Measuring & Beyond

MIAL INSTRUMENTS PVT. LTD.

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MBF 700
INLINE TURBINE FLOW METER

MIAL MBF 700 Inline Turbine Flowmeter

Introduction

MBF 700 turbine flow meter consists of turbine flow sensor and display instrument and it is made by us using foreign state-of-the-art technologies, which is an ideal gauge for measuring of liquid flow.

The flow meter is characterized by simple structure, high precision and easy installation and repair. The product may be used in a wide range of industries, including oil industry, chemical industry, metallurgy, water supply, paper-making, environment protection and food industry.

It is applicable for use in closed pipes to measure flow of liquid which will not erode stainless steel (1Cr18Ni9Ti), 2Cr13, Al2O3 and hard alloy and is free of impurities such as fiber and granules. If this product is used in association with display instruments with special functions, it can be used for purpose of automatic definite quantity control and alarming in case of excessive amount.

Product Features

1. The sensor is of hard alloy bearing thrust type, which may guarantee the precision and improve the wear resistance performance as well.
2. Simple and firm structure, easy for installation and dismantling.
3. Wide range of measuring with very low lower flow velocity limit.
4. Small loss of pressure,fine repeat ability and high precision.
5. High resistance to electromagnetic interference and vibration.

Major Technical Performance

1. Nominal drift diameter:（4～200）mm, refer to Table 1 for the basic parameters;
2. Medium temperature:（-20～80）℃; Split type (－20～120) ℃;
3. Ambient temperature:（-20～70）℃;
4. Precision: ±0.5%, ±1％;
5. Detector signal transmission wiring system: three-wire voltage impulse (three-core shield wire);
6. Power supply:

1) TB3WE Three Wire

External Power:12~24VDC/30mA(-20%~+15%),if no output can be as low as 6V

Battery:Lithium battery 3.6V(2/13Ah)/0.4mA

2)TB2WE Two Wire 12~24VDC/4-20mA(-20%~+15%)

7. Transmission distance: the distance between the sensor and the display instrument may be as far as 1000m;
8. Local display power supply: 3.6V (Lithium battery, may be used continuously for more than 3 years);
9. Display mode: local LCD displays instant flow and cumulative flow;
10. Output Signal

a)TB3WE Three Wire

1)Pulse Output:High level voltage amplitude≥5V, low level<0.5V

2)Three sire 4-20mA linearity correction current output(need ground wire)(load resistance≤800Ω at 24V)

3)RS485 communication:flowmeter with RS485 interface, communication distance≤1200mm.

b)TB2WE Two Wire

1) Two wire 4~20mA linearity correction current output(need ground wire)(load resistance≤600Ω at 24V)

2) Origin Pulse output:High level≥5V(power supply voltage-1V),Low level<0.5V

Table 1

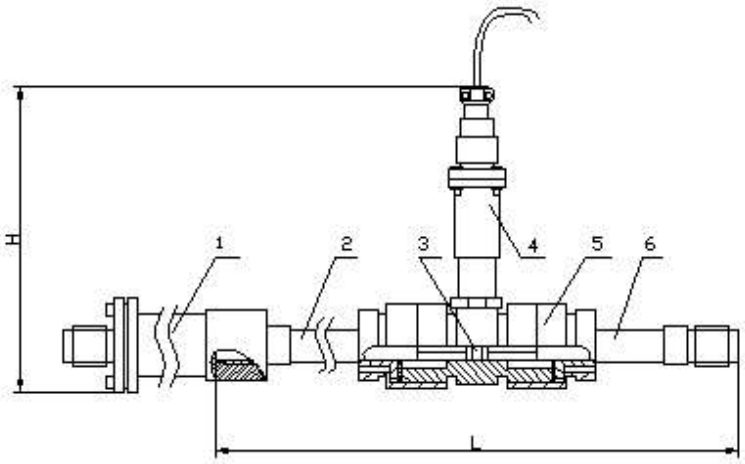
	MBF 700	□ □□□	□	□	□	Description			
Type	MBF 700-A					Flow sensor pulse output three-wire system, +12V power supply;			
	MBF 700-B					Local display, powered by 3.6V battery;			
	MBF 700-C					Local display with 4～20mA or pulse output, powered by 24V;			
	MBF 700-D					Flow transmitter 4～20mA output, powered by 24V;			
Nominal drift diameter						Normal flow range m3/h		Extended flow range m3/h	0.04～0.4
		6					0.1～0.6		0.06～0.6
		10					0.2～1.2		0.15～1.5
		15					0.6～6		0.4～8
		20					0.8～8		0.45～9
		25					1～10		0.5～10
		32					1.5～15		0.75～15
		40					2～20		1～20
		50					4～40		2～40
		65					7～70		3.5～70
		80					10～100		5～100
		100					20～200		10～200
		125					25～250		12.5～250
		150					30～300		15～300
		200					80～800		40～800
Explosion protection						Not marked, without explosion protection			
			B			Explosion protection type			
Precision class				A		Precision: Class 0.5			
				B		Precision: Class 1.0			

