Minneapolis BlowerDoor



Maximum Accuracy. Excellent Durability. Universal Use.

# Minneapolis BlowerDoor Standard

The BlowerDoor Standard is the top measuring system on the market. With a measuring range of 19 to 7,200 m<sup>3</sup>/h, it is ideal for the use in new buildings as well as during the rehabilitation of all types of residential or commercial buildings. If required, it can be expanded into the BlowerDoor MultipleFan measuring system.

# Minneapolis BlowerDoor MiniFan

With a measuring range of 5 to 2,300 m<sup>3</sup>/h, our compact BlowerDoor MiniFan System is perfect for the use in individual apartments or very airtight or smaller buildings. To test the performance of ventilation systems, simply combine it with the Minneapolis FlowBlaster and the Micro Leakage Meter.







Minneapolis BlowerDoor measuring systems excel in their high accuracy and long lifespan. Their modular set-up makes the individual system components compatible, guaranteeing universal use and excellent durability. All Minneapolis BlowerDoor measuring systems come with their calibration certificate and a four-year guarantee.

## NEW: The DG-1000 Digital Pressure Gauge

With the TECTITE Express 5.1 software and the new DG-1000 pressure gauge, you can conduct highly accurate automated BlowerDoor tests. You also have the possibility of conducting semi-automated or manual tests. When performing quality assurance tests, a one-point measurement without a laptop is conducted to test the airtightness of the building envelope. The constant pressure differentials can be freely selected.



#### DG-1000 – Features

- **High Resolution Touch Screen:** Gives you improved usability with the touch of your finger
- Illigent Micro-Processor: Puts the power of a mini-computer in the palm of your hand

- Integrated WLAN module: Optional wireless use for at least 13 hours
- Future-Proof Technology: Continually equips you with the latest firmware updates free of charge
- Accurate Readings at 0.9%: Upholds your confidence of accurate results from TEC equipment
- Lithium Batteries: Equips you with a rechargeable and replaceable power source on the job
- WLAN, USB and Ethernet Ports: Provides you with a variety of connection options
- Product Compability: Modular set-up for universal use
- Excellent Durability, 4-year Warranty

The new DG-1000 convinces with its high-resolution touch screen, intuitive use, and modern design, and is also suitable for on-site use during construction. Its intelligent micro-processor provides you with the functions of a modern mini-computer. Users can install and run the latest firmware updates free of charge at any time. Using the DG-1000 or the TEC Gauge App, you can search for leakages at a constant building pressure (Cruise Control). BlowerDoor measurements recording and evaluating a measuring series according to ISO 9972 and EN 13829, are conducted with the TECTITE Express 5.1 software. The DG-1000 features an even higher accuracy providing reliable measuring results at maximum precision.

The DG-1000 is equipped with USB and Ethernet ports, as well as an integrated WLAN module. Thanks to the WLAN connection, you can easily control the

Help " Default les per Station 200 CUSTOM Fan Adjust Rate 1.0 Edit Cu nce (Pa) 2.0 Standard e Limit (Pa) 90 ISO 9972-15 • Fan Start (%) 0.0 C Active Set as Defaults for New Tests NEW to ISO Data Entry Express 5.1 Die automatische BlowerDoor Messung mit

Die automatische BlowerDoor Messung mit der Software TECTITE Express 5.1 BlowerDoor measurement from your laptop from any location in the building. It is also possible to control the measuring system from your tablet or smartphone using the TEC Gauge App: The current building pressure and air change rate ( $n_{50}$ ) are displayed in real time, so that this information is accessible at all times, e.g. even during leakage detection in the building.

The rechargeable batteries allow for an operating time of at least 15 hours while using default settings and 13 hours of continuous use with default settings and WLAN connection. The DG-1000 is compatible with all BlowerDoor measuring systems and may also be purchased as an upgrade. According to the manufacturer's indications, the calibration interval is 2 years.

# BlowerDoor test according to ISO 9972 and EN 13829

The standard-compliant measuring series is computercontrolled from a laptop with the new software TECTITE Express 5.1. The data is transferred from the DG-1000 pressure gauge to the laptop via a micro USB cable or, if desired, through the integrated WLAN module. The test sequence can be controlled individually. The software also provides the possibility of conducting semi-automated or manual tests, if required. All collected data is fed into the standard compliant BlowerDoor test report for evaluation and documentation.



The digital pressure gauge DG-1000 inlusive high resolution touch screen, integrated WLAN module and firmware updates free of charge



BlowerDoor test for quality assurance during construction

The calibration dates of the BlowerDoor measuring devices used are included in the test log, providing im-portant information on the high accuracy of the measuring technology. The TECTITE Express 5.1 software allows you to select 12 pressure stages for each measurement series. For unfavorable climatic conditions or specific building properties, the accuracy of the measurement can be increased further by entering up to 1,000 measuring points per pressure stage. Each measurement series also includes the interior and exterior temperature as well as the corresponding air pressure.

# Preliminary BlowerDoor tests for quality assurance purposes

For a one-point test, the measuring fan is controlled directly from the DG-1000 digital pressure gauge (Cruise Control). It is not necessary to use a laptop. The state of the airtight building envelope is tested at a freely selected constant pressure differential. If leakages are detected, they can generally still be easily eliminated during the construction phase. This enables all lines of contractors to provide quick proof and documentation of the quality of their construction work.

