

# OGM

## Oval Gear Flow Meter

### Manual Guide



OGM-Series



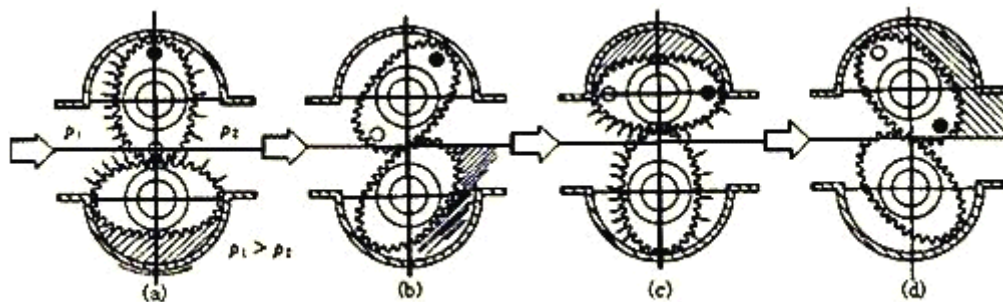
OGMP-Series

## I. Application

Oval Gear Flow Meter is positive displacement flow meter used for accurately continuous and intermittent measurement of instantaneous & accumulative flow from pipeline liquid, which is local accumulative instrument. It has the characteristics of high accuracy and small affect due to liquid viscosity change. It is basically to measure volume of petro oils etc, but not for corrosive liquids.

## II. Working Principle

Oval Gear Flow Meter consists of two mutual meshing oval gears and shell. Both gears work continuously under different pressure of flowing liquid.



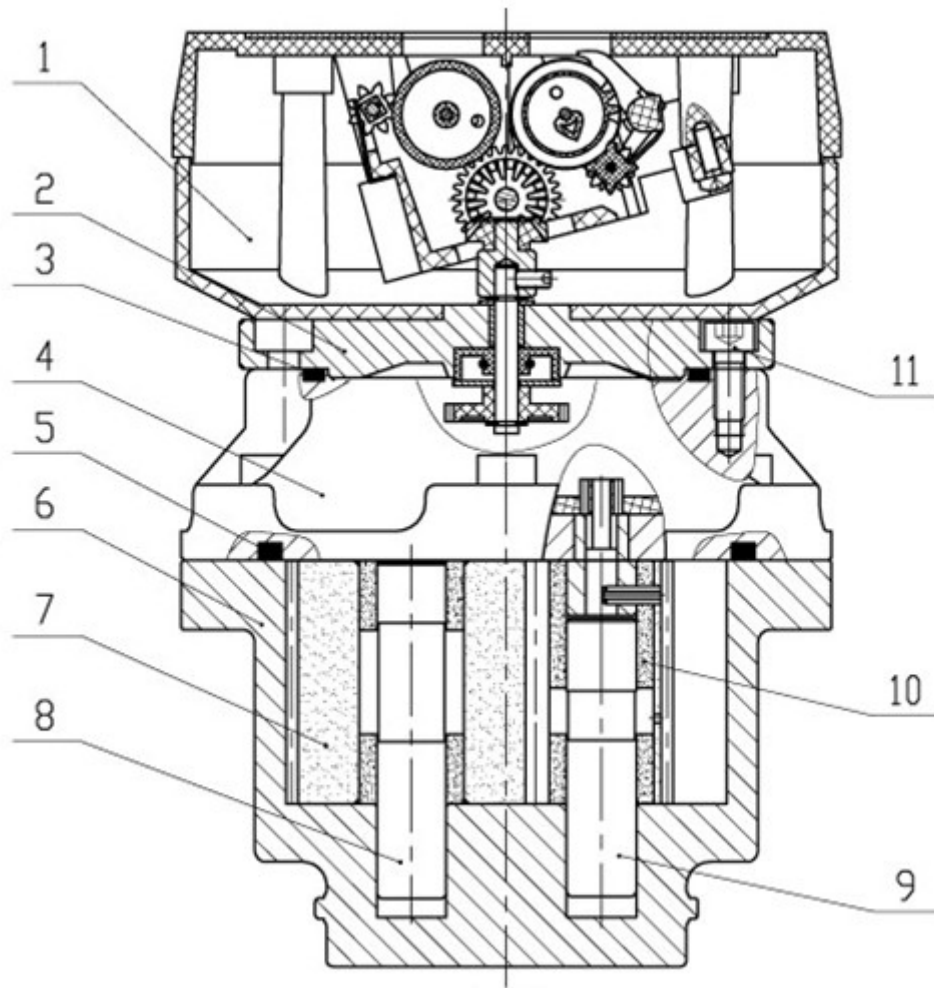
The body of meter is made of cast aluminum material. The body, upper cover & gland cover are all sealed by “O” sealing. The driving gears outlet are sealed with skeleton oil seals.

