The Seetru '**G35**' Seemag® Magnetic Gauge

Suitable for Flammable liquids

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), Russia Maritime Register Of Shipping (RMRS) and Germanischer Lloyds.

G35 Seemag® specifications

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 (¼ 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 indicates the liquid level and is adjustable to suit the specific gravity of the liquid to be measured.

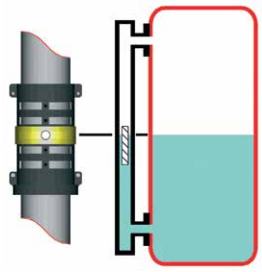
Ease of installation and maintenance
The Seemag liquid level gauge can be provided with a variety of end fittings to customer requirement. These include stub pipe for welding, ball valves, and flanges. The gauge is fitted with blanking plugs at the top and bottom of the gauge column. These can be easily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

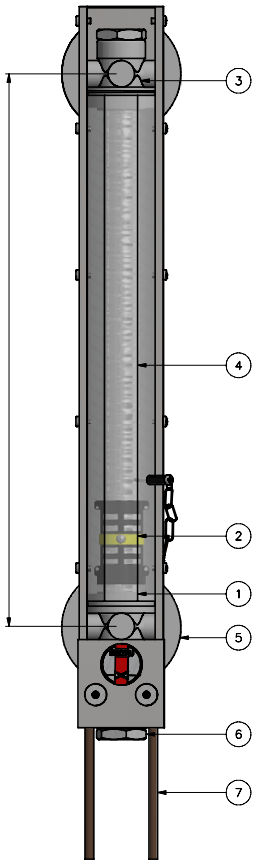
Alarms and electronic/digital outputs
Options available include electronic high and low level alarm sensors, continuous electronic read out signals and displays as well as a digital data feed for direct computer interfaces and digital control systems.

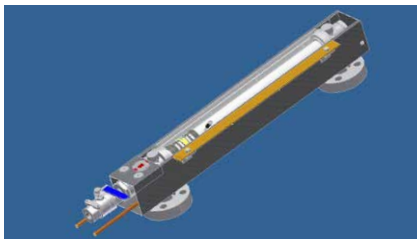
Heating system for high viscosity liquids
The Seemag gauge is available with an electrical, steam or thermal oil trace heating system. This heats the tube to allow the measurement of high viscosity fluids, such as heavy fuel oils on ships.

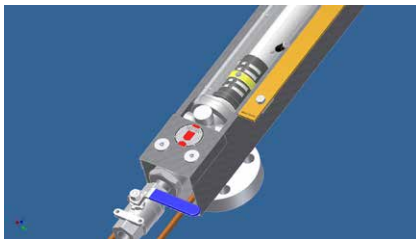


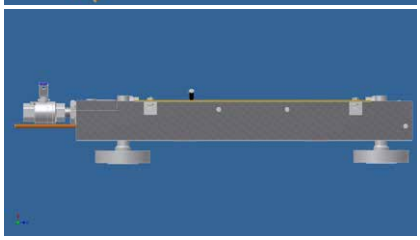
Ростехнадзор

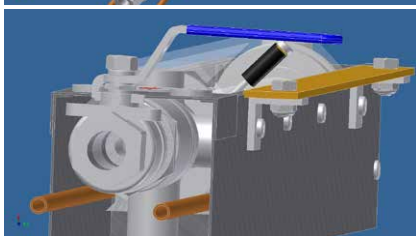
Steam Trace Heating
G35 Seemag











ITEM	QTY	NAME	MATERIAL	PART NUMBER
7	1	STEAM HEATING	–	GSA823200
6	1	DRAIN	ST. STL	GSA672200
5	2	ADAPTOR/FLANGE ASSY	ST. STL	GSA608200
4	1	TUBE/COLLAR ASSY	ST. STL	GSA627200
3	1	CONSTRUTION	ST. ST.	GSA606200
2	1	SLEEVE	PPS	GSA601200
1	1	FLOAT	ST. STL	GSA650200

