



*That's The Level!*

**Seetru**Limited



Liquid Level Gauges

Edition 2

# 1

## Industrial

G22 Quickmount - Tubular Gauge  
G32 Quickflex - Reflex Gauge  
G35 Seemag - Magnetic Gauge  
G27 Mini - Valveless Tubular  
G34 Reflex - Heavy Duty Reflex Gauge



# 2

## Chemical

G23 CPI - Tubular Gauge  
G34 CPI Reflex - Heavy Duty Reflex Gauge



# 3

## Ship Building & Offshore

G35 Seemag - Magnetic Gauge  
G31 Seeflex - Reflex Gauge  
G21 Marine - Tubular Gauge  
G20 Admiralty - Tubular Gauge  
G22 Quickmount - Tubular Gauge  
G32 Quickflex - Reflex Gauge



# 4

## Refrigerant

G33 Reflex - Heavy Duty Reflex Gauge



# 5

## Hygienic - Food Quality

G24A Seetol - Tubular Gauge  
G24B Seebio - Tubular Gauge



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## 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.

### G22 Quickmount specifications

Maximum temperature	150 °C <sup>1</sup>
Maximum pressure	22 bar g <sup>1</sup>
Valve materials	Brass Stainless steel Polypropylene
Connections	BSP and NPT threaded connections or 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

<sup>1</sup> 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 an engraved scale plate can be provided marked with the capacity units.

#### 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.

## The Seetru 'G32' Quickflex Reflex Gauge

The Seetru Quickflex liquid level gauge is a direct reading reflex glass 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.

### G32 Quickflex specifications

Maximum temperature	100 °C
Maximum pressure	2.67 bar g
Valve materials	Brass Stainless steel Polypropylene
Connections	BSP and NPT threaded connections or ANSI / DIN flanges
Seal materials	Elastomer
Glass	Borosilicate reflex glass BS 3463
Column materials	Stainless steel back channel with Mild steel rust protected front bezel
Lengths	Minimum: 358 mm Maximum: 8900 mm
Valve types	Manual screw down, Manual screw down complete with automatic safety shut-off valves



#### Flat Reflex glass

Excellent level indication even of colourless liquids is provided by Reflex glass viewing windows made of toughened borosilicate reflex glass. It is housed and protected in a light but robust stainless steel column.

The construction provides a modern gauge, which fits close to the tank wall and is aesthetically pleasing.

#### Ease of installation and maintenance

The Quickflex 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 an engraved scale plate can be provided marked with the capacity units.

#### 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.



## 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.

### G35 Seemag® specifications

Maximum temperature	180 °C
Maximum pressure	22 bar g
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 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

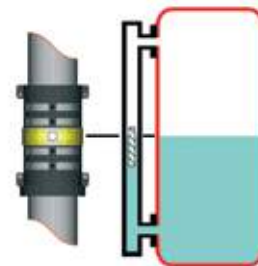
Seemag gauges are closed circuit design and both the top and bottom of the gauge is fitted to the tank.

#### 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 heating system. This heats the tube to allow the measurement of high viscosity fluids, such as heavy fuel oils on ships.





# 1

# Industrial G27 Mini



## The Seetru 'G27' Mini Gauge

The Seetru Mini gauge is a simple but effective tubular liquid level gauge. It has valveless end connections that screw directly into the tank and is commonly used for small water tanks and compressor lube oil tanks, but can be used for a variety of other fluids as it can be supplied with a choice of end unit, sight tube and seal materials.

If you require a tubular level gauge with isolation valves please see either the Quickmount (G22) or the CPI (G23) gauges.

### G27 Mini specifications

Maximum temperature	<b>180 °C<sup>1</sup></b>
Maximum pressure	<b>19 bar g<sup>2</sup></b>
Valve materials	<b>Nickel plated brass or stainless steel</b>
Connections	<b>G¼" BSP, M12 or ½" - 20 UNF threads</b>
Seal materials	<b>Elastomer</b>
Glass	<b>Borosilicate glass or polycarbonate plastic</b>
Guard tube material	<b>Polycarbonate as standard (metal guard available on request)</b>
Lengths	<b>Minimum: 100 mm Maximum: 1000 mm</b>
Valve types	<b>Valveless</b>



<sup>1</sup> Maximum temperature is dependant of the sight tube and seal materials selected.

<sup>2</sup> Maximum allowable operating pressure is dependent upon operating temperature and sight tube material, contact Seetru for full information.

