





## Celebrating Over 60 Years Of Quality, Innovation & Service

## Seetru Limited



## The Company

Seetru Limited was founded in 1949 with the aim of producing the finest liquid level gauges so customers could see the true level even under the most severe conditions.

This philosophy of making the finest through innovation continued with the introduction 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 have an extensive range of pressure relief valves and liquid level gauges which carry a wide range of international approvals and are supplied worldwide.



## The Products

Seetru are manufacturers of safety relief and other special purpose ancillary valves for a wide range of compressed air, industrial gas, refrigerants, powder, steam, liquid and liquefied gas applications.

These valves meet important international standards which include: BS 6759 Parts 2 & 3, AD-Merkblatt A2, ISO 4126 and ASME Section VIII design codes as well as type test approvals from TÜV and the National Board. The products comply with the requirements of the European Pressure Equipment Directive 97/23/EC (PED) and are available with both the CE mark as well as the UV stamp, and have wide international approvals such as the Russian GOST and RTN and the Canadian CRN.

Seetru also has a wide range of special purpose valves, which are largely for the compressed air industry and for medium sized industrial diesel engines. These include minimum pressure valves for screw type compressors and air starting valves for medium size industrial and marine diesel engines.

Seetru liquid level gauges are primarily of two types, sight gauges and magnetic float by-pass gauges. Many of the gauges are direct reading though most have optional electronic remote reading systems and computer interfaces. The range includes the Quickmount, Seemag and CPI gauges for industrial and chemical applications and the Seeflex for marine applications.

The company's substantial design and development department, which includes TÜV approved testing facilities, enables it to provide extensive bespoke design, advisory and manufacturing services to develop or adapt individual products for new applications.

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# Ship Building & Offshore **G35** Seemag



## The Seetru 'G35' Seemag® Magnetic Gauge

The Seetru Seemag® tank content indicator or gauge is a high quality yet economical magnetic level indicator. Its unique design offers considerable advantages over conventional magnetic gauges including accurate step-less reading with all round visibility and the option of high/low level alarms with remote digital reading.

The Seemag gauge meets the requirements of SOLAS (Safety Of Lives At Sea), and is also type approved by many worldwide shipping authorities including; Det Norske Veritas (DNV), RINA, Lloyds Register of Shipping, American Bureau of Shipping (ABS) and Germanischer Lloyds.

## G35 Seemag® specifications

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Maximum temperature	180 °C
Maximum pressure	16.5 bar
Valve materials	Stainless steel
Connections	Threaded connections, flanged connections or stub pipe for welding
Seal materials	PTFE
Guard tube material	Polycarbonate
Lengths	Minimum: 500 mm Maximum: 5000 mm
Valve types	Valveless (1/4 Turn ball isolation valves available)
Densities	0.6 to 2.0 SG.



## Magnetic bypass design

The gauge utilises a marker strip on a movable carriage fitted on the outside of a stainless steel tube, which by way of magnets moves up and down in unison with a float inside the tube. The marker strip is adjustable to suit the specific gravity of the liquid to be measured.

## Ease of installation and maintenance

The Seemag liquid level gauge can be provided with a variety of end fittings to customer requirement. These include stub pipe for welding, ball valves, and flanges. The gauge is fitted with blanking plugs at the top and bottom of the gauge column. These can be easily removed to allow cleaning of the gauge column.

## Tank calibration

A scale plate graduated in mm is incorporated into the Perspex front cover of the Seemag gauge. Other scale plates can be supplied graduated to customer requirement.

## **Tank connection**

Seemag gauges are closed circuit design and both the top and bottom of the gauge is fitted to the tank.

## Alarms and electronic/digital outputs

Options available include electronic high and low level alarm sensors, continuous electronic read out signals and displays as well as a digital data feed for direct computer interfaces and digital control systems.

