

## KONGSBERG Radar Tank Gauge for Chemical tankers – Clean solution

### Features

- Radar RMS accuracy 2 mm
- Measuring range 0 to 50 m
- Operating temperature -45 to +85 °C
- Environmental protection IP 66/67
- Intrinsically safe EEx ia IIC T4
- No parts in contact with the cargo
- Stainless steel AISI 316L
- Clean surface radar antenna
- Integrated tank pressure transmitter



### General description

GL-300 consists of the GLA-300/H Radar Tank Gauge (RTG), the GC-300 Cargo Temperature Unit (CTU) and the GLK-300 Signal Processing Unit (SPU). The RTG introduces modern and flexible arrangements for simpler installation. The radar technology provides accurate measurement regardless of the atmospheric conditions inside the tank.

The GLA-300/H is designed with a PTFE plate isolating the radar electronics from the tank atmosphere. The clean surface antenna design is easy to clean and eliminates risk for deposits from various chemicals after tank cleaning.

### Principle of operation

The RTG employs the Frequency Modulated Continuous Wave (FMCW) principle. The distance (i.e. ullage) is derived from the time delay of the reflected signal. The electronic unit in the RTG includes a patented signal detection method that ensures optimum performance.

A frequency sweeping microwave signal is emitted by the RTG, and directed vertically down the tank.

### Tank pressure

The GLA-300/H comes with a tank pressure transmitter fully integrated in the RTG, ready installed before delivery. No extra installation work is required at the yard.

The GT-450 pressure transmitter is based on a dry, robust ceramic measurement capsule with internal capacitive sensing and with a ratio metric output.

## Tank installation

The RTG adapts to a gauge socket with inner diameter of 200 mm. The gauge socket shall be welded to the top of the tank, preferably as close to the centre of gravity of the tank as possible.

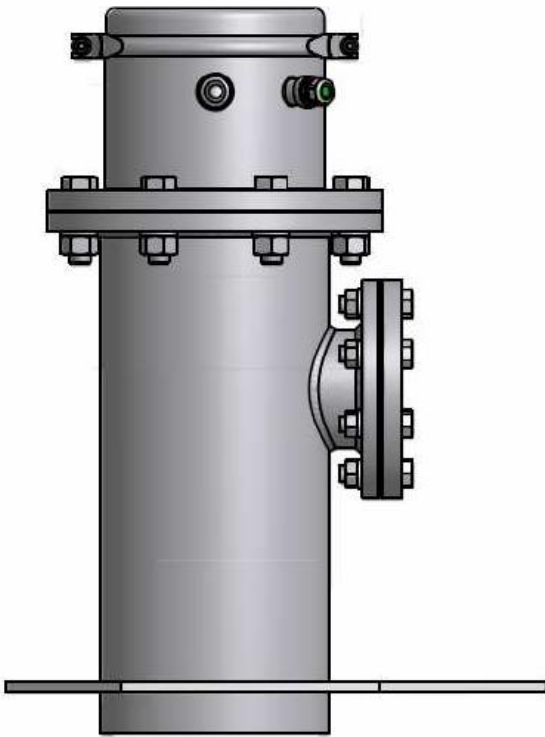


Fig. 1: Radar Tank Gauge GLA-300/H mounted on a 200mm gauge socket

## Specifications

### Radar Tank Gauge

Material: AISI 316L and PTFE  
Frequency: K-band (24 GHz)  
Beam width: 9 ° (± 4.5 °)  
Measuring range: 0 to 50 metres  
RMS accuracy: 2 mm

### Tank Pressure Transmitter

Material: AISI 316 and Titanium  
Measuring range: 0.8 to 1.4 bar  
Accuracy: ± 1.0 % of FRO\* 0.80 to 1.40 bar from 20 °C to 85 °C  
± 2.5 % of FRO\* 0.80 to 1.40 bar from -45 °C to +20 °C

\*FRO = Full Range Output

### Common specification

Cable spec.: 3 x twisted pair common screen  
Protection: IP66/67  
Ambient temp.: -45 °C to +85 °C  
Ex-classification: Ⓢ II 1 G Ex ia IIC T4  
Ex-certification: C E 0470  
Nemko 09ATEX1132X  
Weight: 18 kg  
EMC Standard: EN50081-1 and EN 50082-2

### Gauge socket

Material: According to builder specification  
Diameter: Ø200 mm  
Flange: JIS 5K200  
Height: 500 mm

**KONGSBERG MARITIME AS**  
Trondheim, Norway

**RADAR TANK GAUGE GLA-300/x-yz**  
Ser.no. Yr. Nemko 09ATEX1132X  
0470 Ⓢ II 1 G Ex ia IIC T4  
UI=14.3VDC, PI=2.1W, CI=347nF, LI=0  
-45°C ≤ Ta ≤ 85°C

GLA-300/H-yz type codes

y: 1=10GHz, 2=24GHz (operational frequency)

z: 1=PTFE, 2=PEEK (lens material)

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ATEX related document



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