

## 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 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.

### Example Applications

- Diesel
- Fuel oil
- Heavy fuel oil (heating may be required)
- Lubrication oil
- Water
- Coolant
- Chemicals

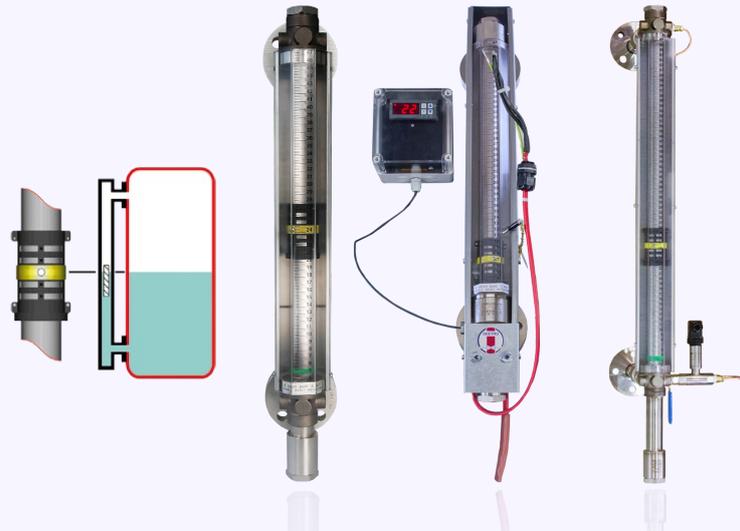
### Specifications

- Maximum Operating Temperature: 180°C
- Minimum Centre Distance: 450mm, Maximum Centre Distance: 5000mm
- Specific gravity: 0.7 – 1.3 (using different floats)
- Maximum kinematic viscosity: 40mm<sup>2</sup>/s (Indicator is suitable for more viscous fluids if supplied with trace heating)

### Materials of Construction

| Component                  | Material              |
|----------------------------|-----------------------|
| By-Pass Tube               | Stainless Steel 316   |
| Front Guard                | Polycarbonate         |
| Rear Guard                 | Aluminium Alloy       |
| Collars & Connections      | Stainless Steel 316   |
| Float                      | Stainless Steel 316   |
| Level Indicator & Follower | Polypropylene & Nylon |

- Isolation ball valves are available upon request.
- Drain & vent valves available upon request.
- Graduation – A clear scale is included on the front guard, marked in mm and cm.



### Approvals

- Det Norske Veritas (DNVGL),
- Lloyds Register of Shipping (LR)
- American Bureau of Shipping (ABS)
- RINA

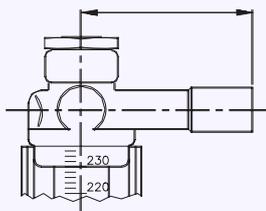
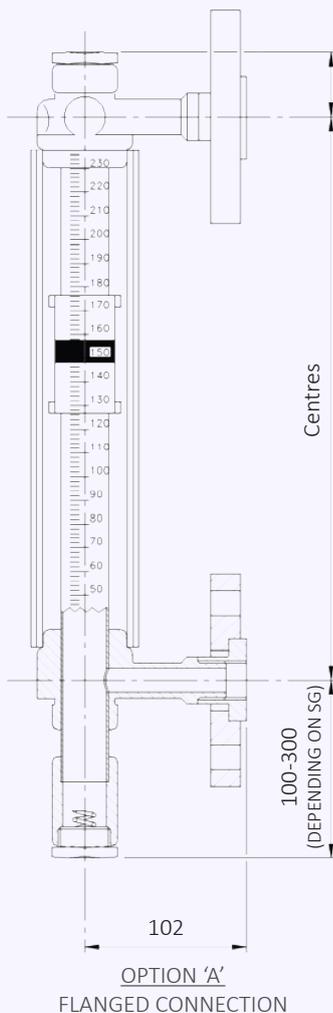
\*Meets the requirements of SOLAS (Safety of Lives at Sea)\*

### Connection Options

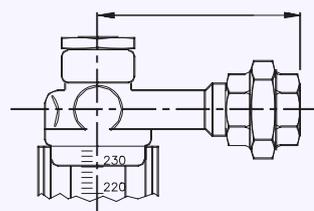
| Type                 | Size  |
|----------------------|---|
| Flanged Connections  | DN15, DN20, DN25, DN32, DN40 or DN50 PN16 or PN40 DIN Flanges |
|                      | 1/2", 3/4", 1", 1 1/2" or 2" #150 or #300 ANSI Flanges        |
| Threaded Connections | 1/2", 3/4", 1" BSP Thread                                     |
|                      | 1/2", 3/4" or 1" NPT Thread                                   |
| Non-Weld Boss        | 30mm OD Stub Pipe (other sizes may be available upon request) |

Standard connection options shown, other connections may be available upon request.

