

Multipoint Insertion Flow Meter K-BAR 2000B-WGF FOR CONDENSING GAS ENVIRONMENTS



Plants and factories continue to find ways to become more efficient, economical, and environmentally aware. Maximizing the efficiency of a process gas flow requires that it is accurately measured to control process variables. However, if moisture is introduced into the process gas flow, flow metering technologies become compromised due to the water component. Moisture can become present in the gas stream from:

- A rapid drop in temperature that allows moisture to condense out of the gas.
- Rainy weather introducing water into a stack.
- Weather conditions laden with fog, mist, or rain where that air is used for the air inlets.

Kurz multipoint thermal mass flow meters provide excellent measurement capabilities for monitoring large stacks and ducts in combustion and emissions applications where condensing gas is present. K-BAR 2000B-WGF flow meters have effectively no impact on the flow stream, proven high accuracy, and are highly economical for both initial and maintenance costs.



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SPECIFICATIONS

- **Process temperature rating**
-40 °F to 257 °F (-40 °C to 125 °C)
- **Process pressure rating**
Up to 150 PSIG (10 BARg)
- **Velocity range**
0 to 6,000 SFPM (28 NMPS)
(Up to 12,000 SFPM (56 NMPS) available with reduced condensate immunity)
- **Dry velocity accuracy**
± (1% of reading +20 SFPM)
- **0.25% reading repeatability**
- **Process conditions**
Up to 100% relative humidity
- **Process temperature time constant**
8 seconds for temp changes at 6,000 SFPM (constant velocity)
- **Velocity time constant**
1.5 second for velocity changes at 4,000 SFPM (constant temp)
- **Velocity angle sensitivity**
<2% per degree angle up to ±20°
- **Electronics operating temperature**
-40 °F to 149 °F (-40 °C to 65 °C)
- **Condensing gas**

FEATURES

- **Steel, 16 gauge (Type 4, IP65) polyester powder-coated enclosure**
- **Two optically-isolated loop-powered 4-20 mA outputs**
- **One 4-20mA non-isolated analog input**
- **Two optically isolated solid-state relays / alarms**
- **Two digital inputs dedicated to purge or zero-mid-span drift check**
- **Built-in zero-mid-span drift check**
- **Velocity-dependent correction factors for flow rate**
- **Built-in flow totalizers and elapsed time**
- **User-configurable digital filtering from 0 to 600 seconds**
- **Configuration/data access via USB or RS-485 Modbus**
- **Programmable for shifting flow profile distribution**
- **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
- **EU ATEX for Increased Safety, Ex ec**
EN 60079-0, EN 60079-7/A1
- **IEC 61508, SIL1 via TUV Rheinland**

OPTIONS

- **Communication protocols**
HART (v7 FSK) and PROFIBUS DP
- **Hardware accessories**
Available hardware includes flange mounting assemblies, ball valves, conduit seals, cable, and packing glands
- **SIL1 certification**
via TUV Rheinland

K-BAR 2000B-WGF Benefits

By enabling accurate stack readings that show the dry or wet gas component, plants and factories can better manage combustion processes in their efforts to decrease costs and increase efficiency.

- The first multipoint thermal mass flow meter offering accurate and reliable wet gas flow measurement
- Highly competitive with other flow measurement technologies in initial, setup, operation, and maintenance costs
- Eliminates compromised flow data by ignoring fogging in the stack
- Promotes better combustion monitoring by more accurately tracking the output
- Ideal for wet stack, flue gas, and mine ventilation environments
- Greenhouse gas emissions can be accurately reported
- Reduce over-reporting of emissions caused by condensing moisture

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

