FLOWTECH

Oval Gear Flowmeter

KF300

- High Accuracy Measurement
- Durable Stainless Steel Body
- Suitable for Viscous Liquids
- Stable Pulse Output
- Easy Installation
- Corrosion Resistant

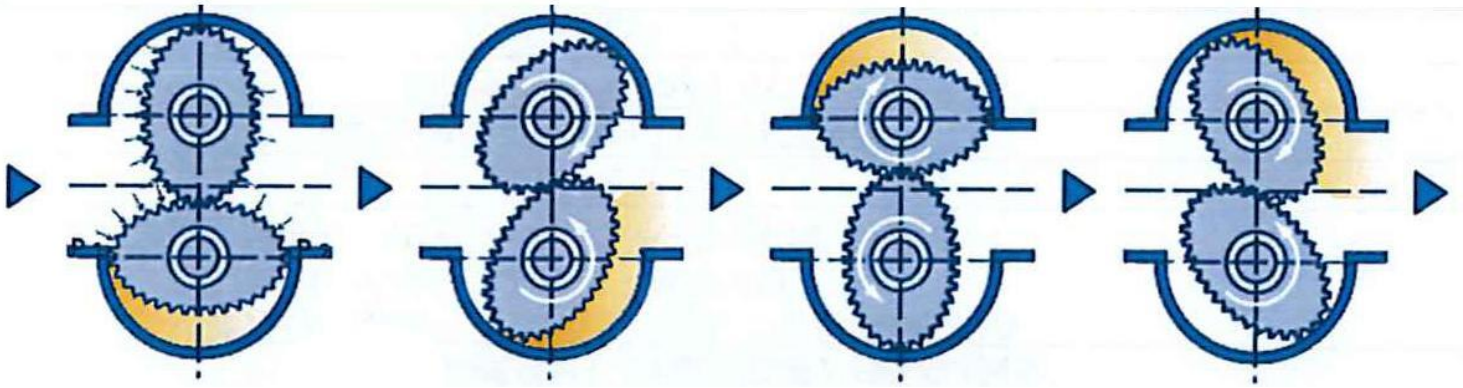
STAINLESS STEEL OVAL GEAR FLOW METER

The Stainless Steel Oval Gear Flow Meter is a high-precision positive displacement flow instrument designed for accurate measurement of liquids with medium to high viscosity. Built with a durable 304 stainless steel body and advanced Hall-effect sensing technology, it delivers excellent performance in applications such as oil, diesel, gasoline, resin, and other industrial fluids. Its compact design, corrosion resistance, and stable pulse output make it ideal for use in demanding environments where reliability and accuracy are critical. The IP68 protection class and threaded connectivity enhance its durability and ease of installation.

Working principle

It consists of a STAINLESS STEEL valve body, a gear rotor assembly and a hall sensor. When water flows through the gears, gears rolls. Its speed changes with different rate of flow. The hall-effect sensor outputs the corresponding pulse signal.

The flowmeter cavity has a pair of intermeshing gears as the rotor, and the two gears and the cavity respectively form a fixed volume, which is called a standard volume. Gear flow is measured by counting the number of standard volumes that flow through a given period of time.

