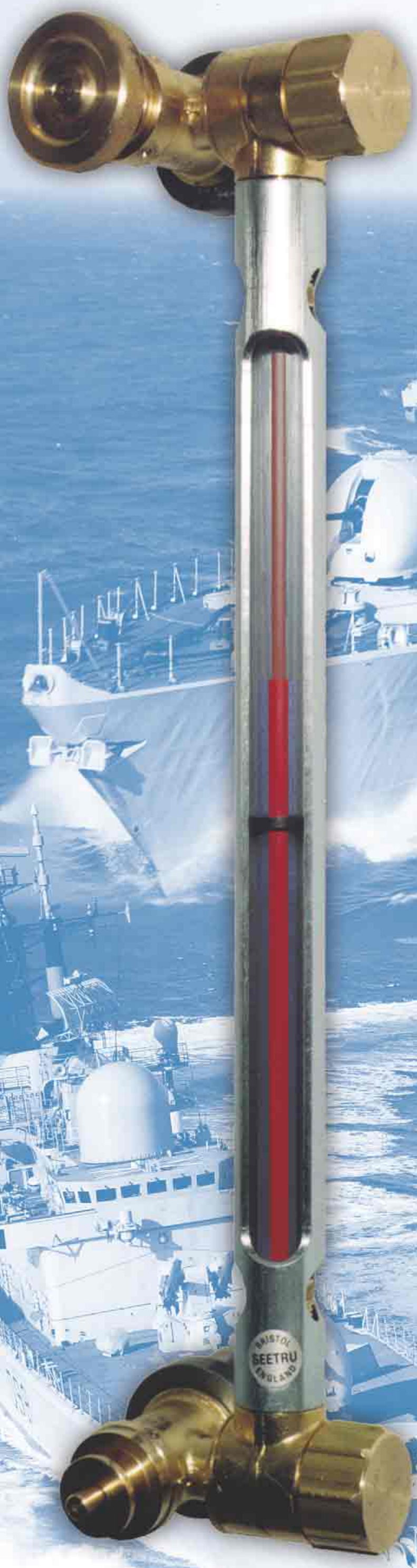
Admiralty Pattern

Sight Gauges



Meeting modern requirements for liquid level gauging

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SEETRU
LIMITED

THE SEETRU ADMIRALTY GAUGE

Designed and constructed to provide direct level observation of liquid levels.

Simple Installation

Seetru gauges are supplied complete with column assembly, valves and self sealing tank bosses for installation into tanks.

Tank Calibration

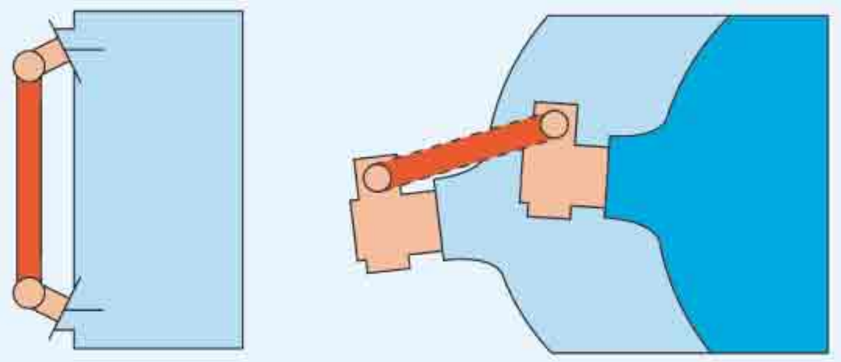
Where precise measurement of the liquid content is required a graduated scaleplate can be attached to the column assembly.

