



## Inline Flow Meter 504FTB FOR PROCESS & SPECIALTY GASES



Inline thermal mass flow meters provide a plug-and-play solution for many applications, while providing a cost-effective solution for high accuracy and no maintenance. Flow sensitivity is increased because the sensors are placed directly in the flow stream without the protection needed with insertion meters. There are 10 models available in pipe diameters ranging from 3/8" to 4". The Kurz power-limiting design and constant temperature sensor control prevents sensor overheat at zero flow.

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## SPECIFICATIONS

- **Mass flow range**  
Up to 4,000 SCFM (6,240 NCMH)  
depending on model and calibration option
- **Flow accuracy** (SCFM at laboratory conditions)  
 $\pm$  (1% of reading + (A x 20 SFPM))  
where A is the flow area of the 504FTB
- **0.25% reading repeatability**
- **Velocity time constant**  
1 second for velocity changes at  
6,000 SFPM (constant temperature)
- **Process temperature time constant**  
8 seconds for temperature changes at  
6,000 SFPM (constant velocity)
- **Temperature accuracy**  
 $\pm$  (0.5% of reading +1°C) for velocities  
above 100 SFPM
- **Electronics operating temperature**  
Integral display  
-13°F to 149°F (-25°C to 65°C)  
Remote aluminum enclosure  
-40°F to 149°F (-40°C to 65°C)  
Remote polycarbonate enclosure  
-13°F to 122°F (-25°C to 50°C)
- **Process pressure rating**  
Up to 300 PSIG (20 BARg)
- **Process temperature rating**  
-40°F to 257°F (-40°C to 125°C)

## FEATURES

- **Aluminum (Type 4, IP66) dual-chamber polyester powder-coated enclosure**
- **Ten models available in pipe diameters from 3/8" to 4"**
- **Adjustable display/keypad orientation**
- **Optically-isolated loop-powered 4-20 mA output**
- **Integral or remote user interface**
- **Easy-to-use interface**
- **User-configurable flow display (scrolling or static)**
- **User-configurable English or metric units for mass flow rate, mass velocity, or process temperature**
- **Two optically isolated solid-state relays / alarms**
- **Built-in flow totalizers and elapsed time**
- **Configuration/data access via USB or RS-485 Modbus (ASCII or RTU)**
- **3-year warranty**

## APPROVALS

- **EPA mandatory GHG certification**  
40 CFR 98.34(c)(1)
- **Alarm output conformity**  
NAMUR NE43
- **CE and UKCA compliance**  
EMC, LVD, PED, ROHS, and WEEE
- **cETLus, ATEX, UKEX, IECEx approvals for Explosive Atmospheres protection by Flameproof and Increased Safety**  
EN/IEC/UL/CSA C22.2/60079-0  
EN/IEC/UL/CSA C22.2/60079-1  
EN/IEC/UL/CSA C22.2/60079-7  
Class I, Div. 1, Group B, C, and D  
Class I, Div. 2, Group A, B, C, and D

## OPTIONS

- **Enclosures**  
Aluminum or remote-only stainless steel or polycarbonate
- **Multiple gas calibrations with up to five curves loaded in memory**
- **User-defined binary gas compositions**
- **Hardware accessories**
- **Communication protocols**  
HART (v7 FSK) and PROFIBUS DP
- **SIL1 certification**  
via TUV Rheinland

## 504FTB Benefits

The 504FTB is ideal for high-pressure gas flow measurements, and includes the qualities and features found in all Kurz thermal mass flow meters.

- **Ideal for process and specialty gases**
- **Sensors resistant to dirt and corrosion**
- **Wide turndown capability**
- **Zero velocity as a valid data point**

## The Kurz Advantage

Kurz Instruments is dedicated to manufacturing and marketing the best thermal mass flow meters available and to support our customers in their efforts to improve their businesses.

In this effort, we provide:

- **The highest repeatability, accuracy, and reliability available**
- **The fastest response to temperature and velocity changes in the industry**
- **Continuous self-monitoring electronics that verify the integrity of sensor wiring and measurements**
- **Sensors that do not overheat at zero flow using a patented constant temperature control method and power limiting design**
- **Velocity-temperature mapping for wide ranging velocity and temperature**