

Liquid Turbine Flow meter

I Outline

JC-060 series Turbine Flowmeter has simple structure, high accuracy, good repetitiveness, fast response and convenient maintenance. It is widely used for liquid without corrosion to stainless steel, Al₂O₃ or hard alloy, without fibre or particle and kinematic viscosity less than 50×10⁻⁶m²/s.

II Features

- ★ High accuracy: ±1%, ±0.5%, ±0.2% for high accuracy
- ★ Good repetitiveness: 0.05% ~ 0.2%
- ★ Output of pulse frequency signal, suitable for totalizer and connection with PC; no zero shift and strong interference resist
- ★ High frequency signal (3~4 kHz), strong signal resolution power
- ★ Turndown: 1:20, 1:10
- ★ Compact structure & convenient maintenance

III Technical Parameters

1. Basic Parameters

Table 1

Instrument Diameter (mm) & Connection	4, 6, 10, 15, 20, 25, 32, 40 thread connection (15, 20, 25, 32, 40) 50, 65, 80, 100, 125, 150, 200 flange connection
Accuracy	±1%, ±0.5%, ±0.2% (need special order)
Turndown	1:10, 1:15; 1:20
Instrument Material	SS304, SS316 (L)
Medium Temperature	-20 to +120 Degree C
Ambient Conditions	Temperature -10 to 55 C, relative humidity 5% to 90%, atmospheric pressure 86 to 106 KPa
Output Signal	Sensor: pulse frequency signal, low electrical level ≤0.8V, high level ≥8V Transmitter: two wire, 4-20 mA DC current signal
Power Supply	Sensor: +12V DC, +24V DC (optional) Transmitter: +24V DC Local indication type: built-in 3V lithium cell or +24VDC external
Signal Wire Transmission	STVPV3×0.3 (3 wire), 2×0.3 (2 wire)

Transmission Distance	No more than 1000 m
Signal Line Interface	Basic type: Hausman connector or 3-core wire; Explosion-proof type: M20 × 1.5 (F)
Explosion Proof	Basic type: non-explosion proof; explosion proof type: ExdIIBT6
Enclosure Protection	IP65

2. Measuring Range & Pressure

Table 2

Instrument Diameter (mm)	Normal Flow Range (m ³ /h)	Extended Flow Range (m ³ /h)	Normal Connection & Pressure Rating	Special Pressure Rating(MPa) (Flange Connection)
DN 4	0.04 ~ 0.25	0.04 ~ 0.4	Thread connection/6.3MPa	10, 16, 25
DN 6	0.1 ~ 0.6	0.06 ~ 0.6	Thread connection/6.3MPa	10, 16, 25
DN10	0.2 ~ 1.2	0.15 ~ 1.5	Thread connection/6.3MPa	10, 16, 25
DN15	0.6 ~ 6	0.4 ~ 8	Thread connection/6.3MPa	4.0, 6.3, 10, 16, 25
			Flange connection/2.5MPa	
DN20	0.8 ~ 8	0.45 ~ 9	Thread connection/6.3MPa	4.0, 6.3, 10, 16, 25
			Flange connection/2.5MPa	
DN25	1 ~ 10	0.5 ~ 10	Thread connection/6.3MPa	4.0, 6.3, 10, 16, 25
			Flange connection/2.5MPa	
DN32	1.5 ~ 15	0.8 ~ 15	Thread connection/6.3MPa	4.0, 6.3, 10, 16, 25
			Flange connection/2.5MPa	
DN40	2 ~ 20	1 ~ 20	Thread connection/6.3MPa	4.0, 6.3, 10, 16, 25
			Flange connection/2.5MPa	
DN50	4 ~ 40	2 ~ 40	Flange connection/2.5MPa	4.0, 6.3, 10, 16, 25
DN65	7 ~ 70	4 ~ 70	Flange connection/2.5MPa	4.0, 6.3, 10, 16, 25
DN80	10 ~ 100	5 ~ 100	Flange connection/2.5MPa	4.0, 6.3, 10, 16, 25
DN100	20 ~ 200	10 ~ 200	Flange connection/2.5MPa	4.0, 6.3, 10, 16, 25
DN125	25 ~ 250	13 ~ 250	Flange connection/1.6MPa	2.5, 4.0, 6.3, 10, 16
DN150	30 ~ 300	15 ~ 300	Flange connection/1.6MPa	2.5, 4.0, 6.3, 10, 16
DN200	80 ~ 800	40 ~ 800	Flange connection/1.6MPa	2.5, 4.0, 6.3, 10, 16