#### Ease of viewing

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

#### Open circuit design

An open circuit gauge is also available, this is where only the bottom connection penetrates the tank wall. This is only allowable when it is possible for the gauge column to extend above the maximum filling level of the tank.

#### Graduation

Where a measure of the precise storage volume is required an engraved scale plate can be provided.

#### High pressure version

The maximum working pressure for the standard gauge is 19 bar g., however a high pressure version suitable for up to 30 bar g. is available upon request.



## The Seetru 'G34' Reflex Gauge

The G34 Reflex gauge is a heavy duty (flat glass) liquid level gauge, suitable for high pressure/temperature combinations. The modular design is made up of compact and robust standard stainless steel precision cast elements.

Variations on the isolating valves ranging from quarter turn ball valves to heavy duty hand wheel isolating valves complete with auto safety shut off safety features are available in a number of flexible configurations offering end mounted, side mount, rear entry connections, with full centre to centre visibility can be secured with minimum overall length.

### G34 Reflex specifications

Maximum temperature	250 °C
Maximum pressure	75 bar g
Valve materials	Stainless steel
Connections	BSP and NPT threaded connections or ANSI / DIN flanges
Seal materials	PTFE as standard (other elastomer seals available)
Glass	Toughened borosilicate reflex glass to BS 3463
Guard material	Stainless steel heavy duty front bezel
Lengths	Minimum: 216 mm Maximum: 3246 mm
Valve types	Hand wheel operated isolation valves or ¼ Turn ball isolation valves



#### Column arrangements:

The Reflex gauge is available with either a straight or staggered column, and a choice of valve positions, to provide uninterrupted centre to centre liquid level indication. With the use of extension pieces most centre to centre distance requirements can be achieved.

#### Valve options:

A choice of isolation valves are available, either ¼ turn ball valves or CPI screw down valves with ASV (auto shut-off valves). The ASV feature means that in the unlikely event that the glass is damaged the contents of the tank will not be lost. Also available are drain and vent valves.

#### Low temperature applications:

A polycarbonate frost shield is available which enables the gauge to be used down to -30°C subject to fluid suitability.

#### 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.

#### Graduation:

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

# 2

# Chemical G23 CPI Tubular



## The Seetru 'G23' CPI Tubular Gauge

The Seetru Chemical and Process Industries gauge is designed to provide direct level observation of chemicals and solvents. It is a tubular gauge with protective metal guard tube. For applications with higher pressure requirements, or where a more robust design is required, please see the Reflex gauge (G34).

### G23 CPI Tubular specifications

Maximum temperature	250 °C
Maximum Pressure	22 bar g
Valve materials	316 Stainless steel
Connections	ANSI and DIN Flanged Connections
Seal materials	PTFE only
Glass	Borosilicate glass BS 3463
Guard tube material	Stainless Steel
Lengths	To suit requirements (minimum 150 mm)
Valve types	Hand-wheel isolation valves complete with auto safety shut-off valves



#### Gauge isolating valves

Purpose designed hand wheel operated isolation valves with A.S.V. (auto shut-off valve) to prevent liquid loss if the glass was to be broken.

#### Materials

The CPI tubular gauge is constructed from stainless steel and has P.T.F.E. seals, meaning the gauge is suitable for a wide range of liquids.

#### Instant dismantling and re-assembly

The CPI gauge tube 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.

#### Valve options

Sampling valves and drain/vent valves are available upon request.

#### Column options

For additional protection and to prevent spillage in the event of a glass breakage, this gauge is available with a double guard tube. This consists of the standard metal guard housed in an additional clear polycarbonate outer guard tube.

#### 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.





## The Seetru 'G34' CPI Reflex Gauge

The G34 Reflex gauge is a heavy duty (flat glass) liquid level gauge, suitable for high pressure/temperature combinations. The modular design is made up of compact and robust standard stainless steel precision cast elements.

Heavy duty hand wheel isolating valves complete with auto safety shut off safety features are available in a number of flexible configurations offering end mounted, side mount, rear entry connections, with full centre to centre visibility can be secured with minimum overall length.

### G34 CPI Reflex specifications

Maximum temperature	250 °C
Maximum pressure	35 bar g
Valve materials	Stainless steel
Connections	ANSI and DIN Flanged Connections
Seal materials	PTFE
Glass	Toughened borosilicate reflex glass to BS 3463
Guard material	Stainless steel heavy duty front bezel
Lengths	Minimum: 216 mm Maximum: 3246 mm
Valve types	Hand wheel operated isolation valves complete with auto safety shut-off valves



#### Column arrangements:

The Reflex gauge is available with either a straight or staggered column, and a choice of valve positions, to provide uninterrupted centre to centre liquid level indication. With the use of extension pieces most centre to centre distance requirements can be achieved.