SEETRU
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THIRD ANGLE PROJECTION

CAD GENERATED DRAWING NO MANUAL REVISIONS ALLOWED

ALL DIMENSIONS IN MILLIMETRES UNLESS STATED

DO NOT SCALE DRAWING

DRAWN	Jamie Meachin	
DATE	26/07/2012	
CHECKED	JCF	
DATE	26/07/2012	
SCALE	NTS	
ISSUE	1	

DRG. No.
GAUGE No. G3523220
COLUMN No. G3523252000

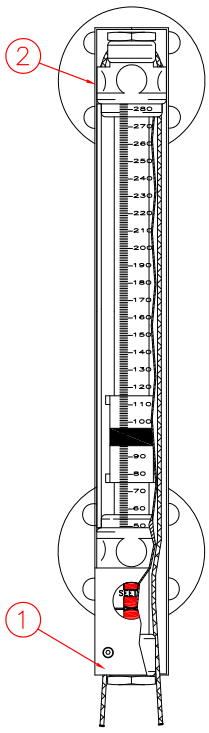
TITLE
STEAM HEAT TRACE SEEMAG GAUGE.

MATERIAL
SEE L.O.P

FINISH

U/O

LIMITS UNLESS STATED:
DECIMAL PLACES (.X) ±0.25
WHOLE NUMBERS (X.) ±0.5
ANGLES ±0.5°
CASTINGS ±0.8



PARTS LIST

1	8mm O/D COPPER TUBE
2	ENCLOSURE

STEAM HEATING

8mm O/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 = 20°C
STEAM PRESSURE 1.5 BAR = 68°C LIQUID TEMPERATURE
STEAM PRESSURE 3 BAR = 85°C LIQUID TEMPERATURE

NOTE:

MAXIMUM WORKING TEMPERATURE SHOULD NOT EXCEED 180°C.

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DRAWN	J.Feurtado	
DATE	20.08.12	
CHECKED	J.Carter	
DATE	20.08.12	
ISSUE	D	

DRG. No.
SEEMAG G35

TITLE
MAGNETIC LIQUID LEVEL INDICATOR WITH STEAM HEATING

MATL.
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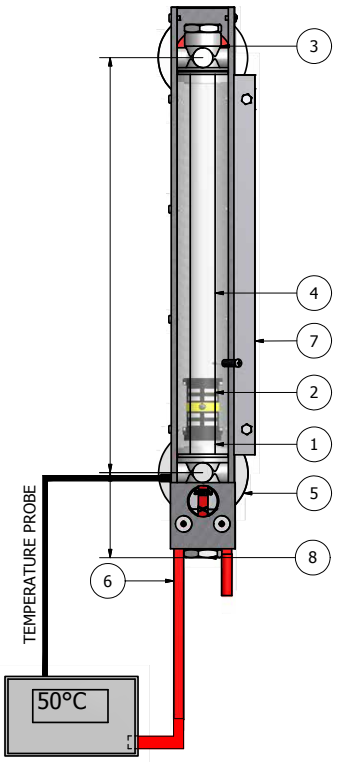
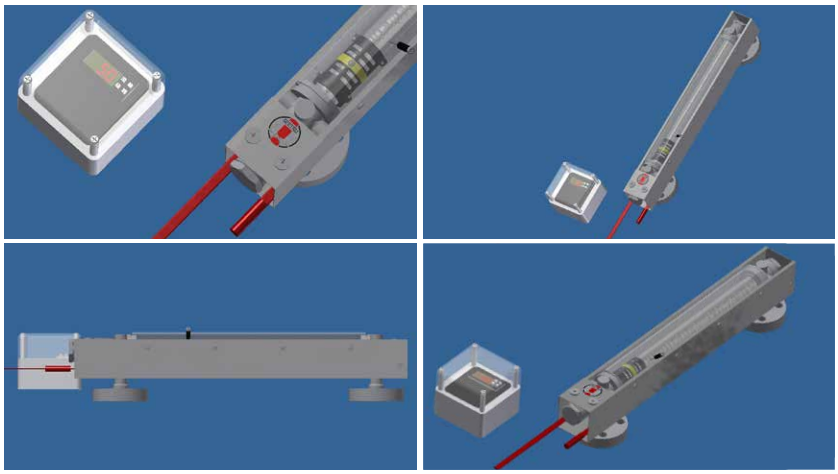
U/O
DATA SHEET INFORMATION

