

Porous orifice plate balanced flowmeter



FOM09

Porous Structure  
Adjusting Eddy Current  
Low Pressure Loss  
High Temperature  
Good Stability

| Feature |

- Display immediate, cumulative flow, measuring two-way flow.
- Measuring medium : vapor, gas, liquid.
- Accuracy : 1.0% ; 1.5%
- High turn down ratio, 10 : 1
- Good stability : throttle area, long-term stability and stable signal, no linger about.
- The porous structure can disperse resistance, reduces the formation of vortices and turbulence of friction, reducing the kinetic energy loss and reduce pressure loss comparing.

**NEWS**  
*Product preview*

For more information, please contact us.

| Introduction |

**FOM09** Balance the flowmeter can maximize the rectifier into ideal fluid flow field in balance, to measure the differential value according to the Bernoulli equation to calculate the flow in the pipeline. Balance disc throttling of flow sensor is a porous rectifier, installed on the cross section of the pipeline, the size and distribution of each hole is based on the special formula and test data, and custom, called the function. Balance meter when the fluid through the function of the disc holes, the fluid will be balanced rectification, eddy current is minimized, form the approximate ideal fluid, through pressure device, can obtain the stability of the differential pressure signal, according to the Bernoulli equation, to calculate the volume flow to mass flow.



Application :

Natural Gas / Chemical / Petroleum /  
Steel / Power Generation /  
Paper / Printing / Pharmaceutical



# Porous orifice plate balanced flowmeter

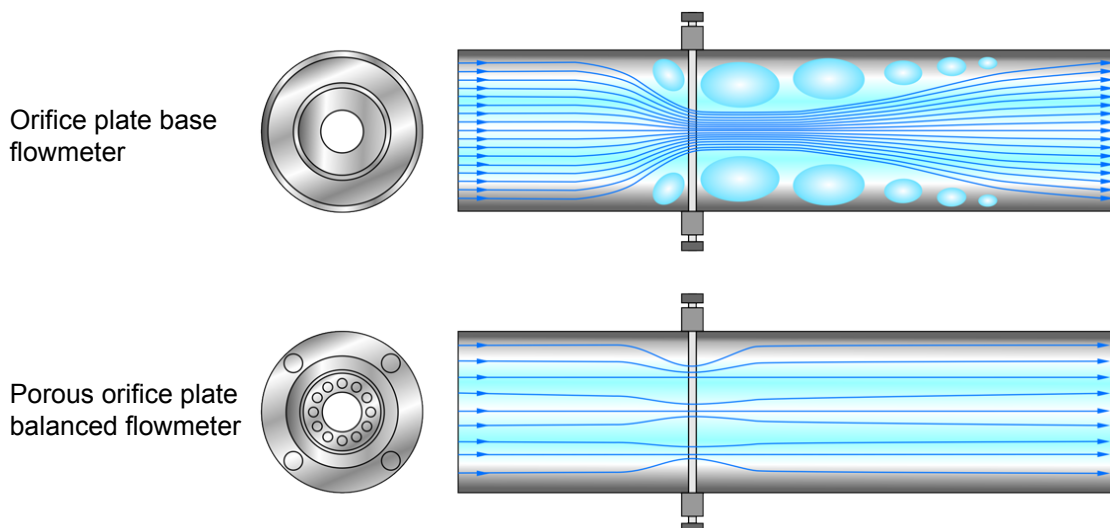
## | Specification |

Item	Function & Parameter
Diameter	DN3 ... DN3000
Accuracy	±1.0% ; ±1.5%
Medium temperature	<600°C
Turndown ratio	10:1
Straight pipe	Gas : 5D after the first 20D ; Liquid : 5D after the first 10D
Medium pressure	≤25MPa
Housing material	Carbon steel
	304
	316
Disc brake material	High temperature alloy steel
	304 / 316
Temperature range	304 / 316
	F4
Temperature range	< 80°C ; 80 ... 180 °C ; > 180°C
Pressure range	≤ 1.0MPa ... ≤ 6.4MPa

### Balanced flow meter working principle

Balanced flowmeter is kinds of energy saving and have several function apertures, which could make flow area balanced into ideal current, leading a innovation to global measurement technology. It has already been widely used among petroleum, chemicals, metallurgy, electricity and natural gas.

Series balanced flowmeter has a multi-hole disc throttling rectifier which is installed at pipeline section, every hole's dimensions and distribution depend on special formula and datas, they are called function hole.when current flows by the hole, it's balanced and vortex minimize, form ideal current and stable differential pressure signal by pressure device, volume flow and a mass flow are cumulated by Bernoulli equation.



$$Q_v = K \times C \times \sqrt{\Delta P}$$

$$Q_m = Q_v \times \rho$$

Where :  $Q_v$  = volume flow in the pipe

$Q_m$  = mass flow within the first five tubes

$K$  = flow coefficient

$C$  = flow constant

$\Delta P$  = differential pressure value

Visible :  $C$  is a constant. To determine  $Q_v$ , it is necessary to determine  $K$  and  $\Delta P$