The Energy Conservatory

# SERIES B
# MINNEAPOLIS DUCT BLASTER®


## OVERVIEW

## ENERGY CONSERVATORY WARRANTY

**EXPRESS LIMITED WARRANTY**
Seller warrants that this product, under normal use and service as described in the operator's manual, shall be free from defects in workmanship and material for a period of 24 months, or such shorter length of time as may be specified in the operator's manual, from the date of shipment to the Customer.

**LIMITATION OF WARRANTY AND LIABILITY**
This limited warranty set forth above is subject to the following exclusions:

- With respect to any repair services rendered, Seller warrants that the parts repaired or replaced will be free from defects in workmanship and material, under normal use, for a period of 90 days from the date of shipment to the Purchaser.
- Seller does not provide any warranty on finished goods manufactured by others. Only the original manufacturer's warranty applies.
- Unless specifically authorized in a separate writing, Seller makes no warranty with respect to, and shall have no liability in connection with, any goods which are incorporated into other products or equipment by the Purchaser.
- All products returned under warranty shall be at the Purchaser's risk of loss. The Purchaser is responsible for all shipping charges to return the product to The Energy Conservatory. The Energy Conservatory will be responsible for return standard ground shipping charges. The Customer may request and pay for the added cost of expedited return shipping.

The foregoing warranty is in lieu of all other warranties and is subject to the conditions and limitations stated herein. No other express or implied warranty IS PROVIDED, AND THE SELLER DISCLAIMS ANY IMPLIED WARRANTY OF FITNESS for particular purpose or merchantability.

The exclusive remedy of the purchaser FOR ANY BREACH OF WARRANTY shall be the return of the product to the factory or designated location for repair or replacement, or, at the option of The Energy Conservatory, refund of the purchase price.

The Energy Conservatory's maximum liability for any and all losses, injuries or damages (regardless of whether such claims are based on contract, negligence, strict liability or other tort) shall be the purchase price paid for the products. In no event shall the Seller be liable for any special, incidental or consequential damages. The Energy Conservatory shall not be responsible for installation, dismantling, reassembly or reinstallation costs or charges. No action, regardless of form, may be brought against the Seller more than one year after the cause of action has accrued.

The Customer is deemed to have accepted the terms of this Limitation of Warranty and Liability, which contains the complete and exclusive limited warranty of the Seller. This Limitation of Warranty and Liability may not be amended or modified, nor may any of its terms be waived except by a writing signed by an authorized representative of the Seller.

**TO ARRANGE A REPAIR**
Please call The Energy Conservatory at 612-827-1117 before sending any product back for repair or to inquire about warranty coverage. All products returned for repair should include an Equipment Service Form which is available at www.energyconservatory.com.

## Safety Information

- The Duct Blaster® fan should only be connected to a properly installed and tested power supply. In case of emergencies, disconnect the power cord from the AC power mains outlet. During installation, use the nearest readily accessible power outlet and keep all objects away from interfering with access to the outlet.
- The Duct Blaster fan is a very powerful and potentially dangerous piece of equipment if not used and maintained properly. Carefully examine the fan before each use. If the fan housing, fan guards, blade, controller or cords become damaged, do not operate the fan until repairs have been made. Repairs should only be made by qualified TEC personnel.
- Disconnect the power plug from the Duct Blaster fan receptacle before making any adjustments to the fan motor, blades or electrical components.
- Keep people and pets away from the Duct Blaster fan when it is operating.
- Do not operate the Duct Blaster fan unattended. The operator should wear hearing protection when in close proximity to the fan operating at high speed.
- Do not use ungrounded outlets or adapter plugs. Never remove or modify the grounding prong.
- Before connecting the speed controller to the fan, be sure the toggle switch of the controller is at zero and that the control knob is turned completely to the left (counterclockwise).
- Do not operate the Duct Blaster fan if the motor, controller or any of the electrical connections are wet.
- Recommended for indoor use only.
- The Duct Blaster fan motor is not a continuous duty motor and should not be run for extended periods of time (more than two hours at one time).
- If using a theatrical fogger with the Duct Blaster system, inject the fog stream toward the edge of the fan housing and not directly into the Duct Blaster fan motor. In addition, clean off any theatrical fog residue from the Duct Blaster fan motor and fan housing following the test procedure. Use only non-corrosive fog.
- Be sure to remove all temporary register seals after completing the test procedure.
- When making repairs to the duct system with mastic or other curing sealants, allow the sealant to properly cure before conducting a duct leakage test to determine the effectiveness of your sealing efforts. Refer to sealant installation instructions for proper curing times.
- Adjust all mechanical equipment (including the air handler fan) so that it does not turn on during the test.
- Be sure you have returned the mechanical equipment controls back to their original position before leaving the building.
- Sealing leaks in a duct system should always be part of a larger total system diagnostic procedure which includes examining total system air flow, system charge, airflow balancing and operation of vented combustion appliances. In addition, sealing air leaks (including duct leaks) in existing buildings can reduce the ventilation rate in those buildings. Existing ventilation rates and sources of indoor air pollutants should be considered by technicians before large changes in ventilation rates are undertaken. Because of these complicated systemic interactions between air sealing activities and occupant health and safety issues, it is highly recommended that technicians familiarize themselves with the Pressure Balancing/System Performance and Combustion Safety test procedures before attempting to seal leaks in a duct system.
- Equipment safety measures may be compromised if the Duct Blaster fan is used in a manner other than recommended in this document and the system operation manual.

