TOKYO KEIKI

Ultrasonic Flowmeter Application Report 72
## - Open Channel for Power Plant Effluent-

The UFH-100 series stationary, clamp-on ultrasonic flowmeter with multi-path measurement capability incorporating up to 4 pairs of transducers placed inside channel provides stable instantaneous flow rate measurements.

At this particular site, the UFH-100 series stationary flowmeter is installed as combined with 2 pairs of sensors and overhanging-arm-mounted level gauge. It can measure the flow rate through more than 10m channel with least interference of flow.

The configuration at this site is shown as below.

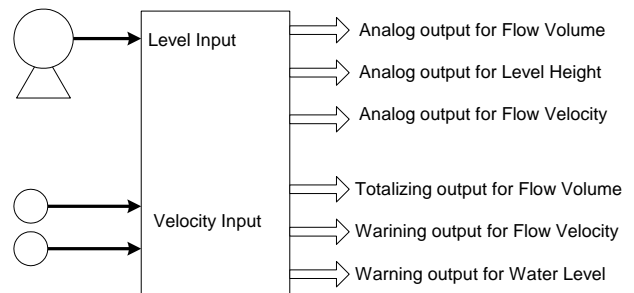Level Sensor
(Radar type)

Velocity Sensor
(Ultrasonic type)
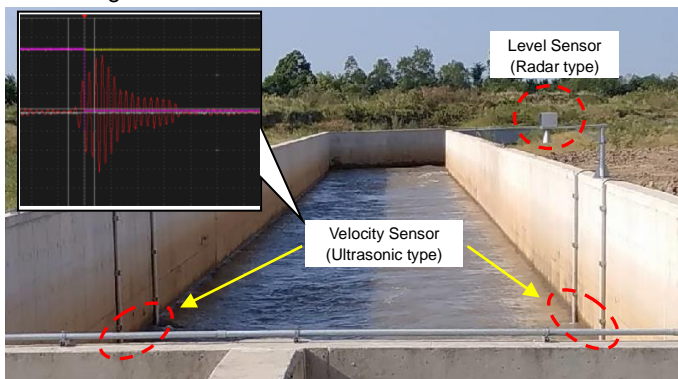
2 pairs of ultrasonic transducer measures flow-velocity by time-transit principle. 1 set of level gauge measures height of fluid surface. Then actual cross-section is calculated from predefined channel dimension and fluid height. Flow volume will be led as multiplied by velocity and fluid height. When water-level goes down to velocity transducer height, then automatically UFH-100 will switch to HQ calculation mode.

Because of measuring actual flow velocity, UFH-100 can measure 0-flow during even pooled water situation.

Multi-path measurement is a feature of our UFH-100 series stationary open channel ultrasonic flowmeter. By employing the UFH-100 series stationary open channel ultrasonic flowmeter in combination with the appropriate sensor from the variety available and/or the system's multi-path measurement capability. You may be able to obtain high stable flow measurements of channel from 0.3m up to 15m in rectangular channel, circular channel up to 10m.

In addition, the all-in-one UFH-100 main unit boasts 3 independent analog outputs each for flow rate, velocity and level. Also, it has 3 contact outputs each for flow totalizing, velocity warning and level warning.

Level Input

Velocity Input

Analog output for Flow Volume
Analog output for Level Height
Analog output for Flow Velocity

Totalizing output for Flow Volume
Warining output for Flow Velocity
Warning output for Water Level

[Channel Specification]
Size   :   10500mm
Location   :   Hau Giang, Vietnam

[Installation Data]
Main Unit   :   Stationary Open Channel
                   Ultrasonic Flowmeter UFH-100
Transducer   :   SE040040 (WL-04)
Installation   :   Direct path method / 2 path

For more detailed information, please contact your local representative.

Representative in your Area