

Safety Relief Valves



Compressed Air & Gas

Technical gases and CO₂ plants Chemical equipment and piping

Pressure vessels/receivers and piping systems containing air or gases

Medical gases



Steam

Multi-purpose plants
Steam boilers and plants



Cryogenic Pressure vessels/receivers

Cryogenics including oxygen and special gases Medical gas equipment Cryogenic compressor applications

Container lorries and cryogenic trailers

Industrial freezing





Liquefied Gas

Gas testing systems Pressure vessels/receivers Pressure equipment and piping Fire fighting equipment LPG/LNG terminals, carriers etc.





Refrigeration





Liquid

Thermal relief
Waste water management

Fire fighting equipment
Water cooling and feeding systems



Auxiliary Valves



Testing Equipment

Seetru Quicktester



The Seetru range of safety valves for compressed air and gas are compact, highly efficient and incorporate the exclusive Tutchtite® seal technology for repeatable bubble-tight sealing performance: designed for applications including; air/gas compressors, specialist gas plants, chemical equipment and piping, pressure vessels, thermal relief and medical gases etc.

These valves are manufactured in bronze, brass or stainless steel and offer a wide range of connections, for applications up to 250 °C. Manufactured in accordance with a wide range of international standards and approvals such as TÜV (Germany) to AD Merkblatt A2, National Board UV Stamp to ASME Section VIII Division 1, GOST/RTN and compliant with the requirements of the Pressure Equipment Directive 97/23/EC (CE marked).

These valves are available with a wide range of sealing materials and technologies as well as a comprehensive range of manual relieving devices to suit application requirements.

GA 550, 312, 311 (High Pressure) From To Connections 3/4" **BSP & NPT** 1/4" 20.60 448.20 bar. Pressure range 298.70 psi. 6498.90 Brass construction with elastomer sealing. Models can be fitted with stainless steel inlet adaptors or inlet seats and downward deflecting shrouds. Inlet Seat Body DN (Bore Size - mm) ST-STEEL

| GA 740, 848 | | | | |
|--------------------|---------------------|---------------------|--------------|-------|
| | | From | То | |
| Connections | BSP & NPT | 1/4" | 1/2" | |
| Pressure range | bar. psi. | 0.27 3.91 | 21 304.50 | |
| Stainless steel co | nstruction with ela | astomer sealing. | | 0.0.0 |
| Inlet | | DN (Bore Size - mm) | | |

| GA 818, 730, 6 | 516, 106, 311 | From | To |
|--|---|--|-------|
| 0 | DOD 6 NDT | From | To |
| Connections | BSP & NPT | 1/4" | 21/2" |
| Pressure range | bar. | 0.27 | 55 |
| r ressure runge | psi. | 3.91 | 798 |
| Most models can inlet seats and do The GA106 is suit | n with elastomer so be fitted with stain wnward deflecting able for powder ar ium version is also | less steel inlet shrouds. nd particle lade | • |
| Inlet Seat | Body | DN (Bore Size | - mm) |
| | | | |











Not all models are approved to all standards, full details upon request

P







GP 359

| | | From | То |
|----------------|--------------|--------------|-------------|
| Connections | BSP & NPT | 3/8" X 1/2" | ½" x ½" |
| Pressure range | bar. psi. | 35 507.50 | 500 7250 |

Stainless steel construction with a stainless steel ball seal.

Inlet Seat

Body

DN (Bore Size - mm)

4.6



GP 646 (Clean Gas Service)

| | | From | То |
|----------------|------------------------|--------------|-----------------|
| Connections | Tri-clamp [®] | ½" X ¾" | 1" x 1" |
| Pressure range | bar. psi. | 0.48 6.98 | 55.20 800.40 |

Manufactured in stainless steel with a range of fine surface finishes for protection of installations in which clean service is required only on the inlet. Supplied with FDA compliant elastomer sealing with Tri-clamp® inlet and threaded outlet.

Inlet Seat

Body

DN (Bore Size - mm)





GP 936, 946

| | | From | То |
|----------------|--------------|-----------------|-----------|
| Connections | BSP & NPT | ½" x 1 " | 2" x 2" |
| Pressure range | bar. psi. | 0.30 4.35 | 28 406 |

Available in brass, bronze or stainless steel with brass or stainless steel wetted parts, all supplied with metal-to-metal sealing.

