



Turbine flowmeter

Datasheet

SUP-LWGY

SUP-LWGY series turbine flow meters have the features: high accuracy, good repeatability, convenient installation/maintenance, simple structure etc.

Liquid flows through the turbine housing causing an internal rotor to spin. As the rotor spins, an electrical signal is generated in the pickup coil. This signal is converted into engineering units (liters, cubic meters, gallons etc.) on the local display where is applicable. Optional accessory modules can be used to export the signal to other equipment.

Technical Specification

Performance

- Repeatability: $\pm 0.2\%$
- Accuracy: Standard: $\pm 1\%$ of reading;
Optional: $\pm 0.5\%$ of reading

Wetted Components

- Housing: Standard - 304 Stainless Steel Optional - 316 Stainless Steel
- Bearings and Shaft: Tungsten Carbide
- Rotor: Standard - 2Cr13 Stainless Steel (Optional Alloy CD4Mcu)
- Retaining Rings: 316 Stainless Steel

Output Signal: (Where applicable)

- Sensor: Pulse signal (Low Level: $\leq 0.8V$; High Level: $\geq 8V$)
- Transmitter: 4 to 20 mA DC current signal
- Signal Transmission Distance: $\leq 1,000$ m

Electrical Connections:

- Basic Type: Hausman Connector or three-core cable: ISO M20 $\times$ 1.5 Female

Protection Level:

- IP65

Flange Connections

- For standard product, the flange follows GB/T 9119-2000 (ISO 7005-1) RF (Raised Face).

Operating Conditions

Ambient:

- Temperature: -10°C to +55°C
- Pressure: 86 to 106 KPa
- Relative Humidity: 5% to 90%

Power Supply:

- Sensor: +12V DC (Optional: +24V DC)
- Transmitter: +24V DC
- Field Display Type B: Integral 3.2V Lithium Battery

(Others available on request)

- Field Display Type C: +24V DC

Fluid Temperature and Pressure:

- Temperature: -20°C to +110°C
- Pressure: Fluid pressure should be limited according to rating.

Measurable Flow Rate Range and Pressure Level:(Seetable1)

Table 1. Measurable Flow Range Range and Pressure Rating

Nominal Diameter		Standard Flow Range (SFR)	Extended Flow Range (EFR)	Standard Pressure Rating	Customized Pressure Rating
(mm)	(in.)	(m ³ /h)	(m ³ /h)	(MPa)	(MPa) - Flange Fitting
4	0.15	0.04 to 0.25	0.04 to 0.4	Thread: 6.3	12, 16, 25
6	0.25	0.1 to 0.6	0.06 to 0.6	Thread: 6.3	12, 16, 25
10	0.4	0.2 to 1.2	0.15 to 1.5	Thread: 6.3	12, 16, 25
15	0.5	0.6 to 6	0.4 to 8	Thread: 6.3; Flange: 2.5	4.0, 6.3, 12, 16, 25
20	0.75	0.8 to 8	0.45 to 9	Thread: 6.3; Flange: 2.5	4.0, 6.3, 12, 16, 25
25	1	1 to 10	0.5 to 10	Thread: 6.3; Flange: 2.5	4.0, 6.3, 12, 16, 25
32	1.25	1.5 to 15	0.8 to 15	Thread: 6.3; Flange: 2.5	4.0, 6.3, 12, 16, 25
40	1.5	2 to 20	1 to 30	Thread: 6.3; Flange: 2.5	4.0, 6.3, 12, 16, 25
50	2	4 to 40	2 to 40	Flange: 2.5	4.0, 6.3, 12, 16, 25
65	2.5	7 to 70	4 to 70	Flange: 2.5	4.0, 6.3, 12, 16, 25
80	3	10 to 100	5 to 100	Flange: 2.5	4.0, 6.3, 12, 16, 25
100	4	20 to 200	10 to 200	Flange: 1.6	4.0, 6.3, 12, 16, 25
125	5	25 to 250	13 to 250	Flange: 1.6	2.5, 4.0, 6.3, 12, 16
150	6	30 to 300	15 to 300	Flange: 1.6	2.5, 4.0, 6.3, 12, 16
200	8	80 to 800	40 to 800	Flange: 1.6	2.5, 4.0, 6.3, 12, 16

Cautions For Installation

Mounting Positions

- Turbine flow meters should be installed at a place in compliance with the requirements below:

- ◇ Easy maintenance
- ◇ No electromagnetic interface
- ◇ No vibration
- ◇ Away from heat source

Mounting Orientation

- All turbine flow meters are designed to measure flow in only one direction. The direction is indicated by the arrow on the body.