The Seetru Admiralty Pattern Liquid Level Gauge

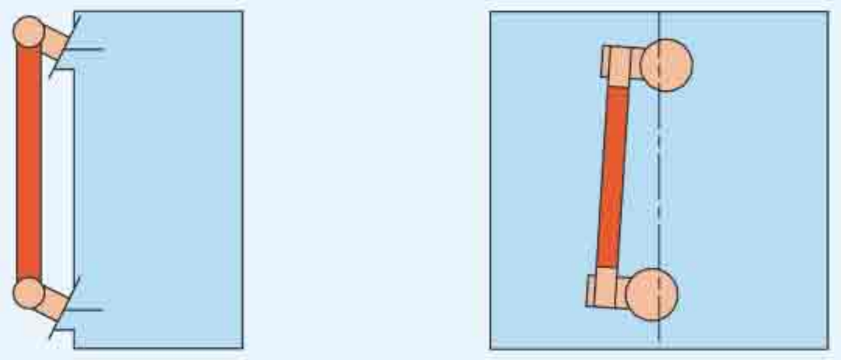
has been designed and developed to meet arduous UK Ministry of Defence requirements, such as for tank deflection and underwater shock loads.

This unique gauge allows installation on malaligned tank connections as may, for example, be found on marine or other storage tanks of light walled construction which can deform or bulge. The tank connection valve fittings can accommodate misalignment vertically and along two mutually perpendicular axes horizontally through an adjustable fitting which enables correction of misalignment at the time of fitting or subsequently*. The valve fittings each form, in fact, a universal joint which gives the gauge its adaptability for difficult conditions of installation.

Typical misalignments accommodated



In the pushbutton version, the self closing valve is situated in the rear portion of the valve body which projects into the tank. This ensures leakproof protection whatever damage occurs to the gauge parts on the outside of the tank.



This robust direct reading sight tube gauge has substantial passages and is suitable for use on any storage tanks or bunkers for up to medium heavy fuel oil.

Economical in price and maintenance

Seetru gauges are supplied for marine use and in all branches of industry. Large scale production methods enable highly economical first costs to be achieved. Economy in use is ensured by their ease of installation and simple maintenance procedures.

Simple retaining nuts secure the gauge column, complete with collars, to the valve bodies housed in the tank bosses. These retaining nuts need only be finger-tight, as efficient O-rings seal the joints. Only gentle metal-to-metal contact is required at the collar faces.

For servicing and cleaning, the gauge column can, in a few moments, be withdrawn from the isolated tank fittings as a complete unit, merely by releasing the retaining nuts. It is not necessary to drain the tank as it can remain fully sealed.

Sturdy construction

The gauge fittings are of substantial yet compact proportions in bronze or all stainless steel. The sight tube is normally of Polycarbonate high-resistance plastic, but can be supplied in other materials such as heat resisting (Borosilicate) glass. The sight tube is protected throughout by a metal guard tube which is normally of zinc plated mild steel, though other materials such as stainless steel are available. A variety of seals are available to suit the duty, Nitrile is supplied as standard and alternatives include Viton®. Where tanks are not subject to shock or distortion after installation gauges can be provided with intermediate support brackets.

Top and bottom valve connections are either screwdown or pushbutton operation, these are available in combinations to meet requirements. A valveless unit is available for the top connection. As an optional extra, sampling valves can be provided with the gauge valves, these enable samples of the tank contents to be drawn off

When fitted with pushbutton valves the gauge column is permanently isolated from the contents of the tank except when a reading is being taken. To take a reading; the spring-loaded gauge valve(s) is opened manually by pressing a push rod. When released, the connection between the tank and gauge is automatically re-sealed.

* The admiralty gauge can only accommodate misalignments which occur subsequent to installation if no intermediate support brackets are fitted.

® *Viton is a registered trademark of DuPont Dow Elastomers.*

Clear and Accurate Indication

Clear level indication of even colourless liquids is provided, and the liquid level viewed in the gauge column corresponds to the liquid level in the tank.

Electronic and Digital Readout

Remote reading systems and/or computer interface options provide a dual system with the advantages of both electronic and sight glass systems.

Column Removal without Emptying the Tank

Unique design isolating valves when closed allow the column to be removed from the tank even when the tank is full or under pressure.

