STAINLESS STEEL TURBINE FLOWMETER

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LWGY series Stainless Steel Turbine Flowmeters are suitable for use in low viscosity clean liquids.

It has a mechanical system that moves at the same speed as the flow inside the device. In this way, it is suitable for use in filling applications. Stainless Steel Turbine Flowmeters are used in water, chemistry, food, paint, textile etc. can be used in industries.

General Features

- This device is completely made of stainless steel material. In this way, it is resistant to impacts and harsh working conditions.
- Because of its working principle and mechanical design suitable for use in applications.
- It can be used in demanding processes because of its high temperature (up to 120°C and optional up to 150°C) and high pressure (up to 63 bar) resistance.
- It is suitable for automation systems because of its analog and digital output options.
- Exproof option available for explosive conditions.
- It can be used for liquids with viscosity up to 20 cSt.

Usage Areas

- Hygienic liquids such as milk, juice, etc.
- Liquid measurements in cosmetics and pharmaceutical industry, paper producti-on facilities, paint and textile production facilities.
- In environments requiring Ex-Proof feature
- In processes where measurement is required for the vertical line
- Filling applications

TECHNICIAL SPECIFICATIONS

Power Supply	5-24 VDC/3,6V Lithium Battery
Measurable Fluids	Homogeneous clean liquids, Max 200 cSt of visosity
Precision	&0,5 optional %0,2
Measuring Range	See table of measureable flow ranges upon diameter
Connection	Male threaded connection, Flange connection
Indicator Type	Optional LCD indicator
Pressure Resistance	16-63 bar
Ambient Temperature	20°C ..... 55 °C
Humidity	%5-%95 rH
Working Temperature	-20 °C ..... 120°C (optional 150 °C)
Output	Pulse, 4-20 mA, 0-10 V
Models	Pulse output, without indicator
	4-20 mA output, without indicator
	4-20 mA output, LCD indicator
	Battery poered, LCD indicator
	Rs485 Modbus+4-20 mA, Panel Type indicator
Displayed Parameters	1 st. line moment flow/2nd. line total flow
Protection Class	IP65/Exproof Ex dIIBT4
Body Material	Stainless Steel 304/316
Shaft/Turbine Material	Stainless Steel 304
Calibration	Standard factory calibration/with real flow
	Optional ISO17025/TURKAK Accredited

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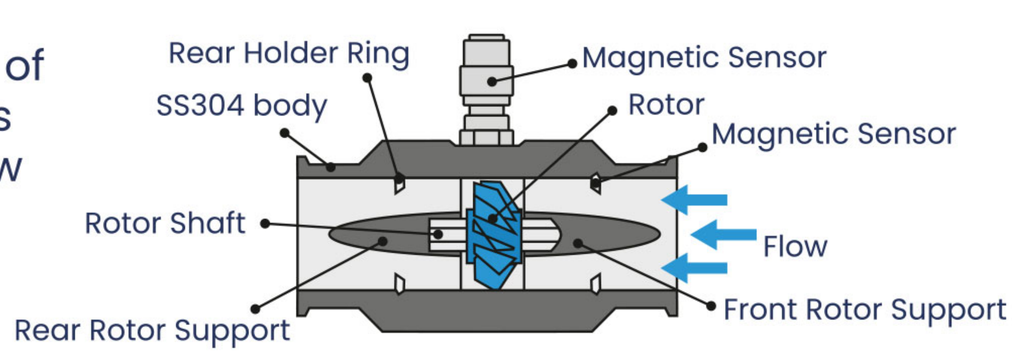
LWGY series flowmeters have the principle of measuring with a fast moving propeller in sync with the flow of the liquid.
Each blade of this turbine when passes in front of magnetic sensor, one pulse is produced. And With the number of these pulses changing with time, instantaneous flow and by the total amount of pulses total flow is measured. With the number of these pulses changing with time, instantaneous flow and by the total amount of pulses total flow is measured. According to the model to be selected, the product has Pulse, 4-20Ma, RS485Modbus output; Can be used with or without indicator. The internal structure of the flowmeter is given below.