Required Lengths of Straight Runs

- Flow altering device such as elbows, valves and reducers can affect accuracy. See diagram 1 for typical flow meter system installation.

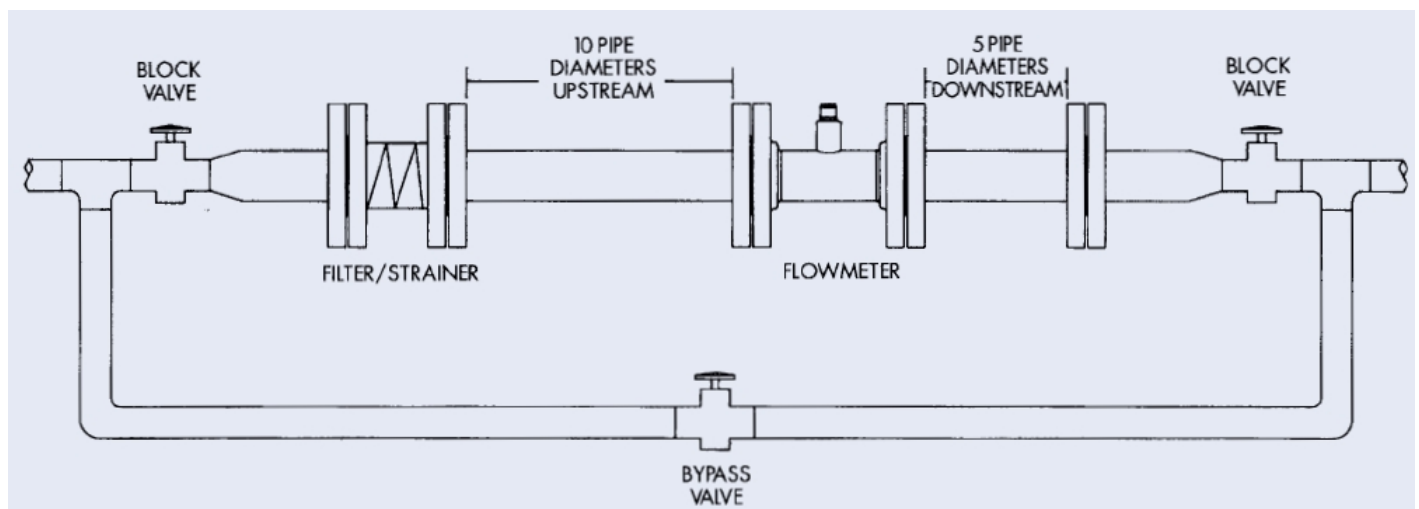
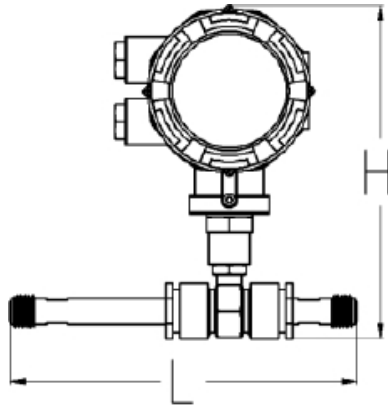


Diagram 1. Typical Flow Meter System Installation

Installation Dimensions

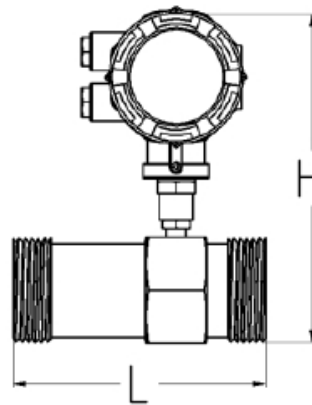
Thread or flange connection is used according to different flow models.