Hydraulic actuation

Remote-controlled hydraulic actuation can be provided as an optional extra when pushbutton valves are fitted at both ends. This facility is particularly helpful in the case of tall gauges where it would otherwise be difficult to operate the upper and lower pushbutton valves simultaneously. Seetru pushbutton isolating valves require no modification to enable them to be used with hydraulic actuation.

Magnified liquid level

The rear of the sight tube has a special red marker strip which is magnified by the liquid contents, clearly indicating the level, even if the liquid itself is colourless.

Guard Tube

A zinc plated mild steel guard tube provides protection for the Borosilicate or Polycarbonate sight tube, stainless steel guard tubes are also available. Anti-rattle rings are fitted between the guard tube and sight tubes.

Minimum length

200mm centres.

Calibration

Where a measure of the precise storage volume is required the guard tube can be supplied graduated or an engraved scale plate can be affixed alongside the gauge.

Electronic and digital readout

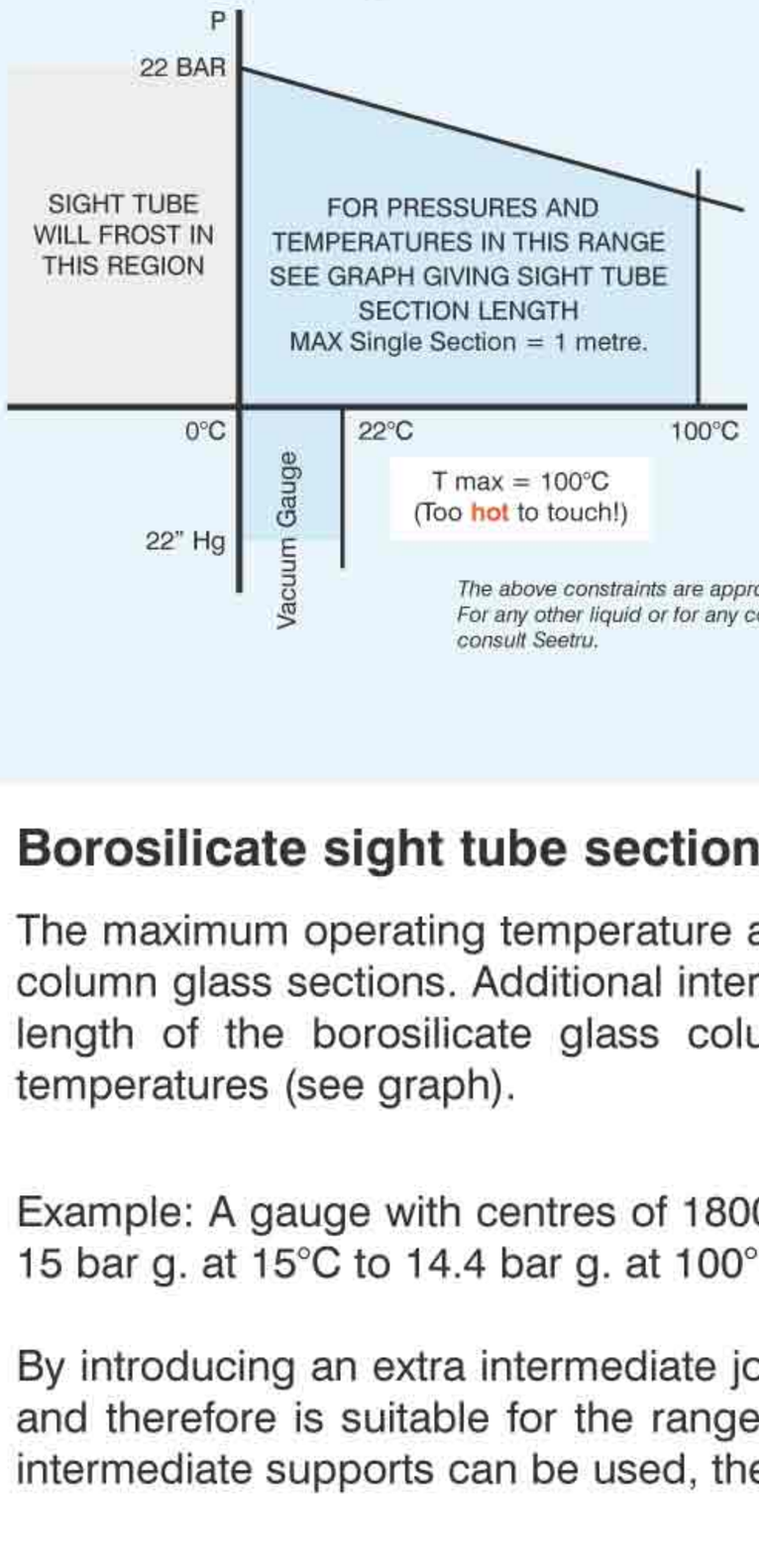
Electronic remote reading system and/or computer interface options are available to provide a dual system providing the advantages of both electronic and sight glass systems. Level alarms are also available.

