

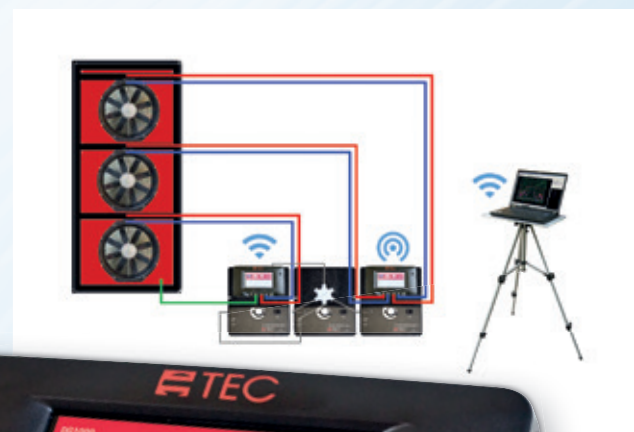
Airtightness Measurements of Large Buildings

Minneapolis BlowerDoor MultipleFan

The Measuring System BlowerDoor MultipleFan consists of three BlowerDoor fans and two digital DG-1000 pressure gauges and was developed for airtightness measurements of buildings with an envelope area of approx. 36,000 m² or an internal volume of up to 440,000 m³. The MultipleFan System has been designed as a modular system and thus not only allows you to measure large industrial and office buildings, but with one or two BlowerDoor fans can also be used in single-family homes or apartment buildings.



With the BlowerDoor MultipleFan System (three fans) plus the TECLOG software, you can conduct and record airtightness measurements with a flow rate of approximately 21,600 m³/h. The pressure gauges and speed controllers form a compact unit close to the measuring equipment. The fans are centrally computer-controlled from your laptop via WLAN or optionally with data cable. To measure airtightness of large residential or commercial buildings, several MultipleFan Systems can easily be combined if necessary.



Air change rate (50 Pa)	Verifiable Internal Volume
3.0 h ⁻¹	7,200 m ³
1.5 h ⁻¹	14,400 m ³
0.6 h ⁻¹	36,000 m ³

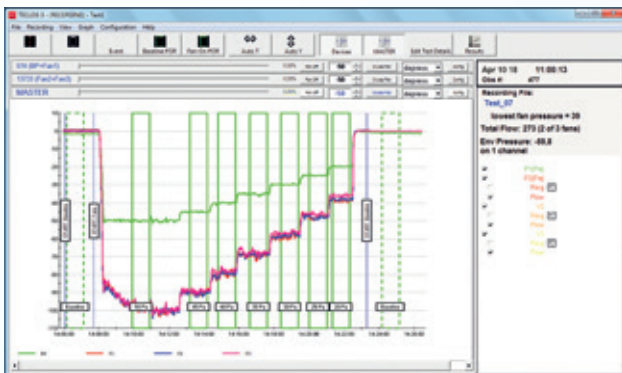
Air permeability (50 Pa)	Verifiable Envelope Area	Max. Internal Volume (based on Envelope Area)
4.5 m ³ /m ² h	4,800 m ²	22,500 m ³ A/V ca. 0.21 m ² /m ³
2.5 m ³ /m ² h	8,640 m ²	52,800 m ³ A/V ca. 0.16 m ² /m ³
0.6 m ³ /m ² h	36,000 m ²	440,000 m ³ A/V ca. 0.08 m ² /m ³



NEW
DG-1000
 Digital Pressure Gauge

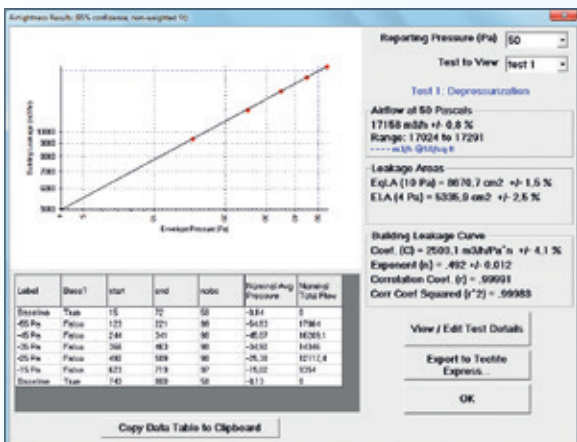
BlowerDoor measurement according to ISO 9972 and EN 13829

Airtightness measurements of large buildings with several BlowerDoor fans are conducted using the TECLOG MultipleFan software. The Master Fan Control function controls all BlowerDoor fans simultaneously and centrally from one single laptop. A new feature is the control of the BlowerDoor fans via integrated WLAN module of the DG-1000. Your laptop can easily



The POR function allows you to record defined measuring periods automatically

be put at any suitable place in the building. The fan speed is computer controlled. The flow rates are displayed on the monitor in real-time. With the POR (period of record) function, the desired measuring periods are recorded at the push of a button. The user easily observes any deviations due to wind or open doors and can quickly react to disturbances in the measuring process.



