MT100UF-E bi-rotor & Double Rotor flow meter

1. Overview

UF-E is a newly developed double-rotator positive displacement flow meter with unique design and delicate workmanship of processing and assembling. Inside the meter, a pair of spiral-shaped rotators is the only moving object which serves the function of separating, calculating, transmitting and discharging the liquid being calculated. In structure, this flow meter enjoys a rather rational design of an additional positioning gear, allowing the two rotators to rotate without interfering with each other. Besides, the meter has other merits like smooth rotation, little noise, wear-resistance, high accuracy and excellent adaptation to liquid of different thickness. Fine particles in the liquid can be allowed to pass through the meter without jamming. Being nickel-plated, this meter is resistant against wear and corrosion, suitable for replacing stainless steel flow meters.

2.**Features:**

(1) Applicable to diluted oil, light oil, heavy oil, crude oil with large sand and water content, and the viscosity range for liquid to be measured is wide.

(2) Liquid flow through the flowmeter is great, and the maximum flow is twice that of a common flowmeter of the same drift diameter.

(3) Long service life, high accuracy and reliability.

(4) Minimal loss of inside pressure.

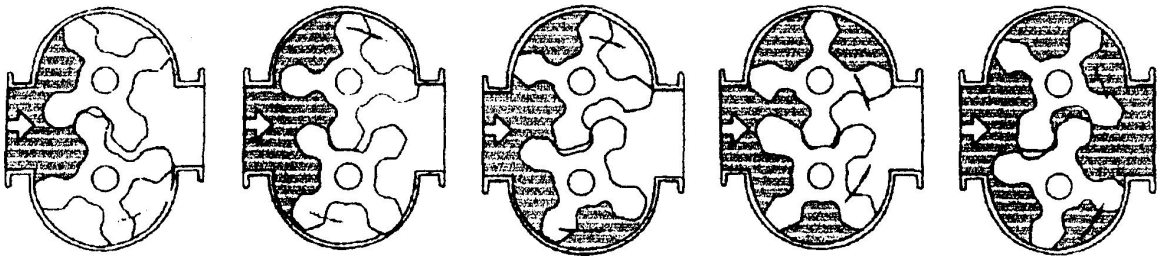
(5) The longest distance of wired transmission is 1,000m. Pulse signal output is N = 0.1L (1 pulse, 1N). It can also be directly connected to a computer network.

(6) Intrinsically safe explosion-proof IaaCT4 (intrinsically safety type); protection IP65.

3. Working principle:

As shown below, the flowmeter directly measures the volume of liquid flow with a special pair of rotary screw rotors.

The measurement of fluid flow by the flowmeter is done in the cavity. A pair of screw rotors rotate under the liquid pressure and each rotation will discharge eight times the shadow volume which is the enclosed space formed between the rotor and flowmeter cavity (shaded part in Figure). Therefore, according to this relationship, the flow accumulation can be calculated as long as the number of rotor rotations is measured, and the instantaneous flow can be measured according to the number of rotations per second.



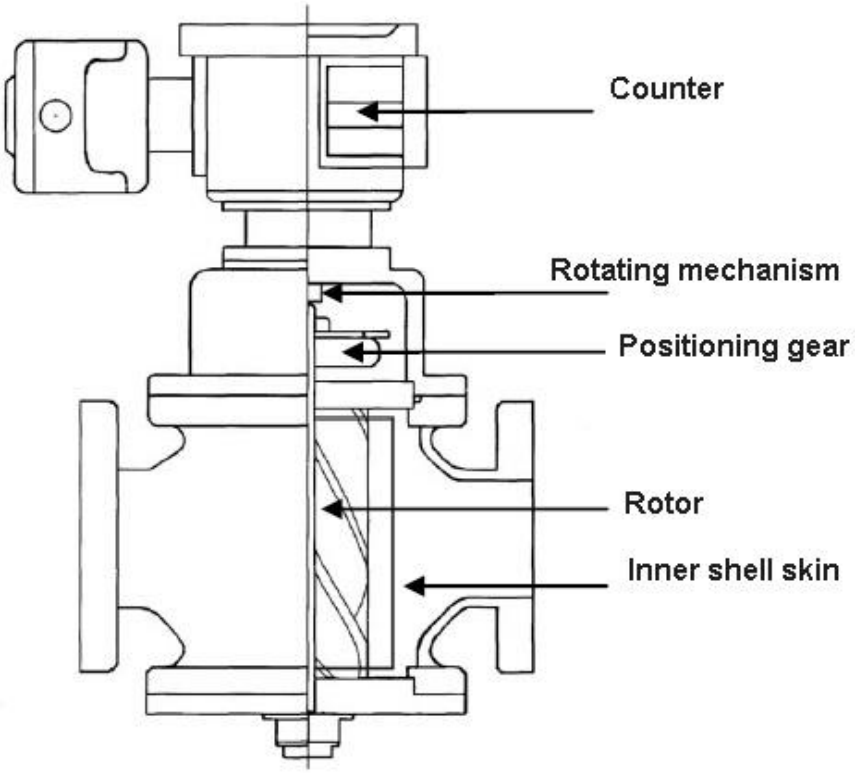
4.Flow range:

DN（mm）	**Flow range(m^3/h)**		
	Accuracy 0.5	0.2	0.1
15	0.6～3	1～3	
25	1.5～9	2～6	
40	4～20	6～18	9～18
50	6～36	10～30	15～30
80	10～80	20～70	30～60
100	20～120	30～100	45～90
150	40～250	80～240	100～200
200	60～400	120～360	160～320
250	100～600	180～540	240～480
300	150～900	240～720	300～600
400	300～1600	500～1500	600～1200

Structure:
Rotor structure

Inner core

Transmitter and intelligent meter head structure



Overall dimension and installation

Installation dimension

Noninal Diameter (mm)	Flange interval L	Entire length H	Centre height M	Installation types
15	200	280	70	horizontally
25	250	350	80	horzontally
40	300	500	80	horizontally
50	380	500	80	horizontally
80	400	700	154	horizontally, vertically
100	450	740	190	horizontally
150	650	840	220	
200	700	1180	450	
250	1000	1210	500	Vertically
300	1000	1460	640	
400	1200	1700	700	

Installation types

Generally used ways are horizontally installation, but also can vertically, no need of straight pipe section, need to install filter. If there is impurity in air, the air-eliminator filter should be equipped, Also should install side maintainance paths for convenience.