



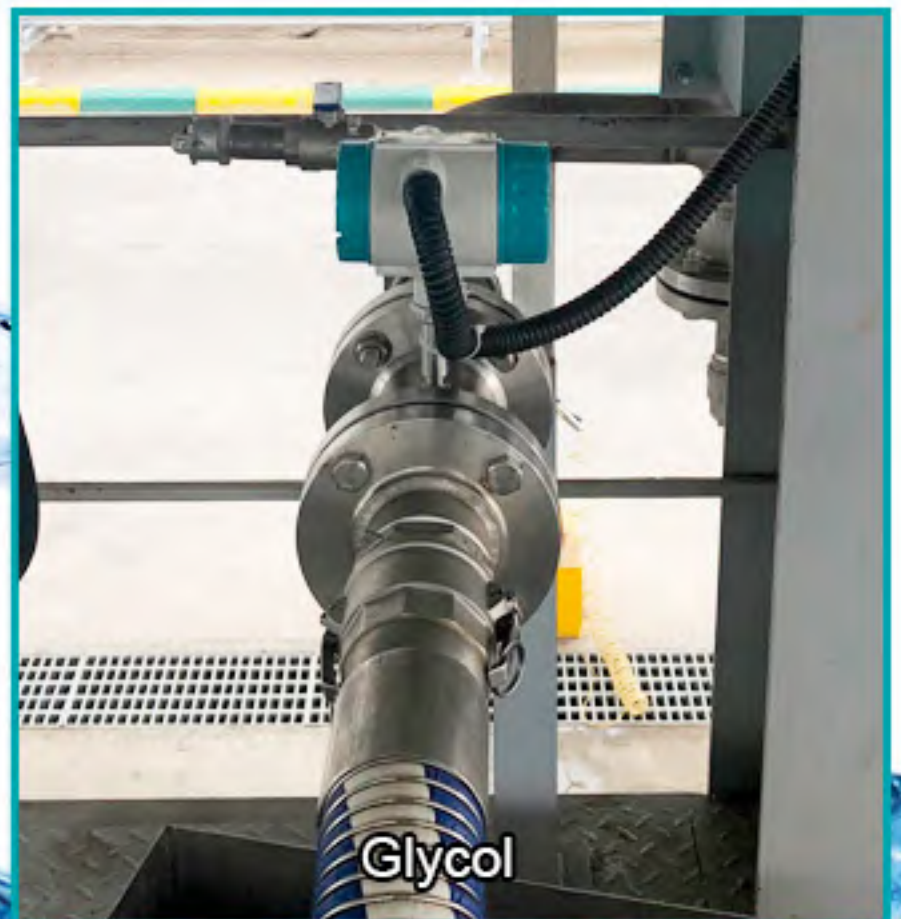
# LIQUID TURBINE FLOW METER

Model: F07.0402



# APPLICATION

- Flow measurement of tap water, demineralised water and chemicals.
- Fuels, marine engine fuel monitoring, vegetable oil, thermal oil and solvents.
- Special models for refrigerants, pharmaceutical fluids, cryogenic fluids, liquefied gases and high-pressure applications.