ANGLES ±0.5°
CASTINGS ±0.8

Electric Trace Heating

G35 Seemag





ITEM	QTY	NAME	MATERIAL	PART NUMBER
8	1	DRAIN	ST.STL.	GSA672200
7	1	SCALE PLATE ASSY	ST.STL	GSA701200
6	1	HEAT TRACE ASSY		GSA700200
5	2	ADAPTOR & FLANGE ASSY	ST. STL	GSA608200
4	1	TUBE/COLLAR ASSY	ST. STL	GSA705200
3	1	CONSTRUCTION	ST.STL	GSA606200
2	1	SLEEVE	PPS	GSA601530
1	1	FLOAT	ST. STL	GSA650200

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DRAWN	Jamie Meachin
DATE	20/04/2012
CHECKED	JCF
DATE	20/04/2012
SCALE	NTS
ISSUE	1

DRG. No.
GAUGE No. G3523220
COLUMN No. G3523351000

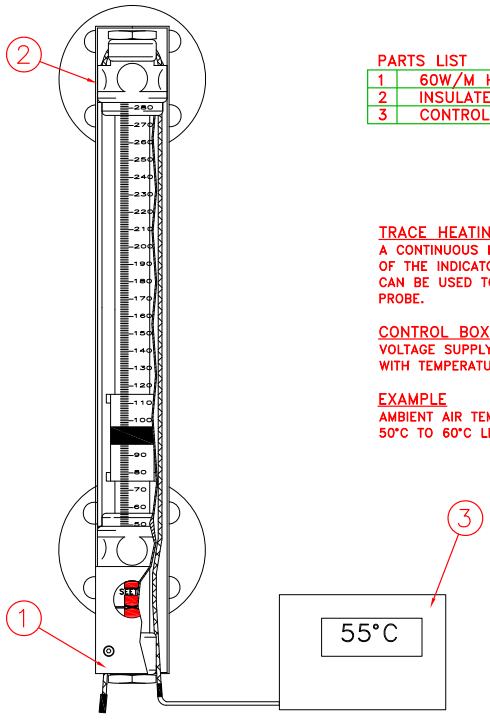
TITLE
SEEMAG GAUGE WITH ELECTRONIC HEAT TRACE

MATERIAL
SEE L.O.P

FINISH

U/O

LIMITS UNLESS STATED:
DECIMAL PLACES (.X) ±0.25
WHOLE NUMBERS (X.) ±0.5
ANGLES ±0.5°
CASTINGS ±0.8



PARTS LIST

1	60W/M HEATING CABLE
2	INSULATED ENCLOSURE
3	CONTROL BOX

TRACE HEATING
A CONTINUOUS LOOP OF TRACE HEATING CABLE IS ATTACHED TO THE REAR GUARD TUBE OF THE INDICATOR. THE CABLE IS TERMINATED AT THE END TO A CONTROL BOX WHICH CAN BE USED TO REGULATE THE TEMPERATURE IN THE INDICATOR VIA A TEMPERATURE PROBE.

CONTROL BOX
VOLTAGE SUPPLY 220–240V
WITH TEMPERATURE DISPLAY AND PROBE.

EXAMPLE
AMBIENT AIR TEMPERATURE = 20°C
50°C TO 60°C LIQUID TEMPERATURE IN INDICATOR MAXIMUM.

