

## **KFKC INSTRUMENT CO.,LTD**



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## I. Features

Agricultural irrigation turbine flowmeter is a kind of speed meter. It has the advantages of simple structure, light weight, small volume, high precision, good repeatability and sensitive reaction. And the installation and maintenance is convenient, all sealed waterproof. Non-contact sensor is used to detect impeller speed and precision

## II. R&Background and the scope of application

The measuring media of this product is water, which is a flow measurement product

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developed for the agricultural irrigation status of the company, which is specially developed for agricultural irrigation water. The number of agricultural irrigation Wells in our country is huge. If the existing flowmeter is used, the investment is huge, and the maintenance cost is high in the later stage. This product cost is low, installation, debugging, simple easy to operate, not affected by the environmental factors, save the investment of equipment, maintenance is convenient, is a cost-effective flowmeter, in agricultural irrigation application prospect is broad

## **2.1. Product Structure**

The turbine flowmeter mainly consists of six parts: flow meter, impeller, front guide flow, rear guide flow, flow meter and flow meter.

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## 2.2. Working principle

When the water flow through the meter body, the impeller blades and the flow direction has a certain angle, the momentum of the fluid leaves the rotor has a turning moment to overcome the friction torque and fluid resistance blade rotation, after the torque balance speed stability, at a certain flow rate Within the range, speed and flow rate is proportional to. Fixed in the leaves of the strong magnetism detection circuit generates a pulse signal proportional to the speed, the microcontroller pulse signal acquisition speed calculation and then converted into traffic, can be an additional RS485 communication module output instantaneous flow rate value and the cumulative flow value

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### III. Main technology data

performance	parameter		
medium			
Pipe diameter	DN50	DN80	DN100
Flow range	5-35 m <sup>3</sup> /h	10 m <sup>3</sup> /h ~ 60 m <sup>3</sup> /h	10 m <sup>3</sup> /h ~ 80 m <sup>3</sup> /h
accuracy	1.0 级		
Ambient temperature	-40℃~75℃		
Medium temperature	0℃~50℃		
Ambient humidity	≤85%RH		
waterproof level	IP65		
Power supply	DC8V- DC24V, 0.1A; 协商		
power	<0.15W		
Out put	4-20mA, pulse		
	RS485		
data	The cumulative flow can be saved, and the data can be saved		

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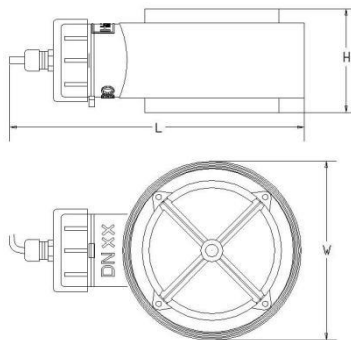
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for 10 years after power loss

## IV. Installation instructions

### 4.1 Dimensions and weight

Flow meter size as figure (1)



figure(1)

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Table (2) Dimensions Weight parameter table

DN (mm)	W (mm)	H (mm)	L (mm)	Weight(kg)
50	95	82	95	0.35
80	118	76	170	0.4
100	132	80	190	0.5

## 4.2 Installation operation

(1) Determine the installation location, due to the water flow and cross-sectional flow velocity unevenness will affect the measurement accuracy, so choose to meet the upstream side 10D (D is the pipe diameter), the downstream side of the 5D straight pipe above; if the installation of pipe encountered shrink pipe, pipe expansion , Elbows and other flow blocking connectors, please refer to Table 3 to select the appropriate installation location

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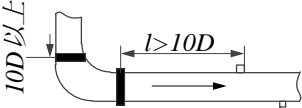
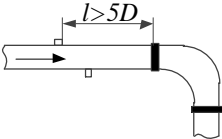
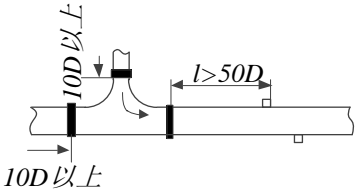
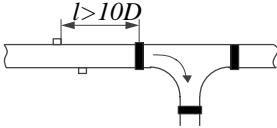
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Table (3) Minimum straight pipe length table

Resistance pieces	Upstream side	The downstream side
90° elbow		
T elbow		

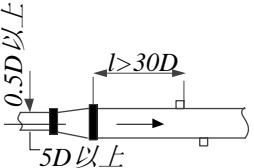
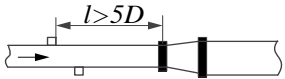
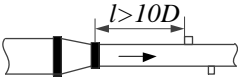
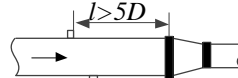
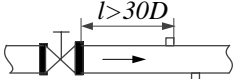
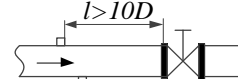
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<p>Expanding tube</p>		
<p>Reducing tube</p>		
<p>valve</p>	 <p>流量调节阀在上游</p>	 <p>流量调节阀在下游</p>