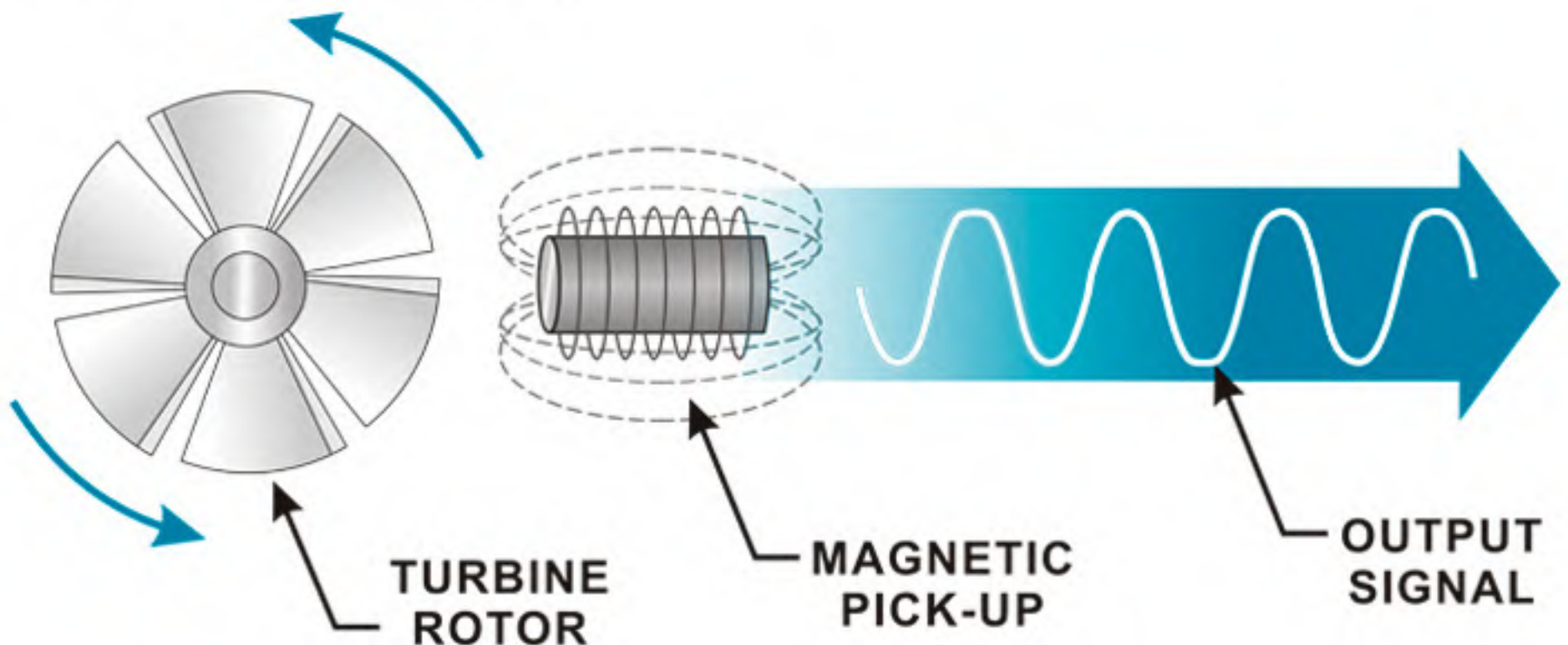
# WORKING PRINCIPLE

A turbine flow meter is used for volumetric total flow and/or flow rate measurement and has a relatively simple working principle.

As fluid flows through the turbine meter, it impinges upon turbine blades that are free to rotate about an axis along the center line of the turbine housing.

The angular (rotational) velocity of the turbine rotor is directly proportional to the fluid velocity flowing through the turbine.

The resulting output is taken by an electrical pickoff(s) mounted on the flow meter body.



# PRODUCT FEATURES

01

Accurate Measurement, Cost-effective and Minimal Maintenance Required



01 0.5% accuracy (0.2% Optional)

02 Excellent Repeatability 0.05%~0.2%; The repeatability of the meters ensures quality measurement over a wide range of flow rates, temperatures and compositions.

