

Product Overview >>

The MDS-WL series turbine flowmeters operate on the torque balance principle and belong to the category of velocity-type flow instruments. With a simple, lightweight structure, they feature high accuracy, excellent repeatability, fast response, and easy installation and maintenance. They are widely used in industries such as petroleum, chemical, metallurgy, water supply, and papermaking, and are suitable for measuring low-viscosity liquids free of impurities like fibers or particles in closed pipelines, and which are non-corrosive to stainless steel, alumina ceramics, and hard alloys. These flowmeters can be paired with display instruments with special functions to realize quantitative control, over-limit alarm, and other functions. They have an Exd IIC T6 Gb explosion-proof rating, allowing use in hazardous explosive environments. For liquids with a viscosity greater than $5 \times 10^{-6} \text{m}^2/\text{S}$ at operating temperature, calibration with the actual liquid is required before use. The product offers multiple connection methods, including flange connection, threaded connection, wafer connection, and clamp connection, with a nominal diameter range covering DN4 to DN200 to meet installation requirements of different working conditions. It supports a variety of output signal types, including pulse signals, 4~20mA analog signals, RS485 communication, or HART protocol. The working power supply supports external +24VDC or built-in lithium battery power supply. The enclosure protection rating reaches IP65 or higher, and signal interfaces adopt Hirschmann connectors or aviation plugs. With a rugged and durable overall structure and easy maintenance, the MDS-WL series flowmeters combine reliability and flexibility, making them the ideal choice for industrial process measurement and control.



Features>>

1. Based on the torque balance principle, it features a compact structure, fast response, and easy installation and maintenance. The repeatability index is clearly correlated with the accuracy class, ensuring stable and reliable measurement.
2. Suitable for liquids free of impurities such as fibers and particles, and non-corrosive to stainless steel, alumina, and hard alloys. It can be used directly when the viscosity at operating temperature is less than $5 \times 10^{-6} \text{m}^2/\text{S}$
3. With **Exd IIC T6 Gb** explosion-proof rating, it can operate safely in explosive gas environments, meeting the stringent explosion-proof application requirements of industries such as petroleum and chemical.
4. Available with flange, threaded, wafer, and clamp connections, covering nominal diameters from DN4 to DN200. The corresponding valve body structure can be flexibly selected according to the pipeline configuration and installation space.
5. Supports pulse, 4-20mA, RS485, and HART protocol outputs. It can be powered by an external +24VDC supply or a built-in lithium battery, adapting to the requirements of different control systems.
6. Specific upstream straight pipe lengths are required when different flow obstructions are present. For example, a 90° elbow requires 20D of straight pipe upstream and 5D downstream to ensure stable flow velocity distribution for accurate metering.

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Main technical parameters >>