Tank connections

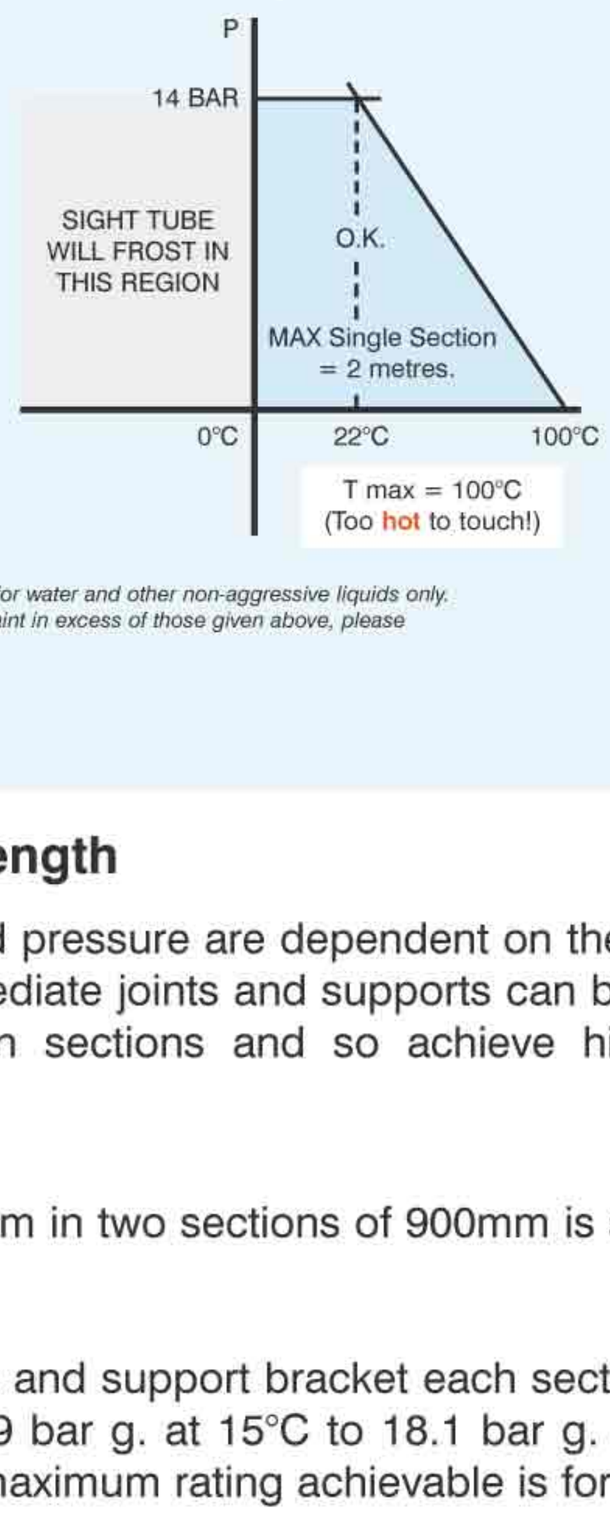
Self sealing steel bosses for welding into the tank are supplied as standard. Non-weld boss option also available. Stainless steel versions of each are also available.