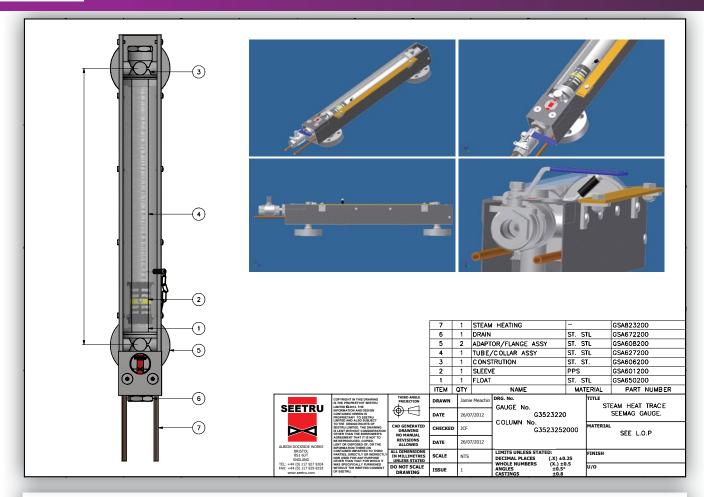
## Heating system for high viscosity liquids

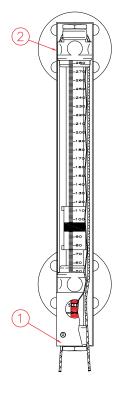
The Seemag gauge is available with an electrical, steam or thermal oil trace heating system. This heats the tube to allow the measurement of high viscosity fluids, such as heavy fuel oils on ships.





## **Steam Trace Heating** G35 Seemag





## PARTS LIST

1 8mm O/D COPPER TUBE 2 ENCLOSURE

STEAM HEATING
8mm 0/D COPPER TUBE IS ATTACHED TO THE REAR GUARD TUBE IN A CONTINUOUS LOOP, FROM BOTTOM OF THE INDICATOR.

THE ENCLOSURE IS THEN FITTED AROUND THE INDICATOR TO PROTECT THE COPPER TUBE. STEAM CAN BE FED THROUGH THE PIPE TO HEAT THE LIQUID IN THE BY-PASS TUBE.

EXAMPLE AMBIENT AIR TEMPERATURE STEAM PRESSURE 1.5 BAR STEAM PRESSURE 3 BAR

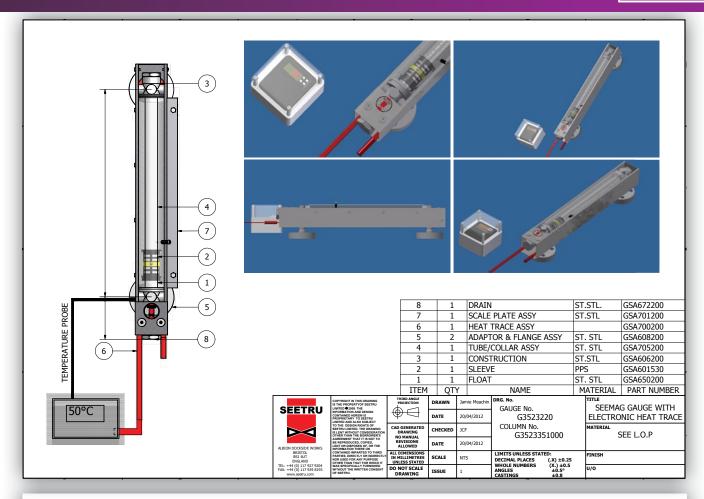
= 20°C = 68°C LIQUID TEMPERATURE = 85°C LIQUID TEMPERATURE