IV Instrument Classification

1. According to instrument function, JC-060 Turbine Flowmeter can be classified to two types, that is:

- Turbine flow sensor/transmitter
- Smart integral turbine flow meter

2. Function Description

■ Turbine flow sensor/transmitter

This product itself has no local indication function, only remote transmission of flow signal. Flow signal can be divided to pulse signal or current signal (4-20mA); low price, high integration level, small volume, especially suitable for using together with secondary indicator, PLC, DCS, etc. computer control system.

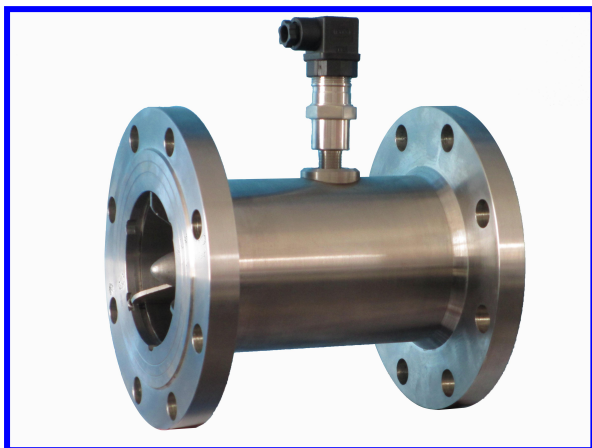
According to output signal, the kind of product can be divided to JC-060-N type and JC-060-A type.



JC-060-N type sensor: 12 ~ 24V DC power supply, 3 wire pulse output, high level more than 8V, low level less than 0.8V; signal transmission distance less than 1000.

JC-060-A type sensor: 24V DC power, 2 wire 4-20 mA output, signal transmission distance less than 1000.

Basic Sensor / Transmitter



Explosion-proof Sensor / Transmitter



Smart Integral Turbine Flowmeter



Smart Integral Turbine Fowmeter

- ※ Two-line LCD indicator
- ※ Compact structure
- ※ Clear reading
- ※ High reliability
- ※ No effect by external power
- ※ Anti-thunder
- ※ Low cost
- ※ Indication of both flow rate (4 digits effective figures) & total flow (8 digits effective figures, with zero clear function). All effective data kept for 10 years after power off
- ※ Explosion proof, ExdIIBT6

According to power supply mode, whether with remote signal transmission, it can be divided to JC-060-B type and

JC-060-C type.

JC-060-B: power supply 3.2V 10AH Lithium cell (4 years service life); without signal output

JC-060-C: external 24V DC supply, output 4-20 mA standard two wire current signal; RS485 or HART communication optional

V Model Selection

Table 3

Model							Description
JC-060 Turbine Flowmeter							
DN	4						4 mm
	6						6 mm
	10						10 mm
	15						15 mm
	20						20 mm
	25						25 mm
	32						32 mm
	40						40 mm
	50						50 mm
	65						65 mm
	80						80 mm
	100						100 mm
	125						125 mm
	150						150 mm
	200						200 mm
Type		N					Sensor type: +12V or 24V power, output 3 wire system pulse signal
		A					Transmitter type: +24V power, output 2 wire 4-20 mA
		B					Smart type: lithium cell, local indicator, without signal output
		C					Smart type: +24V power, local indicator, 2 wire 4-20mA/pulse output
		C1					Smart type: +24V power, local indicator, RS485 communication protocol
		C2					Smart type: +24V power, local indicator, HART protocol
Accuracy		05					0.5
		10					1.0
		02					0.2 (Special order, long delivery time)
Turbine Type			W				Extended Measuring Range
			S				Standard Measuring Range
Material			S				304 SS

	L		316 (L) SS
Explosion Proof	N		Non Explosion proof
	E		Explosion proof, ExdIIBT6
Pressure Rating	N		Normal (see table 2)
	H (x)		High Pressure (see table 2)

Note: Generally thread connection for DN15 ~ DN40; if you require flange connection please add “(FL)” after “DN”.

