

DATASHEET

Flow

Coriolis Mass Flow Meter

Model PWF-CMF



Description

PWF-CMF coriolis mass flowmeter is an advanced high-precision mass flow measurement instrument. Due to its excellent performance, it has high measurement accuracy, low requirements on fluid state, and small pressure loss. Instruments of various specifications can directly obtain the mass flow, volume flow, density, and temperature of the measured liquid or slurry without manual calculation or estimation.

The meters are designed for unsurpassed performance in even the harshest operating environments. They have no moving parts, and any special mounting or flow conditioning requirements. Every meter is available with stainless steel wetted parts and a wide variety of process connections to meet every need. Mass flowmeters have obtained explosion-proof certification and measuring instrument type approval certificates in China.

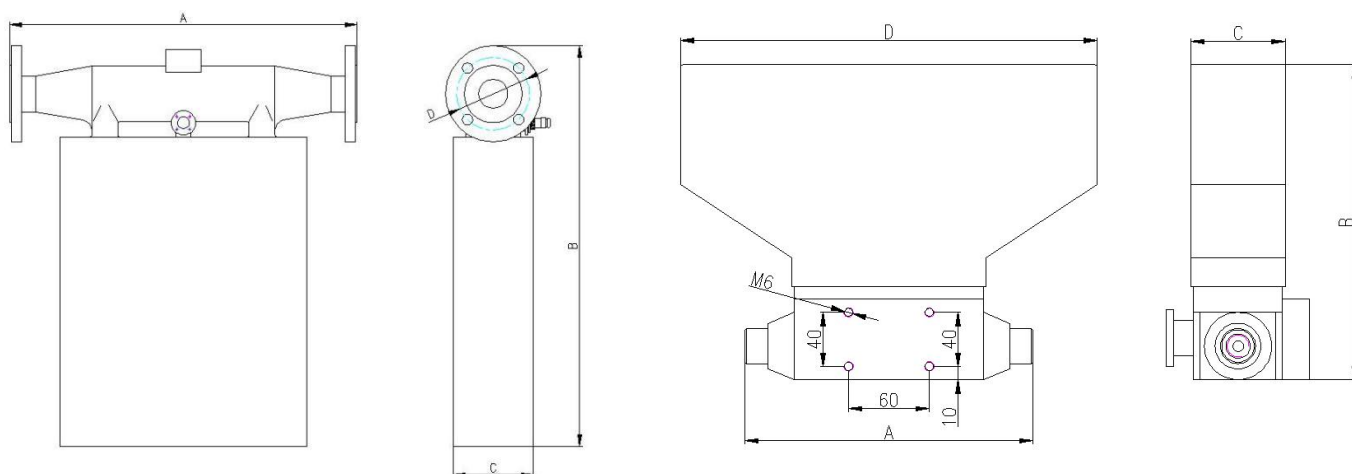
Features

- High accuracy $\pm 0.2\%$, $\pm 0.1\%$
- Directly measurement of mass flow.
- No obstacles or moving parts inside the measuring tube, high reliability and long service life.
- Wide range of applicable fluid media. Except single and uniform fluid in normal viscosity, it can also measure high-viscosity fluids and multiphase flow; No matter the flow is laminar turbulent, it does not affect its measurement accuracy.
- Multiple real-time online measurement and control of mass flow, density and temperature of the fluid.
- Strong anti-interference ability, high stability.
- Low requirement for fluids status, easy for installation.
- Wide low&high temperature range: Lowest -200°C , highest $+350^{\circ}\text{C}$

Specifications

Parameters	Specification
Measuring Medium	Conventional liquids, multi-flow liquids, high-viscosity liquids, slurries containing solids, gases with high density or pressure, etc.
Measuring Parameters	Instantaneous flow, cumulative flow, temperature, density (% of each component, alcohol content), etc.
Display	LCD or LED (Chinese, English or Russian)
Meter Diameter	DN1~DN200
Transmitter Type	Integrated type; Remote type
Material	Measuring tube 316L, housing SUS304 (Customizable)
Technical Specifications	
Mass Flow Accuracy	0.1%~0.15%, 0.2%
Mass Flow Repeatability	$\pm(1/2) \times [0.2\% + (\text{zero stability} / \text{flow rate} \times 100\%)]$
Density Range	0.2 g/cm ³ ~3.5g/cm ³
Density Accuracy	$\pm 0.002\text{g/cm}^3$
Temperature Range	-60℃~+200℃ (-60℃~+300℃, -200℃~+100℃)
Temperature Accuracy	$\pm 1^\circ\text{C}$
Working Pressure Range	30MPa, 4Mpa, 2.5Mpa (Customizable)
Output of Current Loop	4mA~20mA
Output of Frequency/Pulse	0Hz~10kHz
Communication	RS485/MODBUS or HART
Contact Capacity and Form of the Relay	24V/0.1A, normal open
Environmental Specifications	
Temperature Range of Fluid	-40℃~+200℃ (-40℃~+300℃, -200℃~+100℃)
Environmental Temperature Range	0℃~+40℃ (-40℃~+40℃)
Environmental Humidity	≤90% RH, non condensation
Atmospheric Pressure Range	86kPa~106kPa
Power Supply of Transmitters	DC (24±10%) V
Power Consumed	<15W
Essential Safety Ex Code	ExibIIBT4Gb
Composite Ex Code	ExdibIICT6Gb
Protection Class	IP67