Inlet Seat

Body

DN (Bore Size - mm)

10 • 15 • 20 • 25



GP 331, 329, 636, 646, 656

| | | From | То |
|----------------|--------------|--------------|-------------|
| Connections | BSP & NPT | 1/4" x 3/8" | 1½" x 2" |
| Pressure range | bar. psi. | 0.30 4.35 | 370 5365 |

Available in brass, bronze with brass wetted parts, bronze with stainless steel wetted parts or stainless steel. These valves are supplied with elastomer sealing.

Inlet Seat

BRASS ST-STEEL

BRASS / ST-STEEL

DN (Bore Size - mm)

3 • 6 • 10 • 13 • 18 • 20 • 25



The Seetru 'SA' & 'SP' Range

The Seetru range of safety valves for steam applications are compact and highly efficient, designed with the exclusive Tutchtite® sealing technology offering repeatable bubble-tight sealing performance. Typical uses of these valves include autoclaves, pharmaceutical industry, vending machines, hot water boilers, steam boilers and plants as well as clean steam applications. Suitable for use up to 250 °C and minimum dryness factor of 0.97.

Manufactured in accordance with a wide range of international standards and approvals such as TÜV (Germany) to AD Merkblatt A2, National Board UV Stamp to ASME Section VIII Division 1, GOST/RTN and compliant with the requirements of the Pressure Equipment Directive 97/23/EC (CE marked).

These valves are available with a wide range of sealing materials and technologies as well as a comprehensive range of manual relieving devices to suit application requirements.

SA 319, 750 From To 1/4" 3/8" Connections **BSP & NPT** 0.27 5 bar. Pressure range psi. 3.91 72.50 Manufactured in brass. Supplied with a pull ring easing gear as standard. These valves are fitted with silicone or EPDM elastomer sealing. Inlet Seat Body DN (Bore Size - mm)

| SP 636, 646, 656 (Low Pressure) | | | | | | |
|---|--------------|--------------|---------------|--|--|--|
| | | From | То | | | |
| Connections | BSP & NPT | 3/8" X 3/4" | 1½" x 2" | | | |
| Pressure range | bar. psi. | 0.32 4.64 | 12 174 | | | |
| Available in bronze with brass wetted parts, bronze with stainless steel wetted parts or stainless steel, in all cases these valves are supplied with elastomer sealing including; silicone, EPDM and perfluoroelastomer. | | | | | | |
| Inlet Seat | Body | DN (Bo | re Size - mm) | | | |

10 • 13 • 18 • 20 • 25



| SP 936, 946 | | | |
|--|--------------|--------------|---------------|
| | | From | То |
| Connections | BSP & NPT | ½" x 1" | 2" x 2" |
| Pressure range | bar. psi. | 0.30 4.35 | 28 406 |
| Available in brass, stainless steel wet sealing. | | | |
| Inlet Seat | Body | DN (Bo | re Size - mm) |



Not all models are

full details upon request

SP 646 (Clean Steam Service)

| | | From | То |
|----------------|------------------------|--------------|-----------|
| Connections | Tri-clamp [®] | ½" X ¾" | 1" x 1" |
| Pressure range | bar. psi. | 0.32 4.64 | 12 174 |

Manufactured in stainless steel with a range of fine surface finishes for protection of installations in which clean service is required only on the inlet. Supplied with FDA compliant elastomer sealing with Tri-clamp® inlet and threaded outlet.

Inlet Seat

Body

DN (Bore Size - mm)

10 • 13









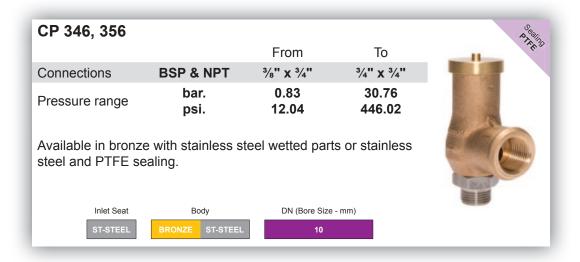


The Seetru 'CP' Range

The Seetru range of safety valves for cryogenic applications are built using Seetru sealing technology, suitable for temperatures down to -196 °C and available with PTFE or metal-to-metal sealing.