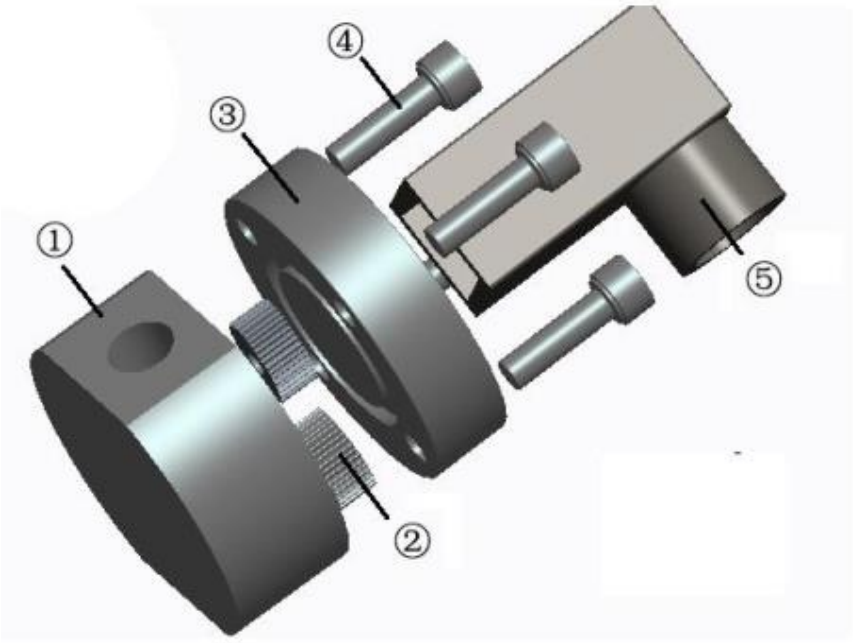


Specification

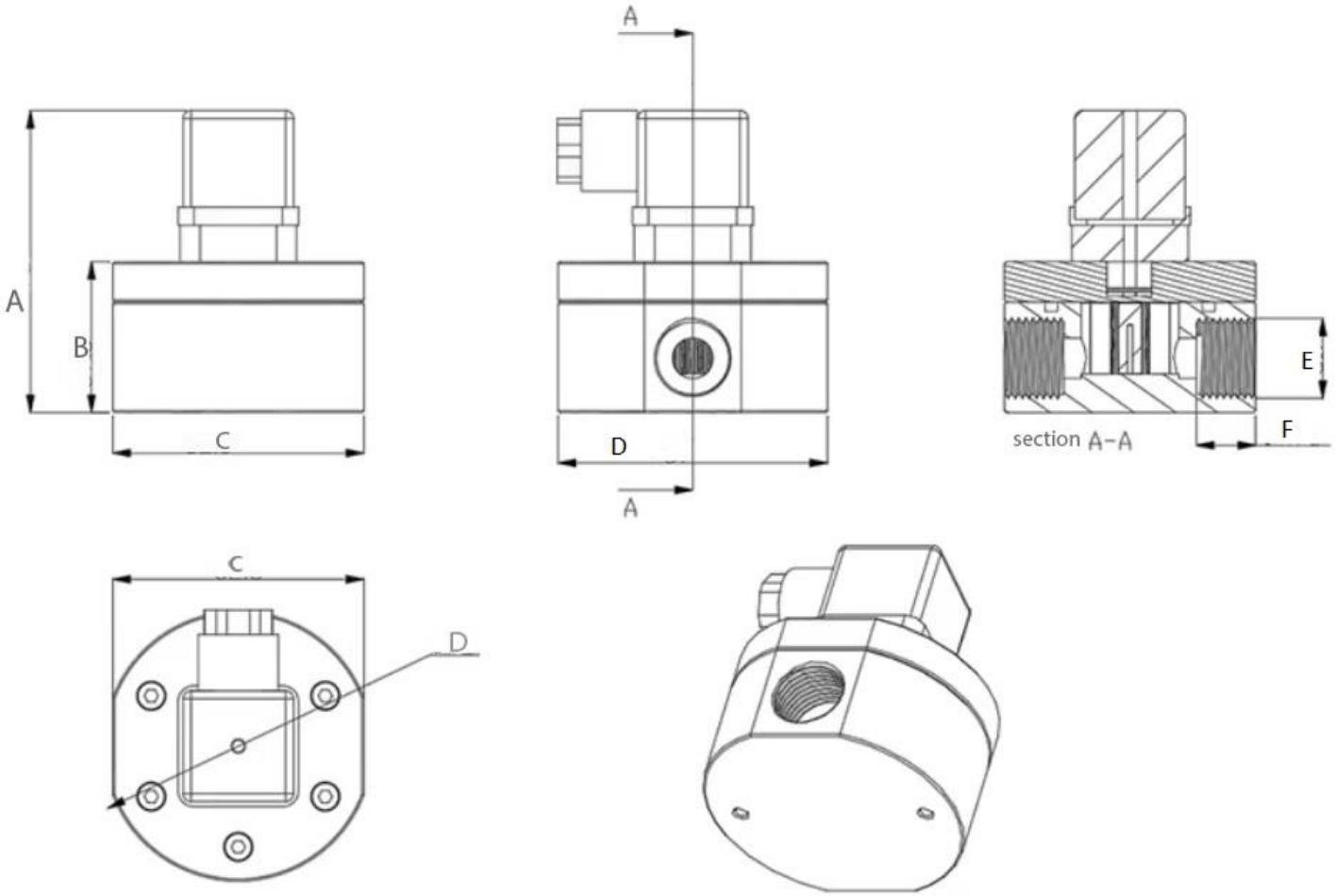
Model No.	KF300-06S2	KF300-10S2	KF300-15S2	KF300-20S2	KF300-25S2
Output Signal	NPN Pulse				
Material	304 Stainless Steel				
Thread Connection	G1/4''	G3/8''	G1/2''	G3/4''	G1''
Operating Voltage	3.5-24VDC				
Working Current	< 15mA				
Output Pulse High Level	> DC4.7V (input 5vdc)				
Output Pulse Low Level	< DC0.5V (input 5vdc)				
Flow Rate	0.5-5 L/m	0.6-13 L/m	0.8-20 L/m	1-50 L/m	3-60 L/m
Frequency Hz/K Factor	1.9	2.3	2.3	1.2	0.58
NPN Pulse	About 114 P/L	About 138 P/L	About 138 P/L	About 72 P/L	About 35 P/L
Accuracy	±1% (for viscosity oil/fuel/diesel) ; ±5% (for water)				
Max Pressure	10 bar	10 bar	10 bar	10 bar	12 bar
Liquid Temperature	< 70℃				
Cable Connector	PVC cable 1000mm with tinned ends				
The Wiring	RED-VCC, BLUE-OUT, BLACK-GND				

