

SONARtrac® Gas Holdup Monitoring System

Model GH-100

CiDRA's SONARtrac Gas Holdup Monitoring System is a breakthrough in process measurement technology. This submersible system, when used in an a slurry containing bubbles, will enable an on-line, real-time measurement of the gas holdup within the slurry.

Sonar Technology

The SONARtrac Gas Holdup Monitoring System does not utilize ultrasonics; it utilizes patented sonar array processing techniques to listen to, and interpret, acoustic fields generated by the machinery and flow present in virtually all industrial processes. This passive listening approach results in an in-situ measurement of the amount of entrained air/gas present in the process fluid with a high degree of accuracy and repeatability. CiDRA's proprietary "sonar" technology was initially developed for flow and compositional measurement in one of the world's most demanding environments: downhole, offshore oil and gas production.

Advantages

CiDRA's SONARtrac technology represents an innovative new class of industrial measurement instrumentation. It has resulted in a non-fouling, quick to install, easy to use surveying or monitoring system.

The advantages and features of CiDRA's SONARtrac Gas Holdup Monitoring System enable users to realize the following measurable benefits:

- Low installation and life cycle costs
- Increased process efficiency and increased yields
- Lower operating costs
- Increased product quality

Applications

- Column Cells and Mechanical Flotation Tanks
- Pulp and Paper De-inking
- Wastewater Treatment
- Minerals Separation
 - Copper
 - Zinc
 - Phosphate
 - Iron
 - Moly
 - Coal
- Other aeration processes

Benefits

- Sealed stainless steel and PVC design enables submersion in a wide range of slurries
- Rugged design with stainless steel cradle for durability
- Performance not affected by scale build-up
- Quick installation
- No moving parts – no regularly scheduled maintenance required
- Easily moved for gas holdup profiling
- Real time measurement of gas holdup enables column cell control and optimization
 - Maximize the grade versus recovery relationship
 - Wash water control
 - Sparger characterization for maintenance and design enhancements
 - Air supply control
 - Frother dosage control
- Real time measurement of gas holdup enables mechanical flotation tank control and optimization
 - Impeller speed control
 - Impeller performance trending for maintenance



Features

Transmitter with integrated flow processor

- Programmable by keypad or PC interface
- Self-diagnostics capability

Data logging capabilities

- Volumetric flow
- Flow Velocity
- Sensor Temperature

USB Port and memory stick

- Remote data logging retrieval
- Flow diagnostic reporting to CiDRA technical support

Analog /Digital Outputs

- Two (2) 4-20 mA current outputs
- Pulse/Frequency output alarm
- HART® protocol

Options

- FOUNDATION Fieldbus™
- PROFIBUS
- MODBUS®
- Quality factor output

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HART is a registered trademark of the HART Communications Foundation.
PROFIBUS PROCESS FIELD BUS is a registered trademark of PROFIBUS NUTZERORGANISATION e.V.
MODBUS is a registered trademark of Schneider Automation, Inc.
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SONARtrac[®] Gas Holdup Monitoring System Specifications

Parameter	Specifications	Comments
Sample tube diameter	4"	Contact factory for other sizes
Gas Holdup range	0 to 20 %	By volume
Gas Holdup accuracy	± 3% (5% to 20% Gas Holdup) ± 0.5% (0% to 5% Gas Holdup)	Of reading Absolute
Gas Holdup resolution	±0.05%	Absolute
Transmitter with integrated flow processor	Programmable by keypad or PC interface Self-diagnostics capability	
Operating Temperature Range:		
Transmitter	-4°F to +140°F (-20°C to +60°C)	
Sensor head	-4°F to +140°F (-20°C to +60°C)	
Storage Temperature Range:		
Transmitter	-22°F to +176°F (-30°C to +80°C)	
Sensor head	-40°F to +158°F (-40°C to +70°C)	
Max sensor head operating pressure	30 PSI (2 Bar) absolute	Equivalent submerged depth of 35 feet (10.7m) in pure water @ STP
Cable between transmitter and sensor head	PLTC cable with one end connectorized	Cable lengths up to 300 ft (90m)
Analog input	Two (2) 4-20 mA	Enables internal logging of optional process parameters
Analog output	Two (2) isolated 4-20 mA current outputs	One (1) with HART protocol
Digital outputs	RS232 or RS485	
Transmitter local display	LCD with backlight	Provides entrained air/gas, system status, system diagnostics
Data logging capability	Yes	
Transmitter enclosure	NEMA 4X	
Power requirements	AC version: 100 to 240 VAC, 50/60 Hz, 25 watts DC version: 18 to 36 VDC, 25 watts	
Transmitter size	12(30.5)W x 13.5(34.5)H x 6.3(16)D [inches(cm)]	
Sensor head	10.35(26.29)Dia x 34.75(88.27)L [inches(cm)]	53lbs(24kg); <21lbs(9.6kg) underwater
Maintenance and calibration	None required	No inherent drift mechanisms. Does not require non-aerated reference slurry

Contact CiDRA

To speak with a CiDRA applications engineer about the SONARtrac Gas Holdup Monitoring Systems, or for information on this or other CiDRA industrial process measurement solutions, call +1.203.265.0035 or visit our web site at www.cidra.com.

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