QG SERIES
LEVEL GAUGE

EVOL

INSTRUMENT

QG SERIES LEVEL GAUGE

BI-COLOUR QUARTZ GLASS LEVEL GAUGE

Bi-colour quartz glass level gauge is developed with high purity quartz glass tube, meter shell and explosion-proof valve. It consists of two display types, which are red display for height of liquid phases and green display for height of vapour phases. This level gauge takes advantage of light refraction and reflection laws in displaying the level, which makes the level indication clearer. Therefore, it is suitable for liquid measurement of oil products and chemical raw materials such as water, gasoline, liquefied gas, liquid ammonia, propane, propene, aromatics and acids.

Bi-colour quartz glass level gauge

EVOL QG series level gauge customize engineered solutions for liquid interface measurement of two different medium densities. It is designed with the working principle of buoyancy and specific gravity. When the dark-coloured float in quart tube is suspended between two fluid mediums, it is easy to observe the colour differentiation. This direct reading feature has rather make the level gauge ideal at home and abroad, especially in the petrochemical industry.

Wide applications in field of:

1 Petroleum Industry | 2 Chemical Plant | 3 Power Station | 4 Metallurgy Factory

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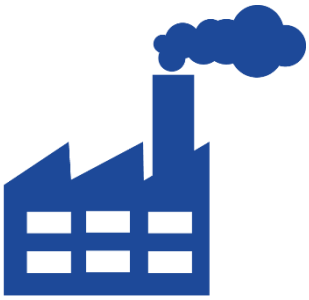

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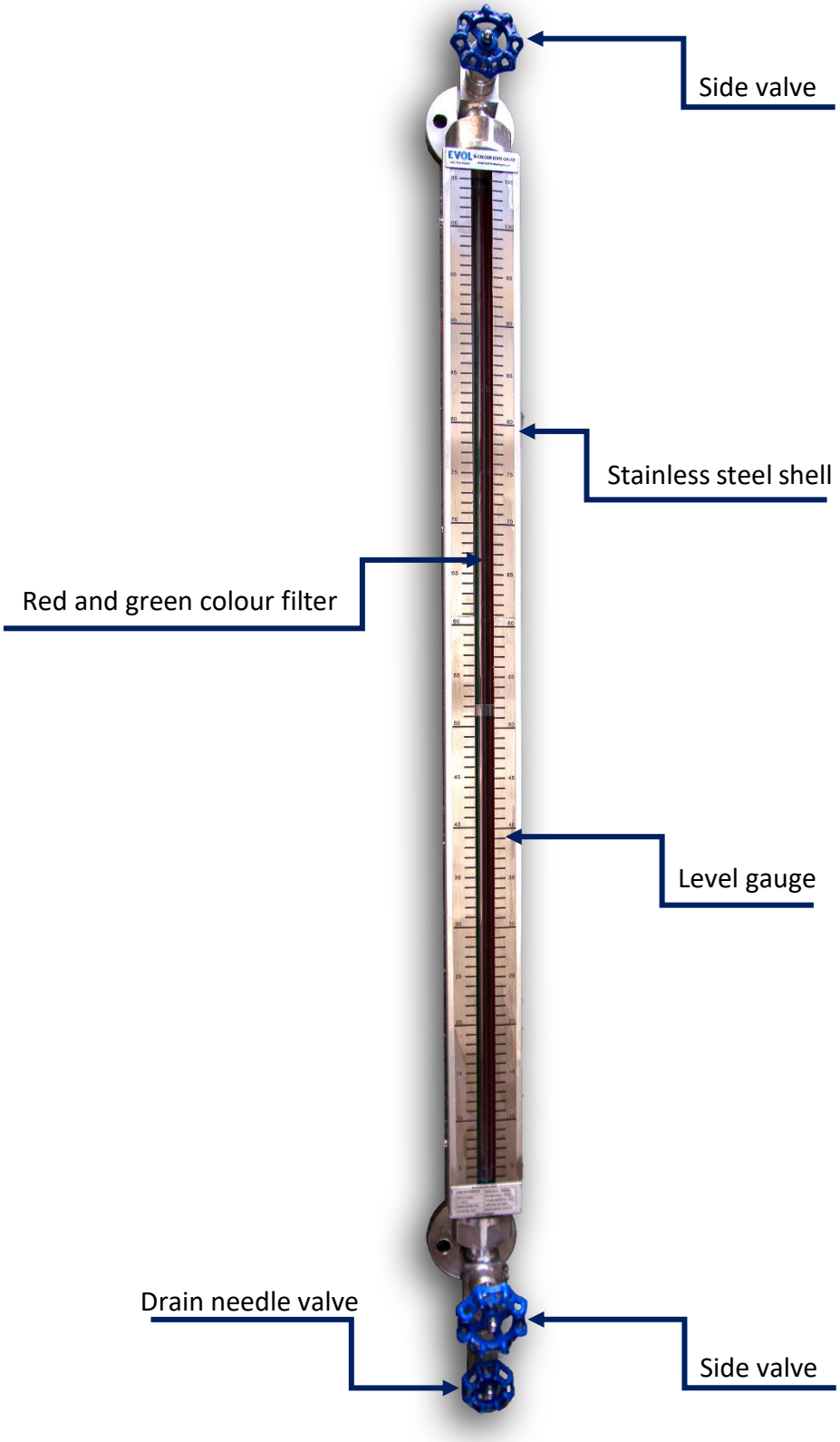
Product Design, Features and Highlights

