

Accurate and Reliable Pressure, Velocity and Flow Meter with Auto-Zero

The FKS 1DP-PBM and FKS 1DP-PBM-E are feature-rich, state-of-the-art multi-function meters designed for fast and accurate pressure, velocity and flow measurement. The meters have unmatched ease of use due to their prompt driven user interface and intuitive operation. They are the perfect companions for Testing and Balancing, HVAC, Process Monitoring, R&D, velocity traverses, stack velocity measurement, pressure measurements across fans, filters, etc.

Benefits

Both Models

- NIST certificate with data.
- Measure true differential (+ and -), static and gauge pressure.
- Fast electronic zero.
- Actual and standard velocity (using a Pitot or S type probe).
- Velocity measurements in dirty airstreams using an S probe.
- Adaptive damping: Sophisticated damping technology automatically adjusts the damping level (the running average constant, or number of averages) to give you the best measurement for your conditions. Very useful in unsteady flows.

Additional Benefits of the FKS 1DP-PBM

- Auto-zero function. Internal valve removes pressure or velocity offsets. Your reference level never changes, ensuring unmatched accuracy and reliability. You can even set the auto-zero time interval!
- Data logging: Both manual and automatic logging available. Store up to 10,000 pressure, velocity and flow readings in up to 520 separate groups. On-screen recall shows average, max and min. Automatic logging lets you take unattended readings with log times from seconds to days. Simply tell the meter how long to acquire data for, and the interval between readings! The auto-zero feature ensures accuracy, even after hours or days of logging. Included downloading software transfers your data directly into Microsoft Excel®.
- Air flow mode: An inbuilt volumetric flow survey routine prompts the user to set duct shape, number of readings and duct size allowing for the calculation of accurate air flows (you don't have to use inaccurate single point measurements any longer – although the PBM will do these too!) incredibly easily and quickly. The meter guides you through the survey point by point.
- Confidence interval estimation: A sophisticated statistical routine calculates the confidence interval of your pressure, velocity and flow measurements, giving you unmatched confidence in your readings.
- Overload protection: Pressure overloads cause the meter to automatically enter the auto-zero cycle, reducing the potential for transducer damage.



Pressure Meter Mode

P=1.67inH2O
H2.01 L-0.21

Velocity Meter Mode

U=6702ft/min
H8291 L6231

Flow Meter Mode

Q=940.27ft³/min
Rotate to Cont.



Feature Summary	FKS 1DP-PBM	FKS 1DP-PBM-E
Real Auto-Zero capability	•	
Electronic zero	•	•
Differential, static & gauge pressure	•	•
Calculates velocity	•	•
Accurate volumetric flow rate	•	
K factor	•	•
Density correction	•	•
Logging (10,000rdgs) with statistics	•	
Intelligent automatic damping	•	•
Metric and Imperial units	•	•
Minimum & maximum reading	•	•
Data hold (screen freeze)	•	•
Turbulence indicator	•	•
Overload protection	•	
Standard deviation calculation	•	
PC compatibility	•	•
Variable screen contrast	•	•

In the interests of product improvement FlowKinetics LLC reserves the right to make changes without any prior notice

Specifications

FKS 1DP-PBM and FKS 1DP-PBM-E

Power supply:	2 x 9V Alkaline batteries (life: approx. 30hours) or optional wall power supply.
Pressure transducer:	Fully temperature compensated. For Ranges, see Ordering information
Measurements:	True Differential, Static and Gauge Pressure
Pressure Accuracy at 25°C:	Typically within $\pm 0.1\%$ of Full Scale ($\pm 0.22\%$ max.)
Velocity Accuracy at 25°C:	At full scale speed: $\pm 0.05\%$ typical ($\pm 0.11\%$ max) of full scale At half scale speed: $\pm 0.1\%$ typical ($\pm 0.22\%$ max) of full scale At the low end of the speed range: $\pm 1\%$ typical ($\pm 2.3\%$ max) of full scale
Compatible Probes:	Pitot, Pitot static, Kiel, S type (dirty air), etc
K factor:	Variable, set by user, range: 0 to 9.99
Density correction:	Set by user
Damping:	Automatic and adaptive. User selectable exponential smoothing or averaging
Display:	2-line variable contrast alphanumeric LCD
Pressure units:	Pa, kPa, inH ₂ O, mmHg, inHg, psi, mbar and lb/ft ²
Velocity units:	m/sec, ft/sec and ft/min
Output:	RS232 serial port interface, 9-pin connector. USB to serial adapter available.
Dimensions:	5.7 in x 3.6 in x 1.8 in (14.5 cm x 9.1 cm x 4.5 cm)

FKS 1DP-PBM Only

Manual logging:	255 group IDs. 4,000 reading capacity
Automatic logging:	255 group IDs. 6,000 reading capacity
Over-pressure protection:	Built-in solenoid valve to vent ports when overloaded
Auto zero:	Built-in solenoid disconnects sensor to zero automatically
Flow units:	m ³ /sec, ft ³ /sec, ft ³ /min

Compatible Velocity Probes

- Pitot-Static for general tests
- S-Type for dirty flows
- Kiel for high angularity flows
- Rapid Averaging Probe (RAP)



Typical Applications

- Pressure across fans, filters
- Testing and balancing
- Process control
- HVAC
- Stack testing
- R & D
- Calibration
- Clean rooms
- Wind tunnels

Ordering Information

Contact us or visit our site for pricing information.

Part number: FKS 1DP-PBM-X or FKS 1DP-PBM-E-X where X is the sensor number.

Sensor Number (X)	Differential Pressure Range	Velocity Range
0.25	± 0.25 inH ₂ O (± 60 Pa)	40 to 1,911 ft/min (0.5 to 10.2 m/s)
0.5	± 0.5 inH ₂ O (± 124 Pa)	144 to 2829 fpm (0.7 to 14.4 m/s)
1	± 1 inH ₂ O (± 249 Pa)	200 to 4001 fpm (1 to 20.3 m/s)
5	± 5 inH ₂ O (± 1.2 kPa)	447 to 8946 fpm (2.3 to 45.4 m/s)
12	± 12 inH ₂ O (± 3 kPa)	693 to 13859 fpm (3.5 to 70.4 m/s)
20	-4 to +20 inH ₂ O (-995 to 4.98 kPa)	895 to 17892 fpm (4.5 to 90.9 m/s)

Optional Accessories:

WPA	Auto-switching power supply (100V-240V AC 50-60Hz)
SwiftScan	Real time software for continuous monitoring of pressure and velocity
USBA	USB to serial adapter for computers with no serial port
Velocity Probes	Pitot static, RAP, Kiel and S-Type probes available. Visit our site for selection and pricing.

