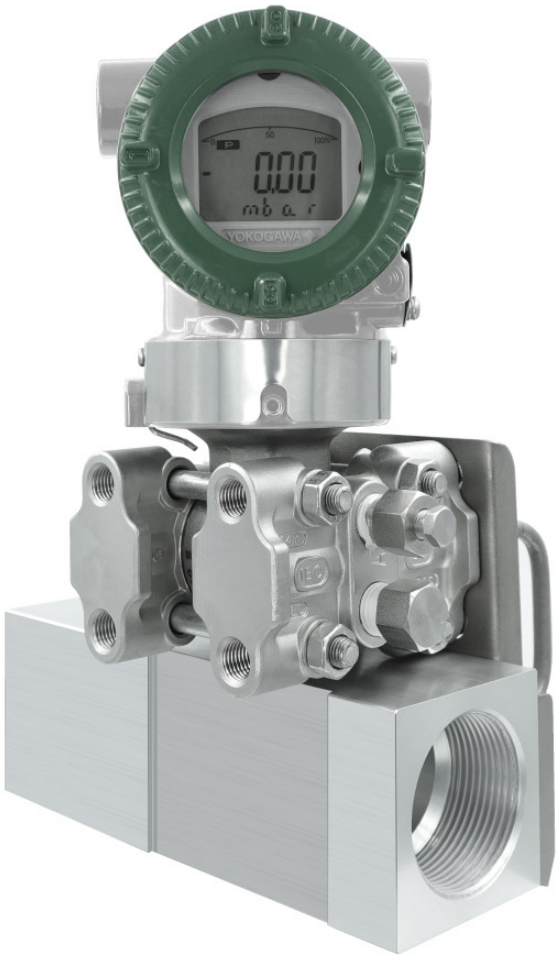
FDM08
Venturi Inline Type Air Flow Transmitter



| Features |

- Precision measurement : Adopting the unique fluid dynamics principles of Venturi tube, the FDM08 provides accurate measurement.
- Wide range of applications : Suitable for general gases, steam, contaminated gases, or high-humidity gases.
- Stable performance : No moving or electronic parts inside the pipeline, ensuring excellent long-term stability.
- Easy installation : Shorter front and rear straight pipe sections compared to standard throttling devices, approximately 2.5D in the front and 2D in the rear.
- Low pressure loss : Designed to minimize pressure loss, reducing energy consumption.

| Applications |

Compressed air systems / Boiler systems / Industrial process gases / Water treatment aeration systems

| Specification |

Measurement

Sensor type	Differential pressure sensor
Air flow measuring range*	DN25 : 200 Nm^3/h
	DN40 : 330 Nm^3/h
	DN50 : 500 Nm^3/h

*Pairs with DPM04 Flow Totalizer for instant conversion of differential pressure to air velocity and volume.

Accuracy

Accuracy	±2%
Temp. influence	±0.5%
Long-term stability	±0.2%F.S./year
Zero drift	±0.25%F.S.

Electrical

Output signal	4 ... 20 mA
Power supply	DC 24V ± 10%
Electrical connection	M20x1.5

Environmental

Medium Temp.	-40°C ... +120°C
Operating Temp.	-30°C ... +70°C
Operating Humid.	0…95%RH (Non-condensing)
Operating pressure	16 bar
Storage Temp.	-30°C ... +70°C

Installation

Pipe connection	G thread
Pipe size	DN 25/40/50

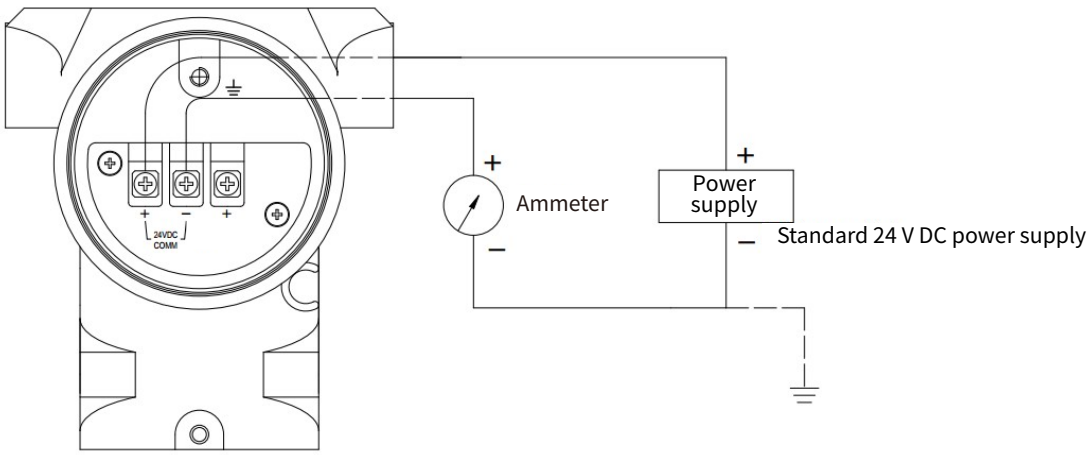
Protection

IP rating	IP65 (Housing)