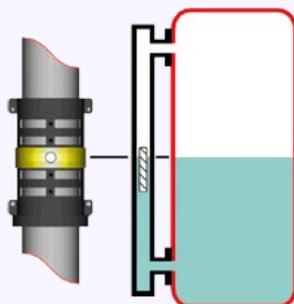
Design:



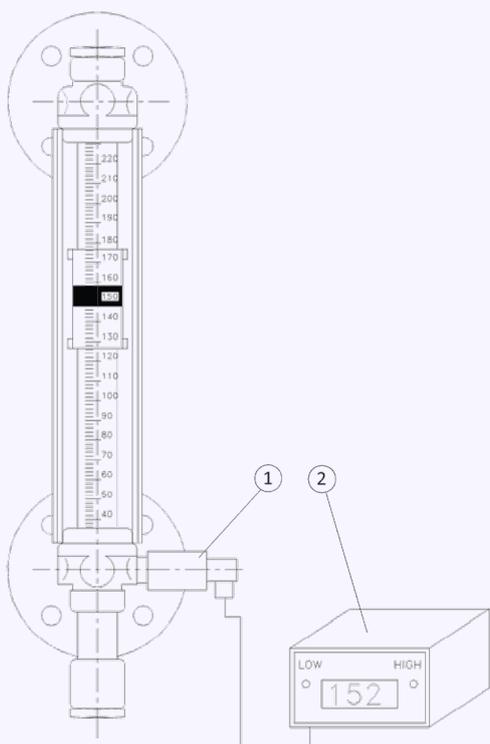
**OPTION 'B'**  
STUB PIPE FOR WELDING  
MINIMUM O/D 20mm



**OPTION 'C'**  
UNION CONNECTIONS  
\* DEPENDING ON CONNECTION SIZE



Options: *Pressure Transmitter and Digital Readout*



**Pressure Transmitter**

[Marine & intrinsically safe versions available]

Standard pressure transmitter should only be used on atmospheric tanks.  
Differential pressure transmitter to be used on pressurised tanks.

The pressure transmitter works independently from the Seemag and can be used for continuous reading and switching points.

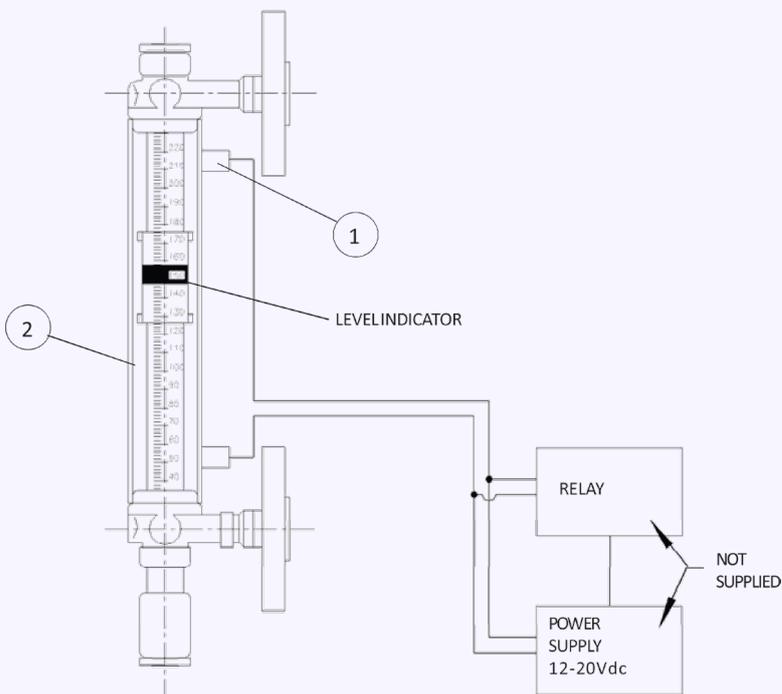
- Output signal: 4-20mA
- Supply voltage: 12-28 Vdc
- Operating temperature range:
- Ambient: -25 +85°C
- Fluid: -25 +100°C

**Digital Readout (Optional)**

Digital linearised panel meter which requires a DC current.  
This unit usually operates with an analogue pressure transducer.  
High & low switching points incorporated within panel meter.

