

## Liquid Turbine Flow Meter

### Application:

- Agricultural
- Water
- Diesel
- Gasoline
- Low Viscosity Petroleum



### Specification:

#### Measuring system

- Application range : Liquid: water; diesel; gasoline  
(1) Without Impurity  
(2) Low viscosity

#### Measured Value

- Primary measured value : Flow Rate
- Secondary measured value : Volume flow

#### Design

##### Features

- Modular construction : The measurement system consists of a flow sensor and a signal converter. It is available as compact and as separate version.
- Compact version converter : N Type: Pulse output without local display  
A Type: 4-20mA Output without local display  
B Type: Local Display; Lithium Battery Power; No Output  
  
C Type: Local Display; 24V DC Power; 4-20mA Output;  
Optional Function:  
(1) Backup Power Supply: Lithium Battery  
(2) Modbus RS485  
(3) Pulse Output
- Connection : Thread: DN4-DN50a  
Flange: DN15-DN200 (DIN, ANSI, JIS)  
Wafer: DN15-DN100
- Measurement Ratio : Standard —10:1; Optional: 20:1

## Liquid Turbine Flow Meter

### Measuring accuracy

- Reference conditions : Flow conditions similar to EN 29104  
Medium: Water  
Electrical conductivity: 300 µS/cm  
Temperature: +10...+30°C / +50...+86°F  
Inlet section: 10 ON  
Operating pressure: 1 bar / 143 psig
- Flow Meter Accuracy : Standard: 1.0% of rate  
: Optional: 0.5% of rate

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### Operating conditions

- Temperature
- Process temperature : T1 Level: -20...+80°C  
T2 Level: -20...+120°C  
T3 Level: -20...+150°C
- Ambient temperature (all versions) : Standard (with aluminum converter housing):  
-10...+55°C  
-20...+70"

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### Installation Conditions

- Installation : Take care that flow sensor is always fully filled  
For detailed information see chapter "Cautions for Installation"
- Flow Direction : Forward  
Arrow on flow sensor indicates flow direction.
- Inlet run : ≥ 10 DN
- Outlet run : ≥ 5 DN

### Materials

- Sensor housing : SS304  
Other materials on request
- Flanges : SS304

### Rotor

- Standard: 12Cr13 : EN 10088-3 1.4021 X20Cr13  
NISI 420  
BS 420S37  
JIS SUS410J1
- Optional: CD4MCu : DN15...DN80
- Bearings. and Shaft : Tungsten Carbide
- Converter Housing : Standard: polyurethane coated die-cast aluminum

### Process Connection

#### Flange

- EN 1092-1 : DN15...200 in PN 6 ..40
- ASME : 1/2"...8" in 150 lb RF
- JIS : 1/2"...8" in 10...20K
- Design of gasket surface : RF  
Other sizes or pressure ratings on request
- Thread : DN4...DN50 in PN63



## Liquid Turbine Flow Meter

### Measurable Flow Rate Range:

Note: The flow range as blow is for reference only\_ Consort the factory if you have special requirement  
Refer to the nameplate or certificate for actual flow range

Nominal Diameter		Standard Flow Range	Extended Flow Range
(mm)	(in.)	(m3/h)	(m3/h)
4	0.15	0.04 to 0.25	0.04 to 0.4
6	0.25	0.1 to 0.6	0.06 to 0.6
10	0.4	0.2 to 1.2	0.15 to 1.5
15	0.5	0.6 to 6	0.4 to 8
20	0.75	0.8 to 8	0.45 to 9
25	1	1 to 10	0.5 to 10
32	1.25	1.5 to 15	0.8 to 15
40	1.5	2 to 20	1 to 30
50	2	4 to 40	2 to 40
65	2.5	7 to 70	4 to 70
80	3	10 to 100	5 to 100
100	4	20 to 200	10 to 200
125	5	25 to 250	13 to 250
150	6	30 to 300	15 to 300
200	8	80 to 800	40 to 800



## PRECISE TURBINE FLOW METER

### HOW TO ORDER

	<b>Output:</b>	F4900
01	4 - 20mA	01
02	4 - 20mA with HART	
03	Modbus RS485	
	<b>Power Supply:</b>	02
01	Li-ion 3.6V 14Ah	
02	24V DC	
	<b>Media Temperature:</b>	01
01	-40 ~ 100°C (-40 ~ 250°C for steam)	
02	-40 ~ 350°C	
	<b>Accuracy:</b>	01
01	±1.0% of F.S	
02	±1.5% of F.S	
	<b>Connection Type:</b>	01
01	Wafer Type	
02	Flange Type	
	<b>Aperture Size (Line Size):</b>	100
015	1/2 Inch	100 4 Inch
020	3/4 Inch	125 5 Inch
025	1 Inch	150 6 Inch
032	1 1/4 Inch	200 8 Inch
040	1 1/2 Inch	250 10 Inch
050	2 Inch	300 12 Inch
065	2 1/2 Inch	350 14 Inch
080	3 Inch	400 16 Inch

Ordering Example : F4900-01-02-01-01-01-100