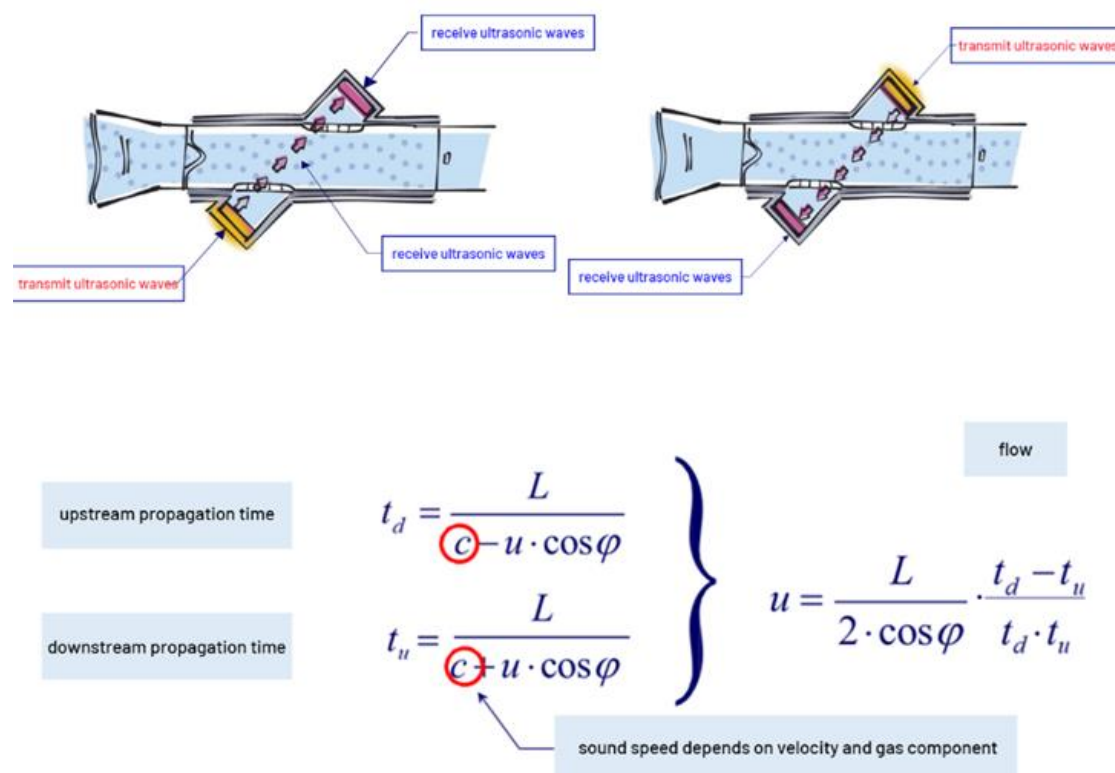


## Ultrasonic Gas Sensing Technology Schematic Diagram

Ultrasonic gas sensing technology is based on the principle of sound velocity difference in ultrasonic propagation (also known as ultrasonic time difference method) to calculate the gas concentration and flow rate. The ultrasound wave propagation speed in the downstream direction will increase, and the backward direction will decrease. By a pair of ultrasonic transducers to alternately (or simultaneously) transmit and receive ultrasonic waves. By observing the difference in the propagation time between the upstream and the backward flow of the ultrasonic in the medium (gas or liquid), the fluid velocity is measured indirectly, and then calculate the flow data based on fluid velocity. With the advantages of non-contact measurement and wide range application, ultrasonic gas sensing technology is increasingly used in the fields of medical and health, industrial processes and energy measurement.



Website: [https://en.gassensor.com.cn/ProductNews/info\\_itemid\\_853.html](https://en.gassensor.com.cn/ProductNews/info_itemid_853.html)

## **Gas safety and smart metering solutions**

Jan 24, 2025

With innovative ultrasonic flow sensor technology, Cubic smart ultrasonic gas flow meters and modules realize high stability and high accuracy measurement for residential, commercial, and industrial applications, especially for low flow range (Qmin) measurement.

With built-in temperature and pressure compensation, along with intelligent software algorithm, Cubic gas flow meters and modules are accurate in air, 100% CH<sub>4</sub>, LPG and different natural gases for full temperature range.

Thanks to full electronic design without moving parts, ultrasonic gas meter technology has no issue of mechanical wear which leads to degradation of accuracy and has the advantage of anti-contamination. Therefore, long-term stability and accuracy can be guaranteed for ultrasonic gas meter solutions and there is no need for periodical maintenance.

Besides, Cubic smart ultrasonic gas flow meters and modules are equipped with temperature sensor, pressure sensor and shut-off valve, which facilitates the accurate monitoring of gas flow, and the gas leakage check system realized by valve ensures user safety by automatically shutting down gas supply in case of inconspicuous leakage.

What's more, Cubic ultrasonic gas flow meters could also achieve low power consumption, which is a basis for smart gas metering market demand. To meet ever growing smart gas metering need, Cubic has developed gas flow meters combined with wireless communication GPRS and NB-IoT, which enables users to read data of remaining gas volume and arrange top-up remotely.

**Website: <https://www.smart-energy.com/industry-sectors/smart-meters/gas-safety-and-smart-metering-solutions/>**