

Vortex Flow Meter

The NYLU-JB vortex flow meter is researched and produced according to the principle of Karman vortex flow, and is mainly used for flow measurement of medium fluids in industrial pipelines, such as gas, liquid, steam and other media. It is characterized by small pressure loss, large measuring range, high precision, and is almost not affected by parameters such as fluid density, pressure, temperature, viscosity, etc. when measuring the volume flow of the working condition. No moving mechanical parts, so high reliability and low maintenance. Instrument parameters can be stable for a long time. The vortex flow meter adopts piezoelectric stress sensor, which has high reliability and can work in the working temperature range of $-20^{\circ}\text{C}\sim+250^{\circ}\text{C}$. There are analog standard signals and digital pulse signal output, which is easy to be used with digital systems such as computers. It is a relatively advanced and ideal measuring instrument.

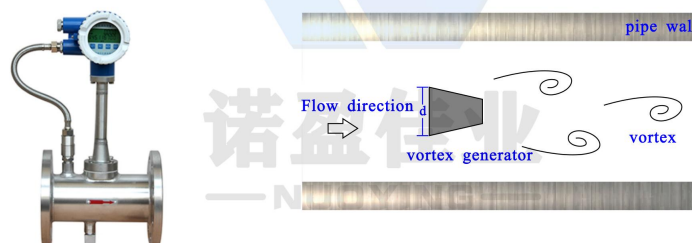
Working principle

The vortex flow meter is composed of a vortex generator designed in the flow field, a detection probe and corresponding electronic circuits. When the fluid flows through the vortex generator, two alternating rows of vortices are formed on both sides of the vortex, and this vortex is called the Karman vortex street. On the basis of the Karman vortex street theory, Strohal proposed that the frequency of the Karman vortex street is proportional to the flow velocity of the fluid, and gave the relationship between the frequency and the flow velocity: $f=St \times V/d$

f : frequency of occurrence of vortex street (Hz)

V : Average flow velocity on both sides of the vortex generator (m/s)

St : Strohal coefficient (constant)



Design Features

- ◎ Easy to install, simple structure, no moving parts.
- ◎ The measurement accuracy is high, the reliability is high, and no on-site debugging is required.
- ◎ It can transmit traffic signals over long distances, and can be networked with computers to achieve centralized management.
- ◎ The amplifying board adopts a unique design, which can be used for both gas and liquid.
- ◎ There are analog standard signals and digital pulse signal outputs, which are easy to use with digital systems such as computers.
- ◎ Explosion-proof instruments can be used in corresponding explosion-proof places.
- ◎ Customized design and production according to customer requirements.