- Transmitter input: 4-20mA
- Power supply: 240Vac 50Hz
- Internal supply: 24V to power transmitter
- Environmental: Operating temp. 0-50°C

Options: *Magnetic Level Switches (High/Low Switches)*



**SWITCHING OPERATION**

Level switches are of a magnetic hall effect design. Switches are operated when the magnet in the base of the level indicator passes the switch, in either direction, causing it to be in one or the other state.

A power supply and relay are required to operate the switches (not supplied). Relays can then be terminated to pumps, alarms, switches or to a PC interface.

Switches are attached to rear guard tube and can be moved up or down to suit the required switching point. Two switches are shown, but any number can be supplied.

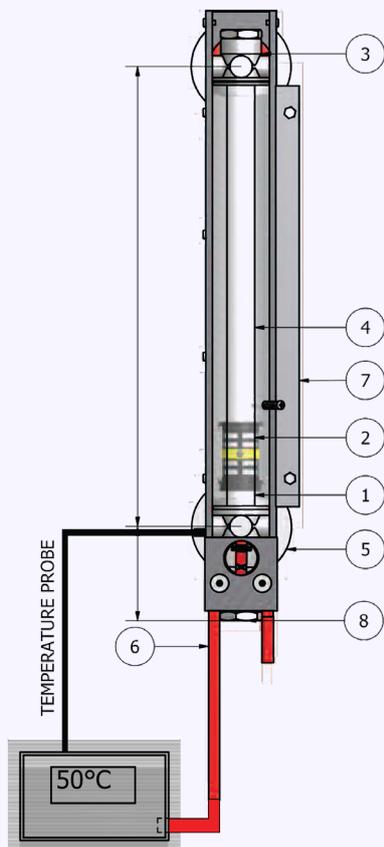
**TECHNICAL SPECIFICATION**

Switches require a 12-20 VDC supply and suitable relay. For suggested supply and relay combinations, contact Seetru. Max. load current: 250mA  
Operating conditions: 0-60°C

Trace Heating: *(There are three (3) trace heating options available).*



1) Electric Heating:



**ELECTRIC TRACE HEATING**

A continuous loop of 60 W/metre trace heating cable is attached to the rear guard tube of the indicator.

The cable is terminated at one end to a control box which can be used to regulate the temperature in the indicator via a temperature probe.

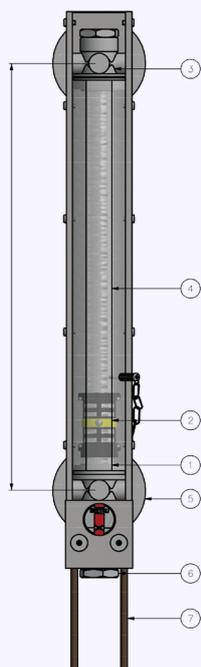
**CONTROL BOX**

Voltage supply 220-240V  
With temperature display and probe.

Trace Heating: *Continued*



2) Steam Heating:



**STEAM HEATING**

8mm O/D Copper tube is attached to the rear guard tube in a continuous loop, from the 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.

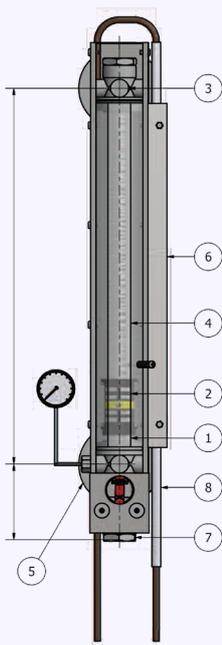
**EXAMPLE**

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

3) Thermal Oil Heating:



**THERMAL OIL HEATING**

The Thermal heating system comprises of: 8mm O/D copper tube fed around the rear of the gauge, when thermal heating oil is fed through the tube this heats the fluid inside the indicator.

This is all encased in a protective steel enclosure. Fitted with a temperature gauge so the fluid temperature can be monitored.

Bottom connection dimensions:



| MATRIX 5TH DIGIT | S.G       | BOTTOM CAP (A) | BOTTOM DRAIN & CAP (B) |
|------------------|-----------|----------------|------------------------|
| 1                | 0.7 - 0.8 | 301mm          | 389mm                  |
| 2                | 0.8 - 0.9 | 202mm          | 290mm                  |
| 3                | 0.9 - 1.1 | 136mm          | 224mm                  |
| 4                | 1.1 - 1.3 | 103mm          | 191mm                  |