

DATA SHEET

DBM 620

Air flow meter



SmartKap mobile App



**Foldable frames*
& hoods**



**Switch between hoods
quickly and easily**



**Lightweight and compact
Easy to transport
(with transport case)**



**Measuring range from
35 to 4250 m³/h
(10 to 1,181 L/s, 21 to 2,501 cfm)**



**SmartKap mobile App
Data reading & reporting**



**Hood flow straightener
Compatible with all air vent types**

Functions

- Simultaneous display of up to 4 parameters. Choose from:
 - Airflow
 - Relative humidity
 - Atmospheric pressure
 - Temperature
 - Differential pressure
 - Air velocity
- Corrections based on diffuser type for precise measurements (via the app)
- ACR function (Air Change Rate)
- Automatic airflow direction (extraction or supply)
- Automatic or point by point averaging
- HOLD function
- Removable measuring unit (micromanometer function)
- Long-range, low-energy wireless connection

Technical specifications

Parameters	Accuracy ⁽¹⁾	Measuring range	Resolution
Airflow (calculated parameter)	±3% of the measurement ±10 m³/h ±3% of the measurement ±3 L/s ±3% of the measurement ±6 cfm	From 35 to 4,250 m³/h From 10 to 1,181 L/s From 21 to 2,501 cfm	1 m³/h 1 L/s 1 cfm
Air velocity (calculated parameter)	±3% of the measurement ±0.04 m/s ±3% of the measurement ±8 ft/min	From 0.2 to 10 m/s From 39 to 1,969 ft/min	0.01 m/s up to 3 m/s and 0.1 m/s above 1 ft/min
Temperature (NTC)	±0.2 °C ±0.36 °F	From -20 to 70 °C -4 to 158 °F	0.01 °C 0.01 °F
Relative humidity (capacitive sensor)	Repeatability, linearity: ±1.5% RH ⁽²⁾ (from 10 to 80% RH and from 10 to 50 °C) ⁽³⁾ Hysteresis: 0.8% RH at 25 °C Time drift: <0.5% RH per year in normal conditions of use (from 5 to 50°C and from 20 to 80% RH, apart from indoor pollutants)	From 0 to 100% RH	0.01% RH
Atmospheric pressure	±3 mbar	From 700 to 1100 mbar	1 mbar
Pressure⁽⁴⁾	±0.2% of reading ±2 Pa ⁽⁵⁾ ±0.2% of reading ±0.008 inWg ⁽⁵⁾	From -2,500 to +2,500 Pa From -10 to 10 inWg	From 0.001 to 0.1 Pa ⁽⁶⁾ 0.001 inWg

⁽¹⁾All accuracies indicated in this document were stated in laboratory conditions and can be guaranteed for measurement carried out in the same conditions or with calibration compensation.

⁽²⁾Accuracy in RH depends on temperature: typical ±2% RH below 10 °C (50 °F) and above 50 °C (122 °F).

⁽³⁾The sensor shows best performance when operated within recommended normal temperature and humidity range of 5 °C – 60 °C (50 – 122 °F) and 20% RH – 80% RH, respectively. Long-term exposure to conditions outside normal range, especially at high humidity, may temporarily offset the RH signal (e.g. +3% RH after 60h kept at >80% RH). After returning into the normal temperature and humidity range the sensor will slowly come back to calibration state by itself. Prolonged exposure to extreme conditions may accelerate ageing.

⁽⁴⁾Tolerated overpressure: 344.73 mbar. Proof pressure: 500 mbar. Burst pressure: 750 mbar. / ⁽⁵⁾Potential drift: ±0.04% of reading per degree. / ⁽⁶⁾From 0 to 1 Pa: 0.001 Pa / 1 to 20 Pa: 0.01 Pa / 20 to 2500: 0.1 Pa

*Foldable frame patent granted in France (patent number: 1859064)

