

# TURBINE FLOW METER

**MODEL ATFM-100**

TURBINE ROTOR · MAGNETIC PICKUP · CLEAN FLUIDS



FIG. 01 — ATFM-100, INTEGRAL CONFIGURATION (DN 50 SHOWN)

STAINLESS STEEL BODY · FAST RESPONSE

| SIZE RANGE     | ACCURACY       | PROTECTION | OUTPUT                   | POWER   |
|----------------|----------------|------------|--------------------------|---------|
| DN 15 – DN 150 | ±1% of reading | IP 65      | 4–20 mA · RS 485 · Pulse | 24 V DC |

ISO 9001 CERTIFIED · CE · MADE IN INDIA

*The View On Reliability*

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## 01 INTRODUCTION

The Arrowmech ATFM-100 is a turbine flow meter for clean, low-viscosity fluids. Flow drives a free-spinning rotor whose rotational speed is directly proportional to fluid velocity; a magnetic pickup converts each blade passing into an electrical pulse, giving accurate, repeatable volumetric measurement with fast response. The optimised flow path keeps pressure drop low, and the stainless steel body suits corrosive and high-pressure service.

## 02 FEATURES

- **High accuracy** —  $\pm 1\%$  of reading under standard conditions.
- **Wide measuring range** — Low to high flow rates with excellent repeatability.
- **Fast response time** — Instantaneous readings with minimal lag.
- **Robust construction** — Stainless steel body for corrosive and high-pressure applications.
- **Low pressure drop** — Optimised design minimises energy losses in the pipeline.
- **Temperature & pressure resistant** — Operates in demanding process environments.
- **Digital & pulse outputs** — Compatible with data loggers, PLCs and monitoring systems.
- **Easy maintenance** — Modular design allows quick cleaning and part replacement.

## 04 APPLICATIONS

WATER TREATMENT

OIL & FUEL HANDLING

CHEMICAL PROCESSING

PROCESS SKIDS

BATCHING & DISPENSING

POWER

IRRIGATION

OEM SYSTEMS

## 03 TECHNICAL SPECIFICATIONS

| PARAMETER           | SPECIFICATION                                                   |
|---------------------|-----------------------------------------------------------------|
| Line size           | DN 15 to DN 150 (15 – 150 mm)                                   |
| Accuracy            | $\pm 1\%$ of reading                                            |
| Ambient temperature | $-20\text{ }^{\circ}\text{C}$ to $65\text{ }^{\circ}\text{C}$   |
| Process temperature | $-20\text{ }^{\circ}\text{C}$ to $+150\text{ }^{\circ}\text{C}$ |
| Body material       | SS 304 / SS 316L                                                |
| Nominal pressure    | 16 kg/cm <sup>2</sup>                                           |
| Connection          | Flange                                                          |
| Output              | 4–20 mA · RS 485 · Pulse                                        |
| Power supply        | 24 V DC                                                         |
| Protection class    | IP 65                                                           |

## 05 FLOW RATE CHART (m<sup>3</sup>/h)

| DN (mm) | FLOW RANGE<br>m <sup>3</sup> /h |
|---------|---------------------------------|
| DN 15   | 0.6 ~ 6                         |
| DN 20   | 0.7 ~ 7                         |
| DN 25   | 1 ~ 10                          |
| DN 32   | 1.5 ~ 15                        |
| DN 40   | 2 ~ 20                          |
| DN 50   | 4 ~ 40                          |
| DN 65   | 7 ~ 70                          |
| DN 80   | 10 ~ 100                        |
| DN 100  | 20 ~ 200                        |
| DN 125  | 25 ~ 250                        |
| DN 150  | 30 ~ 300                        |

## 06 SERVICE RECOMMENDATIONS

- Best suited to clean, low-viscosity fluids — water, demineralised water, fuels, light oils and solvents.
- Fit a strainer or filter upstream to protect the rotor from suspended solids.
- Not recommended for slurries, fibrous media or high-viscosity fluids.
- Operate within the flow range in the chart for the stated  $\pm 1\%$  accuracy; sustained overspeed shortens rotor bearing life.
- Ensure the pipe runs full at the meter; avoid free-discharge outlets immediately downstream.

## 07 INSTALLATION

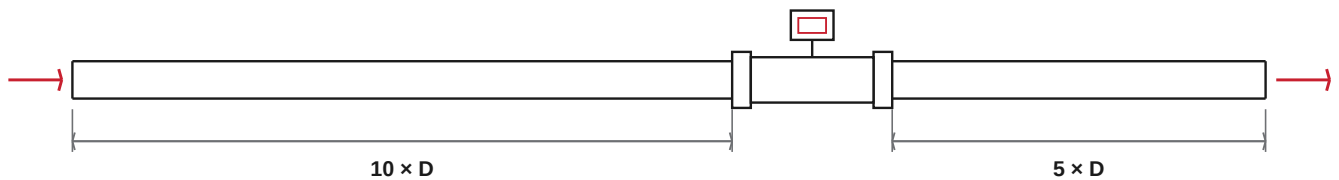


FIG. 02 — INSTALLATION: STRAIGHT RUN REQUIREMENT

D = DIAMETER OF FLOW METER IN INCH

## 08 CONFIGURATION



FIG. 03 — ATFM-100, INTEGRAL (DN 50 SHOWN)  
Transmitter mounted directly on the meter body.



FIG. 04 — ATFM-100, TRANSMITTER REAR VIEW  
Die-cast housing with dual cable entries.

## 09 ORDERING CODE

EXAMPLE — FLOW METER CODE:

**ATFM-100** - **I** - **PD** - **050** - **B1** - **O1**

| TRANSMITTER TYPE |          |     |
|------------------|----------|-----|
| <b>I</b>         | Integral | (s) |

| POWER SUPPLY |          |     |
|--------------|----------|-----|
| <b>PD</b>    | 24 V DC  | (s) |
| <b>PA</b>    | 230 V AC |     |

| LINE SIZE  |            |  |
|------------|------------|--|
| <b>015</b> | 15 (1/2")  |  |
| <b>020</b> | 20 (3/4")  |  |
| <b>025</b> | 25 (1")    |  |
| <b>032</b> | 32 (1.25") |  |
| <b>040</b> | 40 (1.5")  |  |
| <b>050</b> | 50 (2")    |  |
| <b>065</b> | 65 (2.5")  |  |
| <b>080</b> | 80 (3")    |  |
| <b>100</b> | 100 (4")   |  |
| <b>125</b> | 125 (5")   |  |
| <b>150</b> | 150 (6")   |  |

| BODY MATERIAL |         |     |
|---------------|---------|-----|
| <b>B1</b>     | SS 304  | (s) |
| <b>B2</b>     | SS 316L |     |

| OUTPUT    |                          |     |
|-----------|--------------------------|-----|
| <b>O1</b> | 4–20 mA · RS 485 · Pulse | (s) |
| <b>O2</b> | 4–20 mA with HART        |     |

(s) = STANDARD SELECTION