These valves are used on pressure vessels, cryogenic plants including oxygen and special gases, cryogenic compressor applications, container lorry/cryogenic trailers, and industrial freezing.

Manufactured in accordance with a wide range of international standards and approvals such as TÜV (Germany) to AD Merkblatt A2, National Board UV Stamp to ASME Section VIII Division 1, GOST/RTN and compliant with the requirements of the Pressure Equipment Directive 97/23/EC (CE marked).



| CP 936, 946 | | | |
|--|--------------|-----------------|----------------|
| | | From | То |
| Connections | BSP & NPT | ½" x 1 " | 1" x 2" |
| Pressure range | bar. psi. | 0.30 4.35 | 28 406 |
| Available in brass, stainless steel wet sealing. | | | |
| Inlet Seat | Body | DN (Bo | ore Size - mm) |
| | | | |



Not all models are approved to all standards

full details upon request



The Seetru 'QP' Range

The Seetru range of safety valves for liquefied gas applications are manufactured to meet demanding applications which include; liquefied gas storage, gas testing systems, pressure vessels, pressure equipment and piping, fire fighting equipment and specialist compressor manufacture. With pressures up to 370 bar., this range of safety valves is supplied with unique PTFE or PPS sealing. Suitable for temperatures in the range -196 $^{\circ}$ C to +70 $^{\circ}$ C.

These valves are GOST/RTN approved and comply with the requirements of the Pressure Equipment Directive 97/23/EC (CE Marked).

| QP 329 | | From | То | |
|--|-----------------------|---------------|----------------|--|
| Connections | BSP & NPT | 3/8" X 3/4" | 3/4" X 3/4" | |
| Pressure range | bar. psi. | 53 768.50 | 370 5365 | |
| Available in bronze steel and supplied | | • | s or stainless | |
| Inlet Seat | Body BRONZE ST-STEEL | DN (Bore Size | e - mm) | |



The Seetru 'RA' & 'RP' Range

The Seetru range of safety valves for refrigeration applications are designed to meet the needs of the refrigeration industry, offering safety valve technology for compressor manufacturers, industrial refrigeration, commercial refrigeration, ice making systems and air conditioning. The valves are compact and designed with bonded sealing technology and the highest possible sealing performance to comply with most stringent environmental standards. Each valve is leak tested to better than 10-5 mbar litres/sec on Helium. This is equivalent to a leakage rate of less than 10z in ten years. Suitable for operating temperature in the range -30 °C to +200 °C.

Manufactured in accordance with a wide range of international standards and approvals such as TÜV (Germany) to AD Merkblatt A2, National Board UV Stamp to ASME Section VIII Division 1, GOST/RTN and compliant with the requirements of the Pressure Equipment Directive 97/23/EC (CE marked).

| RA 818 | | | | Carno Cedino |
|-------------------|--------------------|-----------------|--------------|--------------|
| | | From | То | Oclaston |
| Connections | BSP & NPT | 1/4" | 3/8" | - |
| Pressure range | bar. psi. | 7 101.50 | 36 522 | |
| Brass constructio | n with bonded peri | fluoroelastomei | r sealing. | |
| Inlet Seat | Body | DN (Bor | e Size - mm) | |
| BRASS | BRASS | | 6 | |

| RP 319 | | | | A Partion of the Section of the Sect |
|----------------------|----------------|-----------------|--------------|--|
| | | From | То | |
| Connections | NPT Flare | 3/8" 1/2" | 1/2" 5/8" | |
| Pressure range | bar. psi. | 13.50 195.75 | 50 725 | |
| Brass construction w | ith bonded per | fluoroelastomer | sealing. | |
| | | | | |
| Inlet Seat | Body | DN (Bore | e Size - mm) | |
| BRASS | BRASS | | 10 | |



full details upon request

The Seetru 'LP' Range

The Seetru range of safety valves for liquid applications has been designed to be compact and highly efficient. The bubble-tight sealing performance makes these valves suitable for many liquid applications including; hydraulic systems, pumping systems, thermal relief, chemical storage, waste water management, oil transfer, petrochemical industry, fire fighting equipment and water cooling systems. Suitable for temperatures up to 250 °C.