How to Choose the Right Product? What Should Be Considered?

Choosing the right product in industrial applications is one of the most important issues. The correct product selection can be made in the light of the information given below.
2/3 of the errors are due to the selection of products not suitable for the process and incorrect assembly.

- The basic information that needs to be obtained and checked is as follows.
  Fluid type and chemical properties
  Maximum, minimum and normal flow amount (or speed information iiiMaximum and usage pressure
  Maximum and usage temperature Line diameter
- The minimum and maximum flow amount should be suitable for the measuring range of the product to be selected. The right choice can be made by checking the product diameter / flow rate table.
- The actual maximum pressure should be below the maximum pressure resistance of the flowmeter.
- The maximum and minimum temperature must match the temperature withstand range of the flowmeter.
  After making sure that this information is correct, the availability of turbine flow meters is ensured and a selection is made according to the flow amount. If the current line diameter and the selected flow meter line diameter are not the same, it should be adjusted with reduction.

  What to consider in this situation
- It should be evaluated whether the reduction application causes a pressure change in the line. If there is, it should be evaluated whether this change will affect the current flow. In order to avoid this situation, it is not recommended to make large diameter changes in the reductions.
- Reduction is used to reduce flow meter cost. It is not the right choice if the reduction cost is greater (or the same) than the savings in flowmeter selection.

  It should be ensured that the temperature, pressure and fluid information data to be given by the user are correct. Errors in this information may cause device failure or incorrect measurement.
The assembly rules specified in the catalog and user manuals must be strictly followed.
Flowmeter should not be installed on the line while welding, otherwise the electronics of the product may be damaged.
The product should not be exposed to water hammer. Even if the flow is given for the first time, it should be given gradually. The product can even be mounted vertically and horizontally.
In vertical mounting, the flow of liquid fluids should be from bottom to top.
Considering that the compact models are IP67, they should be protected from external factors. Necessary precautions should be taken as exposure to direct sunlight will damage the product screen in all models. Users are strongly recommended to review the product manual thoroughly.

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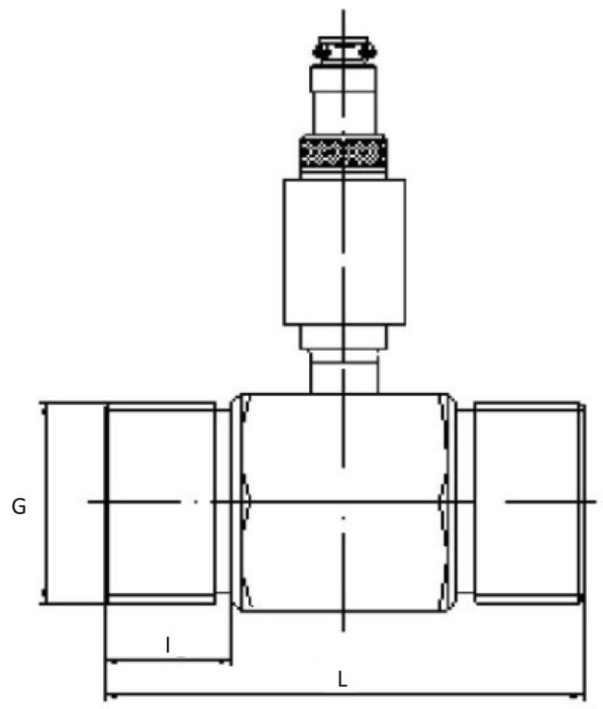
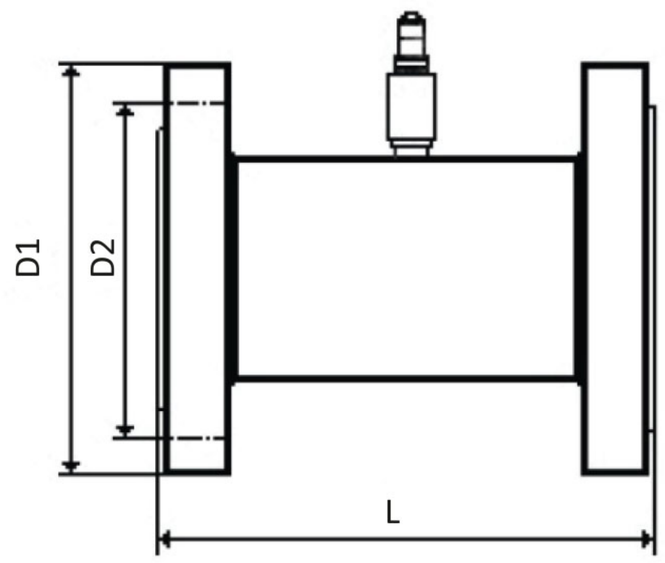
Information Of Threaded-Type Connection



