

# RISONIC *clamp-on*

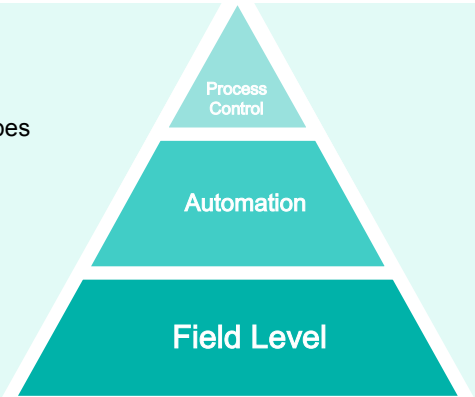
*Non-intrusive Ultrasonic Transit Time Flow Measurement*



Non-intrusive flow measurement for Water Supply, Hydro Power and Process Control  
Permanent installations and mobile inspections  
Magnetic frame for easy transducer mounting and positioning

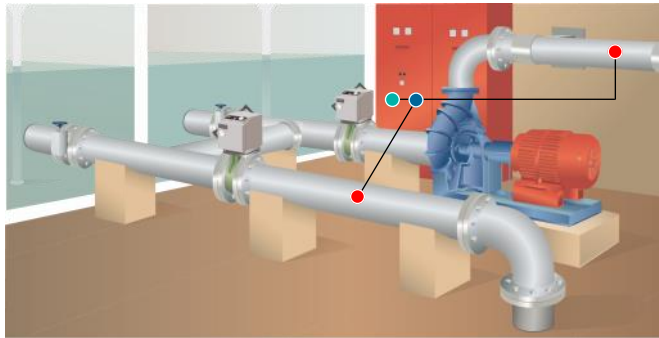
**FEATURES AND BENEFITS**

- Non-intrusive flow measurement (no drilling, no interruption of operation)
- Magnetic frame eliminates mounting straps and also works on partly exposed pipes
- Durable and long-term solution, option for adhesive mounting of magnetic frame
- Measuring accuracy of up to 1.5% of measured flow
- Flow measurement in both directions (pumped-storage power plant)
- Advanced mathematical calculations (total flow, average of delta flow, etc.)
- Web server for easy configuration and remote diagnosis
- IEC 60870-5-104 and Modbus RTU/TCP communication
- Mobile metering with possibility for battery-powered operation

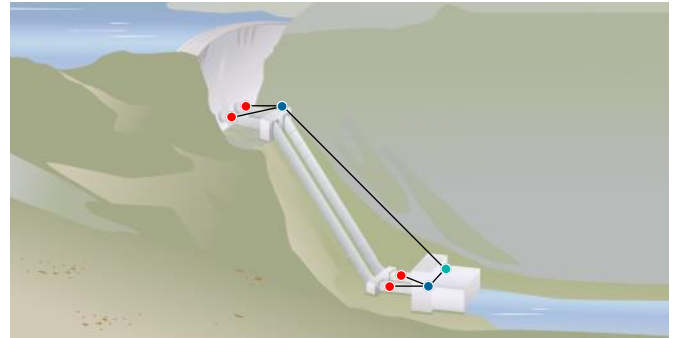


**RISONIC** *clamp-on Application Examples*

**Flow monitoring in Water Supply systems**



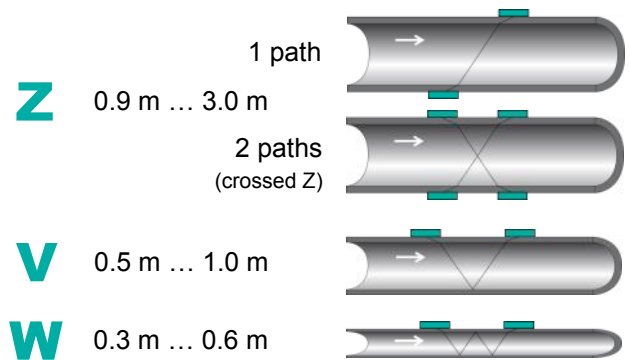
**Penstock leakage detection**



**Ultrasonic Transit Time Flow Measurement**

Clamp-on transducer	500 kHz, IP65
Water flow (max)	± 20 m/s
Accuracy (up to)	1.5% of measured flow
Pipe diameter	0.3 ... 3.0 m
Pipe wall thickness	8 ... 60 mm
Pipe material	metals, FRP, etc.
Measuring paths	1 or 2 paths per section
Measuring sections	max. 4 per Controller

**Path Arrangements and Pipe Diameters**

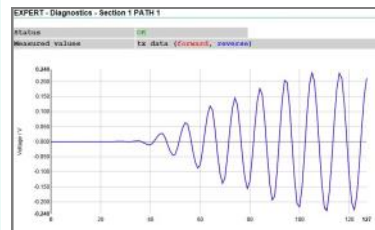


**Innovative magnetic frame mounting concept**



- Ideal for temporary metering
- Easy transducer positioning
- Magnetic holding of the sensor core piece (oscillator insert)
- Permanent mounting option
- May leave only frame at site for recurring flow inspections

**Easy commissioning and signal monitoring**



- Built-in signal-graph allows for immediate checking of measurement set-up
- Remotely monitor measuring section and signal quality

