CLAMP-ON FLOW MEASUREMENT

For hydropower and water supply
Compact – Easy – Worth your Investment

Benefits
- Temporary or permanent installation
- Easy to install
- High repeatability of measured values
- Multi pipe section (1 Instrumentation Controller– up to 4 pipes)

Description
The RISONIC clamp-on system is based on the same architecture and operational design as all other RISONIC applications.

Clamp-on sensors are designed for non-intrusive flow measurement in situations where pipes cannot be dewatered or drilling of the pipe for permanent installation is not feasible. The clamp-on sensor measures the flow through the pipe wall at very high levels of accuracy and repeatability. In addition, installation is very quick and easy – whether for temporary or permanent use.

Several 100 RISONIC clamp-on solutions are in operation all over the world. The RISONIC clamp-on system features a magnetic mounting frame for the sensors which allows for very easy commissioning.

Additional Values
- Pre-set Leak Detection System
- Silt monitoring
CLAMP-ON FLOW MEASUREMENT

FEATURES AND ADVANTAGES

- Non-intrusive ultrasonic flow measurement - no drilling into pipe and no interruption to operations
- Easy installation with magnetic sensor frames, adhesive mounting or mounting straps
- Multi pipe section – 1 RISONIC clamp-on controller can control up to 4 different pipes and diameters
- Price/Performance – highly accurate measurement with 1 or 2 measuring paths (multi paths also supported)
- Includes a pre-set leakage detection system and other applications such as total flow, sediment monitoring and advanced mathematical calculations
- Bi-directional flow measurement (pumped storage hydro power plants)
- Easy configuration via web interface communication (TCP/IP)
- Remote diagnosis
- IEC 60870-5-104 and Modbus RTU/TCP communication
- Carry-on metering case with possibility for battery-powered operation

<table>
<thead>
<tr>
<th>Clamp-on transducers</th>
<th>200 kHz</th>
<th>IP65 for pipe size</th>
<th>3 m – 6 m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>500 kHz</td>
<td>IP65 for pipe size</td>
<td>0.6 m – 3 m</td>
</tr>
<tr>
<td></td>
<td>1 MHz</td>
<td>IP65 for pipe size</td>
<td>0.08 m – 0.6 m</td>
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<tr>
<td>Water flow (max.)</td>
<td>± 0 ... 20 m/s Bi-directional flow measurement</td>
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<tr>
<td>Accuracy</td>
<td>1% of measured flow (depending on the hydraulic situation)</td>
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<tr>
<td>Pipe diameter</td>
<td>0.08 m ... 6.0m</td>
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<tr>
<td>Pipe wall thickness</td>
<td>1 mm ... 60 mm</td>
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<tr>
<td>Pipe material</td>
<td>Various metals and other materials</td>
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<td></td>
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<tr>
<td>Measuring paths</td>
<td>1 or 2 paths per section, more on request</td>
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