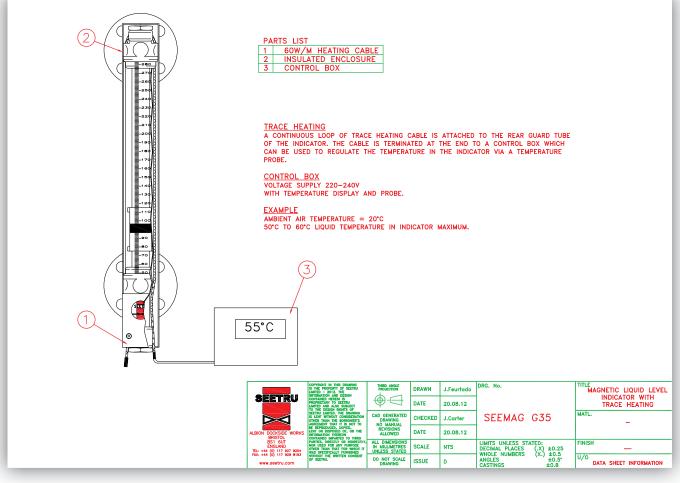
NOTE: MAXIMUM WORKING TEMPERATURE SHOULD NOT EXCEED 180°C.

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<u> </u>	W: +44 (0) 117 929 8193 www.seetru.com	WITHOUT THE WRITTEN CONSENT OF SEETRU.	DO NOT SCALE DRAWING	ISSUE	D	ANGLES ±0.5° CASTINGS ±0.8	U/O DATA SHEET INFORMATION

# Electric Trace Heating **G35** Seemag

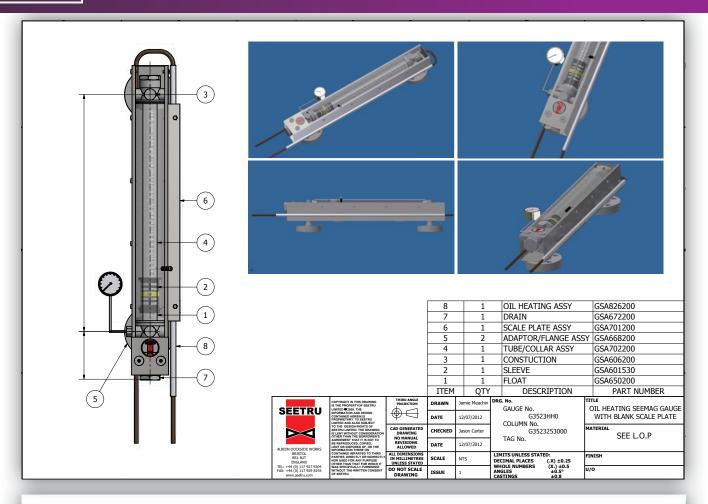


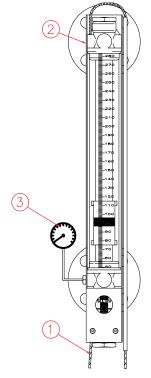






# Thermal Oil Trace Heating G35 Seemag





## PARTS LIST

1	6mm O/D COPPER TUBE	
2	INSULATED ENCLOSURE	
3	THERMOMETER	

GEM O/D COPPER TUBE IS ATTACHED TO THE REAR GUARD TUBE, FROM BOTTOM OF THE INDICATOR AND THEN EXITS THE INDICATOR AT THE TOP. IT THEN RUNS DOWN THE OUTSIDE OF THE INDICATOR IN ONE CONTINUOUS LOOP.

THE ENCLOSURE IS THEN FITTED AROUND THE INDICATOR TO PROTECT THE COPPER TUBE.

OIL CAN BE FED THROUGH THE PIPE TO HEAT THE LIQUID IN THE BY-PASS TUBE.

EXAMPLE
AMBIENT AIR TEMPERATURE = 20°C
50°C TO 70°C LIQUID TEMPERATURE IN INDICATOR WHEN SUPPLIED WITH 108°C OIL.

NOTE: MAXIMUM WORKING TEMPERATURE SHOULD NOT EXCEED 180°C.

