

ULTRASONIC FLOW METER

MODEL AUFM-100

CLAMP-ON · TRANSIT TIME · NON-INVASIVE



FIG. 01 — AUFM-100, WALL-MOUNTED TRANSMITTER WITH CLAMP-ON SENSORS · NO PIPE CUTTING · NO PRESSURE DROP

PIPE RANGE	ACCURACY	PROTECTION	OUTPUT	POWER
DN 25 – DN 2000	±1% – ±2%	IP 67 / IP 68	4–20 mA · RS 485 · Pulse	230 V AC / 24 V DC

01 INTRODUCTION

The Arrowmech AUFM-100 is a transit-time ultrasonic flow meter with clamp-on sensors. A pair of transducers mounted on the outside of the pipe alternately transmit and receive ultrasonic pulses; the difference between upstream and downstream transit times is directly proportional to flow velocity. Because nothing enters the pipe, there is no cutting, no process shutdown, no pressure drop and no contact with the medium — ideal for retrofit installations and for low-conductivity liquids such as boiler feed, condensate and DM water that electromagnetic meters cannot measure.

02 FEATURES

- **Measurement accuracy $\pm 1\%$ – $\pm 2\%$**
- **IP 67 display · IP 68 sensors**
- **Wide measurement range** — Pipe sizes DN 25 to DN 2000.
- **Easy installation** — Clamp-on sensors — no need to cut the pipe.
- **Non-invasive** — No wetted parts, no pressure drop, no contamination risk.
- **Three sensor sizes** — Small, medium and large pairs cover the full pipe range.

03 GENERAL SPECIFICATION

PARAMETER	SPECIFICATION
Principle	Transit time
Accuracy	$\pm 1\%$ – $\pm 2\%$
Display	2 × 20 backlit LCD with keypad
Output	4–20 mA · Pulse · RS 485
Sensor cable	5 m twisted-pair shielded cable
Pipe diameter	DN 25 to DN 2000 (25 – 2000 mm)
Process temperature	–30 °C to +160 °C (sensor dependent)
Ambient temperature	–20 °C to 60 °C
Power supply	230 V AC or 24 V DC
Transmitter dimensions	132 × 150 × 85 mm
Protection class	Display IP 67 · Sensors IP 68

04 SENSOR SPECIFICATION — CLAMP-ON PAIRS

SENSOR	MEASUREMENT RANGE	TEMPERATURE OPTIONS	DIMENSIONS (mm)
Small size	DN 25 – DN 80	–30 °C to +90 °C (standard) · –30 °C to +160 °C (high-temp)	45 × 25 × 32
Medium size	DN 50 – DN 700	–30 °C to +90 °C (standard) · –30 °C to +160 °C (high-temp)	64 × 39 × 44
Large size	DN 300 – DN 2000	–30 °C to +90 °C (standard) · –30 °C to +160 °C (high-temp)	97 × 54 × 53

05 SENSOR MOUNTING

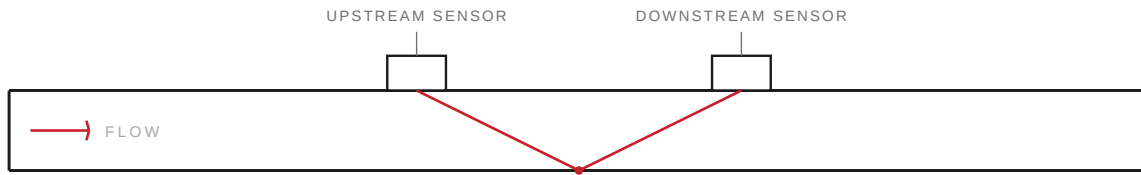


FIG. 02 — V-METHOD MOUNTING: BOTH SENSORS ON TOP OF THE PIPE, SINGLE REFLECTED PATH

The V-method is the standard mounting: both sensors sit on top of the pipe and the signal makes a single reflection off the bottom wall, giving a long measuring path and easy alignment. For very large pipes or fluids with high attenuation, the Z-method — sensors on opposite sides of the pipe with a direct diagonal path — can be used instead.

06 CONFIGURATION



FIG. 03 — AUFM-100, WALL-MOUNTED TRANSMITTER
Backlit LCD with keypad · five cable glands.



FIG. 04 — CLAMP-ON SENSORS INSTALLED
Sensor pair strapped to the pipe, connected by shielded cable.

07 ORDERING CODE

EXAMPLE — FLOW METER CODE:

AUFM-100 - **S1** - **T1** - **PA** - **O1**

SENSOR SIZE		SENSOR TEMPERATURE		POWER SUPPLY	
S1	Small — DN 25 to DN 80	T1	–30 °C to +90 °C (s)	PA	230 V AC (s)
S2	Medium — DN 50 to DN 700	T2	–30 °C to +160 °C	PD	24 V DC
S3	Large — DN 300 to DN 2000				
OUTPUT					
O1	4–20 mA · RS 485 · Pulse (s)				

(s) = STANDARD SELECTION · SENSOR SIZE IS SELECTED PER PIPE DIAMETER