The valves are GOST/RTN approved and comply with the requirements of Pressure Equipment Directive 97/2/EC (CE Marked). This range of valves has the option of either elastomer sealing or metal-to-metal sealing.

LP 680 (Clean Service)

| | | From | То |
|----------------|------------------------|---------------|-----------|
| Connections | Tri-clamp [®] | ½" X ¾" | 1" x 1" |
| Pressure range | bar. psi. | 0.70 10.50 | 30 435 |

Manufactured in stainless steel with a range of fine surface finishes for protection of installations in which clean service is required only on the inlet. Supplied with FDA compliant elastomer sealing with Tri-clamp® inlet and threaded outlet.

Inlet Seat

Body

DN (Bore Size - mm)



LP 970, 980

| | | From | То |
|----------------|--------------|-----------------|-----------|
| Connections | BSP & NPT | ½" x 1 " | 1" x 2" |
| Pressure range | bar. psi. | 0.30 4.35 | 36 522 |

Available in brass, bronze or stainless steel with brass or stainless steel wetted parts, all supplied with metal-to-metal sealing.

LP 670, 680, 690

DN (Bore Size - mm)









From To 3/8" X 3/4" 1½" x 2" Connections **BSP & NPT** 0.70 30 bar. Pressure range 10.15 435 psi. Available in bronze with brass or stainless steel wetted parts or stainless steel. These valves are available with a wide range of elastomer sealing. Inlet Seat Body DN (Bore Size - mm)

The Seetru 'MPCV' & 'COV' Range

The Seetru range of Auxiliary valves consist from minimum check valves ideal for the compressor industry to change over valves that are widely used in the refrigeration industry to help prevent the plant shutdown.

MPCV 419 (Minimum Pressure Check Valve)

From

To

| Connections | BSP & NPT | R1 1/4" x G1 1/4" | 3" x 3" Flanged |
|----------------|-----------|-------------------|--------------------|
| Pressure range | bar. | 2.28 | 13.8 |
| | psi. | 33 | 200.15 |

Minimum pressure check valve are spring loaded pressure control valves with an in-built check (non-return) valve that maintains pressure required for the lubrication of oil-injected rotary compressors. Installed directly downstream from the air-oil separator, the MPCV provides two functions:

At start-up, the valve stays closed up to a preset level and then opens to maintain a minimum pressure in the air-oil separator. This assures pressure for lubricating the compressor, reduces oil foaming and protects the air-oil separator element.

At shut-down, the check valve closes to prevent back flow through the compressor.

Seal Material

VITON

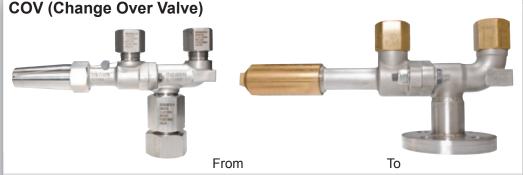
CAST IRON

ALUMINIUM

Body







Connections BSP & NPT 1/2" x 1/2" 1" x (15/8" x 12 UN)

Pressure range bar. 55.2 65
psi. 800.61 942.75

This valve is used if a plant shutdown is impossible or undesirable for process engineering or commercial reasons. With change-over valves it is possible to switch over between parallel safety valves without interrupting operation so that maintenance work can be carried out.

This product is usually used in the refrigeration industry, however can be used elsewhere. With change-over valves it is possible to switch over between parallel safety valves without interrupting operation so that maintenance work can be carried out.

Internal Material

ZINC PLATED

Body ST-STE



The Seetru Air Start Valve (GS56)

The Seetru GS56 is a high quality control valve designed to handle a two-stage operation for air starting of engines. Air starting is typically used for diesel engines. The GS56 is bolted onto the air receiver vessel and integrates all the necessary functions and connections into one highly effective unit. It controls charging of the pressure vessel with the air for starting and it controls the flow of the air to the engine to start the engine. Incoming air and outgoing air are kept separate to comply with regulations. The unit configuration is designed so that any oil or water in the air supply collects in the receiver, thus maximising the cleanliness of the air which flows to the engine.

