



# Operation Instruction Manual

Vortex Based Water Flow Meter

VWFS-2

## PRODUCT OVERVIEW

- Low Pressure Loss
- Pollution Resistance
- 4-20 mA output, easy integration
- Vortex based measurement principle, Not sensitive to temperature
- Different connection availability

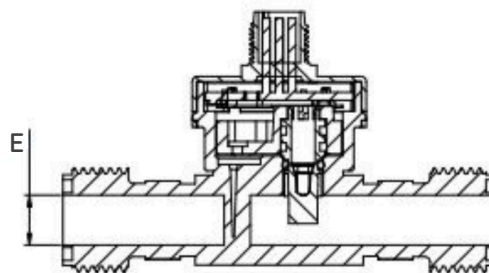
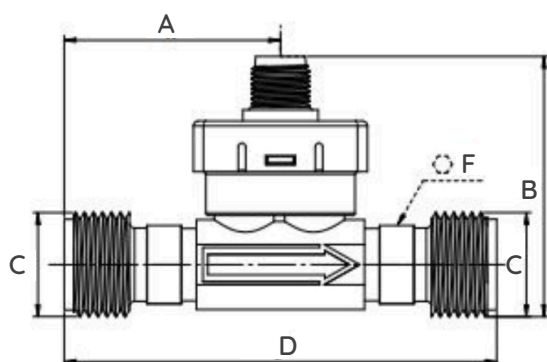
## DESCRIPTON





VWFS-2 series flowmeter is specially designed for home appliances, semi industrial and the medical industry, and has been widely used in many scenarios such as water heaters, HVAC flow detection, heat recovery systems, and medical liquid flow detection systems.

## TECHNICAL PARAMETERS

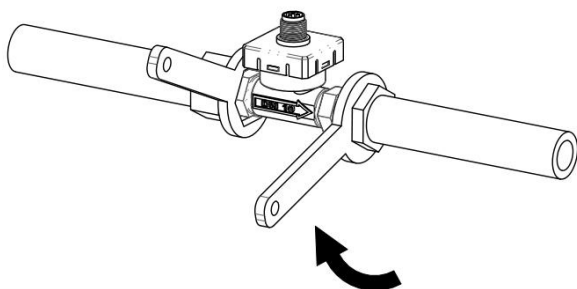
Versions	VWFS-2-6	VWFS-2-10	VWFS-2-20	VWFS-2-25
Process Connection	G1/2"	G1/2"	G1"	G1-1/4"
DN value	DN6	DN10	DN20	DN25
Measuring Range	0,5.....10 l/m	2.....32 l/m	5.....85 l/m	10.....150 l/m
Accuracy	±1% of Full Range (< 50% range) ±2% of Reading (> 50% range)			
Working Temperature	+2.....+90 °C (no thermal shock)			
Ambient Temperature	0.....+65 °C			
Working Pressure	max 10 Bar			
Medium to be measuring	Clean Liquids, Drinking Water			
Body Material	PPS+GF			
Power Supply	24 Vdc (Typical) (11,5...25 Vdc)			
Dimension	Check next page			
Output Signal	4-20 mA (2 wire connection) on M12 5pin connector			

## DIMENSION



Model	VWFS-6	VWFS-10	VWFS-20	VWFS-25
DN	DN6	DN10	DN20	DN25
A	42 mm	43,5 mm	52,5 mm	60 mm
B	51,5 mm	52,5 mm	59,5 mm	66,5 mm
C	G1/2"	G1/2"	G1"	G1-1/4"
D	77 mm	87 mm	105 mm	120 mm
E	11,5 mm	11,5 mm	20 mm	26 mm
F	12 mm	19 mm	27 mm	34 mm
				

## MAXIMUM TORQUE ALLOWED FOR TIGHTENING



Pipe installation torque illustration  
(please note: the direction should be kept correct and tighten clockwise)

Safety torque table

Pipe dia	DN6/10 (G1/2")	DN20 (G1")	DN25 G1 1/4
Torque range	1 ~ 12 N·m	2 ~ 12 N·m	2.5 ~ 15 N·m