Material

Pipe	Aluminum alloy
Sensor	Diaphragm : SS316L
	O-ring : Nitrile Butadiene Rubber (NBR)
	(Contact measuring medium)
	Filling oil : Silicon oil
	Flange and fittings : SS304
	Housing : Die-cast aluminum epoxy coating
Weight	DN25 : 4.0 kg
	DN40 : 4.5 kg
	DN50 : 5.0 kg

| Diagram |



| Calibration System |

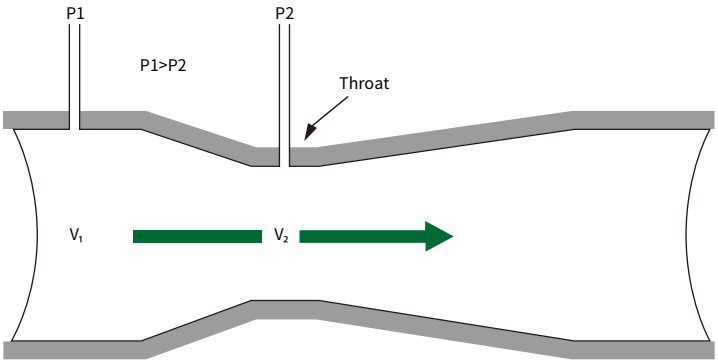
Air volume standard calibration system

Air volume : 1 m^3/h ... 1000 m^3/h

Referring to ISO 9300 "Flow Measurement of Critical Flow Venturi Nozzles", this device is a standard flow device combination consisting of multiple venturi nozzles according to the maximum and minimum flow ranges that need to be calibrated.

| Measurement principle |

The FDM08 utilizes the Venturi effect. A Venturi tube is a precise fluid flow measurement device based on principles of fluid dynamics. Its core feature is a specialized constriction within the pipeline. This unique constriction design aligns with Bernoulli's principle. According to this principle, as a fluid passes through the Venturi tube's special constriction, its velocity increases while the pressure decreases. By comparing the pressure difference before and within the constriction, fluid velocity can be calculated. The Venturi tube finds widespread use in scientific research, industrial applications, and laboratory testing, often serving as a standard for flow rate measurement.



