

LK Series Coriolis Mass Flowmeter

General

LK Series Coriolis mass flowmeter works on the Coriolis principle and can directly measure mass flowrate and density in a closed conduit. It consists of a sensor and a convertor.

LK Series Coriolis mass flowmeter is the precision flow and density measurement solution offering accurate and repeatable measurement for liquids, gases, or slurries. It has been widely used for petrochemical, electricity, energy and food industries.

Principle

When masses flow through a vibrating pipe, Coriolis forces are generated which bend and twist the pipe. These very small pipe deformations are measured by optimally mounted sensors and electronically evaluated. Because the measured phase shift of the sensor signals is proportional to the mass flowrate, the Coriolis Mass flowmeter measures the mass flowrate in the flowmeter directly. The measuring principle is dependent of the density, temperature, pressure and conductivity.

The measuring tubes always vibrate at resonance. The resonant frequency during operation is a function of the measuring tube geometry, the material characteristics of the flowmeter and the mass of the fluid in the measuring tube which is also vibrating. It provides an accurate measure of the density of the fluid being metered. In summary, it is possible to simultaneously measure the mass flowrate, fluid density and temperature with the Coriolis Mass Flowmeter.

Feature

- Applicable to the variety of fluids
- Accurate measurement
- Shorter straight pipeline required, including upstream and downstream straights
- Reliable running
- Free maintenance
- Installation of a core processor

Coriolis Mass Flowmeters

LKS Series Coriolis Mass Flow Sensor

General

LKS series Coriolis Mass Flow sensor consists of measuring tube and housing protection. It can directly measure the mass flowrate of liquids, gases and slurries.

Main Parameter

- Nominal diameter: DN15 to DN150
- Max working pressure: 4MPa
- Temperature rating: -50°C to +200°C
- Wetted parts: 1Cr18Ni9Ti, 316L stainless steel
- Accuracy: $\pm 0.15\%$ of flowrate \pm Error of Zero (At zero instability)

LKA Series Four-wire Coriolis Mass Flow Sensor

General

LKA series four-wire Coriolis Mass Flow Sensor installs a Core processor on the sensor and has a four-wire cable connecting to the convertor. It makes the cable connection simple and reliable, also save the installation cost which resulting in the diverse requirements of customers.

Feature

- Four-wire cable connection, simple with low wiring expense
- Core processor, intelligent running
- Digital communication
- Built-in smart self-diagnostics
- Reliable running

LB112 Converter

General

LK series mass flowmeter consists of LK series sensor and LB112 converter. It can simultaneously measure mass flowrate and density. The converter converts the mass flowrate or density signal into the standard 4-20mA and/or frequency output. It can also directly display mass flowrate, density, temperature and mass flow on the screen.

Main Parameter

| | |
|----------------------|---------------------------------------------------------------------------------------------------------------------------|
| Display: | LCD display |
| Language: | Chinese & English |
| Output signal: | Current: 4-20mA; Frequency: 0-10KHz |
| Display accuracy: | ±0.05% (Fs); ±0.01% (Fs) |
| Two contact inputs: | The external power supply is TTL signal: The ground terminal of the contact input is the ground of 24VDC of the converter |
| Configuration: | Zeroing, Reset total flow, Total flow pause, and Zeroing warn |
| Contact output: | The output is the collector of the transistor open with galvanic isolation |
| Configuration: | Temperature, Density, Mass flowrate and Mass flow |
| Volume flow: | Volume flow out of Up/Down limit |
| Power supply: | 220-240VAC±10% or 24VDC±10% |
| Ambient temperature: | -10°C to +50°C |

Coriolis Mass Flowmeter Main Parameter

| | |
|-------------------------|----------------------------------------------------------------------|
| Model: | LK-X, LK-XXX and LK-XXXX |
| Measured parameter: | Mass flow, Density, Temperature and Volume flow |
| Fluid: | liquids, gases or slurries |
| Sensor: | LK-015 to LK150 |
| Normal Diameter: | DN15, DN25, DN32, DN40, DN50, DN80, DN100 and DN150 |
| Measurement range: | 0-3, 0-7, 0-21, 0-38, 0-60, 0-180, 0-300 and 0-600 (unit: tons/hour) |
| Mass accuracy: | ±0.15% of flowrate ± EO |
| Temperature accuracy: | ±1°C |
| Density accuracy: | ±0.002g/cm ³ |
| Piping Connection: | Flanged |
| Max working pressure: | 4.0MPa |
| Working temperature: | -50°C - +200°C |
| Housing protection: | IP66 |
| Wetted parts: | Measuring tube – 316L stainless steel, and |
| Housing: | 304 stainless steel |
| Converter installation: | Wall mount, Rack mount and Field mount |
| Signal output: | |
| Current output: | 4-20mA; |
| Frequency output: | 0-10KHZ |
| Power supply: | 220-240VAC±10% or 24VDC±10% |
| Explosion proof: | Exib II BT4 Exd II BT4 |

Flowmeter installation: Remote or Integral
Communication: RS485

Relationship of flowrate and sensor size

| Model | Nominal Diameter | Flow Range | Mass Accuracy | EO(zero instability) |
|--------|------------------|------------|--------------------|----------------------|
| LK-15 | DN15 | 0-3 t/h | ±0.15% of flowrate | ±0.0004 t/h |
| LK-25 | DN25 | 0-7 t/h | ±0.15% of flowrate | ±0.0009 t/h |
| LK-32 | DN32 | 0-21 t/h | ±0.15% of flowrate | ±0.0026 t/h |
| LK-40 | DN40 | 0-38 t/h | ±0.15% of flowrate | ±0.0047 t/h |
| LK-50 | DN50 | 0-60 t/h | ±0.15% of flowrate | ±0.0091 t/h |
| LK-80 | DN80 | 0-180 t/h | ±0.15% of flowrate | ±0.023 t/h |
| LK-100 | DN100 | 0-300 t/h | ±0.15% of flowrate | ±0.038 t/h |
| LK-150 | DN150 | 0-600 t/h | ±0.15% of flowrate | ±0.069 t/h |