VI Mounting Dimension

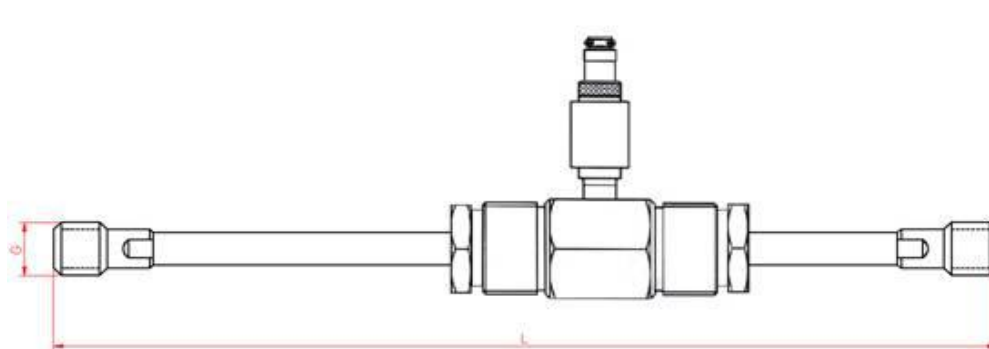


Diagram 4

DN4 ~ DN10, thread connection type turbine flow sensor (including straight pipe section)

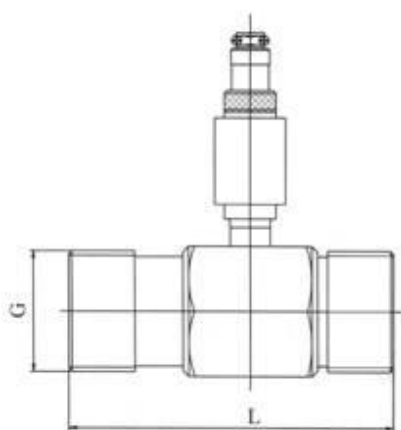


Diagram 5

DN15 ~ DN40, thread connection

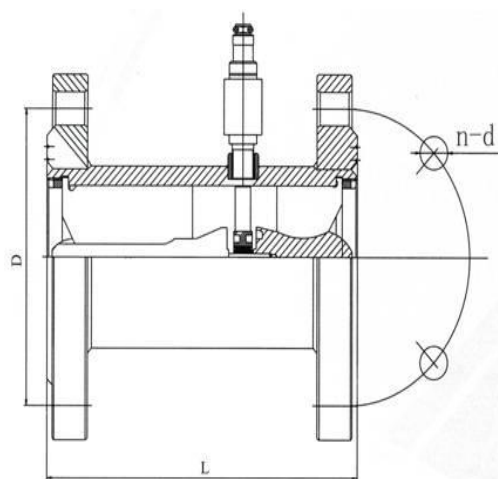


Diagram 6

DN4 ~ DN10, flange connection type

Table 4

DN (mm)	L (mm)	G	D (mm)	d (mm)	N (Hole No.)
4	295	G 1/2			
6	330	G 1/2			
10	450	G 1/2			
15	75	G1	Φ65	Φ14	4
20	80	G1	Φ75	Φ14	4
25	100	G 5/4	Φ85	Φ14	4
32	140	G2	Φ100	Φ14	4
40	140	G2	Φ110	Φ18	4
50	150		Φ125	Φ18	4
65	170		Φ145	Φ18	4
80	200		Φ160	Φ18	8
100	220		Φ180	Φ18	8
125	250		Φ210	Φ18	8
150	300		Φ240	Φ22	8
200	360		Φ295	Φ22	12