	SEETRU SEETRU STEETRU SEETRU S	COPYRIGHT IN THIS DRAWING IS THE PROPERTY OF SEETRU LIMITED © 2012. THE INFORMATION AND DESIGN	THIRD ANGLE PROJECTION	DRAWN	J.Feurtado	DRG. No.	MAGNETIC LIQUID LEVEL
		CONTAINED HEREIN IS PROPRIETARY TO SEETRU LIMITED AND ALSO SUBJECT TO THE DESIGN RIGHTS OF		DATE	28.08.12		INDICATOR WITH OIL HEATING
		SEETRU LIMITED. THE DRAWING IS LENT WITHOUT CONSIDERATION OTHER THAN THE BORROWER'S AGREEMENT THAT IT IS NOT TO	ETRU LIMITED. THE DRAWING LENT WITHOUT CONSIDERATION HER THAN THE BORROWER'S DRAWING	CHECKED	J.Carter	SEEMAG G35	MATL.
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## Ship Building & Offshore **G21** Marine



## The Seetru 'G21' Marine Tubular Gauge

The Seetru Marine gauge is designed for use within the marine and offshore industries. Due to it's tubular design this gauge is suitable only for use with non-flammable liquids. For flammable liquid applications please see either Seeflex (G31) or Seemag gauges (G35).

This gauge is commonly used for the water storage and coolant tanks on board cargo ships, tugs and military vessels.

## **G21 Marine specifications**

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Maximum temperature	150 °C¹			
Maximum pressure	3.68 bar <sup>2</sup>			
Valve materials	Brass Stainless steel			
Connections	42 mm weld boss as standard Threaded and flanged connections available upon request			
Seal materials	Elastomer 'O' rings			
Tube material	Borosilicate glass BS 3463 or polycarbonate plastic			
Guard tube materials	Brass Aluminium Stainless steel Mild steel			
Lengths	To suit requirements (minimum 150 mm)			
Valve types	Push button self closing valves Valveless tank return available for top connection			



## **Push-button operation**

Except when a reading is being taken, the gauge is permanently isolated from the contents of the tank. To take a reading the spring loaded valve is opened by pressing a push-button. When released, the connection between the tank and gauge is automatically resealed.

### Safe from external damage

Due to the design of the push-button isolation valve, not amount of damage to the gauge or external fittings on the tanks can break the liquid seals. In such an event the fluid cannot escape.

## Instant dismantling and re-assembly

The gauge can be removed from the tank for cleaning or servicing while valves remain sealed and the tank remains leak-proof.

### Ease of viewing

The level of colourless liquid is indicated by magnification of a coloured strip on the sight tube.

### Graduation

Where a measure of the precise storage volume is required, graduated gauges can be supplied. The capacity units can either be marked on the guard tube or an engraved scale plate can be provided.

### Hydraulic actuation

Hydraulic actuation can be supplied as an optional extra. This is designed to enable both push-button valves to be operated at the same time. Recommend for tall gauges where it would otherwise be difficult to operate the upper and lower push-button valves simultaneously.



Maximum temperature is dependant of the sight tube and seal materials selected.
 Maximum allowable operating pressure is dependent upon operating temperature and sight tube material, contact Seetru for full information.



# Ship Building & Offshore **G31** Seeflex

## The Seetru 'G31' Seeflex Gauge

The Seetru Seeflex gauge is designed for use within the marine and offshore industries for tanks containing flammable liquids. The Seeflex gauge meets the requirements of SOLAS (Safety Of Lives At Sea), and is also type approved by many worldwide shipping authorities including; Det Norske Veritas (DNV), RINA, Lloyds Register of Shipping, Nippon Kaiji Kyokai and Bureau Veritas.

This gauge is commonly used for fuel oil, hydraulic oil and lubrication oil tanks of cargo shops and work boats.