Dimensions



Dimensions Table

Spec	Line sizes(mm)	Fitting Options (mm)				Number and Hole Diameter of Flange join or Screw joint (mm)	Weight (kg)
		A	B	C	D		
DN1	1	214	212	70	(237)	M16×1.5 Screw join	6
DN2	2	214	221	70	(277)	M16×1.5 Screw join	6.5
DN3	3	214	234	70	(329)	M16×1.5 Screw join	7.5
DN6	6	214	234	70	(329)	M16×1.5 Screw join	7.5
DN10	10	260	288	73	(364)	M20×1.5 Screw join	9
DN15	15	379	479	90	φ65	4-φ14	15
DN25	25	472	539	96	φ85	4-φ14	18.5
DN40	40	522	623	116	φ110	4-φ18	25.5
DN50	50	597	685	137	φ125	4-φ18	35
DN80	80	650	835	175	φ160	8-φ18	53.5
DN100	100	714	938	198	φ190	8-φ22	70
DN150	150	815	1129	265	φ250	8-φ26	85

Range Specifications

Specs	Line Sizes (mm)	Flow Range (t/h)	Calibration Range (t/h)	Max. Tube Pressure (MPa)	Zero Stability (t/h)	Velocity Parameter (h m/t s)
DN1	1	0~0.04	0.004~0.04	4.0	0.000005	353.7
DN2	2	0~0.15	0.015~0.15	4.0	0.00002	88.4
DN3	3	0~0.35	0.035~0.35	4.0	0.00008	39.3
DN6	6	0~0.7	0.07~0.7	4.0	0.00016	19.65
DN10	10	0~2.5	0.25~2.5	4.0	0.0002	4.912
DN15	15	0~6.4	0.64~6.4	4.0	0.0011	2.183
DN20	20	0~8.0	0.8~8.0	4.0	0.0015	2.092
DN25	25	0~16	1.6~16	4.0	0.002	0.902
DN32	32	0~10	2.0~20	4.0	0.0025	1.0122
DN40	40	0~40	4~40	4.0	0.003	0.334
DN50	50	0~65	6.5~65	4.0	0.006	0.197
DN65	65	0~80	8.0~80	4.0	0.008	0.2091
DN80	80	0~160	16~160	2.5	0.01	0.0873
DN100	100	0~250	25~250	2.5	0.015	0.0544
DN125	125	0~280	28~280	2.5	0.02	0.0509
DN150	150	0~550	55~550	2.5	0.03	0.0239
DN200	200	0~600	60~600	2.5	0.045	0.0158

Part Selection Table

Model: PWF-CMF													Description	
CMF-	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐		
Nominal Diameter (mm)	1												DN1	
	2												DN2	
	3												DN3	
	6												DN6	
	10												DN10	
	15												DN15	
	20												DN20	
	25												DN25	
	32												DN32	
	40												DN40	
	50												DN50	
	65												DN65	
	80												DN80	
	100												DN100	
	125												DN125	
	150												DN150	
	200												DN200	
	Accuracy												A1	±0.2%
													A2	±0.15%
A3		±0.1%												
Working Temperature Range	T1	-50℃～+150℃												
	T2	-50℃～+250℃												
	T3	-50℃～+350℃												
	T4	-200℃～+100℃												
Pressure Resistance Class	16	1.6MPa												
	40	4.0MPa												
	X	Others on request												
	X													
Measuring Tube Material	A	316L(Typica)												
	B	HC alloy												
	C	Coated with tetrafluoroethylene												
	X	Others on request												
Housing Material	4	SUS304(typical)												
	6	316 stainless steel												
Transmitter Type	I	Integrated type												
	S	Split type with bracket												
Process Connection	F	Flanged												
	S	Sanitary type												

	W				Welding screw
	X				Others on request
Output and Communication	N		4-20mA + 0~10KHz + RS485		
	H		4-20mA + 0~10KHz + RS485 + HART		
Power Supply	D		DC 24V		
	A		AC 220V		
Enclosure	M		Die-cast aluminum alloy enclosure, electrical interface: M20x1.5		
	N		Die-cast aluminum alloy enclosure, electrical interface: 1.2"NPT		
Explosion Proof Level	E		Essential Safety Ex: ExibII BT4Gb		
	C		Composite Ex: ExdibII CT6Gb		