■ Venturi effect formula

$$P1 - P2 = \frac{\rho}{2}(V_2^2 - V_1^2)$$

P1 : Pressure 1

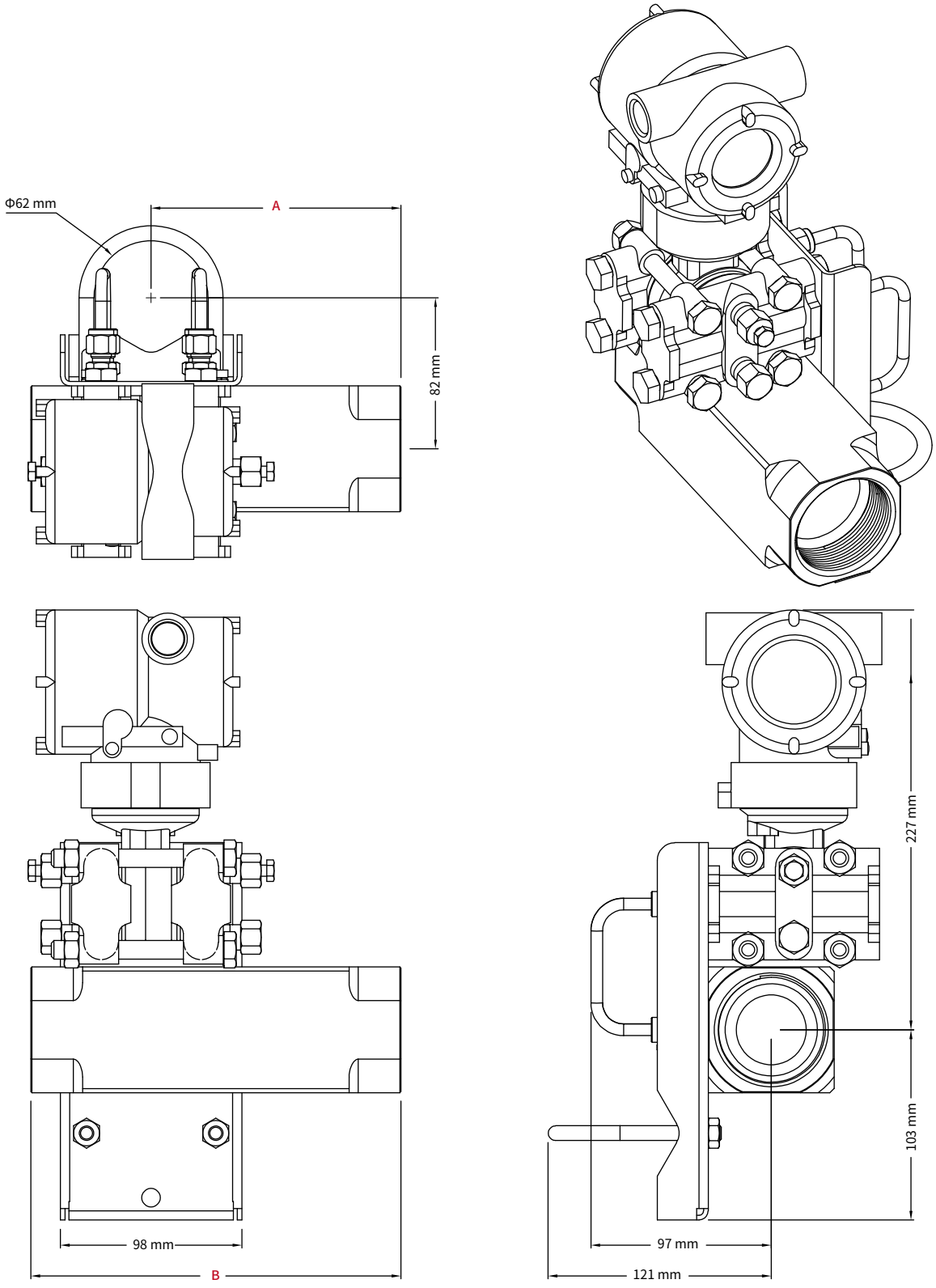
P2 : Pressure 2

ρ : Density of the fluid

V_1 : Velocity in wide pipe

V_2 : Velocity in narrow pipe

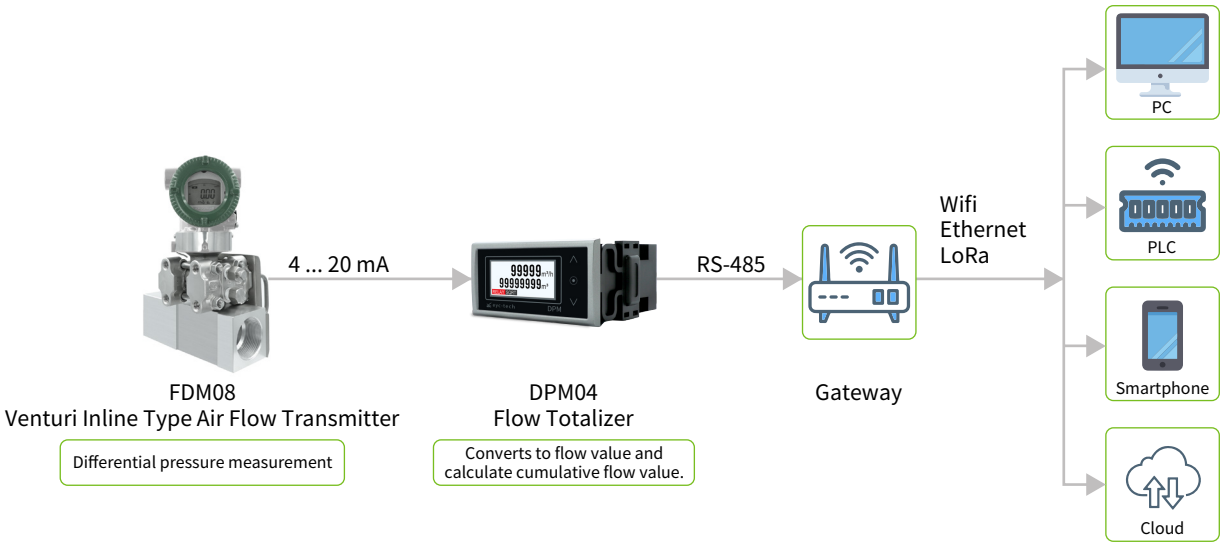
| Dimension | Unit : mm



	DN25 (1")	DN40 (1-1/2")	DN50 (2")
A	79 mm	110 mm	135 mm
B	143 mm	170 mm	200 mm

| Optional Combination |

eyc-tech FDM08 Venturi Inline Type Air Flow Transmitter + eyc-tech DPM04 Flow Totalizer



| Ordering Guide |

FDM08 – D25 (Diameter)

D25 : DN25 (1") , 200 Nm^3/h
D40 : DN40 (1-1/2") , 330 Nm^3/h
D50 : DN50 (2") , 500 Nm^3/h

| Additional Option Test Report | For more detailed information please contact us.

■ ISO 9001

Project	Measurand level or range
Air velocity / Air volume	Air velocity : ≦ 120 m/s
	Air volume : 1 m^3/h ... 1000 m^3/h