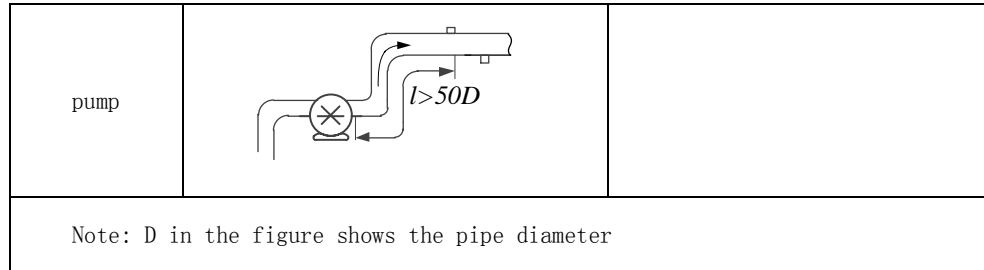
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Before installation, check the flexibility of the impeller, hand impeller, the impeller should be flexible rotation, no noise, no stagnation

Flow meter installation using clip-on connection, installed in the first pump position, the installation diagram shown in Figure (3)

When installing, the direction indicated on the flow meter housing should be consistent with the direction of water flow

Flow meter body directly into both sides of the pipe, pipe flange on the clip connection fixed, in order to ensure better sealing, both sides of the pipe flange pad should be used.

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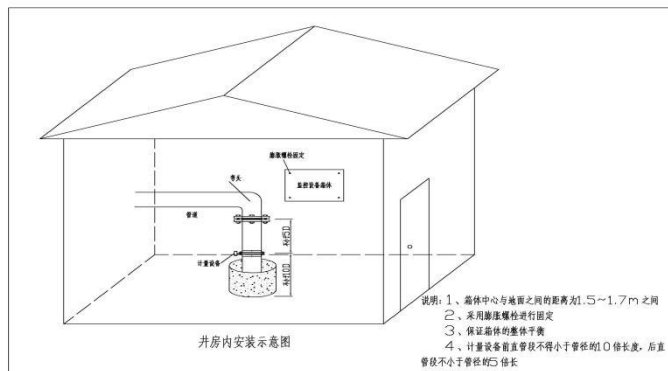
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## Farming Irrigation Turbine Flow Meter Installation Diagram:

### a.1 well room installation (standpipe installation)



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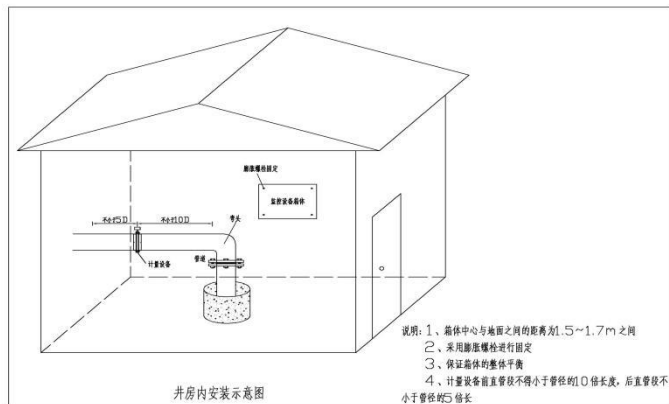
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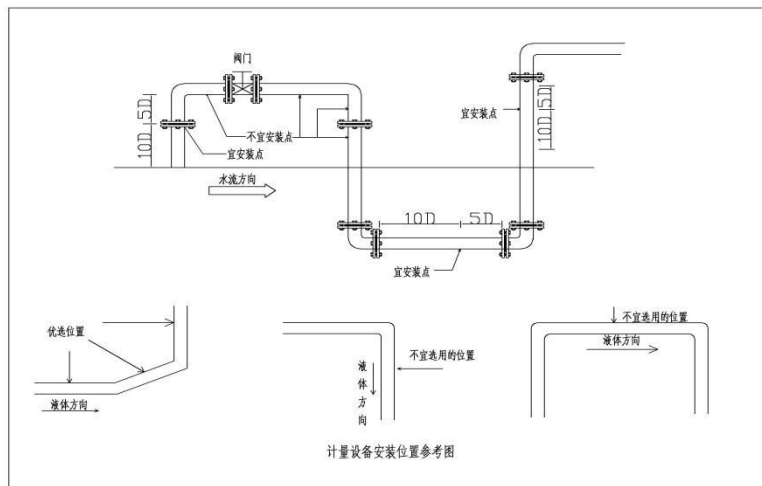
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a.2 well room installation (horizontal pipe installation)



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### Farming Irrigation turbine flow meter installation point diagram:



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