of the system whilst maintenance iscarried out on an individual unit.

Fig 503 Three Way Vent Valve

Body Material | Gunmetal
Maximum Working Pressure | 7 bar
Maximum Working Temperature | 93˚C

The Fig 175 Three Way Vent Cock has been designed for use on vented hot water systems, to ensure there is a permanent connection from the boiler or calorifier to atmosphere. Fitting a Fig 175 allows the use of a single common vent pipe, and permits continued operation of the system whilst maintenance is carried out on an individual unit.

Fig 175 Three Way Vent Cock

Body Material | Gunmetal
Maximum Working Pressure | 7 bar
Maximum Working Temperature | 100˚C

Anti Pollution Valves

The RPZ Anti-Pollution valve is a type BA safety device used to prevent contamination of drinking water through siphoning or backflow up to class 4 fluid category. They are particularly suitable for industrial and commercial applications and can also be used for supplies to buildings within the scope of the water regulations.

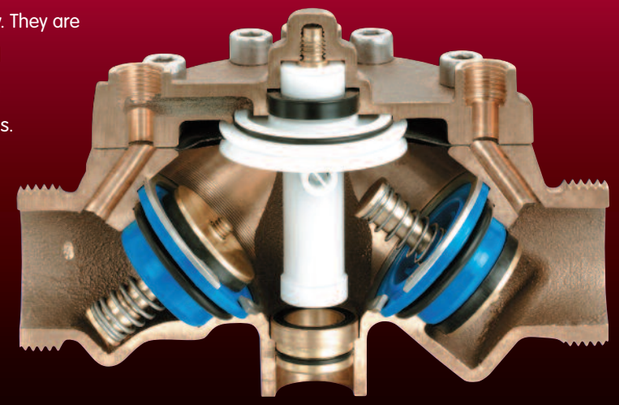


Fig 255 Reduced Pressure Zone Anti-Pollution Valve

Body Material | Gunmetal
Check Valves | Plastic
Seals | EPDM
Maximum Working Pressure | 10 bar
Maximum Working Temperature | 60˚C

Fig 256A Pipe Interrupter

The Fig 256A is classified as a DC type suitable for protecting up to fluid category 5. Incorporating ventilation ports that are totally unrestricted and permanent, water is guided past these air vents using a venturi type nozzle. Since they are constantly open to atmosphere this stops siphonage and allows the escape of water in the event of backflow.

Body Material | Brass
Internals | Plastic
O Rings | EPDM
Maximum Set Pressure | 10 bar
Maximum Temperature | 60˚C

Fig 256B Pipe Interrupter

The Fig 256B is classified as a DB type suitable for protecting up to fluid category 4. This device has a moving element which seals the ventilation gaps during normal flow conditions. When negative pressures occur on the inlet side which could cause siphonage, the membrane retracts seals the flow ports and simultaneously vents the outlet side of the pipe interrupter.

Body Material | Brass
Internals | Plastic
O Rings | EPDM
Maximum Set Pressure | 10 bar
Maximum Temperature | 60˚C

Fusible Plugs

Fig 5 and Fig 8 Fusible Plugs are used to protect internally fired steam boilers. If overheating occurs due to low water conditions, the plugs are designed to operate and allow pressure to reduce, thereby preventing collapse of the boiler.

Fig 8 Fusible Plugs For Steam

Body Material | Gunmetal
Maximum Pressure | 24 bar

Fig 5 Fusible Plugs For Steam

Body Material | Gunmetal
Maximum Pressure | 24 bar

Fig 17H Fusible plugs are used to protect compressed air systems from the risk of an explosion occuring due to ignition of oil vapour. Fig 22 Fusible Plugs are used to protect air receivers from the risk of an explosion occuring due to external fire. Both plugs are designed to operate when high temperatures occur, thereby reducing pressure and providing audible warning of dangerous conditions.

Fig 17H Fusible Plugs For Air

Body Material | Brass
Maximum Pressure | 20 bar

Fig 22 Fusible Plugs For Air

Body Material | Brass
Maximum Pressure | 20 bar

Higher Pressure versions available upon request.

Test Valves & Equipment

Fig 300 Test Pump

The Fig 300 is a portable, stirrup type, hydraulic test pump of brass construction. Its dual pressure range facility provides increased capacity per stroke at low pressures, with quick and easy changeover to the high pressure range.

Body Material | Brass
Low Pressure Range | 0 - 16 bar
High Pressure Range | 0 - 70 bar

Fig 362 Pressure Gauge Tester

The Fig 362 Pressure Gauge Tester is a compact portable unit, used for checking pressure gauges on site. The tester is comprised of a small handoperated air pump with fine adjustment facility. Suitable fittings are supplied to enable most gauges in common use to be tested throughout their range.