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THIRD ANGLE PROJECTION

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DRAWN	J.Feurtado
DATE	20.08.12
CHECKED	J.Carter
DATE	20.08.12

DRG. No.
SEEMAG G35

TITLE
MAGNETIC LIQUID LEVEL INDICATOR WITH TRACE HEATING

MATL.
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ISSUE D

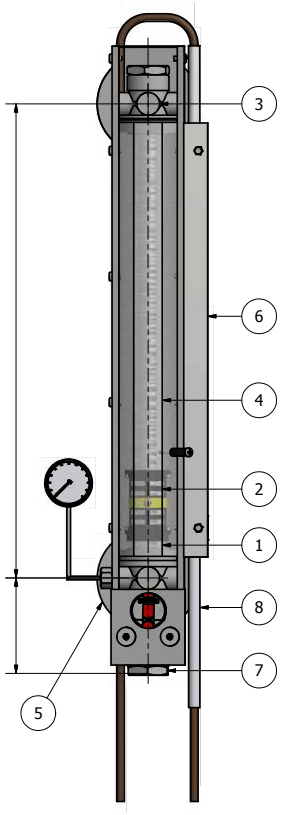
ANGLES ±0.5°
CASTINGS ±0.8

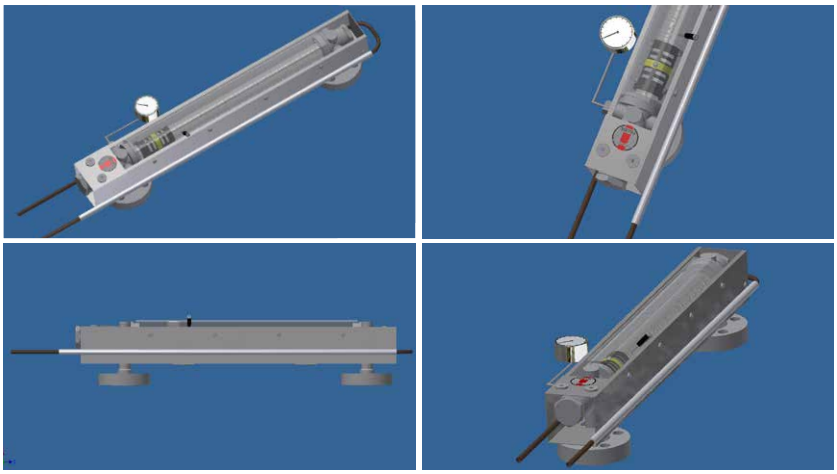
U/O

DATA SHEET INFORMATION

Thermal Oil Trace Heating

G35 Seemag





ITEM	QTY	DESCRIPTION	PART NUMBER
8	1	OIL HEATING ASSY	GSA826200
7	1	DRAIN	GSA672200
6	1	SCALE PLATE ASSY	GSA701200
5	2	ADAPTOR/FLANGE ASSY	GSA668200
4	1	TUBE/COLLAR ASSY	GSA702200
3	1	CONSTUCTION	GSA606200
2	1	SLEEVE	GSA601530
1	1	FLOAT	GSA650200

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DRAWN	Jamie Meachin
DATE	12/07/2012
CHECKED	Jason Carter
DATE	12/07/2012
SCALE	NTS
ISSUE	1

DRG. No.
GAUGE No. G3523HH0
COLUMN No. G3523253000
TAG No.

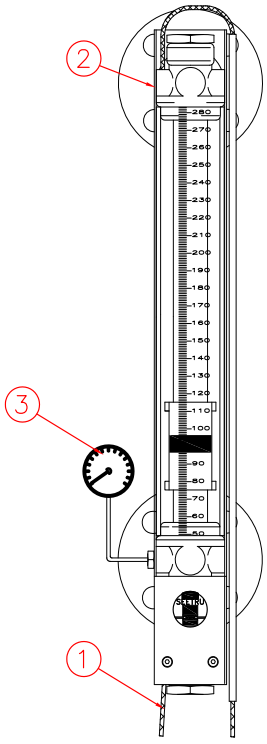
LIMITS UNLESS STATED:
DECIMAL PLACES (.X) ±0.25
WHOLE NUMBERS (X.) ±0.5
ANGLES ±0.5°
CASTINGS ±0.8

TITLE: OIL HEATING SEEMAG GAUGE WITH BLANK SCALE PLATE

MATERIAL: SEE L.O.P

FINISH

U/O



PARTS LIST

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

OIL HEATING

6mm 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.