Connection Size	Measuring Range m3/h	Average Pulse/Litre	G (mm)	l (mm)	L (mm)	Weight (kg)
DN4	0.04-0.2	9900	3/8"	7	40	0.4
DN6	0.1-0.6	10000	3/8"	11	50	0.4
DN10	0.2-1.2	3600	1/2"	16	60	0.5
DN15	0.6-6	900	1"	18	75	0.8
DN20	0.8-8	600	1"	23	100	0.9
DN25	1.0-10	336	1 1/4"	23	100	0.9
DN32	1.6-16	135	1 1/2"	25	120	1.00
DN40	2-20	89	2"	32	120	1.1

Information Of Flanged-Type Connection



Connection Size	Measuring Range m3/h	Average Pulse/Litre	D1 (mm)	D2 (mm)	L (mm)	Weight (kg)
DN40	2.5-25.0	89	150	110	140	6
DN50	4.0-40	41	160	125	150	6,5
DN65	6.0-60	17	182	145	180	7,5
DN80	10-100	11	200	160	200	8,5
DN100	16-160	7.5	235	180	220	11
DN150	40-400	2.1	275	240	300	14
DN200	80-800	1.8	340	295	360	19

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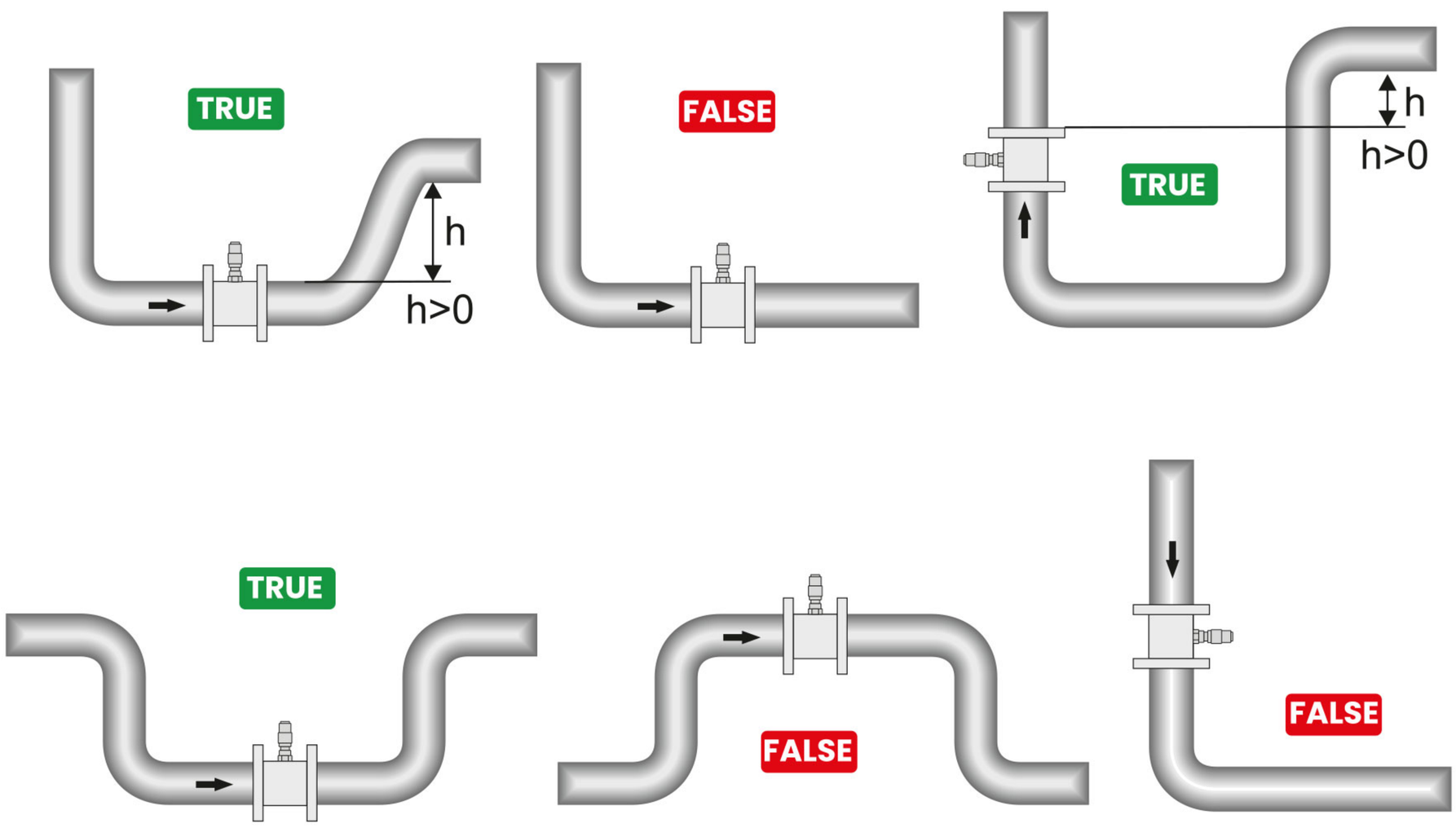
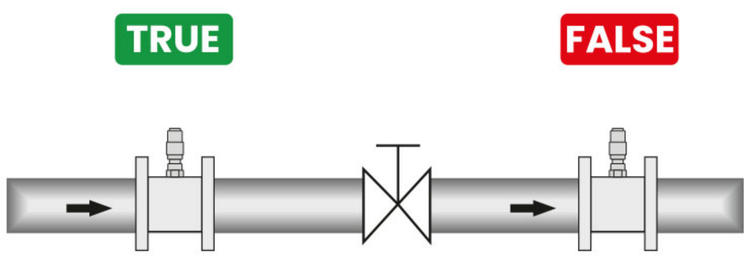
- Flowmeters should be installed in a sheltered place, where they will not be affected by electrical and gas installations.
- Flowmeter should be mounted away from devices that can generate vibration and electromagnetic fields.
- In order to avoid false pulse detection, large motors that may generate electrical noise and strong cable lines should not be mounted close.
- It is recommended to make a by-pass line for maintenance and repairat the place where the flowmeter will be mounted.
- Since there are mechanical parts inside the flowmeter, it is necessary to use a filter before the flowmeter or to make sure that there are no solid parts in the fluid.
- The flow direction should be the same as the arrow direction on the flowmeter.
- The line where the flow meter will be installed must pass fully.





