



# PicoSonicP

## Ultrasonic Portable Flow meter

### Principle of Operation

At first cycle, Ultrasonic wave gets propagated in direction of velocity (TAB). At second cycle ultrasonic wave gets propagated in the opposite direction of velocity (TBA). The propagation time difference ( $\Delta T$ ) is precisely measured by

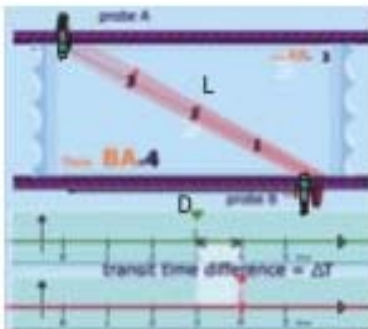
### PicoSonicP

$$Q = A \times V \times \frac{1}{kH}$$

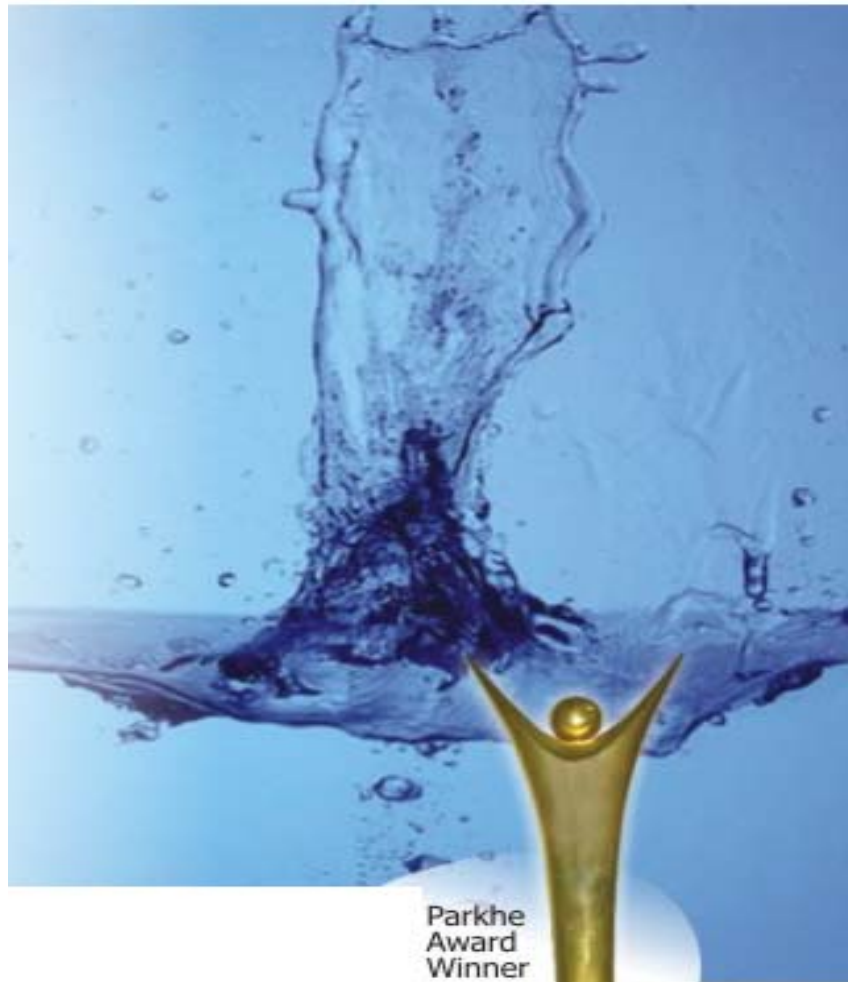
$$kH = f \text{ (Reynold's No.)}$$

$$V = \frac{L^2}{2D} \times \frac{\Delta T}{TAB \times TBA}$$

$$A = \text{Area}$$



Typical Results At Flow Lab of CWPRS



Parkhe Award Winner



40 Pico Seconds Time Resolution

PicoSonic-P works on transit time technology, which is the most accurate technique of flow measurement. Advanced improvement in sensor design & signal processing made transit time technology efficient to handle all range of applications of liquid flow metering.

PicoSonic-P offers universality of flow measurement while offering flow measurement of conductive & non conductive liquids without effect of change in chemical properties, offering flow measurement on all sonic transparent pipes without having limitation over diameters.

## Why Picsonic-P is different from other?

- ESC (Echo shape control) is the Key feature of PicoSonic-P that prevents errors due to reception of echo with non suitable polarity as well as helps accuracy while keeping consistent amplitude of echo.
- Transit time calculation by sampling rate of 40 Pico second helps accuracy & precision to identify minute changes in fluid flow.
- Data logger with huge capacity (4 MB) helps user to log data with time interval from one second to one day for 5 flow parameters with real time

## Output Specifications:

Current output : 4 to 20 mA up to 1000  $\Omega$  load

Interface output : RS 232 and RS 485

Parallel port for direct driving 80-column dot matrix printer.

Wire free output : GSM slot on request.\*

## Performance specifications

Accuracy : Better than +/-1 % of reading including errors of linearity, repeatability.

Temperature : -10 C to 60 C

Humidity : up to 99 Rh

Velocity : 0.001 m/s to 20 m/s.



Chetas Control Systems  
Private Limited  
ISO 9001-2000  
7, Kruti Industrial Estate,  
Opp. Sangam Press, Kothrud,  
Pune - 411 029 INDIA

Bi-directional velocity measurement up to 20m/s.

Single path / Multi path / Multi Channel measurements.

Suitable for Pipe line sizes from 8mm to 9999mm.

Automatic computation of Reynolds number and Hydraulic coefficient.

Very low power consumption (less than 2.5 W). Hence huge battery back up of 20 hrs.

Data logging up to 4 MB for flow rate, Totalizer, Velocities, Fault messages and Pressure\*. Suitable for pipe MOC all grades of Steel, Cast Iron, Ductile Iron, Aluminum, Pvc, Rubber, Polythene, Glass, Copper, Nylon, Asbestos, & all sonic transparent material.

On request built in GSM slot for wire free interface.\*

On line/offline computer connectivity through RS485 / RS232 Ports.

Direct driving of dot matrix printer with on line / offline selection.

## Electrical Specifications

• A CE product

• Compatible with EN61324

Battery autonomy : 8-12 hours  
(20 hrs optional)

• Charging time : 2 – 4 hours.

## Probes:



chetas C-2.0



chetas C-1.0

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