Leakage curve with air-flow results

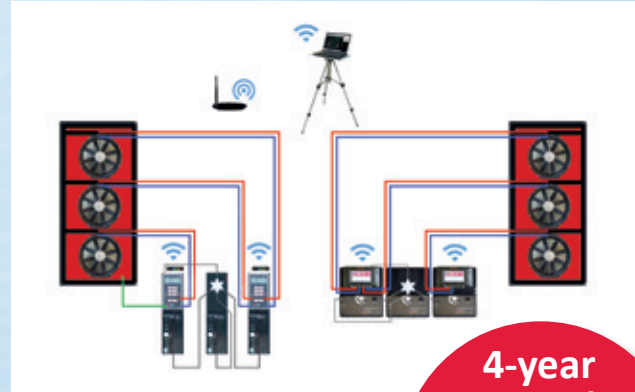
The total air-flow rate is obtained automatically, and, together with the measurement graph, can be accessed at all times by one click of the mouse. The measuring results have to be analyzed quickly in order to enable on-site decisions as to whether the tests are accurate and the results meet the requirements. Following the measurement, the data is read into TECTITE Express 5.1 to create the test report. Additional features, as for example for recording several building pressure differentials of different sides of the building as well as for analyzing the pressure distribution within the building complete the new version of the TECLOG software.



Modular set-up for universal application

Minneapolis BlowerDoor Measuring Systems are modular and ideally suitable for measuring large industrial and office buildings: You may combine any number of BlowerDoor fans and pressure gauges individually according to your needs and requirements. By calibrating measuring fans and pressure gauges separately, we maintain the excellent accuracy of our BlowerDoor measuring technology even when combining several system components, e.g. a DG-700 and a DG-1000.

The BlowerDoor Measuring Systems are installed in one or several door openings depending on the conditions on site. In large buildings with a complex floor plan, distributing the Measuring Systems in the building allows for constant pressure distribution.



4-year warranty

on all
entire Minneapolis
BlowerDoor
Measurement
Systems!

Overview of the most important functions

- BlowerDoor measurement according to ISO 9972 and EN 13829
- Clear and compact test set-up
- Combination of different pressure gauges possible
- Simultaneous control of all BlowerDoor fans from one single laptop
- Data communication via cable or integrated WLAN module
- Automatic recording of measuring periods
- Real-time display of the air-flow rate allows you to analyze the measuring results on site
- Recording several building pressure differentials helps with measuring very large buildings with complex floor plans
- MultipleFan with three fans allows you to distribute the fans (2+1) in different door openings to achieve constant pressure distribution in very large buildings
- Data and comments are recorded in one file
- Automatic shutdown when limit pressure is reached

Modular set-up enables the combination of different measuring components!

Technical Data

Minneapolis BlowerDoor MultipleFan

Capacity:	19 m ³ /h – 7,200 m ³ /h (total capacity of three fans is approx. 21,600 m ³ /h) at a pressure differential of 50 Pa
Power supply:	220–240 V, 50 Hz, nominal output <600 W per fan, max. power consumption 3.7 A per fan
Measuring accuracy:	With open fan, rings A–C (flow rate approx. 80–7,200 m ³ /h) ±4 % of the mean. With rings D–E (flow rate approx. 19–80 m ³ /h) ±5 % of the mean or ±1.7 m ³ /h (the higher value is valid)
Dimensions and weight (per fan):	Ø approx. 610 mm, approx. 15 kg
Dimensions and weight (per controller):	L 410 × W 115 × D 90 mm, approx. 2 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, two and three openings

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*: ±0.9% of pressure reading or ±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: m³/h, l/s, cfm. Air change rate: 1/h. Air permeability: (m³/h)/m²
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 wifi active
Auto-off: Individually adjustable
Dimensions: (l × h × d) 177 × 107 × 36 mm
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

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

Software TECLOG MultipleFan

(Version TECLOG4 in EN, reference guide available in EN/DE/FR)
 BlowerDoor measurement with multiple fans
System requirements: WIN 7 or up

Software TECTITE Express

(Version 5.1 and reference guide available in EN/DE/FR)
 Automated/semi-automated/manual BlowerDoor test incl. test report
System requirements: WIN 7 or up

Shipment includes

Minneapolis BlowerDoor MultipleFan: 2 measurement systems Minneapolis BlowerDoor Standard / 1 BlowerDoor fan / accessory bag incl. fan cover, speed controller, BlowerDoor panel (standard size) with 2 openings, BlowerDoor panel (standard size) with 3 openings, software TECLOG MultipleFan, communication jack, 1 WLAN-N-Router (4 ports, 300 MBit/s, 2T2R), 2 premium patch cables (red, 2 m), 1 premium patch cable (yellow, 10 m), tube set, reference guide / additional upper cross bar / mounting strut short and long / 2 laptop racks / attachment: measurement device holder / sealing box for building preparation
 All BlowerDoor measuring systems come with their calibration certificate.

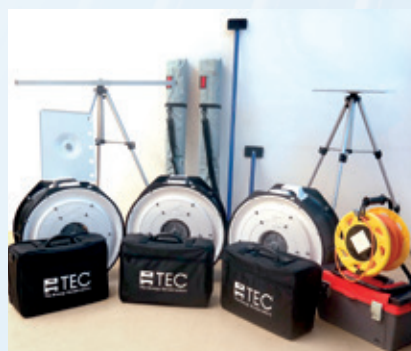
Guarantee period: 4 years from purchase date



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 MessSysteme für Luftdichtheit

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**Do you intend to up-
 grade your Minneapolis
 BlowerDoor Standard
 or to combine several
 MultipleFan systems?**

**Contact us to compile the
 optimal configuration!**