Thread connection dimensions

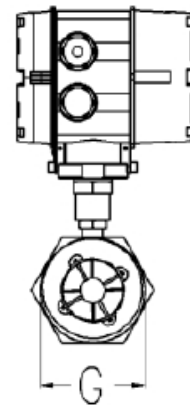


DN4-DN10

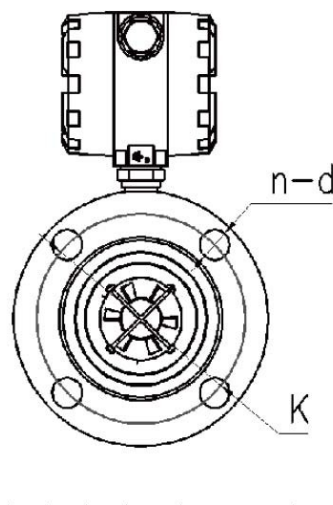
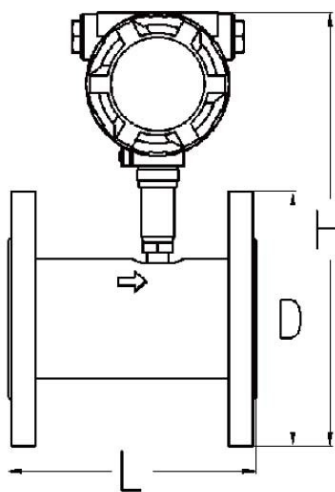
(straight section is included)



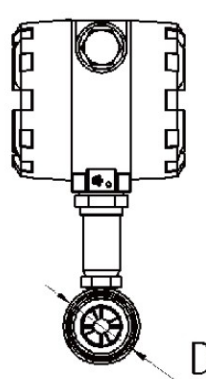
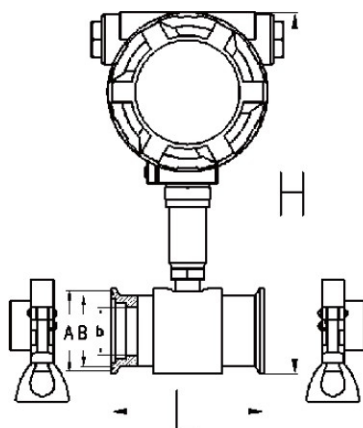
DN15-DN50



Flange connection



Sanitary Connection



Ordering code

SUP-LWGY	Code	Instructions
Diameter	DNxx	Stand for diameter A004:DN4;A032:DN32; (range:004~300)
Converter type	ST1	24VDC;Pulse output; No display
	ST2	24VDC;4-20mA output; No display
	ST3	Battery power supply;Pulse output; No display
	ST4	24VDC; 2-wire 4-20mA output; Digital display
	ST5	24VDC; Pulse output; Digital display
	ST6	24VDC; 0-20mA output; Digital display
	ST7	24VDC; 3-wire 4-20mA/Pulse output; Digital display
	ST8	220VAC; 4-20mA output; Digital display
	Notice	1) Modbus RS485 is optional for B4, B5, B6, B7, B8 type 2)Dual power(24VDC+battery) is optional for B4, B5, B6, B7, B8 type
Accuracy	J1	±1.0% of rate
	J2	±0.5% of rate
Flow Range	RT1	Standard Range
	RT2	Extended Range
Body Material	B1	SS304
	B2	SS316
Rotor Material	MQ1	2Cr13
	MQ2	CD4MCu
Installation	I1	Male thread; Available from DN4...DN50
	I2	Female thread; Available from DN4...DN50
	I3	Wafer connection
	I4	DIN Flange
	I5	ANSI Flange
	I6	JIS Flange
Temperature Rating	T1	-20...+80°C
	T2	-20...+120°C
	T3	-20...+150°C



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