Note:
Sensors with pipe diameter of DN4～DN40 are of thread connections with maximum operating pressure of 6.3Mpa.
Sensors with pipe diameter of DN50～DN200 are of flange connections with maximum operating pressure of 2.5Mpa.
Sensors with pipe diameter of DN4～DN10 are provided with front and rear straight pipe sections and filters.
Please specify when placing an order if flange connections are required for pipe diameter of DN15～DN40. Please specify when placing an order for high pressure type and special requirements.

Overall Dimension

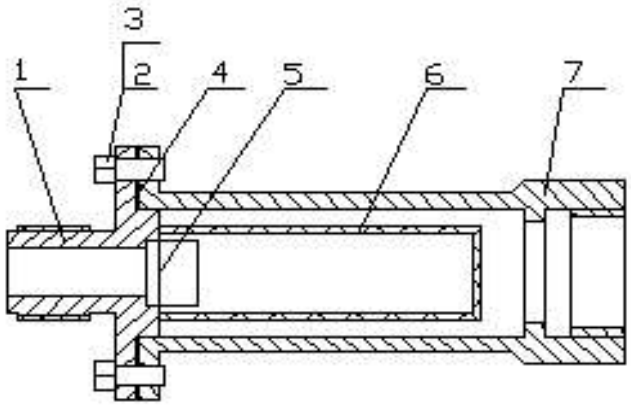
The installation types of sensors vary according to specifications, which may be connected either by thread or flange. The installation types are shown in Fig. 1, Fig. 2, Fig.3, Fig. 4 and Fig. 5. The installation dimensions are shown in Table 2.

Fig. 1 Structure of DN4～DN10 sensor and installation dimension diagram



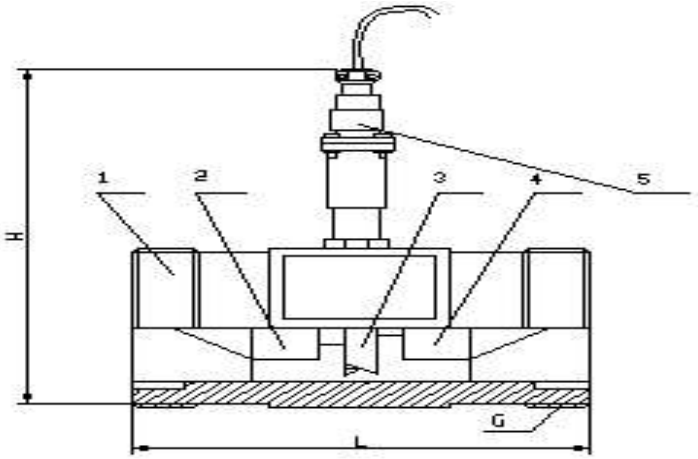
Filter 2. Front straight pipe section 3. Impeller 4. Preamplifier 5. Casing 6. Rear straight pipe section

Fig. 2 Filter structure diagram



Clamp ring 2. Bolts 4×14 3. Washer 4. Sealing washer 5. Steel wire 1Cr18Ni9Ti-0.8×2.5 6. Filter screen 7. Base

Fig. 3 Structure of DN15～ DN40 sensor and installation dimension diagram



Casing 2～ Front guide part 3～ Impeller 4～ Rear guide part 5～ Preamplifier

Fig. 4 Structure of MBF 700—50～ 200 sensor and installation dimension diagram