Length, temperature and pressure constraints

BOROSILICATE GLASS Sight Tube



POLYCARBONATE Sight Tube



The above constraints are approved for water and other non-aggressive liquids only. For any other liquid or for any constraint in excess of those given above, please consult Seetru.

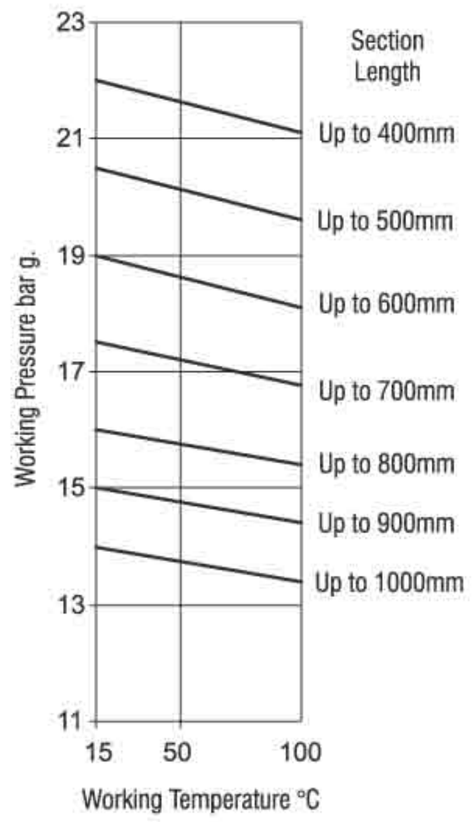
- *A hazard/risk analysis should be carried out where the gauge is being considered for use with a medium which, due to temperature, pressure or hazardous nature, could cause injury. Contact Seetru for advice.*
- *Contact Seetru for information on pressures and temperatures outside ranges shown.*
- *Standard seals are Nitrile (max temp 110°C), other seal materials, such as Viton® are available for special applications.*
- *For vacuum conditions greater than 22"Hg a special design is available.*

Borosilicate sight tube section length

The maximum operating temperature and pressure are dependent on the length of the gauge column glass sections. Additional intermediate joints and supports can be used to reduce the length of the borosilicate glass column sections and so achieve higher pressures and temperatures (see graph).

Example: A gauge with centres of 1800mm in two sections of 900mm is suitable for the range 15 bar g. at 15°C to 14.4 bar g. at 100°C.

By introducing an extra intermediate joint and support bracket each section becomes 600mm and therefore is suitable for the range 19 bar g. at 15°C to 18.1 bar g. at 100°C. Additional intermediate supports can be used, the maximum rating achievable is for "up to 400mm".

