

General Description

Simco Magnetic level gauges involve the use of a permanent magnet sealed inside a closed pressureless float whose rise and fall causes the rotation of bi-coloured magnetic rollers or flappers. The float is situated inside the chamber of the instrument in contact with the process medium and is not able to be viewed from the outside. The float inside the chamber is coupled to bi-coloured magnetic rollers / flappers installed in an indicating rail which is attached to the outside of the chamber. The red colour indicates the presence of liquid while the point where the colour is white or silver shows the level of liquid in the vessel.

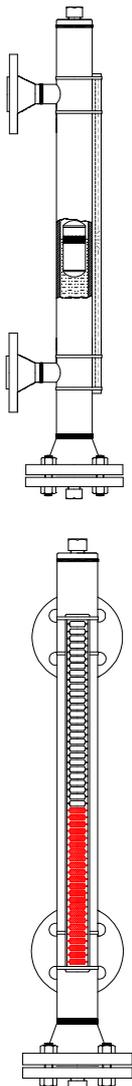
For this type of instrument chemical compatibility, temperature, specific gravity (density), buoyancy and viscosity are all important in the selection and design process especially for the float. For example, larger floats may be used with liquids with specific gravities as low as 0.4 while still maintaining buoyancy.

Magnetic gauges can be used for measuring either total or interface level and offer an alternative solution to traditional reflex / transparent gauges. Accessories such as switches / transmitters can be supplied and fitted to this type of gauge and it is not necessary to have isolation valves as there is no glass to break.

The SIM3 model is generally used in low to medium pressure environments.

SIM3 Magnetic Level Gauge

Front and side view



Typical Material Specifications

Chamber

Schedule 10, 10S, 40, 40S A182 304 / 304L, 316 / 316L, F44, Hastelloy, Inconel (625 & 825), Titanium

Flanges

A182 304 / 304L, 316 / 316L, F44, Hastelloy, Inconel (625 & 825), Titanium

Indicator Rails (Hermetically Sealed)

Aluminium (Anodised / epoxy coated)

316 Stainless steel

Float

Titanium

Typical Vessel Connection

Threaded - 1/2" & 3/4" NPT

Flanged - 1/2", 3/4", 1", 1.5", 2" & 3"

Indicators

Red / white macrolon rollers

Red white aluminium flappers

Red / silver stainless steel flappers

Bolting

Stainless Steel - A193 B8M / A194 8M

Typical Vent / Drain Connection

Threaded - 1/2" & 3/4" NPT

Flanged - 1/2" & 3/4" ANSI Class 150# & 300#

Selection of Available Accessories

Switch

By installing magnetic actuated switches at single or multiple points along the instrument chamber it is possible to create high / low level alarms and also incorporate on / off activation. Switches are available with ATEX approval and the standard material of the body is stainless steel.

Reed Chain Transmitter

A reed chain type transmitter can be supplied as an accessory to the level gauge which is mounted against the outside of the chamber. When the float moves up and down inside the gauge chamber a series of reed switches and resistors are then activated. The changing signal is converted into a 4-20 mA output from which the results can be used along with the direct gauge reading.

Calibrated Scale

Manufactured from traffolyte / 316 stainless steel and engraved with units which reflect individual clients requirements.

Float Damper Springs

Damper springs can be installed at either the top, bottom or both ends of the chamber. Damper springs are considered when it is necessary to protect the float from damage in the event that there is a sudden loss of pressure or surge in the system.

Float Failure Indication

It is possible to include a longer indication rail which measures lower than the centre line of the bottom process connection. The indicators in this lower section will be a different colour and when turned this will indicate that the float is not operating in the system normally and should be checked.