

## 290 Series Density Transmitter for Drilling Mud, Slurry and Cement



### Key features

- Density transmitter for drilling mud, slurry, cement and completion fluids.
- Designed to be installed in mixing, recirculation and storage tanks
- Simple and flexible pole-mounting installation from the top-of-tank
- Robust and reliable construction for arduous duty and extended service
- Sensors protected by stainless steel cage easily removable for cleaning
- Temperature compensated with low thermal sensitivity
- 2 Wire 4-20mA output signal calibrated to suit the application

## 290 Series Density Transmitter

PSM has designed and developed the 290 series as a density transmitter specifically for use in the onshore and offshore oil and gas market. It is the first fluid density transmitter that is fully submersible for use on drilling mud, slurry, cement and completion fluids in safe area duties.

This density transmitter is rugged yet accurate, providing reliable measurement of the density or specific gravity in the mixing or holding tanks and return sumps.

The 290 Series transmitter measures density as a function of differential pressure. Each unit has two pressure sensitive diaphragms mechanically separated by a fixed distance on a mounting pole.

Under normal operation, with both diaphragms submerged and the distance between them fixed, any variation in the pressure differential between them must be a function of the liquid density.

The diaphragms are protected by enclosure cages to prevent damage from mechanical impact or debris. These are easily removable for cleaning.

The density measurement is made online in real time and is fully compensated for changes in fluid temperature.

## Specifications

### Sensor

Construction: Body assembly 316L stainless steel with diaphragms Hastelloy C276

Mounting: Submersed in tank

Measuring range (Factory calibration):

- 6.67 to 20 Pounds / US Gallon
- 0.8 to 2.4 SG / 0.8 to 2.4 kg/l

Customer specific calibration within this range on request

Minimum density measurement:

- 6.25 Pounds / US Gallon
- 0.75 SG / 0.75 kg/l

Sensor capillary fill fluid: Silicon oil

Operating temperature: -10 to +80° C

### Amplifier Module

Construction: Wall mount GRP enclosure

Enclosure rating: IP65 (IP67 option) / NEMA 4X

Power supply: 12 to 35 Vdc

Signal output: 4 to 20 mA dc, 2 wire.

### Performance

Accuracy: +/- 0.25% of set span

Temp coefficient: +/- 0.02% set span / °C

## System drawing