# 02

## Pick-up Sensor & Pre-Amplifier

24V+  
24V-

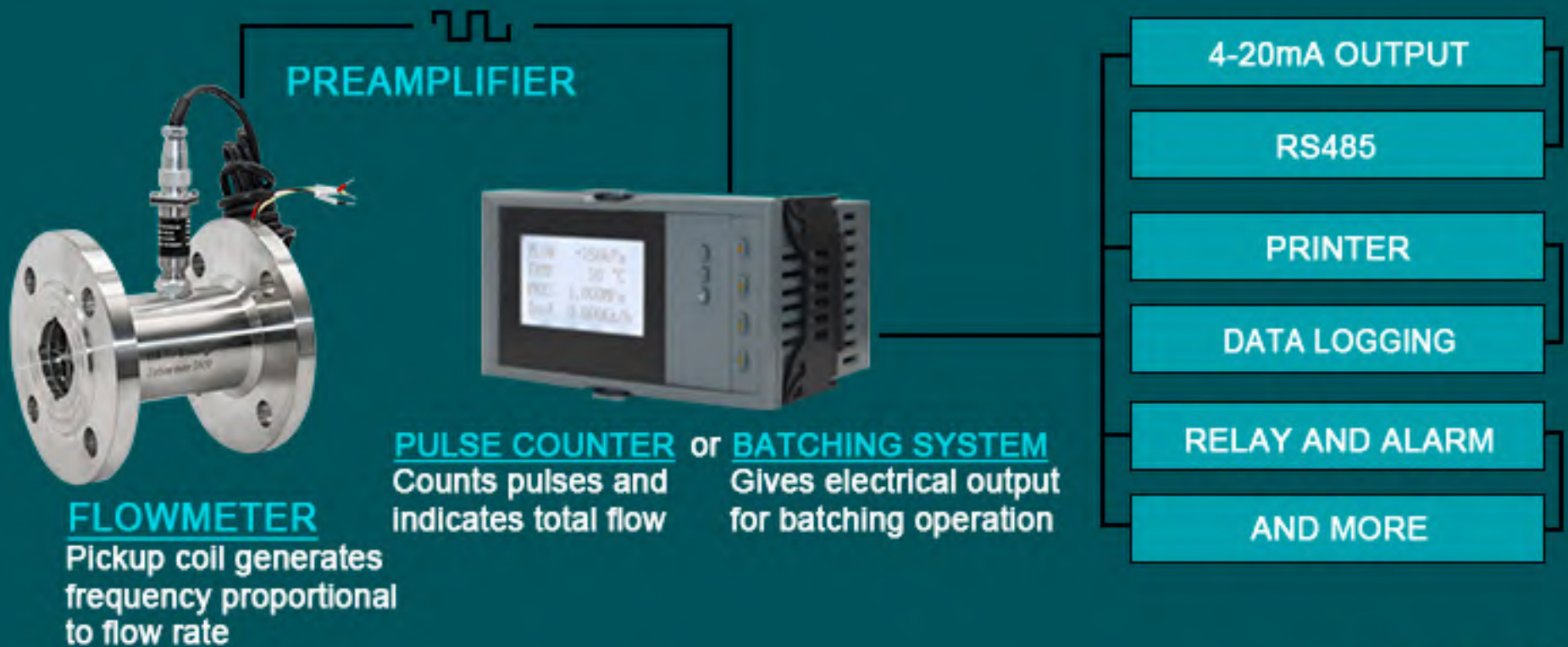


Two Wire DC4-20mA

24V+ 24V-  
Pulse



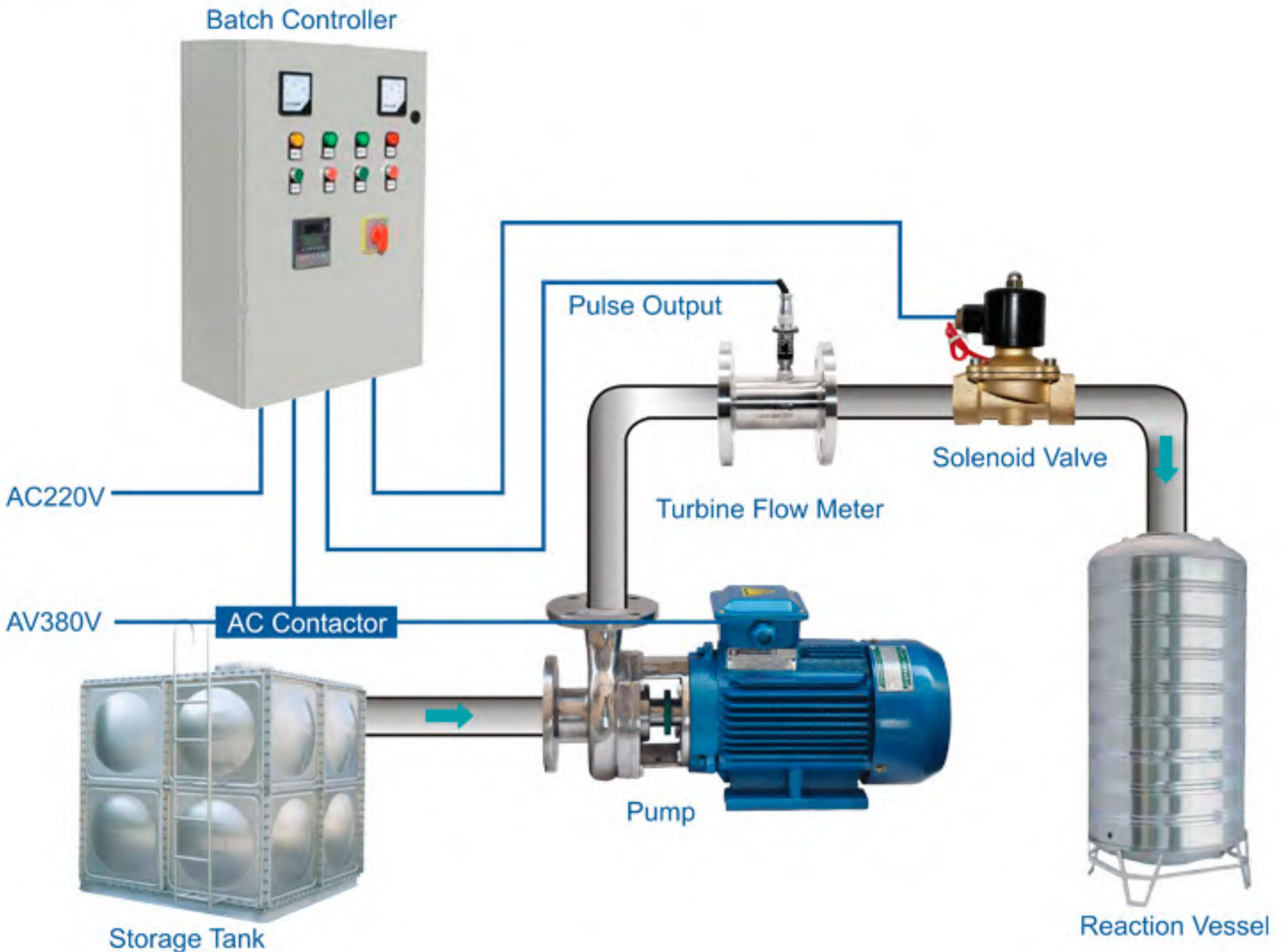
Three Wire Pulse



# 03

## Ideal for Batching Applications

Good to use for application of blending/batching as well as storage and off-loading etc.



Because of its structure, rotor will immediately rotate as soon as the media induces a forward force. As the rotor cannot through the media on its own, it will stop as soon as the media stops. This ensures an extremely fast response time, making the turbine flow meter ideal for batching applications.