## **G31 Seeflex specifications**

Maximum temperature	80 °C¹
Maximum pressure	2.67 bar¹
Valve material	Brass Stainless steel
Connections	42 mm weld boss mild steel and stainless steel Threaded and flanged available upon request
Seal materials	Elastomer 'O' rings
Glass	Toughened borosilicate reflex glass DIN 7080/7081
Column materials	Mild steel or stainless steel rust protected front bezel
Lengths	Maximum: 8900 mm
Valve types	Push button self closing valves

<sup>&</sup>lt;sup>1</sup> Maximum allowable operating pressure is dependent upon operating temperature, contact Seetru for full information

## **Push-button operation**

Except when a reading is being taken, the gauge is permanently isolated from the contents of the tank. To take a reading the spring loaded valve is opened by pressing a push-button. When released, the connection between the tank and gauge is automatically resealed

### Safe from external damage

Due to the design of the push-button isolation valve, not amount of damage to the gauge or external fittings on the tanks can break the liquid seals. In such an event the fluid cannot escape.

## Closed circuit design

The closed circuit design penetrates the tank wall at both top and bottom connections. The options for the top connection are either a push-button self closing valve or valveless tank return.

## Open circuit design

This is only allowable when it is possible for the gauge column to extend above the top of the tank by at least 100 mm. The upper end of the gauge can be supplied with an automatic safety vent valves or, alternatively, a pipe union connection. The automatic safety vent will allow air to pass, but will seal against a liquid level. In the case of the pipe union connection design, a 10 mm o/d steel vent pipe is returned to the tanks or into the tank vent pipe.

## Hydraulic actuation

Hydraulic actuation can be supplied as an optional extra. This is designed to enable both push-button valves to be operated at the same time. Recommend for tall gauges where it would otherwise be difficult to operate the upper and lower push-button valves simultaneously.

### Graduation

Where a measure of the precise storage volume is required, an engraved scale plate can be provided marked with the capacity units.













# Ship Building & Offshore **G22** Quickmount



## The Seetru 'G22' Quickmount Tubular Gauge

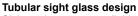
The Seetru Quickmount liquid level gauge is a direct reading, tubular design for general industrial use. The unique isolating valve and collar design, allows for maintenance of the gauge column without tools and the need to drain the tank. Available with automatic safety shut off valves and drain valve. The construction provides a modern gauge, which is aesthetically pleasing.

Suitable for a wide range of pressures and temperatures, the gauge is fitted with elastomer seals in materials to suit the required service. For flammable liquid applications please see either Seeflex (G31) or Seemag (G35)

## **G22 Quickmount specifications**

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Maximum temperature	150 °C¹
Maximum pressure	22 bar¹
Valve materials	Brass Stainless steel Polypropylene
Connections	BSP and NPT threaded connections ANSI / DIN flanges
Seal materials	Elastomer
Tube materials	Borosilicate glass BS 3463 Polycarbonate plastic
Guard tube materials	Anodised aluminium Brass Stainless steel Zinc plated mild steel
Lengths	To suit requirements (minimum 150 mm)
Valve types	Manual screw down, Manual screw down complete with automatic safety shut-off valves





Sight tubes are available in glass or polycarbonate. Metal protecting tubes are available in a variety of materials with optional supplementary transparent polycarbonate protecting tube.

## Ease of installation and maintenance

The Quickmount liquid level gauge can be installed without the use of special tools. Threaded end units are screwed into female tank bosses. The gauge collars slip over these units and are secured by hand tightening retaining nuts. 'O' ring sealing is used throughout. The isolating valves will allow column removal without need to drain the tank.

### Tank calibration

Where a measure of the precise storage volume is required, graduated gauges can be supplied. The capacity units can either be marked on the guard tube or an engraved scale plate can be provided.

## Tank connection

A closed circuit or open circuit pattern may be selected for the gauge.

### Closed circuit pattern

Direct connection from the top of the gauge to the tank can be made with a screw-down valve or a valveless unit.

## Open circuit pattern

The upper end of the liquid level gauge can be supplied with an automatic safety vent valve or, alternatively, a pipe union connection. The automatic safety vent valve will allow air to pass, but will seal against a liquid level. In the case of the pipe union connection design, a 10 mm o/d steel vent pipe is returned to the tank or into the tank vent pipe. Open circuit connection is only allowable when it is possible for the gauge column to extend above the top of the tank.

