DATASHEET

Flow

Dual Rotor Flowmeter
Model PWF-DRF

1. Product Introduction

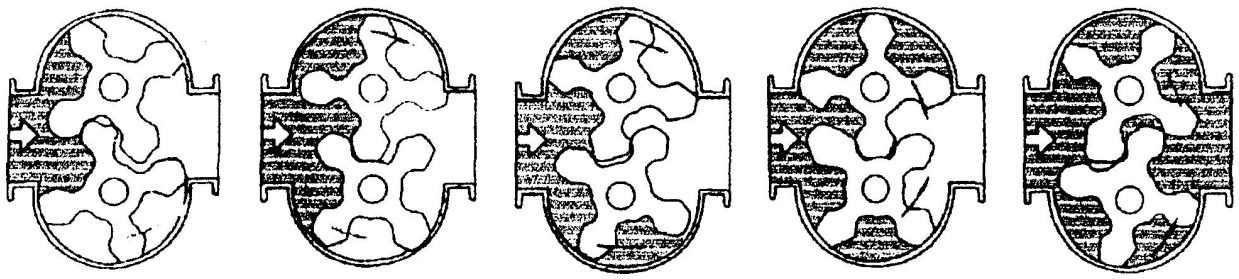
Double-rotor flowmeter is a new type of volumetric flowmeter with unique design and precision machining and assembly. A pair of spiral rotors are the only moving bodies in the metering chamber, and play a role in dividing, measuring, transporting and discharging the liquid to be measured. The structure of this flowmeter is additionally provided with a positioning gear, so that the two rotors do not contact each other when rotating. The flowmeter has stable operation, low noise, less wear, high accuracy and strong viscosity adaptability, and can allow the fine particles in the liquid to be measured to pass through, thus preventing the meter from sticking.

2.Main Features

1. It is suitable for thin oil, light oil, heavy oil, crude oil with large sand content and large water content, and the viscosity range of the measured liquid is large.
2. The flow rate of liquid passing through the flowmeter is large, and the maximum flow rate is about twice as large as that of the common volume meter with the same diameter.
3. Long service life, high accuracy and strong reliability.
4. The internal pressure loss is extremely small.
5. The longest distance of wired remote transmission is 1,000 meters, and the output of pulse signal N=0.1L (1N for one pulse), which can be directly connected to the computer.

3. The working principle

As shown in the following figure, the flowmeter directly measures the volume of liquid flow through a pair of rotating special spiral rotors. The measurement of fluid flow by flowmeter is completed in the metering chamber. A pair of spiral rotors rotate under the pressure of liquid, and the enclosed space (shaded part in the figure) formed between the rotor and the wall of the metering chamber discharges 8 times of shaded volume per rotation. Therefore, according to this relationship, as long as the number of revolutions of the rotor is measured, the cumulative flow can be calculated, and the instantaneous flow can be measured according to the number of revolutions per second.



4.Technical Specification Table

PWF-DRF Dual Rotor Flowmeter	
Material	Stainless steel
Accuracy	0.5% / 0.2%
Measuring range	5-340 m3/h
Diameter (mm)	DN40-DN250
Signal Output	4-20mA / Pulse / RS485
Working Pressure	6.3Mpa
Power Supply	24VDC or 3.6V Lithium battery
Connection	Flanged

5.Technology Parameter

Diameter mm	Flow range (m^3/h)									
	Less than 0.3 mpa.s	0.3~2 mpa.s		2~5 mpa.s	5~15 mpa.s	15~50 mpa.s	50~400 mpa.s	400~1000 mpa.s	1000~1500 mpa.s	1500~2000 mpa.s
	LPG	Gasoline	Diesel	Light diesel oil	A Heavy oil	B Heavy oil	C Heavy oil	High viscosity liquid		
40	5~20	4.5~20	4~20	3~20	2.5~20	2.5~20	2.5~20	2~13	2~12	2~10
50	6~30	5~30	5~30	4~30	4~30	4~30	3~30	2.5~25	2.5~20	2.5~15
80	30~80	20~80	15~80	12~~80	10~80	8~80	6~80	5~55	5~45	5~39
100	50~180	35~180	25~180	20~250	17~250	10~250	8.5~250	8.5~130	8.5~110	8.5~97
150	70~260	50~260	40~260	30~260	20~340	17~340	15~340	12~190	12~160	12~140
200	100~380	70~380	55~380	45~500	35~500	30~500	25~500	25~280	25~220	25~200
250	200~630	140~630	110~630	90~800	70~800	55~800	45~800	45~460	45~380	45~340

Note: 1. The above is the flow range of flowmeter with accuracy of 0.5%

2. If the accuracy is 0.2 class flowmeter, the upper limit value of the flow range is unchanged, and the lower limit value is calculated according to the range ratio of 1: 5

6. Selection codes of flow meter

Selection Codes of Flow Meter				
PWF-DRF				**Description**
Meter Diameter	-XXX			DN40, 50, 65, 80, 100, 150, 200, 250
Material		S		Stainless steel
		CS		Cast steel
Single Output			0	4-20mA
			1	Pulse output
			2	RS485
Nominal Pressure			-016	1.6MPa
			-025	2.5MPa
			-040	4.0MPa
			-064	6.4MPa