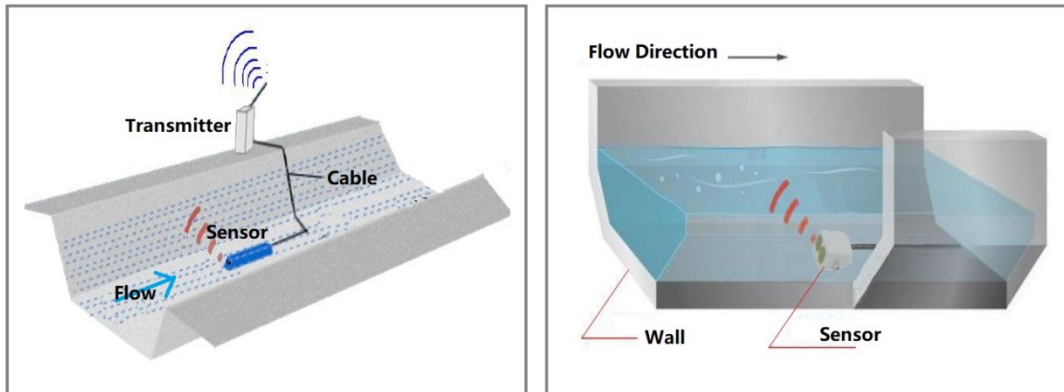


## SLH-OP Series Partially Filled Pipe Ultrasonic Flow meter



The Doppler ultrasonic open channel flow meter is a device used to measure the flow rate of partially filled pipes or channels.



### Principle of SLH-OP Series Partially Filled Pipe Ultrasonic Flow meter

Measuring the Doppler shift resulting from the reflection of an ultrasonic beam off reflective materials, such as solid particles or entrained air bubbles in a flowing fluid, or the turbulence of the fluid itself, allows for the calculation of flow velocity. By utilizing the speed of sound through air, the distance from the sensor to the liquid level can be determined. Flow through the channel can then be calculated based on the level measurement; with the user inputting properties of the channel. It calculates the flow rate based on the average flow velocity, water depth, and water temperature. The device can also display the cross-sectional flow rate.

The water temperature is measured using a temperature probe, which is placed on the top of the instrument and needs to be submerged in water for a certain amount of time to reflect the actual water temperature. This is done to calibrate the speed of the ultrasonic waves in water and correct the water level values measured by the pressure sensor. The water depth is measured using a high-precision pressure sensor placed at the bottom of the instrument, with the sensing part in direct contact with the water.

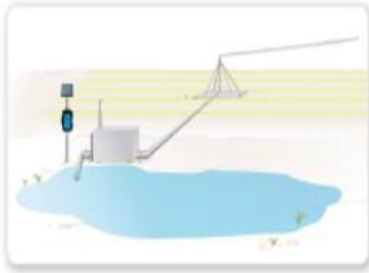
**Advantages of SLH-OP Series Partially Filled Pipe Ultrasonic Flow meter**

- No head loss, no need to construct channels or weirs.
- No need to calibrate the water level-flow relationship, especially suitable for slow-flow channels where the water level method cannot be used; no need for engineering construction, no engineering costs, quick and easy installation without the need for flow interruption.
- The probe of the instrument is directly installed on a removable and simple bracket fixed to the channel wall, and connected to the control terminal through a communication cable.
- Low power consumption, can work continuously in the field without the need for an external power source.
- The control terminal comes with a small built-in battery that can work continuously for 2 months, and can continue working after charging or replacing the spare battery. It can also be connected to a large battery or household electricity.
- On-site display and storage, with a storage capacity of up to six months. The last measured data is automatically displayed on-site, and historical data can be queried through the display control buttons on the terminal. Data from measurements taken every 10 minutes can be stored for six months.

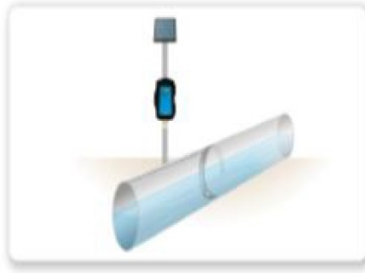
**Technical Specification**

|                       |   |                           |
|-----------------------|---|---------------------------|
| Velocity              | Range   | 21 mm/s~5000 mm/s         |
|                       | Accuracy  | ± 1% of measured velocity |
|                       | Resolution Ratio  | 1 mm/s                    |
| Temperature           | Operation Temperature   | 0 ° C~ 60° C              |
|                       | Resolution  | 0.2 ° C                   |
| Level                 | Range   | 0~10m                     |
|                       | Resolution  | 1 mm                      |
|                       | Accuracy  | ± 0.5 % of measured level |
| Flow Rate             | Accuracy  | ± 2 % of measured flow    |
| Power supply          | 12V DC or 220V AC   |                           |
| Communication         | RS 232,RS485 ,4-20mA  |                           |
| Protocol              | MODBUS  |                           |
| Data Storage          | Data is collected every 10 minutes and can store data for over 6 months. Even in the event of a power outage, this data will not be lost for a long time. |                           |
| Operation Temperature | 0 ° C~ 60° C  |                           |
| Housing Material      | PC or PVC plastic   |                           |
| Protection Level      | IP68  |                           |
| Reliable              | MTBF ≥ 25000h   |                           |
| Size                  | 230×90×37 mm (probe) and 257×179×70 mm (terminal).<br>Standard communication cable length is 10m, extendable up to 1000m.                                 |                           |

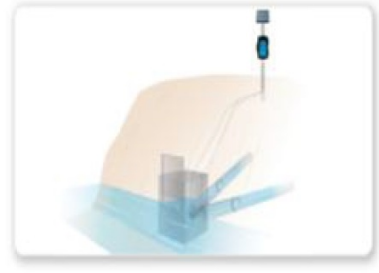
### Applications



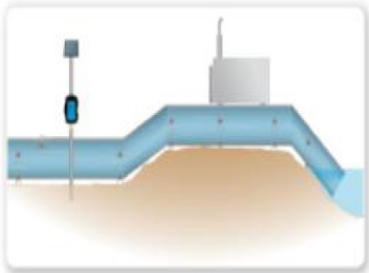
Lakes, reservoirs, river water intake



Urban drainage network  
Stormwater drainage network



Agricultural irrigation



Sewage discharge



Water transfer  
Water diversion channels



Aquaculture farms  
Industrial wastewater discharge

### Site Pictures