### **Electronic & Digital Readout**

Remote reading system and/or computer interface options provide a dual system with the advantages of both electronic and sight glass systems. Level alarms can also be implemented.







# Ship Building & Offshore **G20** Admiralty

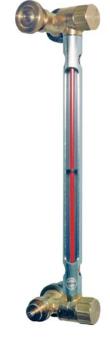
## The Seetru 'G20' Admiralty Gauge

The Seetru Admiralty liquid level gauge has been specifically designed to meet the stringent standards required by the Ministry of Defence for design, material selection and certification, including shock testing. With a tubular glass indicator the G20 utilises an ingenious flexible fixing system which enables multi-angle and directional mounting capabilities.

For flammable liquid applications please see either Seeflex (G31) or Seemag gauges (G35).

## **G20 Admiralty specifications**

Maximum temperature	150 °C¹
Maximum pressure	22 bar¹
Valve material	Bronze Stainless steel
Connections	42 mm weld boss
Seal materials	Elastomer
Tube materials	Borosilicate glass BS 3463 Polycarbonate plastic
Guard Tube materials	Anodised aluminium Brass Stainless steel Zinc plated mild steel
Lengths	To suit requirements (minimum 150 mm)
Valve types	Hand wheel isolation valves and/or push-button closing valves



## Push-button operation

Except when a reading is being taken, the gauge is permanently isolated from the contents of the tank. To take a reading the spring loaded valve is opened by pressing a push-button. When released, the connection between the tank and gauge is automatically resealed.

## Graduation

Where a measure of the precise storage volume is required, an engraved scale plate can be provided marked with the capacity units

## Electronic & digital readout

Remote reading system and/or computer interface options provide a dual system with the advantages of both electronic and sight glass systems. Level alarms can also be implemented (suitable for gauges fitted with screw down valves only).

### Hydraulic actuation

Hydraulic actuation can be supplied as an optional extra. This is designed to enable both push-button valves to be operated at the same time. Recommend for tall gauges where it would otherwise be difficult to operate the upper and lower push-button valves simultaneously.



<sup>&</sup>lt;sup>1</sup> Maximum allowable operating pressure is dependent upon operating temperature, contact Seetru for full information.

## Seetru Limited Safety Relief Valves





## **Safety Valve Industries:**

Seetru has a large range of Safety Valves suitable for many industries including:

- · Compressed Air & Gas
- Steam
- Cryogenic & Liquefied Gas
- Refrigeration
- Liquid

## **Seetru Safety Valve Approvals**











Seetru's range of Safety Valves meet important international standards which include: BS 6759 Parts 2 & 3, AD-Merkblatt A2, BS EN ISO 4126 and ASME Section VIII design codes as well as type test approvals from TÜV and the National Board. The products comply with the requirements of the European Pressure Equipment Directive and available with both the CE mark as well as the UV stamp and have wide international approvals such as the Russian GOST and RTN and the Canadian CRN.

## **Seetru Company Approvals & Memberships**







INVESTOR IN PEOPLE



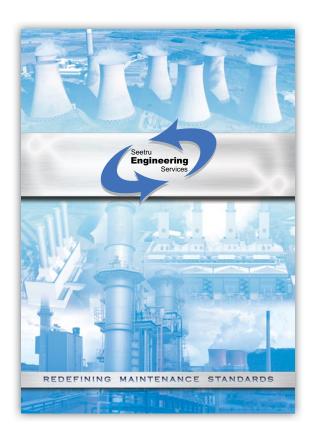


Seetru is dedicated to providing its customers and distributors with the highest quality service, this is demonstrated by our accreditations which include:

ISO 9001, Investor's In People, 1st Point Assessment, UDVB and together with membership of the British Valve & Actuator Association (BVAA).

## 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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