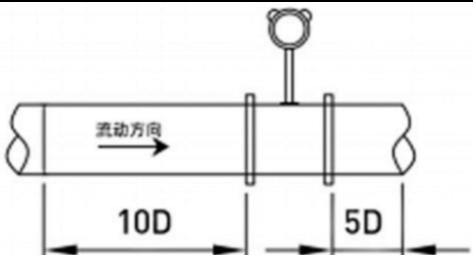
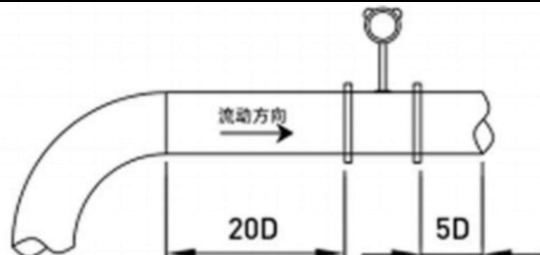
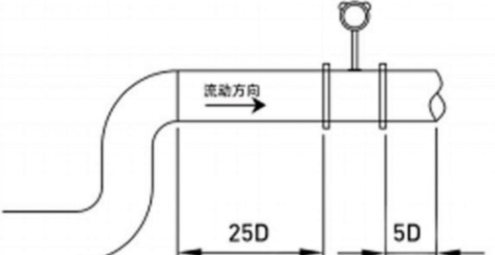
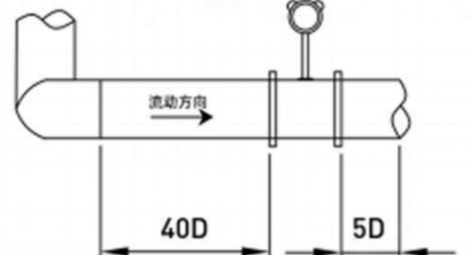
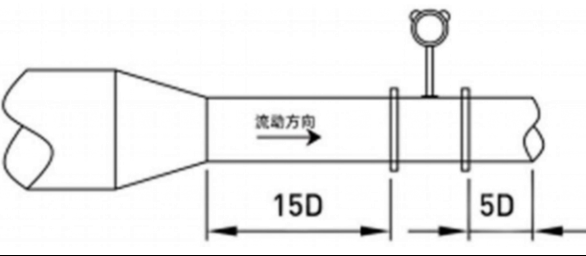
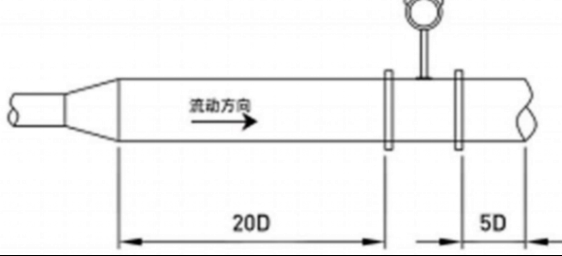
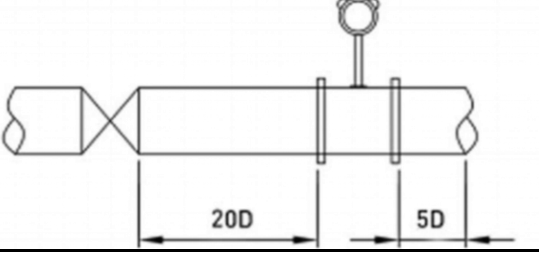
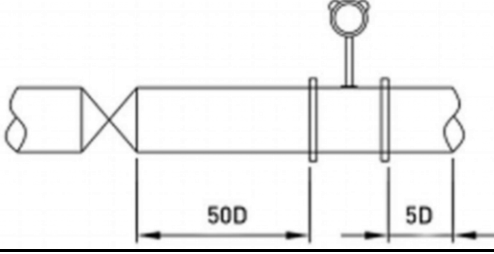
Model	WL0	WL1	WL2	WL2H	WL3	WL4	WL5	WL6
Power Supply	3.6V Lithium Battery	24VDC	24VDC	24VDC	24VDC	3.6V Lithium Battery / 24VDC	24VDC	24VDC
Output Signal	/	Pulse	4-20mA	4-20mA / Hart	RS485	Pulse / 4-20mA / RS485	0-10V	0-5V
Accuracy Class	Grade 0.5 / Grade 1.0	Grade 0.5 / Grade 1.0	Grade 1.0	Grade 1.0	Grade 0.5 / Grade 1.0	Grade 0.5 / Grade 1.0	Grade 1.0	Grade 1.0
Connection Method	Internal/External Thread, Clamp, Flange	Internal/External Thread, Clamp, Flange	Internal/External Thread, Clamp, Flange	Internal/External Thread, Clamp, Flange	Internal/External Thread, Clamp, Flange	Internal/External Thread, Clamp, Flange	Internal/External Thread, Clamp, Flange	Internal/External Thread, Clamp, Flange

Flow range and pressure rating >>

Nominal Diameter (mm)	Flow Range (m ³ /h)	Extended Flow Range (m ³ /h)	Flow Range (L/min)	Pressure Rating (MPa)		
				Threaded	Flanged	Clamped
DN4	0.04~0.25	0.04~0.4	0.7~4.2	6.3	-	1
DN6	0.1~0.6	0.06~0.6	1.7~10	6.3	-	1
DN10	0.2~1.2	0.15~1.5	3.3~20	6.3	-	1
DN15	0.6~6	0.4~8	10~100	6.3	1.6	1
DN20	0.8~8	0.45~9	13.2~133.3	6.3	1.6	1
DN25	1~10	0.5~10	16.7~166.7	6.3	1.6	1
DN32	1.5~15	0.8~15	25~250	6.3	1.6	1
DN40	2~20	1~20	33.3~333.3	6.3	1.6	1
DN50	4~40	2~40	66.7~666.7	6.3	1.6	1
DN65	7~70	4~70	116.7~1166.7	-	1.6	1
DN80	10~100	5~100	166.7~1666.7	-	1.6	1
DN100	20~200	10~200	333.3~3333.3	-	1.6	1
DN125	25~250	13~250	416.7~4166.7	-	1.6	-
DN150	30~300	15~300	500~5000	-	1.6	-
DN200	80~800	40~800	1333.3~13333.3	-	1.6	-

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Installation Instructions >>

Upstream Pipe Configuration of the Sensor	Length of straight pipe sections before and after	Upstream Pipe Configuration of the Sensor	Length of straight pipe sections before and after
Straight pipe (unobstructed)		Single 90° elbow	
Two 90° elbows in the same plane		Two 90° elbows in different planes (out-of-plane elbows)	
Concentric reducer		Concentric enlarger (expander)	
Fully open the valve		Partially open valve	

Note: Select the appropriate connection method, diameter, and material based on the on-site pipeline and the measuring medium.

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