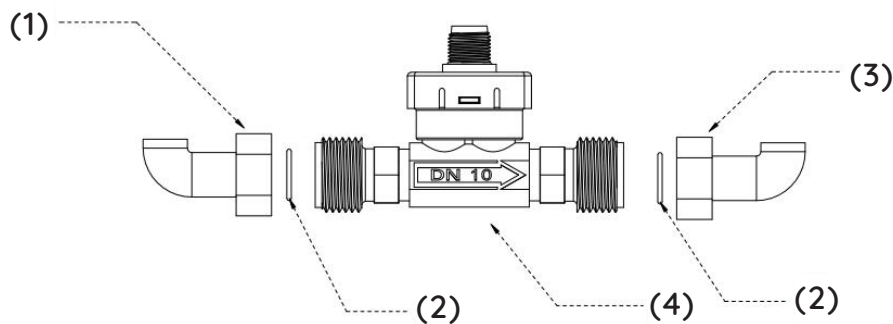
Note: Do not rotate the pipe beyond the safe torque during installation.

## PIPE INSTALLATION

For the meter to function properly, the following installation instructions must be followed:

- (1) The inner diameter of the pipe cannot be smaller than the inner diameter of the meter.
- (2) A sealing gasket is required to connect the sensor to the process joint.

Pay attention to the installation direction as shown in below figure

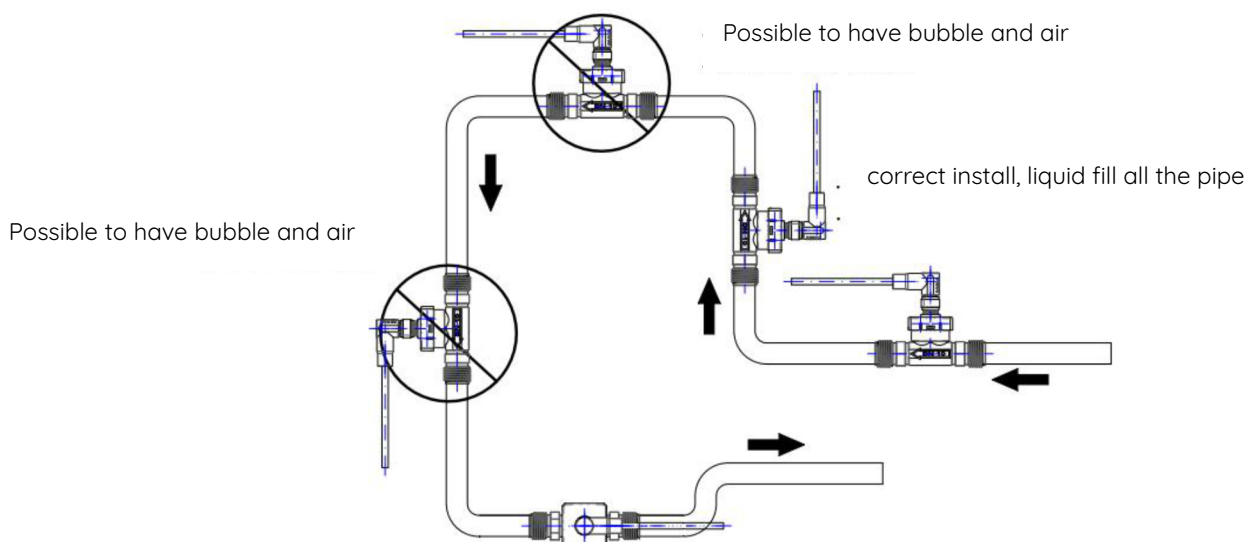


- ① Female end of process connector    ② Sealing gasket    ③ Female end of process connector  
④ Installation direction

(1) In order to ensure the best measurement accuracy of the product, it is recommended to choose horizontal or vertical installation as shown in below picture

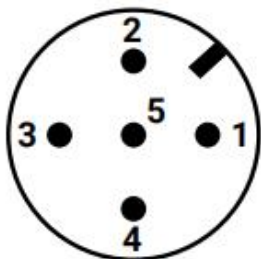
(2) Multiple bends that are not on the same level immediately before the entrance (bend pipe) should be avoided. They cannot occur within ① the  $10 \times \text{DN}$  distance from the female end of the process connector and ③ the  $5 \times \text{DN}$  distance from the female end of the process connector. Bend pipe, as shown at above picture.