## System Components

A standard Series B Minneapolis Duct Blaster Kit

Inside the Duct Blaster accessory case is:

- Fan speed controller
- Foam flow conditioner
- Foam foot
- Sample roll of Premium DuctMask™ Register Sealing Tape
- Two trim pieces
- 30' clear tubing
- Gauge board with clamp
- Overview booklet


Series B calibrated fan includes:

- Ring 1
- Ring 2
- Ring 3
- Flex duct
- Round and square transition pieces
- Nylon fan cover

DG-1000 Digital Pressure and Flow Gauge comes with:

- Carrying case
- Two Lithium Ion batteries (installed)
- Micro USB cable
- Charger
- Parts bag with fan control cable, digital gauge extension tube and plastic hose connectors
- Screen protector
- 15' green hose
- 10' red hose
- Ground cable kit
- Overview booklet

## Duct Blaster Fan

The Duct Blaster fan consists of a molded fan housing with a variable speed motor. The Duct Blaster fan will move up to 1,550 cubic feet of air per minute (CFM) at zero back pressure (i.e. free air), and approximately 1,410 CFM against 50 Pascals (0.2 inches w.c.) of back pressure. With the flexible extension duct attached, the fan will move 1,150 CFM (free air) and 1,025 CFM against 50 Pascals of back pressure.

## Fan Flow Ranges

The Duct Blaster fan can accurately measure flows between 2.4 and 1,500 CFM using a series of four calibrated flow rings which are attached to the fan inlet.

| Ring | Flow Range in CFM | Minimum Fan Pressure (Pa) |
|---|---|---|
| Open (no flow ring) | 1,500 - 600 | 25 Pa |
| Ring 1 | 800 - 225 | 25 Pa |
| Ring 2 | 300 - 90 | 25 Pa |
| Ring 3 | 125 - 10 | 3 Pa |
| Ring 4 (optional) | 25 - 2.4 | 5 Pa |

## Fan Speed Controller


Each system comes with one fan speed controller. Fan speed is adjusted using the adjustment knob on the face of the fan speed controller or by connecting to the DG-1000 for Cruise Control.

## Flex Duct

The flexible extension duct consists of a 12 foot long section of 10" round flexible duct with one square and one round black plastic transition piece attached at either end.

## TEC Digital Pressure and Flow Gauge

The Minneapolis Duct Blaster System comes with a DG-1000 Pressure and Flow Gauge. This high accuracy differential pressure gauge measures the pressure difference between either of the input pressure taps and the corresponding reference pressure tap. Two separate measurement channels allow you to monitor the duct pressure and fan flow simultaneously during a test. The DG-1000 is packed with features to help you set up the gauge to perform a variety of tests related to duct testing and air handler measurements. In addition you are able to show leakage and flow values in a number of metrics.


DG-1000 Pressure and Flow Gauge

## Series B Duct Blaster Specifications

| | |
|---|---|
| Maximum Flow | 1,550 CFM at free air (731 l/s, 2,633 m3/h)<br>1,450 CFM at 25 Pa (684 l/s, 2,463 m3/h)<br>1,410 CFM at 50 Pa (665 l/s, 2,395 m3/h) |
| With flex duct attached | 1,150 CFM at free air (542 l/s, 1,954 m3/h)<br>1,075 CFM at 25 Pa (507 l/s, 1,826 m3/h)<br>1,025 CFM at 50 Pa (483 l/s, 1,741 m3/h) |
| With flex duct, ring 1 and flow conditioner (depressurization) | 750 CFM at free air (354 l/s, 1,274 m3/h)<br>725 CFM at 25 Pa (342 l/s, 1,231 m3/h)<br>700 CFM at 50 Pa (330 l/s, 1,189 m3/h) |
| Minimum Flow | 10 CFM with Ring 3 (5 l/s, 17 m3/h)<br>2.4 CFM with Ring 4 (1.1 l/s, 4 m3/h) |
| Fan Dimensions | 10 in. (25 cm) inlet diameter, 7 in (17.8 cm) length |
| Weight | 7 lbs. (3.18 kg), 8.5 lbs. (3.86 kg) with 3 flow rings |
| Flow Accuracy | +/- 3% with DG-1000 |
| Calibration | Meets ASTM Standard E779, E1554, CGSB-149.10-M86, EN 3829, ATTMA Technical Standard 1, NFPA 2001, ASHRAE 152, RESNET and USACE |
| Power | 110V or 220V |

Specifications subject to change without notice.

## Software Information

The Energy Conservatory (TEC) offers a variety of Windows-based programs. These programs can be found and downloaded for free at software.energyconservatory.com.

TEC also offers driver support for the DG-500, DG-700 and DG-1000. The drivers are designed to work with Windows-based computers with the following operating systems:

- Windows 7
- Windows 8
- Windows 8.1
- Windows 10

The drivers are available as a Windows Update, and the DG-500 and DG-700 drivers can be downloaded from TEC at software.energyconservatory.com.

## Instructional Videos

The Energy Conservatory (TEC) offers a variety of online instructional videos, including

- Minneapolis Blower Door Quick Guide
- Minneapolis Duct Blaster Quick Guide
- Field Calibration Checks for Gauges
- Pressure and Airflow Basics
- Exhaust Fan Flow Meter
- TECLOG3
- TECTITE 4.0
- And many more

Visit www.YouTube.com/EnergyConservatory to see all of TEC's instructional videos.

## More Minneapolis Duct Blaster System Guides

All Minneapolis Duct Blaster guides are available online at energyconservatory.com/ductblasterguides

Please refer to the guides listed below for further instructions.

- Minneapolis Duct Blaster Manual
- Using the DG-1000 with the Duct Blaster
- Using the DG-700 with the Duct Blaster
- Duct Blaster Test Troubleshooting
- Test Results and Sample Forms

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