# 04

## Flow Sensor

Excellent forging process; Wear resistance; Durable SS304 body (Optional SS316)



① High Temperature Cooling Fin (Optional)

Resist High Temperature up to 150 °C



②

Flow Guiding Element

Stabilizing the flow and minimizing negative effects of turbulence



②

Flow Guiding Element



③ Integrated Precision Milling Impeller

Duplex Steel Material (Optional)

8-piece impellers structure, hard alloy material

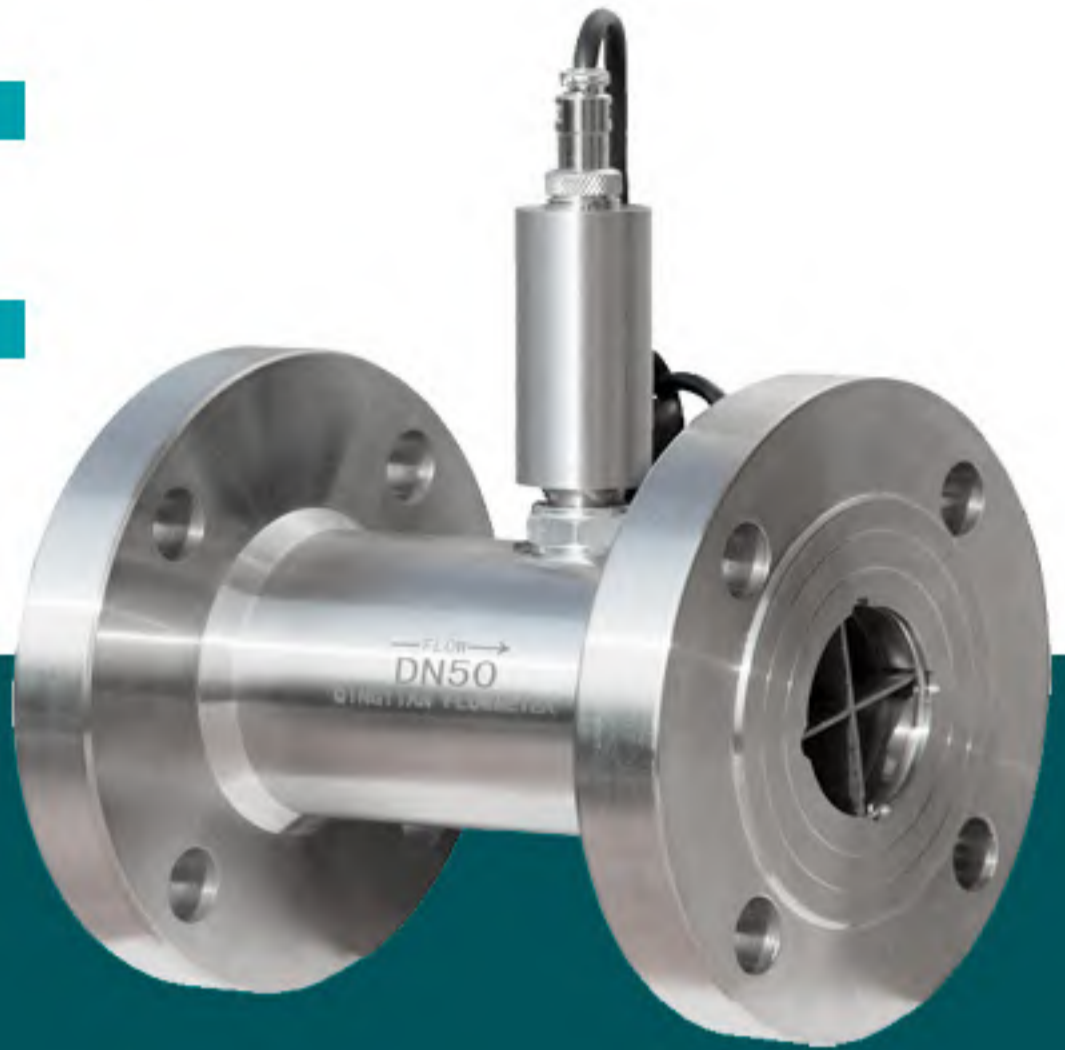
DN4~DN25: 4-pieces impellers  
DN32: 6-pieces impellers  
Above DN40: 8-pieces impellers