Design



Features

- Made with 316 stainless steel, excellent corrosion-resistant
- Quartz glass tube for clear liquid and gas display
- Installed with explosion-proof valve
- Work safely under a wide range of fields
- Working pressure: 16 to 100 bar
- Working temperature: -50 to +520 °C
- Measuring range: 300 to 2000 mm
- Lighting installation (optional)

Highlights

- Light weight
- Long life expectancy at low initial cost and low installation cost
- Leakage prevention
- Easy for installation and maintenance
- Suitable for liquid level measurement and interface measurement
- Install lightning device for night monitoring occasions.
- No external power supply is required.

Standard Materials

Parts	Materials
Upper and lower flange	316L Stainless Steel
Shell	316L Stainless Steel
Blocking screws	316L Stainless Steel
Seal ball	316L Stainless Steel
Level tube	Quartz glass

Working Principles

Quartz Glass

The tube of level gauge is made with quartz glass, which allows:

- Face fitted towards the chamber shaped to have prismatic grooves with section angle of 90°.
- Better optical concentration of lights
- Visibility of the liquid level.

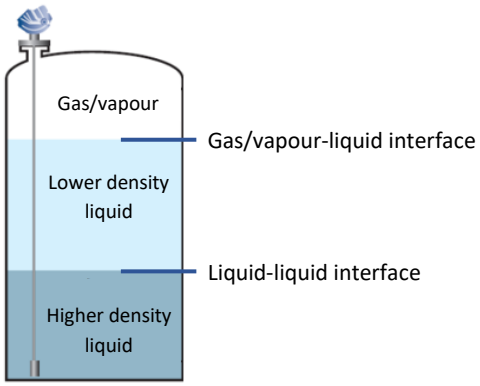
Colour Display for Liquid Level Measurement

When in operation, the chamber of level gauge is filled with liquid in the lower zone and gases or vapours in the upper zone. Based on the working principle of light refraction and reflection laws, the liquid level is well-known by different brightness of the glass in liquid and vapour zone.

Once the light encounters a groove's surface within the liquid and gas/vapour phase, light is absorbed and display area is created to show the appearances.

With the help of colour filter, this optical principle characteristic is presented with a certain colour, so as to achieve the appearance of liquid phase showing green while gas/vapour phase showing red. Due to the contrast in showing red and green colour, it is very clear to observe in long distance.

Colour Display for Interface Level Measurement



The working principle for interface measurement is same as that of liquid level measurement. Due to the density difference of two liquid phases and vapour phase, it creates two interfaces, which are gas/vapour-liquid and liquid-liquid.

