

AGAR CORPORATION

Process Measurement & Control



OW Plus Series

The Agar OW Plus is based on the OW-200 watercut meter, operating in multiphase flow conditions and continues the long tradition of excellence in multiphase technologies provided by Agar for over 20 years.

ADVANTAGES OF THE AGAR OW PLUS SERIES INCLUDE:

- Gas void fraction 0-99%
- Watercut 0-100%
- Not affected by flow regimes
- High accuracy, real-time flow measurement
- High and low viscosities
- Microwave based, non-nuclear (radioactive) sources
- Compact, portable and easy to transport and install



*OW Plus
Standard In-Line*

www.agarcorp.com

All Agar Corporation Instruments are covered by one or more of the following U.S. Patents: 4,503,383; 4,774,680; 5,099,697; 5,101,163; 5,101,367; 5,263,363; 5,503,004; 5,551,305; 5,589,642; 5,741,977, RE 36,597. Other patents pending in the USA and other countries.



OW Plus Series Features

The Agar OW PLUS combines Agar's advanced coriolis technology with Agar's field proven watercut measurement to achieve superior accuracy in the GVF range of 0-99%.

The Agar OW PLUS monitor is capable of measuring watercuts at the range of 0-100%, without salinity effect.

The Agar OW PLUS is a watercut measurement solution in multiphase condition, used for field and well optimization, capable of handling all flow regimes.

OW PLUS COMPRISES THE FOLLOWING PRIMARY SUBSYSTEMS:

- **The Density Measurement** is based on Coriolis and other ancillary sensors. Engineering advances allow Agar to utilize these sensors at extended operating multiphase flow ranges. The density data is fed into the Agar Data Analysis System (DAS), which determines the Gas Void Fraction.
- **The Agar watercut meter (OW-201)** is used to measure water content accurately over the full range of 0-100% in both oil and water-continuous phases. Accuracy is not affected by changes in velocity, salinity, pH, viscosity, temperature or density. Watercut monitor data is fed into the DAS and used to determine multiphase watercut.
- **The Agar Data Analysis System (DAS)** performs on-line analysis of data acquired from the above sub-systems to determine the watercut by %. It supports a variety of PVT calculations that convert the process conditions to standard conditions. It also has the ability to accept user-defined PVT relations.

OW PLUS General Specifications



PERFORMANCE

Gas Void Fraction	0 to 85% (In-Line Model) 0 to 99% (Bypass Model)
Watercut	0 to 100%
Line Sizes	2" through 6" Consult factory for other sizes.
Flow Regimes	All (e.g. Bubbly, Wavy, Slug, Annular, etc.)
Pressure	Up to 10,000 PSI
Ambient Temperature	-4°F to 160°F (-20°C to 70°C) Optional Low Temp: -40°F to 160°F (-40°C to 70°C)
Process Temperature	Standard Model: 32°F to 212°F (0°C to 100°C) High Temperature Model: 32°F to 572°F (0°C to 300°C)
Liquid Viscosity	0.1-2000 cP High Viscosity available upon request
Salinity	0 to 30% NaCl by weight (up to saturation)
Sand/Particles	Up to 5% by volume and less than 1 mm particle size
Maximum Pressure Drop	Less than 5 psi at line size 2"- 6"
Wetted Parts	Standard: 316 Stainless Steel Hastelloy and other materials available on special order; According to ASME B31.1 and B31.3. PEEK; Ceramics Isolators; NACE compliant

OW PLUS General Specifications


PREFERRED INSTALLATION: Vertical upward flow

ELECTRICAL:

Power Supply: 24 VDC, 110 & 220 VAC

Power Requirements: 80 Watts for basic option (lower power options available upon request)

SAFETY CERTIFICATIONS:

ATEX:  II 2(1)G EEx d [ia] IIB T4

UL/C-UL - Class 1, Division 1, Group C&D, T6

ROSTECHNADZOR (Russia, CIS), GOST-R, Metrology Pattern Approval

DATA COMMUNICATION (STANDARD AND OPTIONAL):

Standard: 3 x 4-20 mA (% water, temperature and GVF/Density)

Standard: RS485 or RS232 with MODBUS Protocol

Standard: RS232 communication with laptop or industrial PC using Agar WINDOWS application, optional ethernet connection.

Optional: Modem or wireless communication

TYPICAL DIMENSIONS:

Approximate weight for 6" meter: 440 lb (200 kg)

Approximate dimensions (F/FXWXH): 30" X 20" X 50" (76 cm x 51 cm x 127 cm)

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