# 05

## Perform Outstandingly In High Pressure Applications

Resist High Pressure up to 42MPa

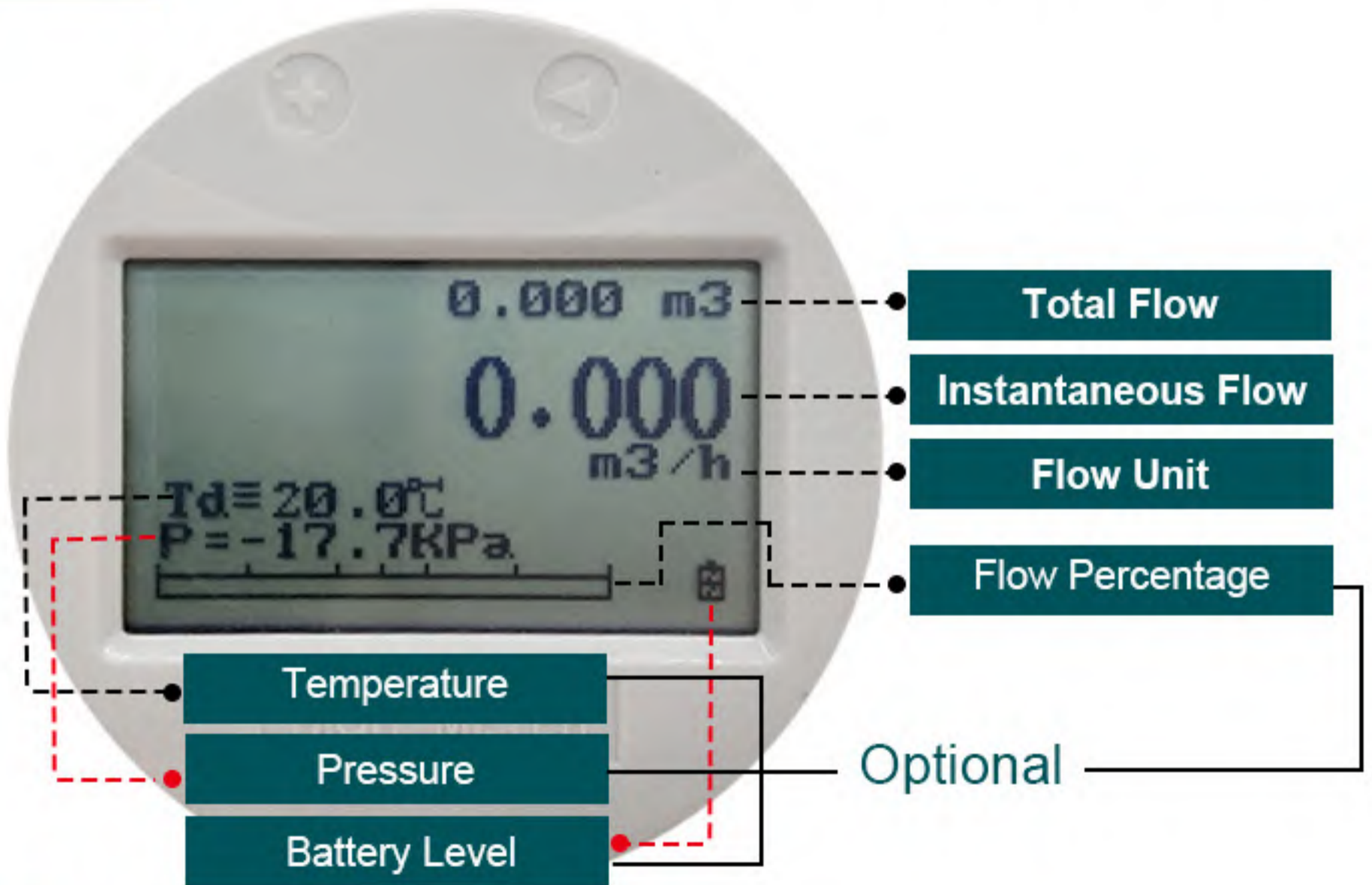
No need hole tapping on the body, so it's easy to make high pressure type.