#### Valve options:

A choice of isolation valves are available, either ¼ turn ball valves or CPI screw down valves with ASV (auto shut-off valves). The ASV feature means that in the unlikely event that the glass is damaged the contents of the tank will not be lost. Also available are drain and vent valves.

#### Materials:

The CPI Tubular gauge is constructed from Stainless Steel (316) and has P.T.F.E. seals, meaning the gauge is suitable for a wide range of liquids.

#### Low temperature applications:

A polycarbonate frost shield is available which enables the gauge to be used down to -30°C subject to fluid suitability.

#### 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.



## 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), Lloyds Register of Shipping, American Bureau of Shipping (ABS) and Germanischer Lloyds.

### G35 Seemag® specifications

Maximum temperature	180 °C	
Maximum pressure	16.5 bar g	
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 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

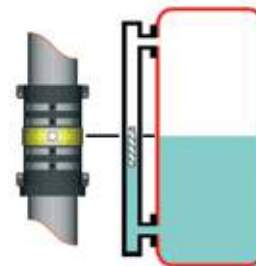
Seemag gauges are closed circuit design and both the top and bottom of the gauge is fitted to the tank.

#### 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 heating system. This heats the tube to allow the measurement of high viscosity fluids, such as heavy fuel oils on ships.





Suitable for  
Flammable  
liquids

## 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 ships and work boats.

### G31 Seeflex specifications

Maximum temperature	80 °C <sup>1</sup>
Maximum pressure	2.67 bar g <sup>1</sup>
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>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.

## The Seetru 'G21' Marine Tubular Gauge

The Seetru Marine gauge is designed for use within the marine and offshore industries. Due to its 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 <sup>1</sup>
Maximum pressure	3.68 bar g <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

<sup>1</sup> Maximum temperature is dependant of the sight tube and seal materials selected.

<sup>2</sup> 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.



Suitable for  
Water /  
Waste Water Only

## 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 °C <sup>1</sup>
Maximum pressure	22 bar g <sup>1</sup>
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



<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.

#### 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.

### 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

Maximum temperature	150 °C <sup>1</sup>
Maximum pressure	22 bar g <sup>1</sup>
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

<sup>1</sup> 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.



Suitable for  
Water /  
Waste Water Only





Suitable for  
Water /  
Waste Water Only

## The Seetru 'G32' Quickflex Reflex Gauge

The Seetru Quickflex liquid level gauge is a direct reading reflex glass 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)

### G32 Quickflex specifications

Maximum temperature	100 °C <sup>1</sup>
Maximum pressure	2.67 bar g
Valve materials	Brass Stainless steel Polypropylene
Connections	BSP and NPT threaded connections ANSI / DIN flanges
Seal materials	Elastomer
Glass	Borosilicate reflex glass BS 3463
Column materials	Stainless steel back channel with Mild steel rust protected front bezel
Lengths	Minimum: 358 mm Maximum: 8900 mm
Valve types	Manual screw down, Manual screw down complete with automatic safety shut-off valves



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

#### Flat Reflex glass

Excellent level indication even of colourless liquids is provided by Reflex glass viewing windows made of toughened borosilicate reflex glass. It is housed and protected in a light but robust stainless steel column.

The construction provides a modern gauge, which fits close to the tank wall and is aesthetically pleasing.

#### Ease of installation and maintenance

The Quickflex 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 an engraved scale plate can be provided marked with the capacity units.

#### 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.

# 4

# Refrigeration G33 Reflex



## The Seetru 'G33' Reflex Gauge

The G33 Reflex gauge is a heavy duty (flat glass) liquid level gauge, suitable for high pressure/temperature combinations. The modular design is made up of compact and robust standard stainless steel precision cast elements.

Refrigerant industry isolating valves are available in a number of flexible configurations offering end mounted, side mounted, rear entry connections, with full centre to centre visibility can be secured with minimum overall length.

### G33 Reflex specifications

Maximum temperature	100 °C
Maximum pressure	25 bar g
Valve materials	Brass or mild steel
Connections	BSP and NPT threaded connections
Seal materials	Elastomer
Glass	Toughened borosilicate reflex glass to BS 3463
Guard material	Stainless steel heavy duty front bezel
Lengths	Minimum: 216 mm Maximum: 3246 mm
Valve types	Refrigeration industry isolation valves



#### Column arrangements:

The Reflex gauge is available with either a straight or staggered column, and a choice of valve positions, to provide uninterrupted centre to centre liquid level indication. With the use of extension pieces most centre to centre distance requirements can be achieved.

