

JK-TT 40-100 VANE-WHEEL TYPE  
FLOW METER PROBE MANUAL



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## Safety Tips

- 1.The pressure in the pipe is forbidden. Please make sure the pressure in the pipe has discharged completely before install;
  - 2.Please check the liquid which going to be tested not corrosive liquid before install;
  - 3.Please make sure if the working environment is suit for our probe's temperature and pressure requirement before install;
  - 4.Please check if the liquid flow rate is over the probe's range limitation;
  - 5.Please do not change the probe's configuration and test mode before install;
  - 6.It is forbidden to connect the probe with any strong power which greater than 12 v
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## Performance and parameters

- 1.Test liquid: water (No obvious impurity and suspended solids);
  - 2.Liquid flow rate measurement range: 0.3—5m/s;
  - 3.Measuring pipe size range: DN40—DN100;
  - 4.Linear error:  $\pm 4\%$ ;
  - 5.Accumulated error:  $\pm 4\%$ ;
  6. Length of wire: 5 m;
  - 7.Length of the cable for signal transmit: $\leq 300\text{m}$ ;
  - 8.Probe body material: nylon;
  - 9.Vane material:PVDF;
  - 10.Bearing material: 316LL;
  - 11.Response frequency: 3~120Hz;
  - 12.Probe power supply : 5-24VDC;
  - 13.Probe signal output form: pulsed square wave;
  - 14.Probe signal output current:  $\leq 12\text{mA}$ ;
  15. Probe working pressure and temperature range:  $\leq 0.8\text{MPa}$ ;  $1^{\circ}\text{C}$ —— $60^{\circ}\text{C}$
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## How to choose measurement location:

1. Flange straight distance should meet front 10 times and behind 5 times pipe diameters measured distance;
2. Variable diameter (only allowed from large to small, not allowed to change from small to big) straight distance should meet front 15 times and behind 5 times pipe diameters measured distance;
3. The frist level isometric diameter bend straight distance should meet the front 20 times and behind 5 times pipe diameters measured distance;
4. Two level consecutive isometric elbow straight distance (within the same plane)should meet the front 25times and behind 5tims pipe diameters measured distance;
5. Two level consecutive isometric elbow straight distance (not within same plane) should meet the front 40times and behind 5times pipe diameters measured distance;
6. The straight distance behind the valve should meet the top 50 times and behind 5 times

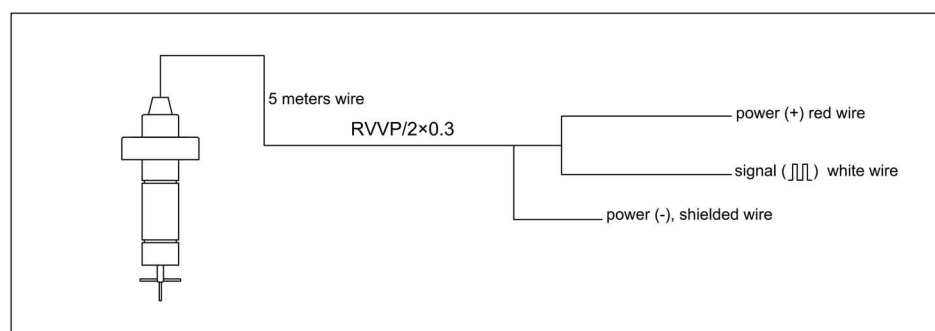
pipe diameters measured distance;

7. Installation suggestion is perpendicular to the pipe , should not be installed in the bottom of the pipe;
8. The Flow probe can be installed in the in vertical pipe which liquid flow runs up, but also should meet the requirements of the straight line distance requirement;
9. The Flow probe is not allowed to install in the vertical pipe which liquid flow runs down;
10. Measured liquid in the piping must be full pipe flow, not allow both of the gas and liquid flow at the same time.

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## Installation

1. When installation should be selected the special installation base according to piping material and specifications. The installation of other ways will influence the probe measurement accuracy;
2. The installation parts is glued with tee joint before delivery can be used directly;
3. If the measured pipe is a metal pipe, need to use the flange to convert the transition, needing attention straight line distance requirement;
4. The installation parts must be consistent with the nominal diameter of the pipeline under test;
5. When stick the installing a parts and pipeline please pay attention to the vertical Angle probe, probe as far as possible to keep the vertical state;
6. Probe install or remove steps: turned back the probe power protective nut, then in turn unscrewed the little and big fixed nut, after being probe fixed installation, tight fixed nut again, finally screw tight the nut of probe power protective case



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## Repair and maintenance of the probe

1. Check to ensure that the impeller rotating freely before the probe's installation, and without obvious screens phenomenon.
2. When there is stop measuring meter, determine the liquid is still being tested in the flow, can check the flow probe works online. Place the probe upper back unscrewing; observe the probe back the working condition of light-emitting diodes (leds). If the diode has been

bright or has been destroyed, it means the pipe has stopped rotating impeller.

It's need to stop working pipe, the pipe inner pressure drain off all, and then remove the probe, to check whether there is foreign body around the impeller impeller rotation

If manual rotation normal work after cleaning, and back diodes to work properly, it can continue to use after confirm correct installation.

3. Probe need to change new probe head if it in the problems as below : impeller fracture, probe the top bracket damaged, bearing bending, the repair impeller is still not free Rotation, contact with the liquid part of the corrosion phenomena, installation position when the thread is severely damaged

4. If the probe back diodes flash works well, the second table still doesn't work, please check the whether the sensor wire there is any breakage and can use multimeter to measure the voltage between the block and black lines to see if it is normal. If diode (led) is light means no voltage output if diode light off means output voltage.

5. Due to the stains in liquid may cause impeller rotation is not smooth; it may affect the liquid measuring precision. So we need to do the regular inspection and cleaning on impeller part of the probe.

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## Reference table of the Probe K value:

The meaning of K value said that when per unit volume through the probe, the probe pulse generated by the numbers. For example, In DN100 PVC pipe, if the K value is 1, it means each through the probe 1 liter of water;the probe will produce a pulse signal. By measuring the change of different pipe diameter, the user can use the method of adjusting K value. Flow probe in the factory will be given randomly PVC pipe DN40, DN65, DN80, DN100 calibration in the laboratory to get the K value of reference. (See the flow probe with the machine carry)

Technical support: The relevant technical problems encountered in the process or the use of the probe can contact distributor in a timely manner, or contact with our company directly.