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General features

Display	On smartphone or tablet ⁽¹⁾
Integrated support for smartphone or tablet	Adjustable integrated support Smartphone or tablet max. Width: 6.2"
Connectors/Pneumatic	ABS connectors, 7 x 4 mm diameter (⁹ / ₃₂ " x ⁵ / ₃₂ ")
Maximum operating pressure	500 mbar
Storage capacity	Standard size of a measurement dataset report: 1 Mo
Housing	Shock-proof ABS
Protection	IP40
Keypad	1 key on the housing
Power supply	4 alkaline batteries LR6 AA 1.5 V ⁽²⁾
Battery life	Up to 30 hours
Wireless connection	Class 1, BLE 4.2. Range: 2.4 GHz Range up to 30 m (98 ft) - Depending on smartphone and tablet wireless connection radio strength Minimum required versions: Android 7.1, iOS 12.4, BLE 4.0
Device dimensions	Folded: 475 x 455 x 255 mm (1.56 x 1.49 x 0.84 ft) Mounted: 610 x 610 x 980 mm (2 x 2 x 3.22 ft)
Environmental conditions of use	Air, non corrosive and combustible gases Temperature: from -5 to +50 °C (23 to 122 °F), in dry air and non-condensing condition Hygrometry: in non-condensing conditions (< 80% RH) Maximum altitude: 2,000 m (6,561')
Storage temperature	From -20 to +60 °C (-4 to 140 °F)
Auto-shut-off	Adjustable from 0 to 60 minutes
Weight	Base/Measuring unit/Hood/Frame: 2.9 kg (6.4 lbs) Standard DBM 620 content kit: 6.4 kg (14.1 lbs)
Languages	German, Spanish, Italian, Dutch, Portuguese, Hungarian, Polish, Romanian, Russian, Slovak, Finnish, Danish, Norwegian, Swedish, Chinese, Korean, Japanese
European directives	2011/65/EU RoHS II; 2012/19/EU WEEE; 2014/53/EU RED; FCC part 15

⁽¹⁾ Device not provided

⁽²⁾ We recommend the use of type Nx PCA9002 batteries

The DBM 620 folding frame* minimizes space constraints and enables easier mounting.



Carbon fiber rods ensure stability while keeping weight to a minimum.

*Foldable frame patent granted in France (patent number: 1859064)

Kit content

Standard DBM 620 includes:

- Base unit with measurement grid and temperature/humidity probe
- Removable measuring unit with wireless connection and four LR6 AA 1.5 V alkaline batteries
- 2 x 2 ft (610 x 610 mm) hood with flow straightener and foldable frame
- Sheath containing four frame support rods
- Two 0.80 m silicone tubes
- Replacement hinges for frames
- Transport case
- Calibration certificate

DBM 620 C includes:

- Standard DBM 620 kit
- Four additional hoods, each foldable with a transport case:
 - 2.36 x 2.36 ft (720 x 720 mm) hood
 - 2.36 x 4.33 ft (720 x 1,320 mm) hood
 - 1.38 x 4.99 ft (420 x 1,520 mm) hood
 - 3.35 x 3.35 ft (1,020 x 1,020 mm) hood



Available hoods

The DBM 620 airflow meter comes standard with a 2 x 2 ft (610 x 610 mm) hood.

Four optional hoods are available:

- 3.35 x 3.35 ft (1,020 x 1,020 mm)
- 2.36 x 2.36 ft (720 x 720 mm)
- 2.36 x 4.33 ft (720 x 1,320 mm)
- 1.38 x 4.99 ft (420 x 1,520 mm)

The hoods are airtight and feature a transparent viewing window, allowing the user to check the vent and ensure the hood is properly positioned.



Functions of the Micromanometer Housing

The electronic housing can be used independently to perform the following functions:

In Air Velocity and Airflow:

- Select between Pitot tube, Debimo blades, coefficient, or measurement grid
- Section selection
- Unit selection
- Point-to-point, automatic, or automatic point-to-point averaging
- Manual or automatic temperature compensation, manual or automatic atmospheric pressure compensation
- Hold, minimum and maximum values
- Standardized airflow, K factor

In pressure:

- Manual or automatic auto-zero
- Unit selection
- Pressure integration (0 to 9)
- Point-to-point, automatic, or automatic point-to-point averaging
- Hold, minimum and maximum values

Measurement Grid

The measurement grid is attached to the base and measures 24 different points across the surface of the flow area.

Measurements are taken using a differential pressure sensor calibrated for atmospheric pressure and temperature, with temperature compensation applied.