Fig 122 Test Pump

The Fig 122 is a hydraulic test pump of robust construction. A precision built pump in high pressure bronze, with steel lever, supplied with a screw base which can be fitted to the lid of the carrying case. Alternately, the pump can be fitted with atripod kit at extra cost.

Body Material | Gunmetal
Maximum Pressure | 700 bar

The Fig 55N is a robust gunmetal stop valve, with a stainless steel needle type valve and seat. A dust cap protects the test gauge connection, which is tapped 3/8" BSP. The boiler connector is threaded 1/2" BSP male. The Fig 174 is a flanged version of the Fig 55N. The Test Valves are used on steam boilers, to provide a means for attaching a test pressure gauge. This enables the calibration of the boiler gauge to be checked under working conditions. It also serves a useful purpose as an air vent, to facilitate draining and filling of the boiler.

Fig 55N Test Valve

Body Material | Gunmetal
Maximum Pressure | 17.5 bar
Maximum Temperature | 260˚C

Fig 174 Test Valve

Body Material | Gunmetal
Maximum Pressure | 17.5 bar
Maximum Temperature | 260˚C

Pressure Reducing Valves

The Fig 850 Pressure Reducing Valve is designed for general and commercial use, and is used where there is a requirement to lower the pressure of a fluid from one level to another. It also maintains the reduced pressure at a constant value, irrespective of fluctuations in the inlet pressure or changes in the flow demand.

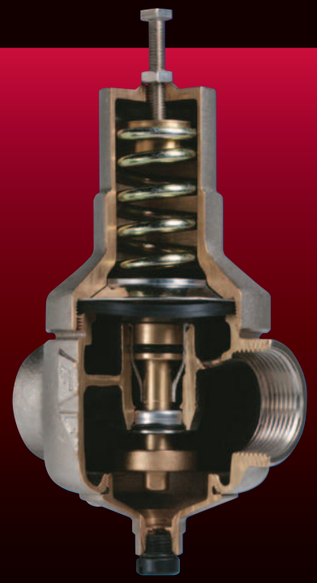


Fig 850 Pressure Reducing Valve

Body Material | Brass Nickel Plated
Maximum Inlet Pressure | 25 bar
Maximum Outlet Pressure | 7 bar
Minimum Outlet Pressure | 0.5 bar
Minimum Working Temperature | 85˚C

The Fig 345 complies with BS5235 and has a range of 20˚C to 120˚C. It has a 100mm diameter dial and an immersion depth of 100mm. Supplied complete with pocket, which is screwed 1/2" BSP. We are happy to provide other temperature gauges and connections on request.

The Fig 210 is manufactured to BS1780 and has a 100mm diameter dial, 3/8" BSP bottom connection and full size Bourdon tube.

Also available straight from stock are the Fig 219 DN10 Scroll Syphon Kit and the Fig 215 DN10 Pressure Gauge Cock.

Fig 210 Altitude Gauge

Fig 345 Vapour Pressure Thermometer

Size Availability Matrix

	Valve Size DN									
	10	15	20	25	32	40	50	65	80	100
Fig 500	•	•	•	•	•	•	•	•		
Fig 500L	•	•	•	•	•	•	•	•		
Fig 500 FLG			•	•	•	•	•	•		
Fig 500SS		•	•	•	•	•	•	•		
Fig 500FN		•	•	•						
Fig 500FF		•	•	•						
Fig 500AA		•	•	•						
Fig 500AS		•	•	•						
Fig 500DF		•	•	•						
Fig 500T*		•	•	•	•	•	•			
Fig 520								•	•	•
Fig 542		•	•	•	•	•	•	•	•	
Fig 542 FLG					•	•	•	•	•	
Fig 542L		•	•	•	•	•	•	•	•	
Fig 542L FLG					•	•	•	•	•	
Fig 800		•	•	•						
Fig 175			•	•	•	•	•	•		
Fig 503			•	•	•	•	•	•		
Fig 568		•	•	•	•	•	•			
Fig 850		•	•	•	•	•	•	•	•	•
Fig 100		•								
Fig 55N		•								
Fig 255		•	•	•	•	•	•	•		
Fig 256A	•	•	•	•						
Fig 256B	•	•	•							

Quality Guarantee

Constructed from high performance materials, NABIC products are produced using the latest technology and manufacturing techniques within a quality system to ISO 9001. Inspection of components throughout all stages of manufacture and individual testing of completed products prior to despatch ensures quality and reliablility is maintained.

Designed to relevant standards the majority of NABIC products are third party certified and UK WFBS listed.

Safety Valve Information*

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 Regulations Advisory Scheme (WRAS).

Quality

NABIC operate a Quality Assurance system to ISO 9001, which ensures that the quality of production is continuously monitored. All safety valves are set, tested, stamped and sealed, prior to despatch.

