

DATA SHEET

DBM 620



Air flow meter



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)**



**Sauermann Pilot mobile App
Data reading & reporting**



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



SmartKap mobile App



Functions

- Simultaneous display of up to 4 parameters. Choose between:
 - airflow
 - relative humidity
 - atmospheric pressure
 - temperature
 - differential pressure
 - air velocity
- ACR function (Air Change Rate)
- 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 100 m/s From 39 to 19,690 ft/min	0.01 m/s 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	0.01 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	0.001 Pa 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.

*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 ($\frac{9}{32}$ " x $\frac{5}{32}$ ")
Maximum operating pressure	500 mbar
Storage capacity	Standard size of a measurement dataset report: 1 Mo
Housing	Shock-proof made of 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* limits space restrictions and allows for easier mounting.



Carbon fiber rods provide stability while adding minimal weight.

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

Kit content

Standard DBM 620:

- 1 Base including the measurement grid and a temperature and hygrometry probe
- 1 Removable measuring unit with wireless connection and 4 alkaline batteries LR6 AA 1.5 V
- 1 Hood of 610 x 610 mm (2 x 2 ft) with flow straightener and foldable frame
- 1 Sheath including the 4 frame fixing rods
- 2 x 0.80 m of silicone tube
- Replacement hinges for frames
- 1 Transport case
- 1 Calibration certificate

DBM 620 C:

- 1 Standard DBM 620 kit
- 4 Additional hoods:
 - 1 Hood of 720 x 720 mm (2.36 x 2.36 ft) with foldable frame and transport case
 - 1 Hood of 720 x 1,320 mm (2.36 x 4.33 ft) with foldable frame and transport case
 - 1 Hood of 420 x 1,520 mm (1.38 x 4.99 ft) with foldable frame and transport case
 - 1 Hood of 1,020 x 1,020 mm (3.35 x 3.35 ft) with foldable frame and transport case



Available hoods

DBM 620 air flow meter comes in standard with a 610 x 610 mm (2 x 2 ft) hood.

4 optional hoods are available:

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

Hoods are airtight and have a transparent viewing window that allows the user to **see through the vent** to ensure the hood is in proper position.



Functions of the micromanometer housing

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

In air velocity and airflow:

- Choose between the Pitot tube, Debimo blades, coefficient or measurement grid
- Section selection
- Unit selection
- Manual compensation in temperature, automatic or manual compensation in atmospheric pressure
- Standardized airflow, K factor

In pressure:

- Manual or automatic autozero
- Unit selection
- Pressure integration (from 0 to 9)

Measurement grid

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

Measurement is performed using a **differential pressure sensor** calibrated in atmospheric pressure and temperature, and compensated in temperature.

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 technician to check for filter issues



L and S Pitot tubes



Silicone tube



Hood with flow straightener



Use of the air flow meter



Use with the measurement grid



Use with the telescopic tripod

Accessories

Description	Part number
Measurement grid kit for DBM 620 instrument Designed for air velocity measurements on any types of large ceiling vent or diffuser. The grid is similar to the DBM 620 grid. It calculates the average air velocity from 24 points to guarantee a reliable measurement. The grid is attached to a telescopic (maximum length is 2.05 m, 6' 9") and articulated pole (from 0 to 90°). Struts of 3 different lengths allow a correct positioning of the grid on the ceiling surface. A custom carrying case allows easy carriage of the grid and its accessories (telescopic pole, articulation, 2 x 0.80 m, 2 x 2' 7 1/2" of silicone tube, positioning struts and electronic housing). • Measuring range: from 0.2 to 10 m/s (from 39 to 1,968 fpm) • Accuracy: ±3% of the measured value ±0.04 m/s (±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 31/32", 5 29/32", 9 27/32")	26455
Removable unit ONLY Range from 0 to 99,999 m³/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 carry out calibration, adjustment and maintenance of your devices to guarantee a consistent and accurate level of quality of your measurements. As part of Quality Assurance Standards, we recommend you to carry a yearly checking.

Warranty

Devices have 1-year guarantee against any manufacturing defect (return to our After-Sales Service required for appraisal).

Operating principles

The DBM 620 housing communicates with the smartphone or tablet via wireless connection. This allows measured values reading and viewing of reports directly on your mobile device screen, via the dedicated Sauermann pilot mobile application.