# 06

## Three Line HD LCD Display

Temperature and pressure display also available



1 Low-Power Design LCD

2 Multi-unit free switching, on-site display and analysis

Flow Unit: L, gallon, m<sup>3</sup>, kg, pound, ton, etc

Time Unit: Hour and Minute



# 07

## Intelligent Transmitter

### 360°

Rotate Converter,  
All-dimensional  
Data Observation

Filter & Trigger Gate  
Anti-interference

Modular Design,  
Convenient for  
Maintenance



0.000 m<sup>3</sup>  
0.000  
m<sup>3</sup>/h  
T<sub>d</sub> = 20.0°C  
P = -17.7kPa

Pulse

4-20mA

RS485

HART

Various Outputs

**08**

## Dual Power Supply (Optional)

Embedded 3.6V lithium battery, sustain more than 2 years.



**3.6V**  
Lithium Battery

**DC 24V**  
Power Supply

**SAFE**  
Eco-efficient

**09**

## Compact or Remote Type



# MORE PRODUCTS SHOW



# PRODUCT PARAMETER

## ■ Technical Performance Parameters

Size & Process Connection	Thread connection:DN4,6,10,15,20,32,40,50,65,80,100 Flange connection:DN15,20,32,40,50,65,80,100,125,200 Clamp connection:DN4,6,10,15,20,32,40,50,65,80,100
Accuracy	±0.5%, ±0.2% Optional
Sensor Material	SS304, SS316L Optional
Ambient Conditions	Medium temperature:-20°C~+150°C Atmospheric pressure:86Kpa~106Kpa Ambient temperature:-20°C~+60°C Relative humidity:5%~90%
Signal Output	Pulse, 4-20mA, Alarm(optional)
Digital Communication	RS485, MODBUS; HART
Power Supply	24V DC/3.6V Lithium Battery
Cable Entry	M20*1.5; 1/2"NPT
Explosion-proof class	Ex d IIC T6 Gb
Protection class	IP65; IP67 Optional

