

# Ultrasonic Flow Meter FML-500



The FML-500 is a straight tube type ultrasonic flow meter for liquids. A new PFA material with excellent chemical resistance is used for parts in contact with the liquid, and the simple straight design facilitates maintenance without any obstacles inside the tube. It comes with a built-in display and the flow rate can be measured by connecting it to a power source. Flow rates up to a full scale of 5 L/min can be measured with high accuracy.

- Clean structure, with a new PFA material for the parts in contact with the liquid.
- Straight flow path ensures low pressure loss, making maintenance easier.
- Small, lightweight and compact.
- With its built-in display, flow rates can be measured by just connecting to a DC24V power source.
- High viscosity liquids can be measured. (\*Please contact us for details.)

## Standard Specifications

Applicable liquids	Water, purified water (no bubbles) *Please contact us for other liquids.
Fluid sonic velocity	1300 m/s to 1600 m/s
Fluid temperature range	15 to 50°C
Measurement range	0 to 5 L/min
Accuracy	Refer to Table 1.
Material in contact with liquid	New PFA
Proof pressure	0.5 MPa (at 23°C)
Process connection	6 mm tube end
Dedicated cable length	3 m
Cable sheath	PVC
Structure	IP64 or equivalent
Ambient temperature	5 to 50°C (no condensation allowed)
Ambient humidity	10 to max. 85% RH (no condensation allowed)
Mounting position	Vertical, horizontal, diagonal
Weight	200 g (main unit)

Table 1 Measurement Accuracy (Water, 23° C)

Measurement range	0 to 5 L/min		
Flow range	0 to 0.20 L/min to 0 to 5.00 L/min		
Measurement accuracy	Flow velocity	1 m/s	±30 mL/min (less than 0.8 L/min)
		1 to 2 m/s	±2.5% FS (0.8 to 1.5 L/min)
		2 to 3 m/s	±2.0% FS (1.6 to 2.2 L/min)
		3 to 6.6 m/s	±1.5% FS (2.3 to 5 L/min)

## Electrical Specifications

Measurement method	Ultrasonic propagation time-difference calculation method	
Output	1) Flow rate output	4 to 20 mA (Load resistance: 500Ω or less)
	2) Flow rate alarm output	Two open collector output points Rated load: 30 VDC, 20 mA, Action: Comparison method
Display	4-digit 7-segment LED	
Indicated contents	Instantaneous flow, total flow	
Alarm output monitor	LED two-point display (Instantaneous flow alarm, total flow alarm)	
Parameter setting	By four key switches on panel	
Required power supply	24 VDC ±5%	
Power consumption	150 mA or less	

## External view

