TOKYO KEIKI

Open Channel Ultrasonic Flowmeter

for Sewage, Wastewater or Industrial Effluent

UVH-2000

UVH-2000 is flowmeter constituted with velocity meter and level gauge to measure flows of sewage, wastewater, industrial effluent and other effluents contain fine particles, sludge or fine bubbles through pipes or open channels with free water surface.

UVH-2000 velocity meter employs the Pulse Doppler method that provides flow velocities of multi points on ultrasonic beam, and ultrasonic level gauge that measures water level without contact.

UVH-2000 is suitable for applications such as in maintenance or flow management of industrial effluents, public utilities, sewage plants or sewerage systems.

Typical applications

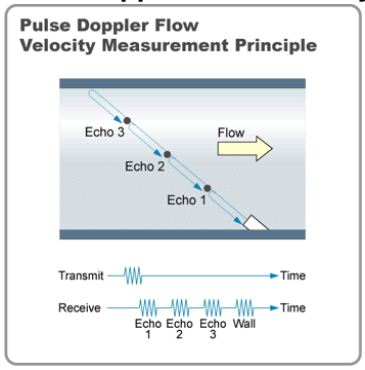
UVH-2000 measures velocity of flow which contain fine particles or slurries such as sewage and wastewater.

Features

- **Accurate and stable measurements are realized with Ultrasonic Pulse Doppler technology.**
- **Two measurements - water velocity and water level - are used to calculate flow rate, therefore UVH-2000 can be measured flows subject to backwater due to obstacle in a stream, reverse-flows, or etc.**
- **Obstacle installed in the stream is very small so there is no head loss or buildup of sediment.**
- **Flow measurement is possible over the full range from zero to full water levels.**
- **Transducers are installed in flow channel easily and can be accomplished without modifying existing channel.**
- **Whenever flow velocity distribution is not developed enough due to short, straight channel lengths, etc, stable measurement can be obtained, because multi points and multi paths (up to 4 paths) measurement are possible.**
- **Water level is measured by ultrasonic level gauge without contact (Radar level gauge is available as optional).**

Measurement Method

Pulse Doppler Flow Velocity Measurement

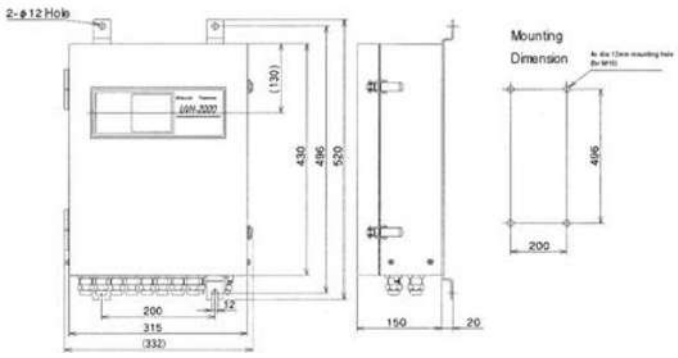


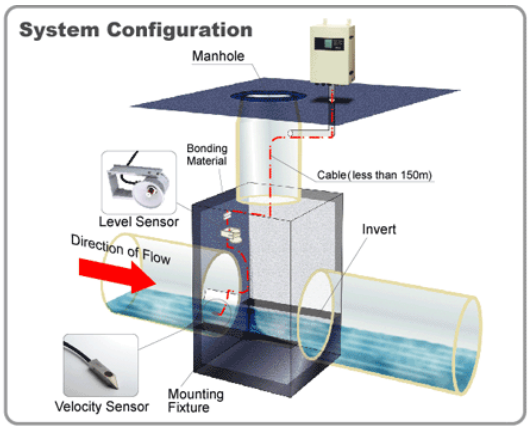
- **Only one transducer is needed for one path measurement as transmitter and receiver.**
- **Flow velocity is calculated based on the Doppler Shift resulting as ultrasonic waves are reflected from moving particles or bubbles in water.**
- **Pulse Doppler method enables measurements of flow velocity at multi positions on an ultrasonic beam.**
- **Multi point and multi path measurements enable stable measurement even if flow is not developed enough.**

Specifications

Measurement Method	Flow velocity: Ultrasonic Pulse Doppler Fluid level: Ultrasonic Pulse Transit Time
Fluids	Sewage, Waste Water, Industrial Effluents, or Other Fluids with suspended matters or small bubbles which reflect ultrasonic waves with a free water surface (turbidity, approx. 60 ~ 50,000 mg/L)
Fluid Temperature	0 ~ +40°C
Applicable Open Channel	Open channels: Rectangular, Circular, etc. Closed Conduit Dimensions of Circular type: Inner diameter ø250 ~ 5000mm Dimensions of Rectangular: Width 250 ~ 5000mm
Measurement Range	Flow velocity: -5 ~ +5 m/s | Water level: 0 ~ 5000 mm
Measurement Accuracy	Within ±3% of Full Scale
Main Unit Display	LCD: 16 × 16 Characters Displayed Items: Flow rate/ Totalized Flow/ Flow Velocity/ Water Level, Measurement Units, and Functions (at configuration)
Power Supply	AC90 ~ 132V, 180 ~ 264V, DC19 ~ 29V
Power Consumption	Approx. 38VA (AC100V), approx. 58VA (AC240), Approx. 24W (DC24V)
Output Signals	Flow Rate: 4 ~ 20 mA DC (allowable resistance: less than 750Ω) Totalized Flow: Photo MOS Relay (Insulated) Flow Velocity: 4 ~ 20 mA DC (allowable resistance: less than 750Ω) Water Level: 4 ~ 20 mA DC (allowable resistance: less than 750Ω) Flow Velocity Meter Malfunction Warning: Photo MOS Relay (Insulated) Level Gauge Malfunction Warning: Photo MOS Relay (Insulated) Forward Flow/ Reverse Flow Discrimination: Photo MOS Relay (Insulated)
Ambient Temperature	-10 ~ +50°C
Ambient Humidity	Less than 90% RH (non-condensation)
Main Unit Weight	Approx. 16kg
Main Unit Dimensions	W 332 × H520 × D170 (including mounting bracket)
Options	Multi Path Flow Velocity Measurement: Max. 4 Paths Level Measurement: Radar Level Gauge

Dimensions





TOKYO KEIKI INC.

Design and specifications are subject to change without prior notice, and without any obligation on the part of the manufacturer.

⚠ **CAUTION**	Before operating this equipment, you should first throughly read the operator'smanual.

www.tokyo-keiki.co.jp/ryutai/

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MAR. 2013 / BRO 003G