

Laboratory Exhaust Fans

Vektor® System Control

Pre-Engineered Controls for Vektor Fan Assemblies



 **GREENHECK**
Building Value in Air.



BUILDING VALUE IN AIR.

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Greenheck's Vektor® product line is available with pre-engineered controls to assist in safely reducing energy costs in variable volume labs with configurable control and operation strategies. The control system is a complete pre-engineered, factory-programmed system designed for Vektor fan assemblies in laboratory applications including install, start-up and operation.

The Vektor System Control is Greenheck's control system that handles essential functions required to operate the fan system. The laboratory exhaust fan system works in conjunction with other equipment to maintain safe operation within and around the lab hood or space.



- Save energy in variable air volume (VAV) laboratories
- Safely start-up redundant or back-up exhaust fans
- Operational and system status communication with building management systems
- Stand-alone operation
- Easy installation and quick start-up

Easy to Specify	Easy to Install	Easy to Commission and Operate
<ul style="list-style-type: none"> • Complete controls system • Factory-programmed to each system • Utilizes advanced sequence of operation 	<ul style="list-style-type: none"> • Majority of controls wiring uses quick connect cables • Programmable Logic Controller (PLC) and Variable Frequency Drive (VFD) remote-mounted for freedom of installation location • Factory-programmed for reduced setup time 	<ul style="list-style-type: none"> • Factory-programmed advanced sequence of operations • Operates independently or connects to building management system (BMS) using BACnet® MSTP • Access all data (PLC & VFD) in one BACnet connection

- 1** The microprocessor controls all aspects of a unit's operation. It is factory-programmed, wired and tested to match the configuration for each job. The controller is ideal for jobs requiring stand-alone unit operation and those requiring building management communication capabilities. Network communication is available over BACnet MS/TP or IP.



- 2** **Variable Frequency Drives**
Selected, sized and programmed per project requirements. Signals motor operation and provides status back to controller. ABB or Danfoss drive options for jobsite preference.



- 3** **Quick Connections**
5- and 8-pin connectors with cabling run between the controller, VFD(s) and damper power/control box. Simple, quick and reliable.



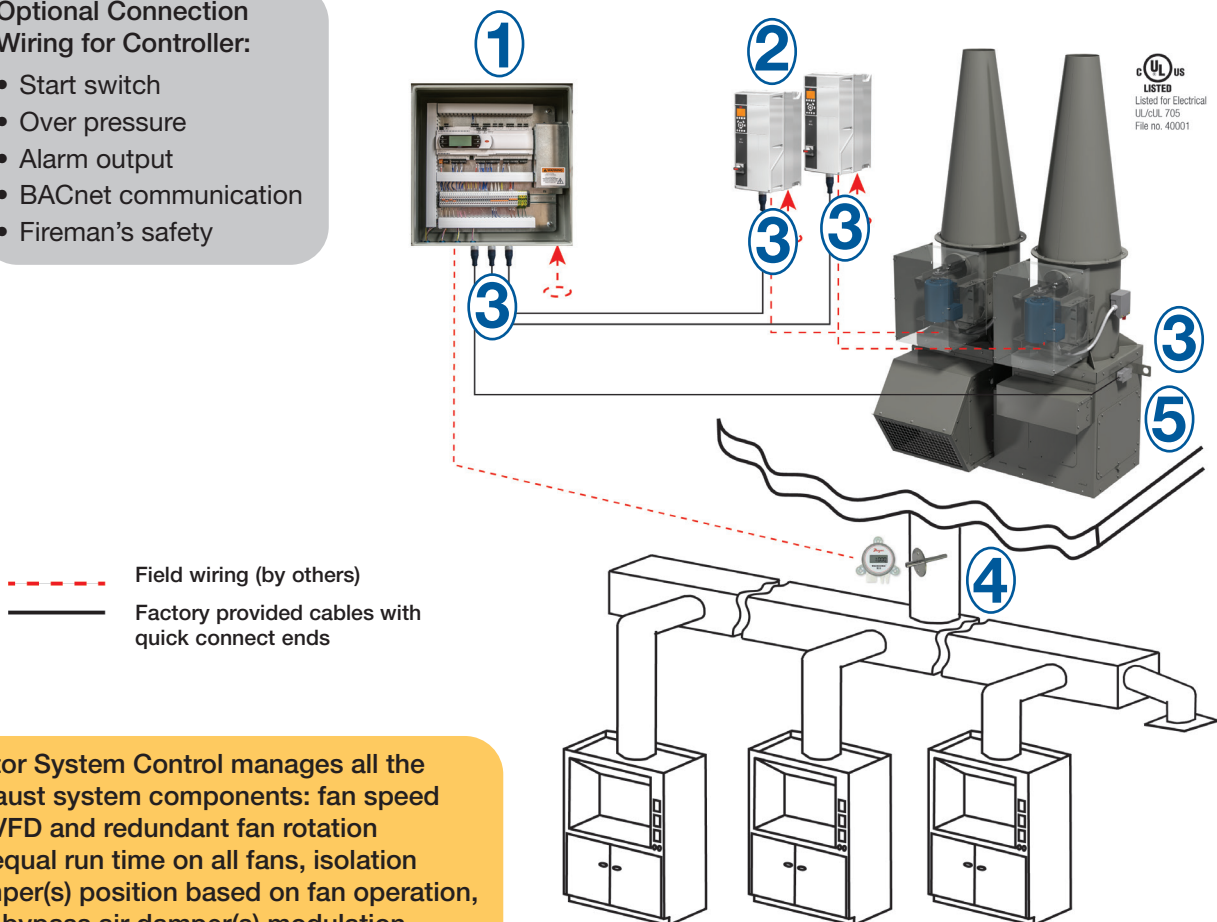
- 4** **Pressure probe and P/E Transducer**
Duct-mounted static pressure probe and transducer provide controller with real-time pressure used to adjust exhaust fan system operation to maintain pressure set point.



- 5** **Damper Power and Control Junction Box**
Common location for connecting power and control wiring for isolation and bypass dampers.

Optional Connection Wiring for Controller:

- Start switch
- Over pressure
- Alarm output
- BACnet communication
- Fireman's safety



Vektor System Control manages all the exhaust system components: fan speed via VFD and redundant fan rotation for equal run time on all fans, isolation damper(s) position based on fan operation, and bypass air damper(s) modulation responding to duct pressure changes.

Vektor® System Control

What Comes in the System

Control Box

- PLC
- Transformer
- Terminal strip with prewired connections

Wiring

- 8-pin quick connection cables
32 ft (10 m) each, three per control system
- 5-pin quick connection cables
16 ft (5 m) each, two per fan

Duct pressure kit

- Pressure transducer
- Static pressure probe
- Nylon tubing - 25 ft (8 m)

VFD

- One per fan
- Weathershield for outdoor-rated VFDs

Additional Reference Resources are available at [Greenheck.com](https://www.greenheck.com)

- Sequence of Operation (SOO)
- Specifications
- Installation, Operation and Maintenance Manual (IOM)
- Installation and Set-Up Videos

Our Commitment

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.

Specific Greenheck product warranties are located on [greenheck.com](https://www.greenheck.com) within the product area tabs and in the Library under Warranties.