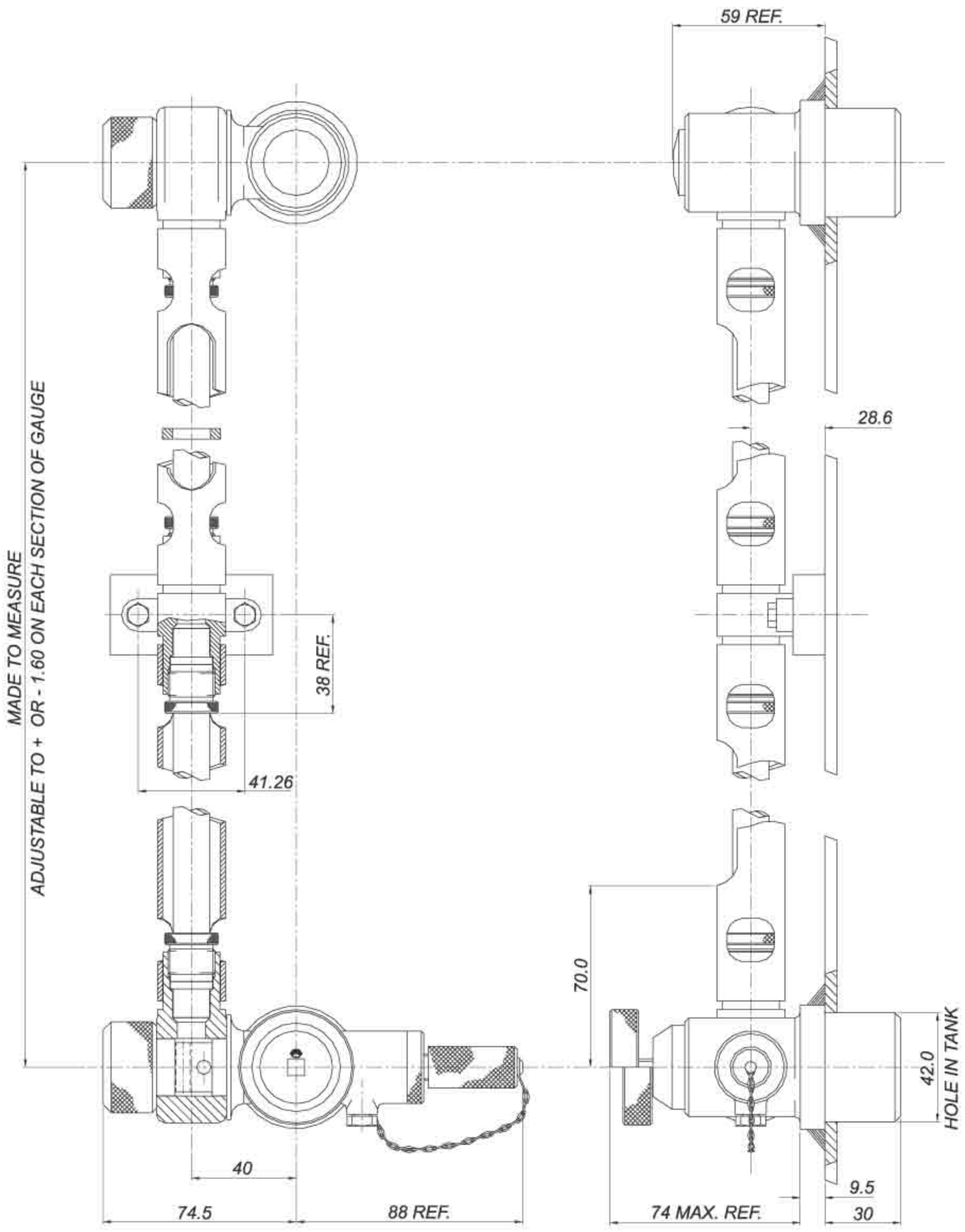


Installation and Dimensions

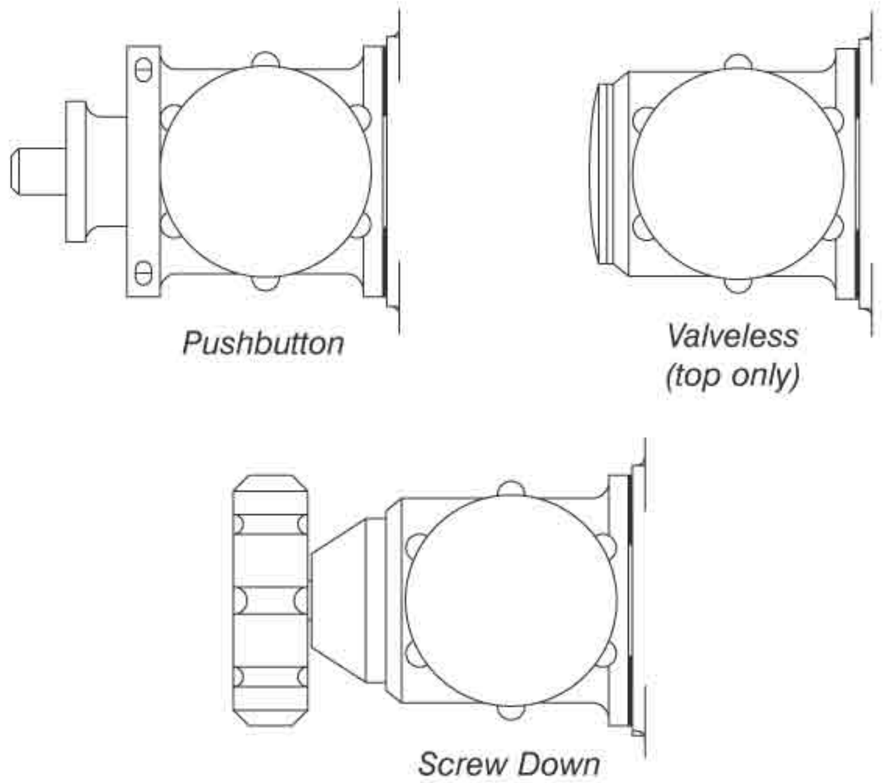
Suggestions for fitting the Admiralty gauge

The Seetru Admiralty gauge is supplied complete with tank bosses either for welding in position or for fitting by means of special sealing nuts without welding. Where the welded pattern bosses are used it is suggested that the gauge, complete with the bosses, be offered to the holes in the tank wall. The bosses can then be tack-welded to ensure correct positioning. The gauge and mounting fittings can then be removed and the inside of the bosses protected with graphite grease to prevent oxidation during final welding. After welding the grease should be removed, and the fittings and gauge can then be re-assembled to the tank. Where the alternative non-weld pattern bosses are supplied, these can be positioned and tightened without removing the gauge. If, after fitting the tank bosses, a length adjustment of the gauge is still