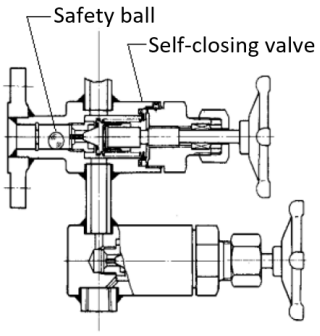
(i) Liquid-liquid interface

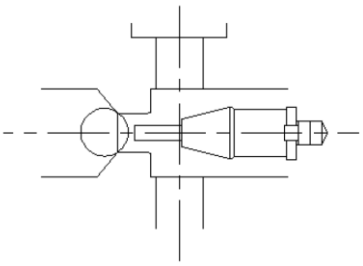
For the liquid with higher density, the colour filter presents black or colourless while green colour for the liquid with lower density.

(ii) Gas/vapour-liquid interface

As the liquid with lower density presents green colour, the gas/vapour phase shows red colour.

Seal ball valve





(i) Level gauge is in normal operation (ii) Safety ball is in operation when level gauge is damaged

Safety balls are installed in upper and lower valves, which works automatically when the quartz glass is damaged accidentally.

(i) When level gauge is in normal operation

The valves may only be partially opened (1/4 to 1/2 turn) to allow minimum liquid flow into gauge. The valve stem tip is still contact with the safety ball. When the liquid level stops raising into the level gauge, the valves may fully open (2 to 3 turns) for normal operation. This is to remove the valve stem tip from contacting with the safety ball and to prevent the steel ball from seating.

(ii) When level gauge is damaged

Always ensure the pressure in container is greater than 2 bar. When level gauge is found leakage or breakage, the safety balls in the upper and lower valves are sealed automatically under the action of the liquid level pressure in the container. Thus, it will prevent the continuous outflow of liquid in the container.

