

The well prover Magnetic Level Gauge is particularly suitable for duties where dangerous and toxic liquids or gases are involved and where the following features, benefits and options are required:-



- > Immediate and accurate response to level changes, giving clear and sharp legibility.
- > Continuous indication of liquid level.
- > Local and remote display.
- > Point switching facilities.
- > Robust, shockproof and completely sealed for safety.
- > No leakage to atmosphere.
- > Particularly suitable for dangerous or toxic fluids.
- > Ideal for liquid interface applications.
- > Powerful omni-direction magnet system – guide-free float.
- > Display can be rotated through 360° irrespective of float position.
- > Automatic float warning.
- > High pressure capability – up to 200 bar unvented.
- > High temperature capability – standard up to 400°C.
- > Standard SG range 0.4 – 2.2
- > Unlimited length.
- > Top mounted options.
- > PTFE/PFA lined, PP, PVDF and uPVC versions.
- > Simple to engineer and easy to install.
- > Eliminates preventive maintenance.
- > An economical alternative to:- Conventional level gauges and other level measuring systems.
- > Display unit protection IP67.

Design Considerations

Magnetic Level Gauges, depend not only on the integrity of the chamber but also on the float design and the ability to satisfy all design parameters, ie. specific gravity, pressure and temperature, without compromising the magnetic linkage to the display and associated controls. Many competitive systems sacrifice display performance by using smaller and weaker magnet systems to achieve low SG and higher pressures, invariably with detrimental effect. Others use guided and vented floats to achieve the same result, which again can prove limiting and troublesome.

The Advantages Of The System

The system, built on many years experience, has taken all these factors into consideration and designed out these problem areas. This unique system uses a patented ferrite moulded wafer system, which combined with a sealed guide-free float carrying a powerful omni-directional magnet system, provides ultimate performance and reliability, even under the most severe conditions.

Operation

The Magnetic gauge is designed so that liquid being measured is enclosed within a sealed chamber.

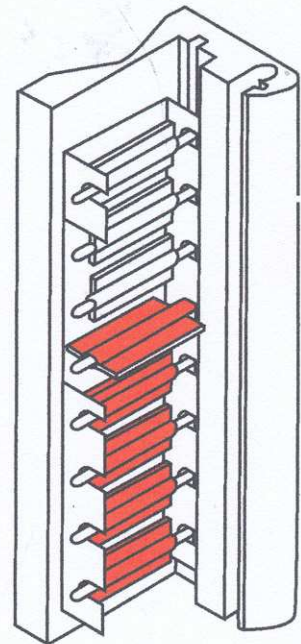
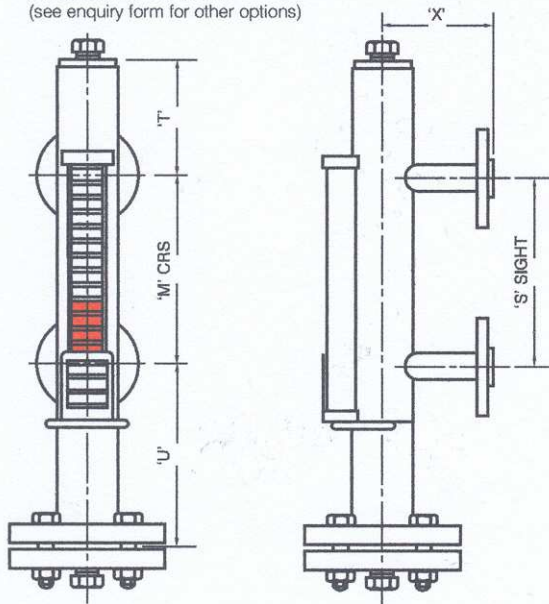
A stainless steel, titanium or plastic float fitted with a permanent omni-directional magnet moves freely inside the chamber and actuates the magnetic wafers within the indicator. As the float rises or falls with the liquid level each wafer rotates 180° and so presents a contrasting colour. Those wafers above the float show white, whilst those level and below show red – the indicator then presents a clearly defined and accurate level of the liquid in the chamber.

The wafers resist accidental disturbance (e.g. vibration) due to their edge magnetisation and mutual attraction.

To complement the range, the Magnetic Gauge can be supplied with Alarm Switches or Transmitter and Controller to remotely display the liquid level.

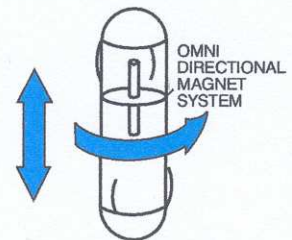
STANDARD DESIGN

(see enquiry form for other options)

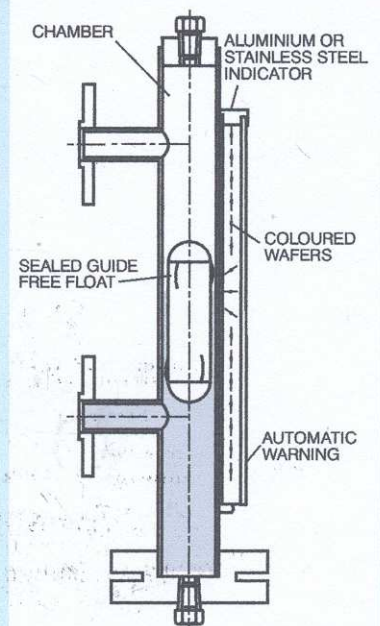


■ Features and Benefits

- > **Indicator** Aluminium or Stainless Steel outer housed can be assembled to any length and mounted to suit the best viewing position.
- > **Coloured Wafers** 25mm wide, red and white (or green, red and yellow) remain magnetically locked in the vertical position until disturbed by the greater magnetic force of the float magnet.
- > **Automatic Float Warning** The wafers at the bottom of the indicator are mounted with their colours reversed. Should the float reach that level, they again present a sharp, immediately readable indication of float failure.
- > **Sealed Float** of reinforced stainless steel, titanium or corrosion resistant plastic.
- > **Sealed Chamber** fabricated from stainless steel tubing.
- > **Interface** The gauge is ideally suited for measuring liquid interfaces. Floats are available with a variety of specific gravities to suit the liquids being monitored.
- > **Point Switches** Switches can be fitted on the gauge at any level and so provide alarms at high, low and intermediate points.
- > **Transmission and Monitoring for Remote Display** Can be offered as a complete original equipment package or retro-fitted to an existing Magnetic Gauge.
- > **Versatility** The simple concept of the Magnetic Gauge allows for flexible design to adapt to a variety of installation needs. Gauges can be manufactured to an almost unlimited length and in any configuration.



NON GUIDED SYSTEM



■ Specification

STANDARD MATERIALS

Body: Austenitic stainless steel to suit customers requirements.

Flanges: Austenitic stainless or carbon steel depending upon application.

Float: Austenitic stainless steel, titanium or corrosion resistant plastic.

Display Housing: Aluminium Alloy 6063J6 or 316 Stainless Steel.

RATINGS Process Pressures up to 200 bar (2900 psi).
Saturated Steam pressure up to 110 bar.
Temperatures up to 400°C.
Higher temperatures on application.

SPECIAL CHAMBER MATERIAL

Alloy 825, Titanium, Hasteloy, Sanicro 28/Duplex, Monel.
Others on request.

■ Approvals

CE PRESSURE EQUIPMENT DIRECTIVE 97/23/EC CATEGORY IV

Ex II 1/2Gc T2-T6 KEMA 02 ATEX2106X

Note: this approval is not available on all options, contact design office for information.