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THIRD ANGLE PROJECTION

CAD GENERATED DRAWING NO MANUAL REVISIONS ALLOWED

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DRAWN	J.Feurtado
DATE	28.08.12
CHECKED	J.Carter
DATE	28.08.12
ISSUE	D

DRG. No. SEEMAG G35

ANGLES ±0.5°
CASTINGS ±0.8

TITLE: MAGNETIC LIQUID LEVEL INDICATOR WITH OIL HEATING

MATL. –

U/O

DATA SHEET INFORMATION

G35 Seemag Marine

The Seetru '**G35**' Seemag® Marine Magnetic Gauge

Suitable for Flammable liquids

The Seetru Seemag® Marine 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), Lloyds Register of Shipping, American Bureau of Shipping (ABS) and Russia Maritime Register Of Shipping (RMRS)

G35 Seemag® Marine specifications

	Standard Float	High Pressure Float
Maximum temperature	**60 °C**	**180 °C**
Maximum pressure	**3 bar**	**16.5 bar**
End unit materials	**Stainless steel**	
Connections	**Flanged or Threaded connections**	
Seal materials	**PTFE**	
Guard tube material	**Polycarbonate**	
Lengths	**Minimum:** **400 mm** **Maximum:** **5000 mm**	
Valve types	**Valveless (¼ Turn ball isolation valves available)**	
Densities	**0.6 to 2.0 SG.**	

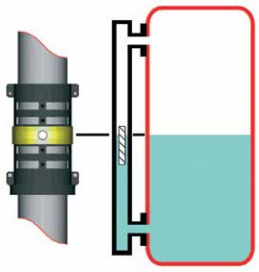
Magnetic bypass design
The gauge utilises a marker strip on a movable carriage fitted on the outside of a stainless steel tube, which by way of magnets moves up and down in unison with a float inside the tube. The marker strip indicates the liquid level and is adjustable to suit the specific gravity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

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.

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.



Ростехнадзор

The Seetru '**G21**' Marine Tubular Gauge

Suitable for Non-flammable liquid

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

Maximum temperature	**150 °C**[1]
Maximum pressure	**3.68 bar**[2]
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**

[1] Maximum temperature is dependant of the sight tube and seal materials selected.
[2] Maximum allowable operating pressure is dependent upon operating temperature and sight tube material, 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.

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.

Ростехнадзор

Ship Building & Offshore

G31 Seeflex

The Seetru '**G31**' Seeflex Gauge

Suitable for Flammable liquids

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 °C**[1]
Maximum pressure	**2.67 bar**[1]
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**

[1] 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.

Ростехнадзор

G22 Quickmount

The Seetru '**G22**' Quickmount Tubular Gauge

Suitable for Water / Waste Water Only

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

Maximum temperature	**150 °C**[1]
Maximum pressure	**22 bar**[1]
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**

[1] Maximum allowable operating pressure is dependent upon operating temperature and gauge length, contact Seetru for full information.

Tubular sight glass design
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.

Ростехнадзор

Ship Building & Offshore

G20 Admiralty

The Seetru '**G20**' Admiralty Gauge

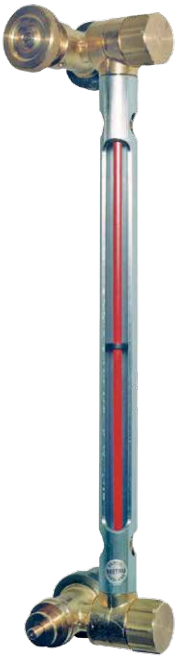
Suitable for Water / Waste Water Only

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 °C**[1]
Maximum pressure	**22 bar**[1]
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**



[1] 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.

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.

Ростехнадзор

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