Pipe Connection Type	Straight Pipe Distance	
	Input	Output
Concentric Shrink Tube	15D	5D
Concentric Expanding Pipe	35D	5D
90° Elbow	20D	5D
90° Double Elbow (Same Plane)	25D	5D
90° Double Elbow (Different Plane)	30D	5D
Valve (Full Open)	20D	5D
Valve (Half Open)	40D	5D

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Selection Table

Model and Specification Table			
Model		Feature Selection	Feature
LWGY.....			Turbine Flowmeter
Size		2*..... 4*..... 6 ..... 10 ..... 15 ..... 25 ..... 40 ..... 50 ..... 80 ..... 100 ..... 150 ..... 200 ..... 250 ..... 300	2mm (PT G3/8″) 4mm (PT G3/8″) 6mm (PT G3/8″) 10mm (PT G1/2″) 15mm (PT G1″) 25mm (PT G1 1/4″) 40mm (Flange) 50mm (Flange) 80mm (Flange) 100mm (Flange) 150mm (Flange) 200mm (Flange) 250mm (Flange) 300mm (Flange)
Accuracy		A ..... B ..... C	1% Accuracy 0.5% Accuracy 0.2% Accuracy
Output		P ..... I ..... T ..... M	Pulse Analog 4 -20mA LCD Indicator (Battery-powered type, Battery life 2-3 years LCD Indicator, 4-20 mA output, opt. Pulse output
Pressure		C1 ..... C2 ..... C3 ..... C4 ..... C5 ..... C6 ..... C7	PN1.6MPa PN2.5MPa PN4.0MPa PN6.3MPa PN16MPa (Size ≤25mm) PN25MPa (Size ≤25mm) PN40MPa (Size ≤25mm)
Explosion Proof		/NE /EX	No Ex ib I or Ex dIIBT4
Temperature Range		/NT /HT	Normal Temperature(<120℃) High Temperature (≥120 to 150℃)
Custom Options		/ □	Example: High Temperature, Wear Protectio, etc.

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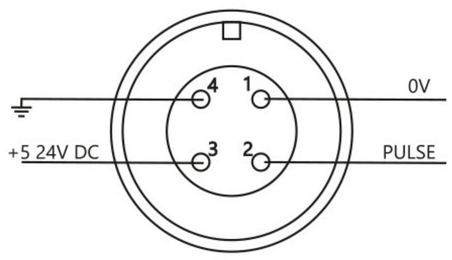
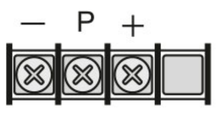
Options

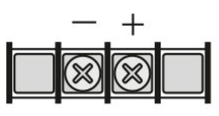
Pulse output
8 - 32 VDC Supply
-40°c/120°c Temp.
%0,5 Accuracy



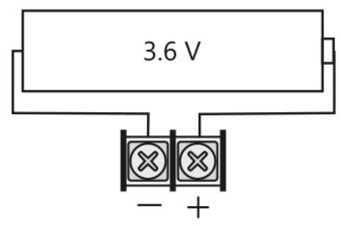
Exproof Pulse Output
8 - 32 VDC Supply
-40C +120C Temp.
%0,5 Accuracy

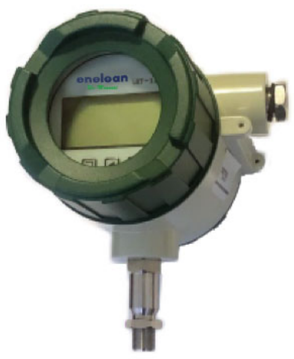


Exproof 4-20 mA output
1O - 30 VDC Supply
-30C +120C Temp.
%0,5 Accuracy

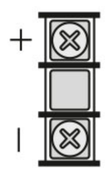


LCD Indicator with battery
3.6V Lithium
-20C +100C Temp.

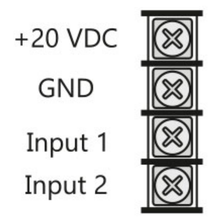




Exproof LCD Indicator
4-20 mA Output
9 - 27 VDC Supply
-40C +120C Temp.
%0,5 Accuracy



Panel-type Indicator
Rs485/Relay output
Opt.: 4-20mA
220VAC / 24VDC supply



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