

SONARtrac[®] Process Water Monitoring System

Model PW VF-100

CiDRA's breakthrough SONARtrac flow measurement technology now delivers the same compelling price/performance combination to produced and process water applications that is experienced by customers in multiphase slurry applications.

CiDRA's SONARtrac volumetric flow technology is the new paradigm for process flow measurement technology. By installing non-intrusively on existing process lines, the SONARtrac clamp-on system allows on-line volumetric flow measurement on virtually any type of pipe material and lined pipe, without any coupling gels or special adjustments.

SONARtrac monitoring systems do not utilize ultrasonics; they employ patented sonar array processing techniques to listen to, and interpret, naturally occurring and coherent flow turbulence in process piping with a high degree of accuracy and repeatability.

Now you can experience the same high reliability, proven performance, and value of CiDRA's multiphase SONARtrac product flow technology on your produced and process water applications with the SONARtrac PW VF-100.

Sonar Technology

CiDRA's SONARtrac technology represents an innovative new class of industrial measurement instrumentation. This sonar technology utilizes array processing techniques similar to those used in the field of sonar processing. 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. CiDRA has taken the proven reliability of its SONARtrac technology to provide new measurement capabilities and provide insight into the monitoring and optimization of industrial processes.

- Installs while process is running
- No pipe penetration, safe and easy to install
- No pressure restrictions
- Increased measurement accuracy and certainty
- Low installation and life cycle costs
- Increased process efficiency and uptime
- Lower operating costs
- Increased product quality

Volumetric Flow For Produced And Process Water Applications

Applications:

- Produced water
- Water Reinjection (disposal)
- Process Water
- Gland Water

Industries:

- Oil Sands Processing
- Minerals Processing
- Power Generation
- Chemical
- Pulp and Paper
- Water and Wastewater Treatment



Features:

Entirely non-intrusive, "wrap-around" flow sensor design
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

Benefits:

- Accurate and reliable operation in dirty and clean water
- Economic flow measurement for a wide variety of pipe sizes
- Compatible with most pipe materials and schedules
- Simple, quick installation, minimal surface preparation, no gel required, light weight
- Compact, low profile design

HART is a registered trademark of the HART Communications Foundation.
FOUNDATION Fieldbus is a trademark of Fieldbus Foundation.
PROFIBUS PROCESS FIELD BUS is a registered trademark of PROFIBUS NUTZERORGANISATION e.V.
MODBUS is a registered trademark of Schneider Automation, Inc.
SONARtrac and CiDRA are registered trademarks of CiDRA.

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SONARtrac[®] Process Water Monitoring System Specifications

| Parameter | Specifications | Comments |
|---|--|---|
| Pipe diameters | 2" to 60" | Metric and custom sizes available ^(a) |
| Flow velocity range | Liquid: 3 to 30 ft/s (1 to 10 m/s) ^(b) | Liquid-Only flow conditions may permit flow measurements below 3 ft/sec ^(c) |
| Flow rate accuracy | ±1.0% of reading ^(d) | |
| Repeatability | ±0.3% of reading | |
| Sensor head | Clamp-mounted onto the existing pipe section; designed for single, permanent installation | Sensor head length 30" (76 cm) Height within flange diameter of pipe Lightweight (22 lbs./10 kg for 8" meter) |
| 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) | Inquire with CiDRA for temperatures outside these specified ranges. |
| Sensor head process temp. | -40°F to +212°F (-40°C to +100°C) | |
| Sensor head ambient temp. | -40°F to +140°F (-40°C to +60°C) | |
| Storage Temperature Range: | | |
| Transmitter | -22°F to +176°F (-30°C to +80°C) | |
| Sensor head | -40°F to +185°F (-40°C to +85°C) | |
| Cable between transmitter and sensor head | PLTC or armored cable with one end connectorized | Cable lengths up to 300ft (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 | Pulse/Frequency Output Alarm | |
| Digital interfaces | 10Base-T Ethernet USB/Memory Stick RS232 serial | |
| Communication interfaces | Standard: RS232/485 Optional: MODBUS RTU/ASCII Optional: FOUNDATION Fieldbus™ Optional: PROFIBUS PA | |
| Transmitter local display | LCD with backlight | Provides flow rate, system status, system diagnostics |
| Data logging capability | Yes | |
| Transmitter enclosure | NEMA 4X , IP55 | |
| Power requirements | AC version: 100 to 240 VAC, 50/60 Hz, 25 watts DC version: 18 to 36 VDC, 25 watts | |
| Area classification | Standard: General Purpose | |
| ^(a) Inquire with CiDRA for availability and specifications on sizes greater than 36". ^(b) Minimum flow can be application dependent. ^(c) Inquire with CiDRA for qualifying your application under 3 feet/second ^(d) Not upgradeable to include Gas Volume Fraction (GVF) measurement | | |

Contact CiDRA

To speak with a CiDRA applications engineer about the SONARtrac[®] Process Water Monitoring System, 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.

All information contained herein is believed to be accurate and is subject to change without notice. No responsibility is assumed for its use. Specifications are preliminary and CiDRA reserves the right to make changes, without notice to product designs, specifications, functions, components and manufacturing methods.



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