20 years №1 choice! Minneapolis BlowerDoor

One for all: Minneapolis BlowerDoor

BlowerDoor MultipleFan

Airtightness measurement of large buildings

The BlowerDoor MultipleFan system consists of 3 BlowerDoor fans and 2 digital DG-700 pressure gauges, and was developed for airtightness measurements of buildings with an envelope area of approximately 7,000 to 36,000 m² or an internal volume of up to 450,000 m³.* As a modular system, the MultipleFan set can be used for testing larger industrial and administrative buildings, but also for single-family homes and apartment buildings using one or two BlowerDoor fans.

With the BlowerDoor MultipleFan system (3 fans) plus the TECLOG software, you can conduct and record airtightness measurements with an air flow rate of approximately 22,500 m³/h. The pressure gauges and controls form a compact unit close to the measuring equipment. The fans are centrally computer-controlled from your laptop.

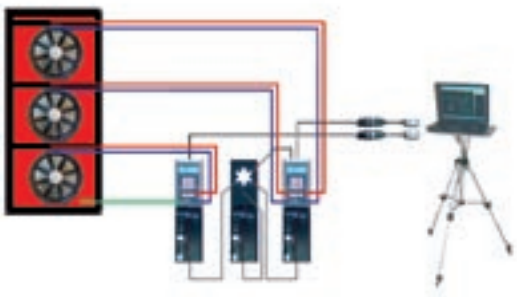
The German Energy Savings Regulation (EnEV) especially requires the building envelopes of schools, nursing homes, administrative buildings, and production facilities to be airtight. According to German Industrial and European Standard DIN EN 13829, the majority of such buildings are categorized as larger buildings with an internal volume of more than 4,000 m³, often requiring several BlowerDoor fans (MultipleFan).

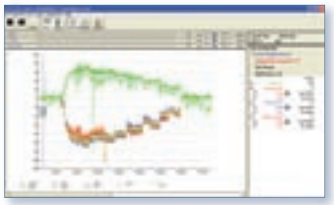
Advantages of the BlowerDoor MultipleFan system

- Clear and compact test set-up
- Simultaneous control of up to 3 BlowerDoor fans
- Modular set-up of the measuring system for universal application

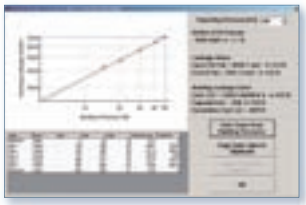
	*Verifiable Internal Volume
n_{50} = 3.0 h^{-1}	7,200 m³
n_{50} = 1.5 h^{-1}	14,400 m³
n_{50} = 0.6 h^{-1}	36,000 m³

	Verifiable Envelope Area	max. Internal Volume (based on Envelope Area)
q_{50} = 3.0 m³/m²h	7,200 m²	40,000 m³ A/V ca. 0.18 m²/m³
q_{50} = 1.5 m³/m²h	14,400 m²	110,000 m³ A/V ca. 0.13 m²/m³
q_{50} = 0.6 m³/m²h	36,000 m²	450,000 m³ A/V ca. 0.08 m²/m³

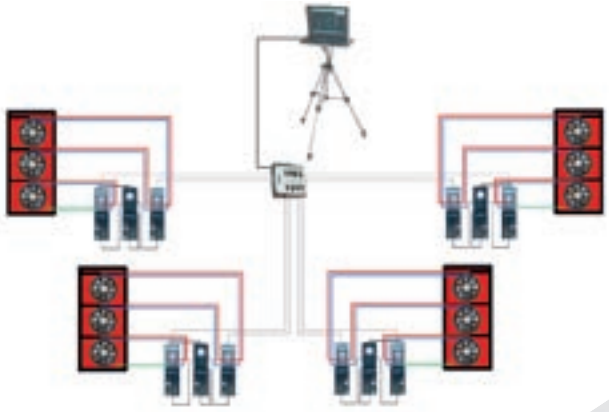




Desktop with control panel, graph and fan data



Leakage curve with air flow results



To measure airtightness of large industrial or office buildings, up to four MultipleFan systems can be combined, i.e. 12 BlowerDoor fans in total.