#### Low temperature applications:

A polycarbonate frost shield is available which enables the gauge to be used down to -30°C subject to fluid suitability.

#### Valve options:

Sampling valves and drain/vent valves are available upon request.

#### 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.



# Hygienic - Food Quality G24 Seetol

# 5

## The Seetru 'G24' Seetol Gauge

The Seetru Seetol liquid level gauge has been designed to enhance and simplify the reading of tall gauges from ground level using the periscope concept. This eliminates the parallax error associated with conventional liquid level gauges and thus gives an accuracy of better than 1 mm over the possible maximum scale length of 20 metres.

### G24 Seetol specifications

Maximum temperature	80 °C <sup>1</sup>
Maximum pressure	4 bar g
Materials	Aluminium with stainless steel end units
Connections	ANSI and DIN flanged connections
Seal materials	Nitrile
Glass	Borosilicate Polycarbonate plastic Duratube
Column materials	Aluminium back channel
Lengths	To suit requirements (maximum 20 metres)

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

#### Cleaning and maintenance

Engineered for minimum maintenance, site personnel can carry out replacement of lamp bulbs and occasional external cleaning of assembly.

Constructions that meet the most demanding hygiene requirements are available and the Seetol can be installed suitable for automatic cleaning during the vessel wash cycle (C.I.P).

#### Sight tube

Single sight tube or double sight tube with staggered joints - providing total column visibility without blind-spot.

#### Travelling carriage

Illuminated liquid level is viewed against the calibrated scale. Flameproof lamps available. Image reflected for reading without parallax error. Manually operated or motorized travelling carriage.

#### Viewing unit:

Level viewed through optical unit which is easily transferred from tank to tank.

#### Accuracy:

An operator can quickly sight the level of liquid in a vessel and read each 1 mm over the entire vessel height. Accuracy that is accepted by Customs and Excise officers, and is essential for effective stock checking and product loss investigation.



## The Seetru 'G24' Seebio Gauge

The Seetru Seebio liquid level gauge is a fully compliant hygienic gauge suitable for vessels containing food products or high purity chemicals where equipment cleaning is of paramount importance

### G24 Seebio specifications

Maximum temperature	80 °C
Maximum pressure	4 bar g
Valve materials	Stainless steel
Connections	1" stub pipe fitting
Seal materials	Elastomer
Glass	19 mm bore borosilicate glass
Guard material	Stainless steel channel with clear plastic front cover
Lengths	To suit requirements (maximum 6000 mm)
Valve types	Butterfly valve fitting



#### Cleaning the gauge

The gauge is designed to be permanently connected to the in-place cleaning (CIP) system of the tank and will then be automatically cleaned in-situ. Standard construction suitable for hot wash up to 80 °C, construction suitable for steam cleaning on request. The use of IDF (International Dairy Federation) food quality fittings throughout ensures crevice free passages through which the liquid will flow whilst excellent sealing is maintained.

#### Materials of construction

The seals are selected to suit each application to be taste free or chemically compatible. All end fittings are manufactured from type 304 stainless steel to be suitable for liquid contact and the installation environment (fittings in stainless steel type 316 can be supplied). The sight tube is a 19 mm bore borosilicate glass protected in a stainless steel channel with a clear plastic front cover.

#### System accuracy

The gauge is direct reading. The liquid level in the sight tube corresponds to the liquid level within the tank and can be read against the scale plate with graduations every 1 mm over the entire sight tube length. Accurate reading of the liquid level can be easily taken at any time.

#### Viewing the liquid

The clear 19 mm bore sight tube provides positive viewing of the liquid. Colourless liquid is indicated by a coloured marker strip fitted behind the sight tube that is magnified when viewed through the liquid.



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.



**Seespares.com** – is a web based source and supply business offering a single source supply service for a wide range of engineering products; from safety valves to actuated ball valves, pneumatic tools and compressors to hydraulic oil pumps. Seespares 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.



**Seetru Training Solutions** – Seetru Training Solutions provides a comprehensive range of training courses on all aspects of safety valve technology. The courses are modular and adaptable to meet customer requirements and can be developed to incorporate customer specific requirements. Course modules range from principles of safety valve design, sizing and selection to principles and practice of safety valve test and maintenance as well as principles and practice of in-situ safety valve testing and 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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