Certification

Pressure Test Certificate and Letters of Conformity for individual valves, can be supplied when requested.

Valve Selection

Type To ensure satisfactory operation, it is important that the correct type of safety valve is chosen for a particular application. The following table provides guidance to assist the correct selection of NABIC safety valves:

Fluid	Application	Valve
Hot water	Vented system	Fig 542 Fig 500
	Unvented heating system	Fig 500 Fig 542
	Unvented supply system	Fig 500T
Cold water	Pump relief, pipeline & vessel protection	Fig 542L Fig 500L
Steam	Boiler, pipeline & vessel protection	Fig 500 Fig 542
Air	Compresser, pipeline & receiver protection	Fig 500 Fig 542
Acids etc	Process systems	Fig 500FN
Clean steam	Sterilisers	Fig 500AA

Size Having chosen a suitable valve from the above table, the size required can be selected from the tabulated capacities given in the individual product leaflet. Where more than one type of valve is suitable, size selection will indicate the most economical one to use.

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

NB. The set pressure of a safety valve must not exceed the design pressure of the vessel or system being protected.

Installation

General Before installation, all inlet pipework should be thoroughly cleaned and blown through to remove any particles of foreign matter. Care should be taken to avoid excessive use of PTFE tape or sealing compound. Inlet and outlet pipework should be of sufficient strength to withstand the reaction forces created when the safety valve discharges. It should be installed in such a way that no undue stress or vibration is transmitted to the valve.

Valve Protective caps should not be removed from the safety valve until prior to installation. The valve should be mounted vertically with the test level uppermost.

Inlet The safety valve inlet connection, as indicated by the body arrow marking, should be attached to the vessel or pipeline using the shortest possible length of pipe, with **no** intervening stop valve. Inlet pipework must have a cross-sectional area at least equal to that of the safety valve inlet. Where the inlet pipework is flanged, it must be flat and fitted with a full face joint. For temperature relief valves, special care should be taken to check that no fouling of the thermal element, or restriction of flow, occurs when the valve is installed. It is also important to ensure that the temperature sensing element is immersed within the top 150mm of the heater when installed.

Outlet Discharge pipework should be as short as possible, with a cross-sectional area at least equal to that of the safety valve outlet. It should be adequately supported and directed to a safe, visible point of discharge. There must be no flow restriction or isolating valve fitted to discharge pipework. For liquid relief applications, discharge pipework should be installed with a continuous downward gradient to assist drainage. Where discharge pipework is directed upwards, an open drain must be provided at its lowest point. Some large size valves have a body tapping for the purpose.

Testing

Manual The mechanical operation of Nabic safety valves should be checked at three monthly intervals by manually operating the test lever. To avoid unnecessary strain on the easing gear, the valve should be under a pressure of no less than 75% of it's set pressure. Safety precautions should be taken to protect personnel whilst testing is being carried out. Where arduous conditions of service exist, more frequent testing may be required. It is the responsibility of the user to establish the frequency of manual testing.

Pressure The set pressure of Nabic safety valves should be checked every twelve months.This can be carried out with the valve in situ or by removal to a pressure test facility. Before removing the valve, steps should be taken to ensure that the system has been de-pressured.

Temperature The opening temperature of combined pressure & temperature relief valves should be checked every twelve months. This can be carried out in situ or by removal to a temperature test facility. The same safety precautions apply for pressure testing.

Accumulation In addition to the above tests, full functional pressure accumulation tests under emergency conditions, may be requested by the inspection authority certifying the safety of the plant. These tests should only be carried out under the supervision of qualified personnel.

General If a safety valve malfunctions during any of the above tests, it should be returned to ourselves for repair. The system should be maintained by the immediate fitting of an identical replacement valve, or by rendering the plant inoperable.

Maintenance

The internal condition of a safety valve should be periodically examined to ensure that there is no build-up of deposits likely to cause malfunctioning of the valve or restriction of the valve ports. This should be carried out every twelve months, when the set pressure of the valve is checked. More frequent examination may be required where arduous service conditions exist. Most Nabic safety valves have been designed to permit internal examination and cleaning without alteration to set pressure or removal of the valve from the line. It is the responsibility of the user to establish the frequency of internal inspection.

Alteration to set pressure and replacement of component parts requires special purpose tools. Where this is necessary, the valve should be returned for repair and re-calibration.

Ordering information

1. Valve size
2. Fig No
3. Set pressure

If further assistance is required, our technical staff will be pleased to help. All Nabic safety valves are set, tested, stamped and sealed, prior to despatch. We will not be responsible for the subsequent performance of the valve, if the lead seal is broken.

***The above information is for guidance purposes only. We reserve the right to make amendments without prior notification.**