



AGAR CORPORATION

Process Measurement & Control



AGAR MPFM 408 SERIES MULTIPHASE FLOW METER



The Agar MPFM-408 is the newest Multiphase Flowmeter based on the same principles as the well tested and proven MPFM-401. For this reason the MPFM-408 is not affected by changing flow regimes, fluid density, water salinity or viscosity. The MPFM-408 has no moving parts, does not use nuclear sources, is capable of high gas void fraction (0-99%), and has a compact size.

Typical applications for this instrument include well testing of oil wells with full range gas void fractions, gas well testing (including measuring condensate in high pressure wells), portable well testing and field allocation.

This photo shows an MPFM-408-20-40, which is capable of liquid flow rates between 350 – 3750 BPD and 70 to 750 MACFD.

GENERAL SPECIFICATIONS OF THE AGAR MPFM-408 SERIES METER:

PERFORMANCE:

Void Fraction : 0 to 100%
 Watercut : 0 to 100%
 Flow Patterns : All
 Pressure Rating : Up to 10,000 PSI is available
 Ambient Temperature : -4°F to 158°F (-20°C to 70°C)
 Optional Low Temp -40°F to 158°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 450°F (0°C to 232°C)
 Viscosity : .up to 50 cp
 Salinity : 0-30% NaCl by weight
 Sand : The meter is not affected by sand
 Pressure Drop : Less then 1bar (14.7psi)
 Wetted Parts : Stainless steel or Duplex, Carbon still piping According to ASME B31.1 and B31.3. PEEK, Ceramics, Elastomers.

ELECTRICAL:

Power Supply: 110, 220 VAC or 12, 24 VDC (optional)
 Power Requirments: 36 Watts with pneumatic actuator
 RF, API, or Clamp flanges per customer specification. Up to 10" pipe line.

SAFETY CERTIFICATIONS:

ATEX- EEx ia IIC T6
 UL/C-UL - Class 1, Division 1, Group C & D, T4

TYPICAL DIMENSIONS: (ANSI 300*)

Model	Weight		Dimensions	
	(Lbs.)	(Kg)	(Inches)	(Centimeters)
408-20-20	1,520	640	96x36x77	243x90x195
408-30-30	2,000	945	96x36x87	243x90x222
408-40-40	3,040	1,381	100x52x94	250x132x240
408-60-60	4,000	1,816	100x62x140	256x157x355

*Weights and dimensions will vary for different gas loop options.

DATA COMMUNICATION (STANDARD AND OPTIONAL):

Standard: 5 x 4-20 ma (oil flow rate, water flow rate, Gas flow rate, Temperature, Pressure)
 Standard: 3 x Pulses 0-5V square shape ((oil flow rate, water flow rate, Gas flow rate)
 Standard: RS485 or RS232 with ModBas Protocol.
 Standard: RS232 communication with Laptop, or Industrial PC, Using Agar window application.
 Optional: Hart Protocol.
 Optional: Modem or wireless communication.
 Flow Rate:

Liquid superficial velocities is 0.3-3.2m/sec (0.4-9.4ft/s)
 Gas velocities 3-31 m/sec (9-96 ft/s)

ACCURACY OF THE MPFM-408 SERIES:

Accuracies are not affected by changes in salinity, viscosity, density, temperature, pressure or pH.

Oil Flow Rate	+/- 2% of full scale, plus +/- 5% of reading
Water Flow Rate	+/- 2% of full scale, plus +/- 5% of reading
Gas Flow Rate	+/- 2% of full scale*, plus +/- 5% of reading

*Full scale depends on the size of the MPFM-408 Series gas loop.

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