Seetru Air Start Valve (GS56)



GS56 Specification

| Air inlet and outlet connection | DIN or BS flange sizes or adapted to pipe fittings |
|---------------------------------|--|
| Receiver connection | DIN or BS flange sizes |
| Materials of construction | Cast body in SG iron, brass and stainless steel internal parts. Other body materials, e.g. gunmetal or aluminium bronze available on request |
| Seal Material | Nitrile |
| Pressure Range | Up to 600 psi |
| Temperature Range | Up to 110°C |

Economical in price and maintenance

Seetru is able to apply the latest large scale manufacturing technologies to ensure economic first costs. Economy in use is ensured by the ease of installation and simple maintenance procedure.

Safety valve connection

A threaded connection is provided on the manifold unit for a safety valve to protect the air receiver. Safety valves can be supplied as optional extras, contact Seetru for information on our range of safety valves. (An enclosed discharge valve may be preferred where equipment is protected by a fire control system.)

Shut-Off valve connection for pressure gauge

A connection with shut-off valve is provided on the manifold unit for a pressure gauge, which can be fitted to monitor the pressure in the air receiver. Pressure gauges can be supplied as optional extras, contact Seetru for information on pressure gauges.

Integrated inspectors test point

A connection is provided for connection of an inspectors pressure test gauge.

Fusible plug thermal protection

The GS56 has the facility for a fusible thermal plug to protect the air receiver from over-pressure due to heat (e.g. In the case of fire). The plug fuses at a defined temperature and releases the pressurized air in the receiver. Plugs are supplied as optional extras.

Siphon drain valve

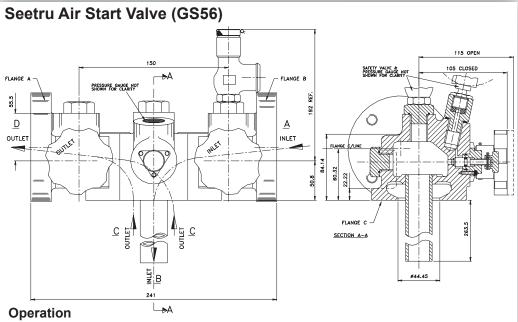
An optional siphon drain valve can be supplied with the GS56. This valve is connected to a long tube, which reaches low into the receiver vessel; when opened, the pressure in the vessel forces any oil or water out through the tube.

Widely accepted worldwide approvals

Accepted by Lloyds for marine applications. Testing can be witnessed by marine approval authorities prior to despatch and certification provided at extra cost. Compliant with the requirements of the European Pressure Equipment Directive (PED) 97/23/EC and CE Marked.

The Seetru Air Start Valve (GS56)

The Seetru GS56 manifold system is a single high quality spheroidal graphite cast iron unit, which brings together all the necessary elements into an single, effective, high quality manifold and control unit. The unique double-lipped D-ring Tutchtite sealing system is used to provide highly effective bubble tight valve sealing with only finger tight operation of the valves. The airflow path is configured so that any oil or water in the air supply is fed to the bottom of the air receiver through a down pipe from the GS56 into the vessel. The cleaner air is then taken from the top of the vessel to start the engine, therefore maximising the cleanliness of the starting air. Oil and water can be siphoned out of the vessel using the drain valve.



The valve unit controls a two-stage operation.

- 1. The flow of air from the main air supply to an air receiver
- 2. The flow of air from the air receiver to the engine

For stage 1

- 1. The "Outlet" valve is closed
- 2. The "Inlet" valve is opened
- 3. Air enters the valve through port \underline{A} and exits though port \underline{B} into a down pipe in the air receiver, so that any oil or water collects at the bottom of the receiver vessel.
- 4. The pressure levels in the air receiver can be monitored on the pressure gauge.
- 5. Once the air receiver reaches the required pressure the "Inlet" valve is closed

For stage 2

- 1. The "Outlet" valve is opened
- 2. Clean air from the top of the air receiver immediately flows from port \underline{C} to port \underline{D} and to the engine in order to turn over the engine and start it.
- 3. The pressure levels in the air receiver can be monitored on the pressure gauge.
- 4. Once the engine has started the "Outlet" valve is closed.