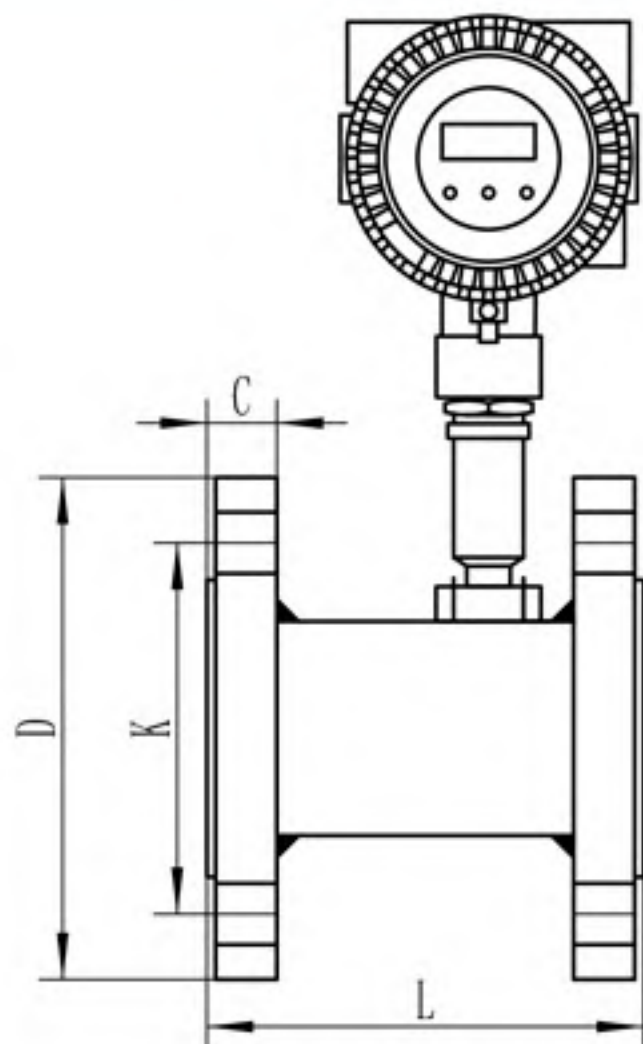
## ■ Flow Range

Diameter (mm)	Standard Range (m <sup>3</sup> /h)	Extended Range (m <sup>3</sup> /h)	Connection Standard (Optional)	Standard Pressure (Mpa)	Customized Pressure Rating (Mpa)
DN4	0.04~0.25	0.04~0.4	Thread	6.3	12,16,25...42
DN6	0.1~0.6	0.06~0.6	Thread	6.3	12,16,25...42
DN10	0.2~1.2	0.15~1.5	Thread	6.3	12,16,25...42
DN15	0.6~6	0.4~8	Thread(Flange)	6.3,2.5 (Flange)	4.0,6.3,12,16,25...42
DN20	0.8~8	0.45~9	Thread(Flange)	6.3,2.5 (Flange)	4.0,6.3,12,16,25...42
DN25	1~10	0.5~10	Thread(Flange)	6.3,2.5 (Flange)	4.0,6.3,12,16,25...42
DN32	1.5~15	0.8~15	Thread(Flange)	6.3,2.5 (Flange)	4.0,6.3,12,16,25...42
DN40	2~20	1~20	Thread(Flange)	6.3,2.5 (Flange)	4.0,6.3,12,16,25...42
DN50	4~40	2~40	Thread(Flange)	2.5	4.0,6.3,12,16,25...42
DN65	7~70	4~70	Flange	2.5	4.0,6.3,12,16,25...42
DN80	10~100	5~100	Flange	2.5	4.0,6.3,12,16,25...42
DN100	20~200	10~200	Flange	1.6	4.0,6.3,12,16,25...42
DN125	25~2500	13~250	Flange	1.6	2.5,4.0,6.3,12,16...42
DN150	30~300	15~300	Flange	1.6	2.5,4.0,6.3,12,16...42
DN200	80~800	40~800	Flange	1.6	2.5,4.0,6.3,12,16...42