### III. Main Technical Data:

<b>Model</b>	<b>OGM-25</b>	<b>OGM-40</b>	<b>OGM-50</b>
Nominal Diameter	1"	1.5"	2"
Min. Flow Rate L/min	20	25	30
Max. Flow Rate L/min	120	250	300
Accuracy (%)	±0.5%	±0.5%	±0.5%
Repeatability (%)	≤0.03%	≤0.03%	≤0.03%
Viscosity	1000CPS	1000CPS	1000CPS
Max. Working Pressure MPa	3.4	1.8	1.8

<b>Model</b>	<b>Volume Per Revolution</b>	<b>Pulser</b>	<b>Voltage</b>	<b>Current</b>	<b>Signal</b>
OGM-25P	0.048L/R	4 Pulsers/R	DC 12V	15mA	2 Waves
OGM-40P	0.123L/R				
OGM-50P	0.280L/R				

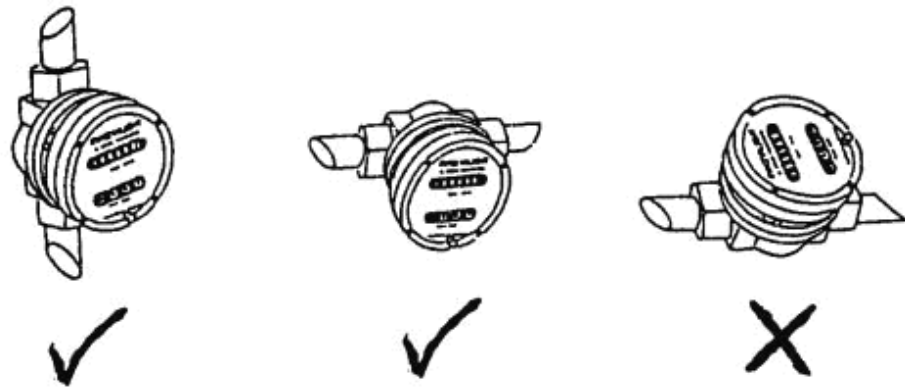
#### IV. Structure:



No.	Item	Qua.	No.	Item	Qua.
1	Meter Accessories	1	7	Oval Gears Accessoris	1
2	Gland accessories	1	8	Oval Gear Shaft	1
3	“O” Ring	1	9	Oval Gear Shaft(Short)	1
4	Above cover Accessories	1	10	Oval Gears Accessories 2	1
5	“O” Ring	1	11	Hexagon Screw	4
6	Body	1			

## V. Installation & Usage

1. The pipeline should be cleaned before installation preventing debris into meters.
2. Oval gear meter has no requirement on front or back straight pipe. It can be installed horizontally or vertically. While installation, the oval gears driving shaft should be in the same level as ground. As per below diagrams:



3. The installation direction as per the arrow in the meter should be the same as the liquid flowing direction. The position of installation should be convenient for reading.
4. It is better to install single way valve so that the pipeline liquid will flow in single way to prevent the count gears into turning reverse.
5. While using meter, it should fill full of liquid. The measured liquid can not be mixed with air. Otherwise the measured liquid will be the mixture of air & liquid, so that its volume

measurd is not so accurate. The oil seperator should be installed if the liquid is mixed with air.

## VI. **Obstacle Inspection & solution**

Phenomenon		Reason	Measure	Note
Oval Gears not driving		1.While Installation, it has debris to stuck gears.	Remove and clear it, then install again	Lay Oval gears as per marks.
		2.The strainer is blocked by debris.	Clean Strainer	
Oval Gears can drive, but digit wheel not turn		Pulley system jammed	Gears spoiled, replace gears.	
Oval gears driving, but has abnormal noise.		Flow is too big beyond the specified value.	Adjusting the flow rate.	
Digit wheel turning reverse		Fluid flow direction is opposite of the arrow marking in meter body	Install as per the specified direction	
Error is too big	Negative difference	1. Too small flow rate	Change small meter	
		2.Oval Gears much wear and tear.	To adjust the gear as per error value	
		3.Liquid contents gas or air.	Install separator ahead of meter	
	Positive Difference	4. Too big difference of Liquid viscosity	Selection of fit viscosity liquid	