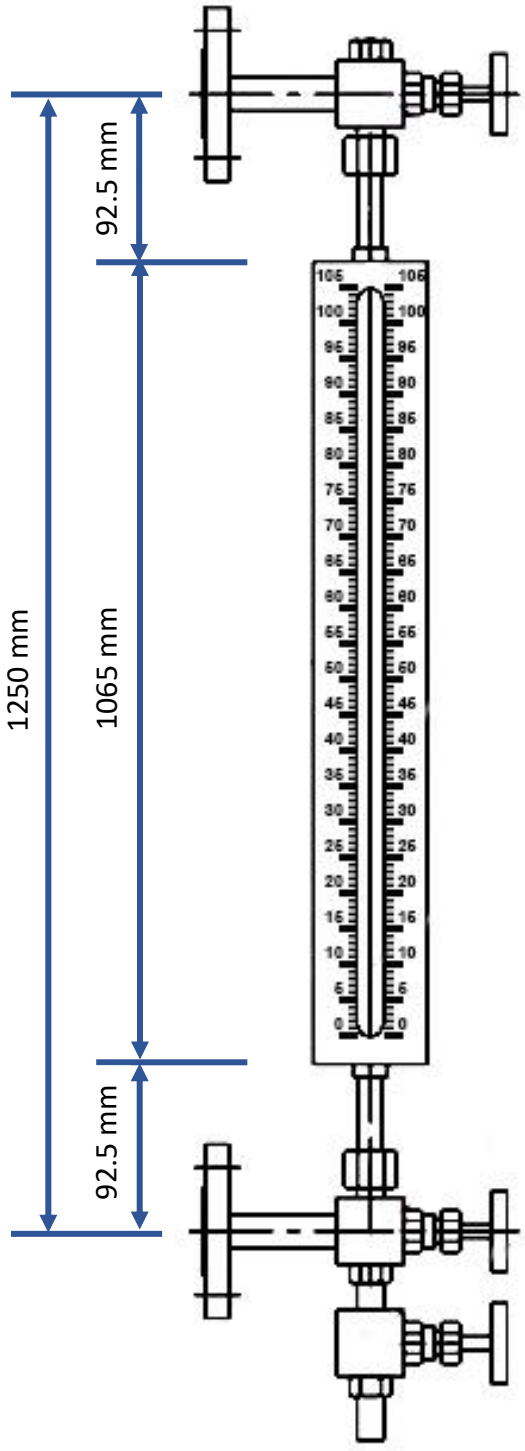
Specifications

Model	EVLG
Measuring range*	300 to 2000 mm
Working temperature range*	-50 to +520 °C
Working pressure range*	16 to 100 bar
Automatic sealing pressure of safety ball	Greater than 2 bar
Connection type*	Flange / Thread
Weight	15 to 30 kg
Lighting (Optional)	UGS power supply: 24 V DC, 36 V DC, 220 V AC
Protection category	IP65
Explosion-proof category	Exd IICT6Gb

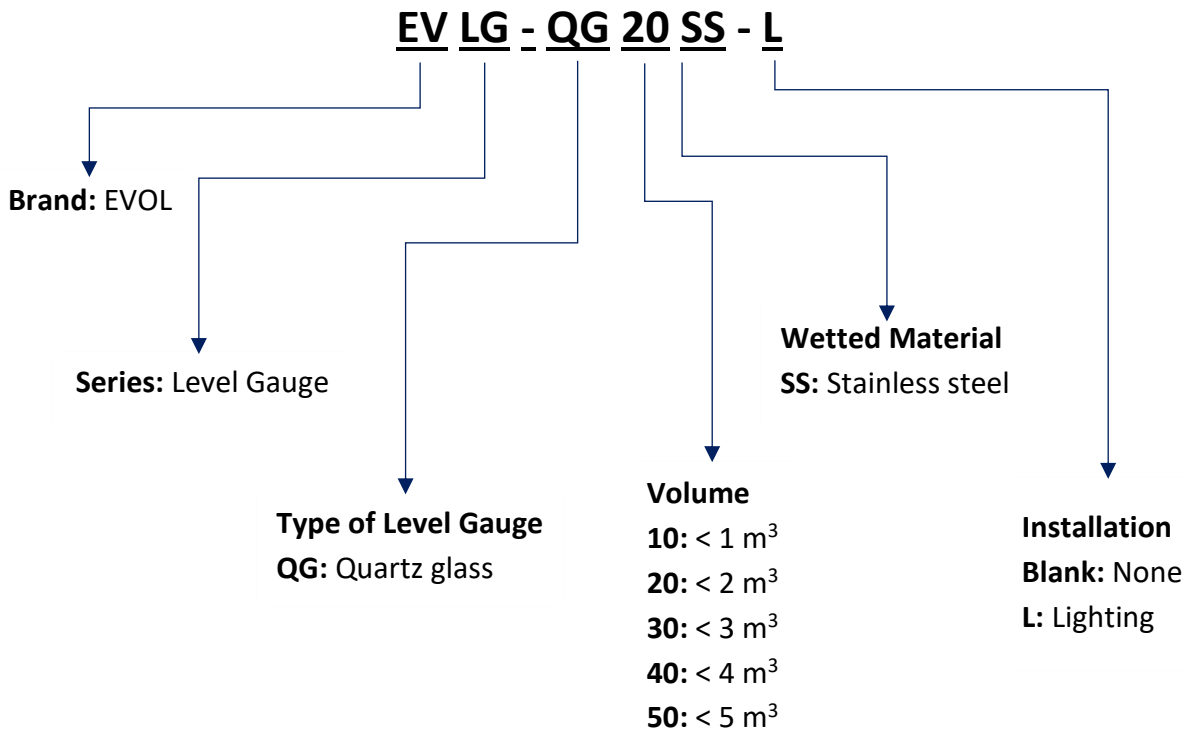
*Can be customized based on customer's requirement.

Sample Dimension

- Display height: 1250 mm
- Measuring range: 1065 mm



Model number



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Products are subject to change without prior notice.

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