required, this can be achieved by slackening the sight tube gland nuts and re-tightening after the gauge collars have been correctly aligned. The intermediate support brackets shown in the diagram are supplied typically for gauges longer than 1m when fitted with Borosilicate glass sight tubes. The intermediate support brackets may not be necessary when Polycarbonate sight tubes are fitted (contact Seetru for further information).

When fitted with support brackets the gauge is supplied in sections, marked for easy assembly. In this way Seetru gauges are also safeguarded against damage in transit.

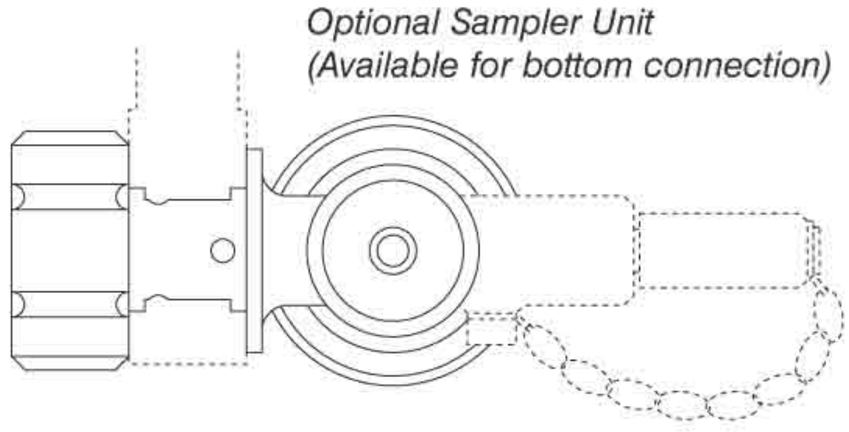


Connection Options (Top and Bottom)



Contact Seetru for detailed advice on selection of gauge and configuration options to meet application requirements

Optional Sampler Unit (Available for bottom connection)



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Our Distributor

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EDITION B