Pietro Fiorentini

WLR meter

The **WLR meter** has been developed by Pietro Fiorentini to offer to the users a dedicated product to complete the range of metering solutions.

It is a modular, inline system, providing real-time measurements of water content in a multiphase flow.

The sensor is a microwave quarter-wavelength coaxial resonator type, with a high pressure rating dielectric window exposed to the process. By scanning and defining the resonance frequency, the permittivity/conductivity of the fluid is calculated, and thus the water content.

The WLR meter can be supplied as stand alone configuration or integrated in a multiphase flow meter.

Topside wellhead   Offshore wellhead   Floating units

WLR meter competitive advantages

High accuracy in water liquid ratio measurement

Advanced, Machine Learning based, auto diagnostic system

Reliability and long-term stability due to high quality components

No moving parts

Ultra-rugged design suitable for harsh field conditions

High flexibility: both onshore and offshore application

Suitable for mobile applications (well testing on mobile units)

Data connectivity for remote operation

Technical features

Features	Values
Operating Range	• 0-100% GVF • 0-100% WLR
Size	From 2" to 14"
Design Pressure & Temperature	Up to 5.000 psi (345 bar), up to 250 °F (121 °C)
Process Connection	ANSI/API flanges or clamped hubs
Data Connectivity	Serial RS-422/RS-485 single/redundant or Ethernet TCP/IP (Modbus)
Flow Electronic Transmitter	• Real Time controller • Electronics temperature -40° C / + 85° C • Power supply: 24VDC, or 110÷240 V 50÷60Hz • Power consumption: 20W • Enclosure for hazardous area • Weather protection: IP 66 • Stainless steel or aluminum enclosure • With local display (as optional) • ATEX/IECEx certification Ex d IIB T3-T6 Ga
HMI	HMI for Windows

Table 1 Features

Materials and approvals

Part	Material
Meter Body	UNS 31803 (Duplex), UNS 06625 (Inconel 625), SS316 or Inconel 825
Probe	UNS 31803 (Duplex), UNS 06625 Inconel 625
REMARK: The materials indicated above refer to the standard models. Different materials can be provided according to specific needs.	

Table 2 Features

NACE MR0175/ISO 15156

ATEX 2014/34/EU

IEC 60079-0 and 1

EMC EN 61000