

TECHNICAL DATASHEET



FLOWGENIX

TURBINE FLOWMETER

The **FLOWGEN-TFM Turbine Flowmeter** is a precision velocity-type flow instrument designed for measuring clean, low-viscosity, non-corrosive liquids. As liquid flows through the sensor body, it causes the turbine rotor to spin at a speed directly proportional to the flow rate. A magnetic pickup sensor detects each blade's passage, generating a frequency signal that represents flow velocity.

As the fluid moves through the flow body, it impinges on the turbine blades, causing rotation. Each rotation corresponds to a specific fluid volume. A magnetic pickup coil senses the blade passage and generates a pulse frequency proportional to the flow velocity. Electronics convert these pulses into totaled and instantaneous flow readings.



Image is not real .Just for reference

KEY FEATURES

- **High Accuracy:** $\pm 1.0\%$ of reading ($\pm 0.5\%$ optional).
- **Excellent Repeatability:** $\pm 0.2\%$ ensures process stability.
- **Wide Flow Range:** Up to 1:20 turndown ratio.
- **Compact Design:** Lightweight and easy to install.
- **Low Pressure Drop:** Efficient flow path minimizes system losses.
- **Multiple Output Options:** Pulse, 4–20mA, or RS485 (Modbus-RTU).
- **Rugged Build:** Stainless steel construction for long service life.

USER BENEFIT

- **Accurate Measurement :** Ensures precision for clean liquid applications.
- **Low Maintenance:** Simple mechanism with minimal wear parts.
- **Fast System Integration:** Compatible with PLC, SCADA, and batch control.
- **Compact and Reliable:** Easy installation with long-term durability.
- **Consistent Performance:** Stable output even under fluctuating flow conditions.

TECHNICAL SPECIFICATIONS

Parameter	Specification
Measuring Medium	Clean, low-viscosity liquids (e.g., fuels, water, solvents)
Line Size	DN4 to DN200 mm
Accuracy	±1.0% of reading (±0.5% optional)
Repeatability	±0.2%
Flow Range (Typical)	0.5 to 1200 L/min (depends on line size)
Turndown Ratio	Up to 1:20
Material	SS304 / SS316
Operating Temperature	-20°C to +120°C (High-temp option up to 150°C)
Ambient Temperature	-30°C to +60°C
Pressure Rating	Up to 16 bar (optional higher rating available)
Output Signal	Pulse / 4-20mA / RS485 (Modbus-RTU)
Power Supply	12-24V DC / 230V AC
Protection Class	IP65 / IP67
Connection Type	Threaded (BSP/NPT) / Flanged
Mounting Type	Inline (compact or remote display)

MATERIAL OPTIONS

Component	Material Options
Flow Body	SS304 / SS316
Turbine Rotor	SS316 / Aluminium Alloy
Bearings	Tungsten Carbide / Ceramic
Shaft	SS316
Display Cover	Polycarbonate (IP67 rated)

TYPICAL APPLICATIONS

- Fuel oil and diesel monitoring
- Solvent and chemical transfer
- Water treatment and distribution
- Skid-mounted dosing systems
- Cooling and lubrication systems
- Beverage and process liquid metering

DISPLAY & INTERFACE

- Integral or remote LCD display showing:
- Flow Rate (L/min, m³/h, etc.)
- Totalized Volume
- Backlit screen for outdoor use
- Password-protected configuration
- Compact electronic housing with easy wiring access

ELECTRICAL CONNECTIONS

- 4–20mA analog output (isolated)
- RS485 digital output (Modbus RTU)
- Pulse output for totalized flow
- Power: 24V DC or 230V AC
- Relay output for batching or alarm (optional)

INSTALLATION GUIDELINES

- Maintain 10D upstream and 5D downstream straight pipe runs.
- Ensure clean liquid free of solid particles or gas bubbles.
- Install horizontally for best accuracy.
- Confirm flow direction using arrow
- Properly ground the system to prevent signal interference.

COMMUNICATION PROTOCOL

- Modbus RTU – for PLC and SCADA integration
- HART – for diagnostics and configuration
- Pulse Output – for batch control or totalizing

MAINTENANCE & WARRANTY

- Simple structure; easy inspection and cleaning.
- Regular calibration recommended annually.
- 12-month standard manufacturer warranty.

ACCESSORIES OPTIONS

Accessory	Description
Remote Display Unit	Up to 50 m cable length
Flow Totalizer Panel	6-digit LED with relay output
Data Logger	RS485 / USB data recording
Mounting Kit	Includes flanges and fasteners
Cable Gland Set	IP68-rated, waterproof sealing

ORDERING INFORMATION

Code / Option	Description
Model	FLOWGEN – TFM
Line Size	Specify (DN4 to DN200 mm)
Material of Construction (MOC)	1 – SS304 / 2 – SS316
Protection Class	1 – IP65 / 2 – IP67
Pressure Rating	1 – Up to 16 bar / 2 – Higher rating
Explosion Proof	1 – Yes / 2 – No
Connection Type	1 – Threaded / 2 – Flanged
Output Signal	1 – Pulse / 2 – 4–20mA / 3 – RS485 / 4 – Combo
Operating Temperature	1 – Up to 80°C / 2 – 120°C / 3 – 150°C
Relay Option	1 – Batching / 2 – Alarm / 3 – NA
Power Supply	1 – 24V DC / 2 – 230V AC
Test Certificate	1 – Factory / 2 – NABL Calibration
Display Type	1 – Without / 2 – Integral / 3 – Remote
Special Requirements	Mention specific installation or medium details



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