Product Structure

You can see the flowmeter components in the figure below, and the dimensions of all flowmeter sizes are given in the figure and table in this section.



① Gear cavity plate
② Gear
③ Cover plate
④ Fixed thread
⑤ Hesman connector



Model \ Dimension	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
KF300-06S2	74	35.5	62.5	67	G1/4	12.5
KF300-10S2	74	36.5	62.5	67	G3/8	12.75
KF300-15S2	75	37.5	62.5	67	G1/2	14.75
KF300-20S2	80	42.5	62.5	67	G3/4	14
KF300-25S2	85	47.5	70	79	G1	14.5

Application

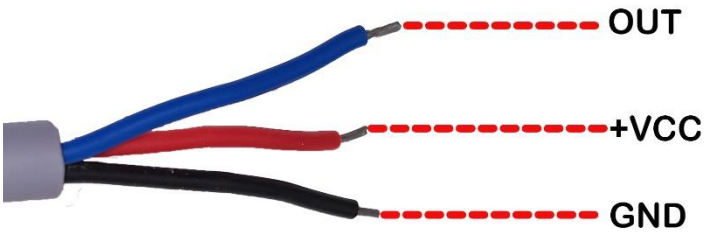
- Diesel Fuel
- Oil
- Milk
- Honey
- Cleanser Machines
- and other viscous fluids

Electrical Connection

The stainless steel oval gear flow meter is equipped with an **NPN pulse output** and operates with a supply voltage of **5–24 VDC**.

Proper electrical connection ensures stable pulse transmission and accurate flow measurement. The standard wiring configuration is as follows:

Wire Color	Function
Red	+VCC (Power Supply)
Black	GND (Ground)
Blue	OUT (Pulse Output Signal)



Make sure to use shielded cables for long-distance signal transmission to minimize electrical noise. All wiring should be performed with the power off. The flow meter should be connected according to the polarity indicated to avoid sensor damage.

Installation Instructions

a. Pipeline cleaning requirements: Thoroughly clean the pipe before installation and install a filter in front of the flowmeter (recommended 200 mesh or more) to prevent debris from entering the flowmeter. During the installation process, be sure to avoid dirt and impurities from entering the flow inlet end. Pay attention to the joint raw material belt

b. Installation direction requirements: It should be noted that the axis of the flowmeter must be leveled, that is mean the cover is perpendicular to the horizontal. For the measurement of ultra-small flow, the best installation is down-in, up-and-out. Showed as below

c. Requirements for liquid flow direction: The arrow pointing on the flowmeter shell should be in accordance with the direction of liquid flow in the installed pipeline.

d. It is recommended that the pipe sections before and after the flowmeter be long enough and take corresponding measures to avoid liquid crystallization of the pipe section where the

flowmeter is located

e. When starting or stopping, the valve should be opened slowly to prevent sudden impact.

f. Backflow should be prevented in order to prevent false pulses.

g. If the liquids is easy to crystallize, please take measures to avoid liquid crystallization in the section where the flowmeter is located