Autonomous Micromanometer

Once removed, the measuring unit can be used as a micromanometer:

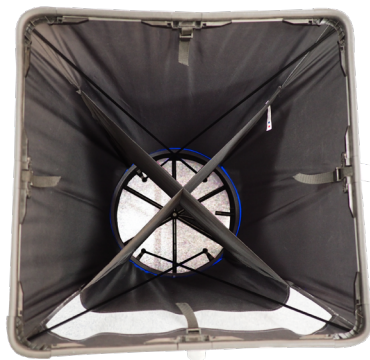
- Measure airflow in a duct using the Pitot tube attachment
- Silicone tubing allows technicians to check for filter issues



L and S Pitot tubes



Silicone tube



Hood with flow straightener



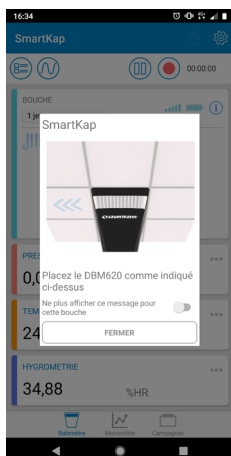
Air flow meter



Measurement grid



Telescopic tripod



Device positioning on the Air Vent

The SmartKap mobile application will assist you in correctly positioning the hood on the air vent:

- Select the correct air vent type, OR
- Create a customized air vent if needed
- Follow the on-screen instructions for a perfect fit!

For more details, refer to the user manual.

Accessories

Description	Part number
Measurement Grid Kit for DBM 620 Instrument Designed for air velocity measurements on large ceiling vents or diffusers, the measurement grid is similar to the DBM 620 grid. It calculates the average air velocity from 24 points to ensure reliable measurements. - The grid is attached to a telescopic pole (maximum length: 6' 9" / 2.05 m) and an articulated pole (adjustable from 0 to 90°) - Struts of three different lengths allow proper positioning of the grid on the ceiling surface. - A custom carrying case makes it easy to transport the grid and its accessories (telescopic pole, articulation, 2 x 0.80 m (2 x 2' 7 1/2") silicone tubes, positioning struts, and electronic housing). • Measuring range: from 0.2 to 10 m/s (from 39 to 1,968 fpm) • Accuracy: $\pm 3\%$ of the measured value ± 0.04 m/s ($\pm 3\%$ of the measured value ± 8 fpm) • Resolution: 0.01 m/s up to 3 m/s and 0.1 m/s beyond (1 fpm) • Struts length: 5 cm, 15 cm, 25 cm ($1 \frac{31}{32}$", $5 \frac{29}{32}$", $9 \frac{27}{32}$")	26455
Removable unit ONLY Range from 0 to 99,999 m ³ /h / -2,500 Pa to 2,500 Pa / 0 to 58,857 cfm, micromanometer function: measurement of air velocity and airflow with different differential pressure instruments (Pitot tube, Debimo), compensation of the measurement according to thermocouple temperature. Supplied with 2 x 0.80 m (2 x 2' 7 1/2") of silicone tube and calibration certificate	26449
Tripod Telescopic tripod with casters. Adjustable height from 1.20 to 4 m (3' 11" to 13' 1 1/2"). Supplied with soft case. For DBM 620 and measurement grid.	26456
DBM 620 replacement carry case	26465
610 x 610 mm (2 x 2 ft) hood*	26450
720 x 720 mm (2.36 x 2.36 ft) hood*	26451
720 x 1,320 mm (2.36 x 4.33 ft) hood*	26452
420 x 1,520 mm (1.38 x 4.99 ft) hood*	26453
1,020 x 1,020 mm (3.35 x 3.35 ft) hood*	26454

*Each hood is supplied in its transport bag.

Maintenance

We provide calibration, adjustment, and maintenance for your instruments to ensure consistent measurement quality. As part of our Quality Assurance Standards, we recommend conducting an annual check-up.

Warranty

The devices come with a 1-year warranty against manufacturing defects (return to our After-Sales Service is required for evaluation).

Operating principles

The DBM 620 housing connects wirelessly to your smartphone or tablet, allowing you to view measured values and reports directly on your mobile device screen through the dedicated SmartKap mobile application.