#### Features of TECTITE Express 5.1

- Fully automated, semi-automated, and manual BlowerDoor measurements in accordance with ISO 9972 and EN 13829
- Cruise Control function for quality assurance (one-point measurement)
- Display of the measuring results for different reference pressures
- The calibration date of the pressure gauge and the measuring fan is included in the test report
- Automated acquisition and evaluation of the natural pressure differences
- Individual adjustment of test settings
- Measurement results and test reports can be displayed on the laptop on site
- Automatic shutdown when limit pressure is reached
- Suitable for all BlowerDoor tests with DG-1000, DG-700, and APT





### **Technical Data**

	Minneapolis BlowerDoor Standard	Minneapolis BlowerDoor MiniFan
Capacity:	19–7,200 m³/h at 50 Pa	5–2,300 m³∕h at 50 Pa
Power supply:	220–240 V, 50 Hz, nominal output <600 W, max. power consumption 3.7 A	220–240 V, 50–60 Hz, nominal output 240 W, max. power consumption 3.0 A
Measuring accuracy:	With open fan, rings A−C (flow rate approx. 80−7,200 m³/h) ±4% of the reading. With rings D−E (flow rate approx. 19−80 m³/h) ±5% of the reading or ±1.7 m³/h (whichever is greater)	With open fan, rings $1-3 \pm 4\%$ of the reading or $\pm 1.7 \text{ m}^3/\text{h}$ (whichever is greater). With ring $4 \pm 4\%$ of the reading or $\pm 0.9 \text{ m}^3/\text{h}$ (whichever is greater)
Dimensions and weight		
Fan:	Ø approx. 610 mm, approx. 15 kg	Ø approx. 345 mm, approx. 2.7 kg
Speed controller:	103 × 207 × 62 mm (h × w × d), approx. 1.7 kg	103 × 207 × 62 mm (h × w × d), approx. 1.7 kg
Gauge board:	260×224×6 mm (h×w×d), approx. 0.5 kg	260 × 224 × 6 mm (h × w × d), approx. 0.5 kg
Mounting frame standard size:	Dimensions from W 0.71–1.14 m to L 1.32–2.43 m, incl. lower and middle cross bars, weight approx. 7 kg, special dimensions on request	

Panel standard size:

### BlowerDoor panel with one opening and viewing window

#### **DG-1000 Digital Pressure Gauge**

No. of independent pressure channels: Two

Pressure range: -2,500 to +2,500 Pa

**Display resolution:** 0.1 Pa for readings 0–999.9 Pa, 1 Pa for readings 1000 Pa and larger

Accuracy at typical use conditions<sup>\*</sup>:  $\pm 0.9\%$  of pressure reading or  $\pm 0.12$  Pa (whichever is greater) according to EN ISO 9972:2015, EN 13829:2000, FD P50-784:2016-07

Units of measure: Airflow @ 25, 50, 75 Pa:  $m^{h}$ , I/s, cfm. Air change rate: 1/h. Air permeability:  $(m^{h})/m^{2}$ 

Auto-zero: On start up and then once every 10 seconds Time averaging: 1, 5, 10 seconds and long-term (continuous update)

**Operating temperature range:** 5.5 °C to 46 °C

Storage temperature range: -20 °C to 60 °C

**Display:** 480 × 272 pixels, 95 × 53 mm, capacitive touch screen **Display backlight:** User adjustable (default 40%)

**Power:** Two 18650 Lithium Ion batteries (replaceable) with AC charger/power adapter included

**Battery life:** Over 15 hours of continuous use with default settings, 13 hours of continuous use with default settings and WLAN active **Auto-off:** Individually adjustable

**Dimensions:**  $107 \times 177 \times 36 \text{ mm} (h \times w \times d)$ 

Weight: approx. 445 g

Calibration: Meets ISO 9972, EN 13829, FD P50-784, ASTM Standard E779-03, E1554-07, CGSB-149.10-M86, ATTMA Technical TStandard 1 and NFPA 2001, RESNET and US ACE Recommended calibration interval: Two years

#### Software TECTITE Express

(Version 5.1 and reference guide available in English, German, and French)

Automated/semi-automated/manual BlowerDoor test according to ISO 9972 and EN 13829, incl. BlowerDoor test report System requirements: WIN 7 or up

#### **Shipment includes**

**Minneapolis BlowerDoor Standard:** BlowerDoor fan with flow rings A–E/digital pressure gauge DG-1000 with transport bag/accessory bag incl. fan cover, BlowerDoor panel (standard size), fan speed controller (220–240 V) incl. gauge board, reference guide, software TECTITE Express 5.1, tube set incl. T-piece, capillary tube, calibration certificate for the DG-1000 and for the BlowerDoor fan/BlowerDoor mounting frame (standard size) incl. transport bag

**Minneapolis BlowerDoor MiniFan:** BlowerDoor fan with flow rings 1–4 and flexible connecting trim/digital pressure gauge DG-1000 with transport bag/accessory bag incl. fan cover, Blower-Door panel (standard size), fan speed controller (220–240 V) incl. gauge board, reference guide, software TECTITE Express 5.1, tube set incl. T-piece, capillary tube, calibration certificate for the DG-1000 and for the BlowerDoor fan/BlowerDoor mounting frame (standard size) incl. transport bag

Guarantee period: 4 years from purchase date

\* Typical conditions are a temperature range of 12 °C to 32 °C, and a two year calibration interval.



BlowerDoor GmbH MessSysteme für Luftdichtheit

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