If the airtightness measurement with several fans is controlled manually, time lags and fluctuating building pressure inside and outside the building can complicate the measurement.

The MASTER FAN CONTROL function in the new TECLOG version allows you to control all BlowerDoor fans simultaneously and centrally from one single laptop. The flow rates are displayed on the monitor in real-time. 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.

The fan speed can be controlled from your computer. Data and comments are recorded in a file. The user easily observes any deviations due to wind or open doors, and can define the relevant measuring periods. The new software TECLOG MultipleFan is completed by additional features that, for example, allow you to record several building pressure differentials on different sides of a building or to analyze the pressure distribution inside the building.

Technical Data BlowerDoor MultipleFan (3 BlowerDoor fans)

BlowerDoor fan

Capacity: 19 m³/h – 7,200 m³/h (total capacity of 3 fans is approx. 22,500 m³/h) at a pressure differential of 50 Pascal
Power supply: 230 Volt, 50 Hz, nominal output < 600 watts per fan, max. power consumption 4.5 amperes per fan
Measuring accuracy: With open fan, rings A – C (flow rate approx. 80 – 7,200 m³/h) ±4 % of the mean. With rings D – E (flow rate approx. 19 – 80 m³/h) ±5 % of the mean or 1.7 m³/h (the higher value is valid).

Standard installation frame: Suitable for dimensions from W 0.71 m x L 1.32 m to W 1.14 m x L 2.43 m, incl. lower and middle Cross Bars. Special dimensions available on request.

Panel: Panel with 1 opening and viewing window for standard installation frame. Panel with 2 openings for installing 2 fans. Panel with 3 openings for installing 3 fans.

Digital pressure gauge

with two pressure channels and Cruise Control function

Measuring range: - 1,250 Pa to + 1,250 Pa
Display resolution: 0.1 Pa
Accuracy: ±1 % of reading or 0.15 Pa (the higher value is valid)
Auto-zeroing: At the start, and every 10 seconds
Differential pressure display: Separate display of the two differential pressure channels
Flow rate display: Compatible with Minneapolis BlowerDoor fan models 4 and 3
Units: m³/h, l/s
Averaging: 1 second, 5 seconds, 10 seconds, or long-term mean
Operating temperature: 0°C to 50°C
LCD Display: Split display (length x width) 80 x 30 mm. Display can be illuminated
Batteries: 6 x AA (Power Supply optional)
Operating time: Approx. 100 hours
Weight: Approx. 470 g
Dimensions: (L x W x D) 195 x 102 x 32 mm
Output: Serial data output RS232, mini-USB
Stand-alone functions: Automatic speed control of BlowerDoor fan. Cruise Control function for one-point test without a laptop (0/25/50 Pa)
Computer- or laptop-controlled functions: Central control of up to 6 BlowerDoor fans, Data Logging to record pressure differentials

Software: TECLOG MultipleFan (Version TECLOG2)
System requirements: WIN XP and higher, Excel 2000 and higher

Guarantee period: 2 years from purchase date

Shipment includes: 2 Minneapolis BlowerDoor Standard Measurement Systems, 1 BlowerDoor Fan with Fan Cover, Speed Controller, additional upper Cross Bar, Mounting Strut short and long, Panels with 2 and 3 openings, Software TECLOG MultipleFan, Communication jack, 2 USB-Adapter incl. serial data cables (RS232/2 m each), Serial data cable on cable drum (2 x RS232/50 m), Tube Set, 2 Laptop Racks, Attachment: Measurement Device Holder, and Sealing Box.
Incl. personal instruction (Duration 2 hours, on location in Springe-Eldagsen or online).

Calibrate your pressure gauges annually (from EUR 92.00) and receive a 4-year warranty on the entire BlowerDoor Measurement System!

BlowerDoor GmbH
MessSysteme für Luftdichtheit

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