The sensor must be installed in a stress-free pipeline (note: do not install the sensor at the highest point of the pipeline or the descending section of the pipeline to avoid the generation of air bubbles).



## WIRING

M12 5 pin connector



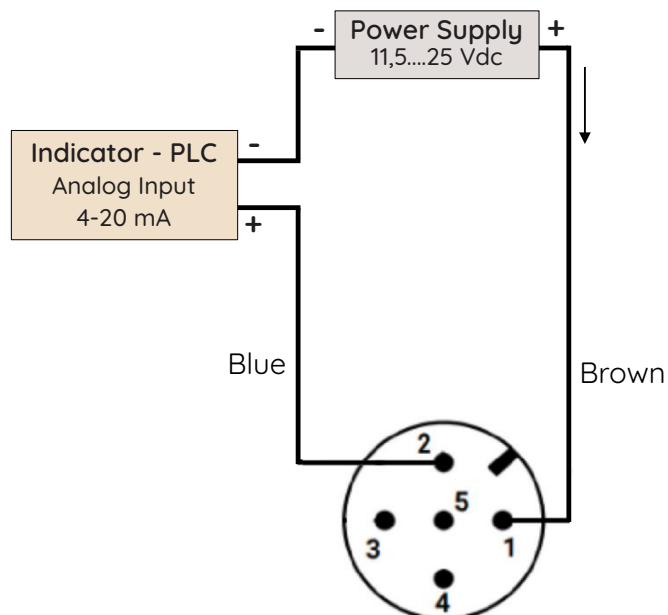
M12 cable, 50 cm, 2 wire activated



Output Pin definition

Pin	Cable Color	Current output (4 ~ 20mA)	
Pin 1	Brown	VDD	Power
Pin 2	Blue	GND	Ground

Note: Pin3, Pin4 and Pin5 are empty.



Model	Connection	Measuring Range	4-20 mA Scale
VWFS-2-6	1/2"	0,5...10 l/m	0-10 l/m
VWFS-2-10	1/2"	2...32 l/m	0-32 l/m
VWFS-2-20	1"	5...85 l/m	0-85 l/m
VWFS-2-25	1-1/4"	10...150 l/m	0-150 l/m

## WARNING AND PERSONAL INJURY

Do not use this product in safety protection devices or emergency stop equipment, or in any other application where the failure of the product may cause personal injury

Refer to the product data sheet and instructions before installing, handling, using or maintaining this product.

Failure to follow recommendations may result in death or serious personal injury. The company will not be liable for any compensation for personal injury or death resulting therefrom, and is exempt from any claims that may arise against the company's managers and employees, as well as affiliated agents, distributors, resellers etc., including: various costs and claims Fees, attorney fees, etc.

Due to the inherent design of components, they are sensitive to static electricity. In order to prevent damage caused by static electricity or reduce product performance, please take necessary anti-static measures when using this product.

## QUALITY ASSURANCE

Manufacturer provides direct quality guarantee as shown in the following table (calculated from the date of shipment), with the technical specifications stated in the this product manual. If the product is proven to be defective during the warranty period against factory production faults, the company will provide free repair or replacement services.

Note : Generally sensors including VWFS-2 flow meters are product in group of consumable and mainly can have problem due to problems during/after installation, due to mistake on physical mounting and electrical connection... Also sensors may damage due to using in wrong applications - wrong conditions like high pressure or temperature than explained in specifications and also liquid can damage sensor in case of wrong liquid media.

Model	Warranty
VWFS-2-	12 months

Manufacturer is only responsible for products that are defective when used in situations that meet the technical conditions of the product.

The company does not make any guarantees regarding the application of the product in non recommended special scenarios.

The company does not make any commitment to the reliability of its products when used in other non-company supporting products or circuits.

This manual is subject to change without prior notice.

The data in this specification are for reference only, and the final product shall prevail.



End of User Manual