FLANGE SIZES TO BS10 11/4" TABLE 'R'

Flange Diameter: 133 (51/4") PCD of 4 Holes: 98 (3.875")

Holes Size: Flange A & B 5/8" – 11 UNC–2B Flange C Ø 18 (23/32")

EN1092-2:1997/DN32/PN40* *SUPERSEDES BS4504-PN40-DN32

Flange Diameter: 133 (51/4")
PCD of 4 Holes: 100 (315/16")

Holes Size: Flange A & B M16 Flange C Ø 18

8

The Seetru Quicktester

This compact, light weight and portable design is very robust and able to meet the demands of a busy maintenance workshop or mobile operation. The Quicktester can be used on plant generated air supplies or on mobile bottled gas. This test bench is supplied with a range of adaptors allowing connection between 1/4" to 1" bsp as standard, additional adaptors are available increasing the connection sizes up to 2" bsp. The Quicktester is also available with npt connection adaptors on request.



Features & Benefits

- Simplified valve testing, for compliance with pressure systems safety & equipment regulations
- Highly portable, compact design (subject to suitable compressed air supply)
- · Enables rapid valve testing in complete safety
- · Suitable for use on wide range of valves
- · Accurate, unambiguous pressure readout
- Standard Quicktester operates up to 55 bar/ 797.71 psi
- Very low consumption of supply medium
- · Bench top or carry case version available
- · Easy to use and maintain
- · Manufactured to quality system, compliant with ISO9001
- · Supplied with comprehensive instructions
- · Pressure gauges supplied as optional extras
- · Supplied with a range of thread size adaptors



Seetru Limited are internationally renowned manufacturers of pressure relief valves and liquid level gauges for a variety of industries, from compressors to ship building and power stations.

Founded in 1949 with the aim of producing the finest liquid level gauges so that customers could see the true level even under the most severe conditions.

This philosophy of making the finest through innovation continued with the inception 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 and for high pressures.

Today, Seetru strives to produce the very best safety relief valves that can be made at a price that our customers can easily afford. Seetru valves are, for instance, used very widely in the compressor industry for their quality, low cost, low life cycle cost, durability and pressure tightness.

We haven't stopped there either, with a continual development policy we look at opportunities where we can add our distinct inventiveness to other areas and expand our business, so we now operate four additional business units:-

Seetru Engineering Services (SES) - A complete problem solving service for pressure relief valve inventories and engineering maintenance services, backed by all the resources and expertise of Seetru. SES provides on-site and off-site calibration, test, overhaul and maintenance services including site surveys and inventory management as well as maintenance planning and management. Seetru Tru-test® technology provides state-of-the-art in-situ safety valve testing and calibration capabilities. The patented Seetru



Condition Rating® technology provides for in-situ safety valve health monitoring and Risk Based Inspection management of safety valves as well as calibration.



Blupax – is a web based source and supply business offering a single source supply service for a wide range of engineering BLUPAX products; from safety valves to actuated ball valves, pneumatic tools and compressors to hydraulic oil pumps. Blupax can supply products normally with 7/10 days or next day for items held in stock; it is also able to add new products to meet customer's

requirements, and will source products and make them available for online purchase.

Leser UK – Europe's largest manufacturer of safety valves, the Leser range of safety valves goes up to 16" (400mm) and includes all styles and types of safety valve, designed and manufactured to all the leading international standards



including; DIN, ASME and API526. Leser valves carry comprehensive worldwide approvals and can be manufactured in a comprehensive range of standard and special materials as well as to special design criteria. The standard ranges of valves are available on very short lead times, often ex-stock.

Blupax Training – Blupax Training provides a comprehensive range of training courses, from all aspects of safety valve technology to courses UPAX-TRAINING about safety and the environment, mechanical skills, mobile lifting equipment and management training skills. The courses are modular and adaptable and can be developed to incorporate customer specific

requirements. Safety valve training course modules range from principles of safety valve design, sizing and selection to practice of in-situ safety valve testing, safety valve test and maintenance as well as best engineering practice for the management of safety valve inventories.

Other Products & Services from Seetru Limited









The contents of this leaflet do not constitute an offer. SEETRU LIMITED reserve the right while maintaining the essential characteristics of the equipment and services described and illustrated to amend specification without notice.

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