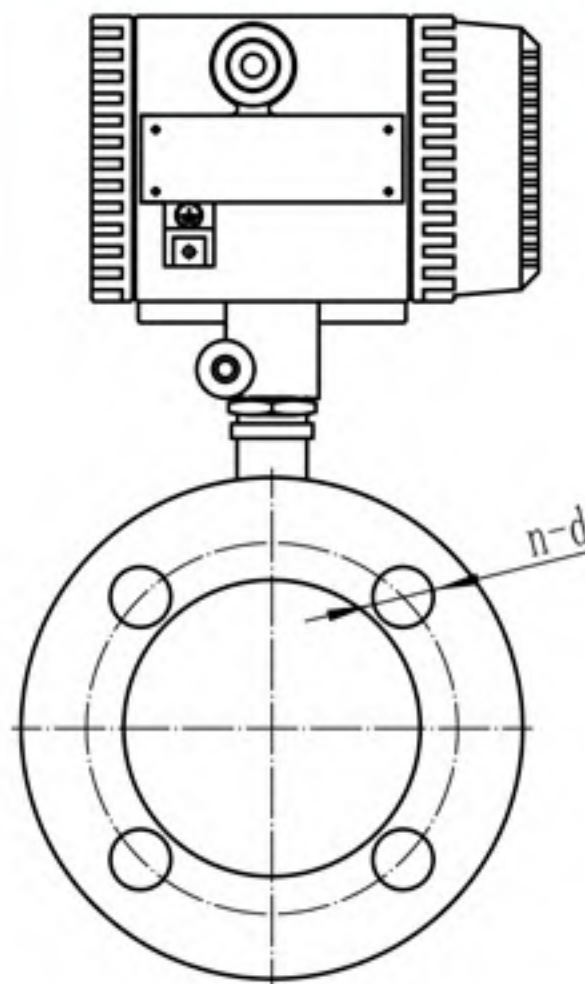
# Model Selection

Model Suffix Code										Description		
LWGY-												
Diameter											Three Digitals; for example: 010: 10 mm;           015: 15 mm; 080: 80 mm;           100: 100 mm	
Converter		N									No display; 24V DC; Pulse Output	
		A									No display; 24V DC; 4-20mA Output	
		B										Local display; Lithium Battery Power; No output
		C										Local display; 24V DC Power; 4-20mA Output;
		C1										Local display; 24V DC Power; 4-20mA Output; Modbus RS485 Communication
		C2										Local display; 24V DC Power; 4-20mA Output; HART Communication
Accuracy			05								0.5% of Rate	
			02								0.2% of Rate	
Flow Range				S							Standard Range: refer to flow range table	
				W								Wide Range: refer to flow range table
Body Material					S						SS304	
					L							
Explosion Rating							N				Safety Field without Explosion	
							E					
Pressuring Rating									E		Per Standard	
									H(X)			
Connection										-DXX	DXX: D06, D10, D16, D25, D40 D06: DIN PN6; D10: DIN PN10 D16: DIN PN16; D25: DIN PN25 D40: DIN PN40	
										-AX	AX: A1, A3, A6 A1: ANSI 150#; A3: ANSI 300# A6: ANSI 600#	
										-JX	JX: J1, J2, J4 J1: JIS 10K; J2: JIS 20K; J4: JIS 40K	
										-TH	Thread; DN4...DN50	
Fluid Temperature										-T1	-20...+80°C	
										-T2	-20...+120°C	
										-T3	-20...+150°C	

# Dimension



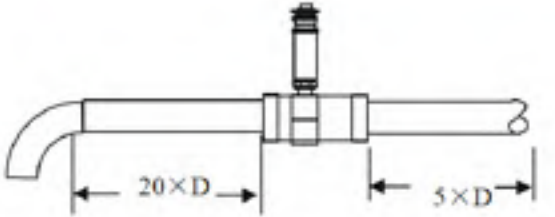
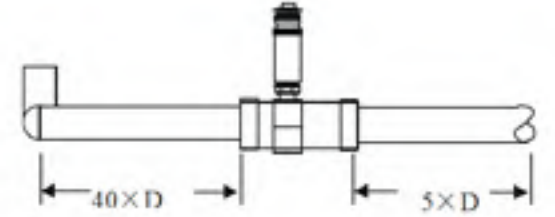
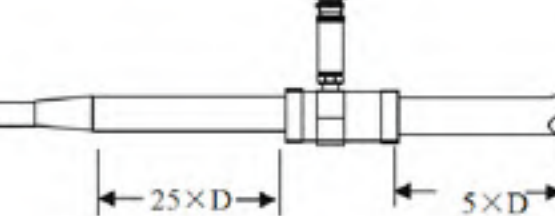
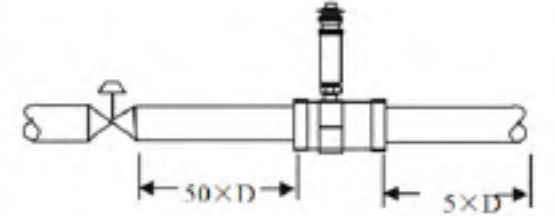
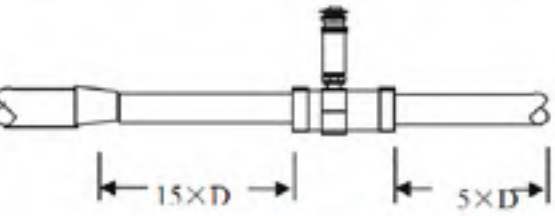
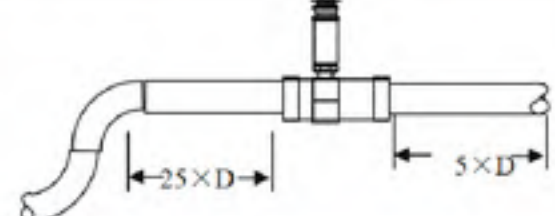
DN15mm-DN200mm



Flange Connection DIN Standard

Diameter (mm)	Flange Connection					
	L (mm)	D (mm)	K (mm)	d (mm)	n (Holes)	Flange Thickness C (mm)
10	345	90	60	14	4	16
15	75	95	65	14	4	16
20	80	105	75	14	4	18
25	100	115	85	14	4	18
32	120	140	100	18	4	18
40	140	150	110	18	4	19
50	150	165	125	18	4	21
65	175	185	145	18	4	21
80	200	200	160	18	8	23
100	220	220	180	18	8	23
125	250	250	210	18	8	25
150	300	285	240	22	8	25
200	360	340	295	22	12	27

# Installation Notice

One 90° elbow		Two 90° elbows for two planes	
Concentric expander		Control valve half-open	
Concentric shrinkage wide open valve		Two 90° elbows for one plane	

**Suggest all control valves be installed downstream of the flowmeter.**