CAT.No.CBM301E-6

OVAL

Gas

Mass Flowmeter for Gas Service

MFT-B Series



1. Next-generation thermal mass flowmeter:

- Fully digital control which does not have a bridge circuit.

2. Sophisticated and user-friendly features:

- Simplified communication with USB interface
- HART communication feature
- Profibus DP communication feature
- RS-485 (Modbus) communication feature
- Error logging feature (records up to 200 errors of 16 different alarms)
- Minimum/Maximum logging feature
  (records maximum and minimum values of flowrate, fluid temperature and transmitter temperature)
- Trend memory feature (records up to 56 hours of flowrate/temperature trends)

Actual gas calibration with hydrogen is possible!

3. Improved maintainability:

- Retractor unit (option)
- Insertion type mass flowmeter can be installed or removed while fluid is flowing
- Ideal for a line whose sensor may be tainted or a line cannot stop once it operates

4. Other features:

- Wide flow range and high accuracy
- Normal flowrate (0°C, 1 atm) can be directly displayed and output without temperature and pressure correction.
- Excellent durability with no moving parts
- Low pressure loss

LINEUP

In-line type (standard)



Ideal for when a small diameter (100 mm or less) is required.

◎Applicable to nominal sizes of 10 mm (however 15 mm for connection) to 100 mm

In-line type (with built-in flow straightener)



Ideal for relatively small diameter and when straight pipe length cannot be secured.

◎Applicable to nominal sizes of 15 mm to 200 mm
◎The required straight pipe length is short, which significantly shorten the straight pipe section.

Insertion type



Ideal for installation on an existing pipe and relatively large diameter

◎Can be installed on a large-diameter pipe with low installation cost
◎Installation of the mounting boss only (an existing boss can be used)
◎Retractor unit (option)

Portable type



Easy-to-carry and battery-powered, making it ideal for use in places where there is no power source.

◎Measures flowrate by detecting the flow velocity at the insertion point and setting the pipe cross-sectional area

■General Specifications (For details, please refer to the General Specification sheet of each model.)

Item	Description		
	In-line type (504FTB) In-line type with built-in flow straightener (534FTB)	Insertion type (454FTB)	Portable type (244□)
Applicable fluid	Air, nitrogen, oxygen, argon, carbon dioxide, ethane, ethylene, methane, digestion gas, helium, hydrogen (For other gases, please consult OVAL sales office or nearest representative.)		Air, nitrogen
Installation	Flanged type	Screw-in type, flanged type	Screw-in type
Nominal size	10 to 100 mm (In-line type) 15 to 200 mm (In-line type with built-in flow straightener)	At least 65 mm	At least 80 mm
Temperature range (※1)	−40 to +125°C	−40 to +260°C (For high temperature service: −40 to +500°C)	−40 to +200°C (For high temperature service: −40 to +500°C)
Maximum operating pressure	Less than 1 MPa		1MPa
Flow velocity/ flowrate range	0 to 1560 [m³/h (normal)] (In-line type) 0 to 3630 [m³/h (normal)] (In-line type with built-in flow straightener)	0 to 111 [m/s (normal)]	0.1 to 55 [m/s (normal)]
Accuracy	Standard: ±2% of FS Calibrated by actual flow: ±2% of RD	Standard: ±2% of FS High temperature service: ±3% of FS Calibrated by actual flow: ±2% of RD	Standard: ±2% of FS
Output	2 analog outputs (flowrate and temperature), pulse output, alarm output		2 analog outputs (flowrate and temperature)
Explosionproof configuration	Increased safety (Exec): cETLus, ATEX, IECEx Flameproof (Exd): TIIS, cETLus, ATEX, IECEx (※2)		Non-explosionproof

※1: Actual operating temperature range varies depending on the specifications such as explosionproof.
※2: For the in-line type with built-in flow straightener (534FTB series), TIIS explosionproof models are not available.

The specification as of March, 2025 is stated in this catalog. Specifications and design are subject to change without notice.

OVAL

OVAL Corporation
3-10-8 Kamiochiai, Shinjuku-ku, Tokyo 161-8508
Phone: +81 3-3360-5121 FAX: +81 3-3365-8605
https://www.oval.co.jp/english

ISO 9001 ISO 14001 0180 JCSS

0805 2503 ----S