

Laboratory Exhaust Systems

Laboratory Exhaust Systems

Vektor®-HS with SĀVVE Technology

***S**ure-**A**ire™ **V**ariable **V**olume **E**xhaust*

The Greenheck Vektor®-HS model is now available with SĀVVE technology (Sure-Aire™ Variable Volume Exhaust). As a leader in the laboratory ventilation industry, this option provides end users with a method to reduce fan energy in variable volume laboratories.

Greenheck's Vektor®-HS with SĀVVE technology maintains constant discharge stack velocity regardless of the laboratory exhaust airflow, while reducing fan energy consumption on variable volume and demand-based ventilation systems.



Patent Pending

GREENHECK
Building Value in Air.

Greenheck
GREEN
Supporting Green Building Initiatives Worldwide

REDUCED HORSEPOWER | REDUCED FAN ENERGY | REDUCED OPERATING COSTS

Historically...in a traditional variable volume laboratory exhaust system, the bypass air damper(s) modulate to maintain duct static pressure. The bypass damper modulation maintains constant airflow volume through the fan to achieve the desired discharge velocity. (No fan energy savings).

SĀVVE System Basics

By utilizing Greenheck's SĀVVE technology, a constant duct static pressure is maintained by adjusting the fan speed with a variable frequency drive. As airflow through the fan varies, the nozzle discharge area automatically adjusts to maintain a constant and safe discharge velocity. (Minimum 3,000 ft/min. per ANSI Z9.5)

Reduce your Fan Energy Costs up to 60%



Patent Pending



MAX Flow



HALF Flow



MIN Flow

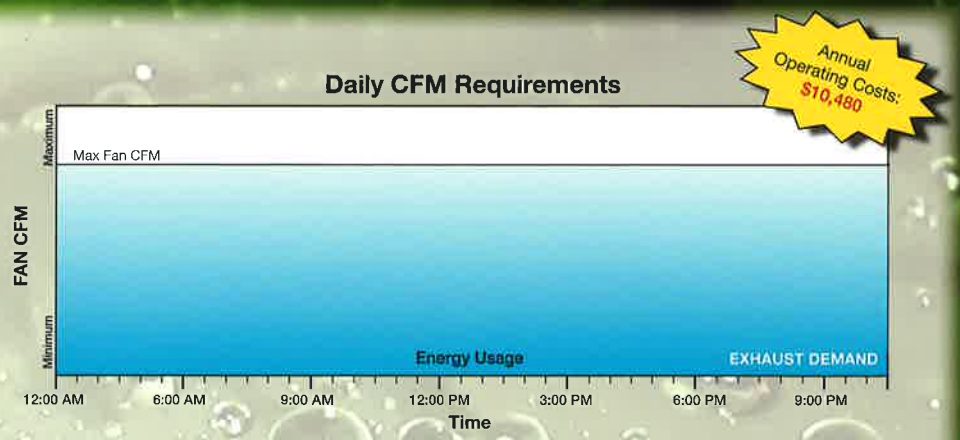
Automatic Nozzle Positioning to maintain constant discharge velocity with variable fan flow.

Energy Savings by Application

The following charts provide examples and illustrate potential savings that could be realized by using Greenheck's SĀVVE technology.

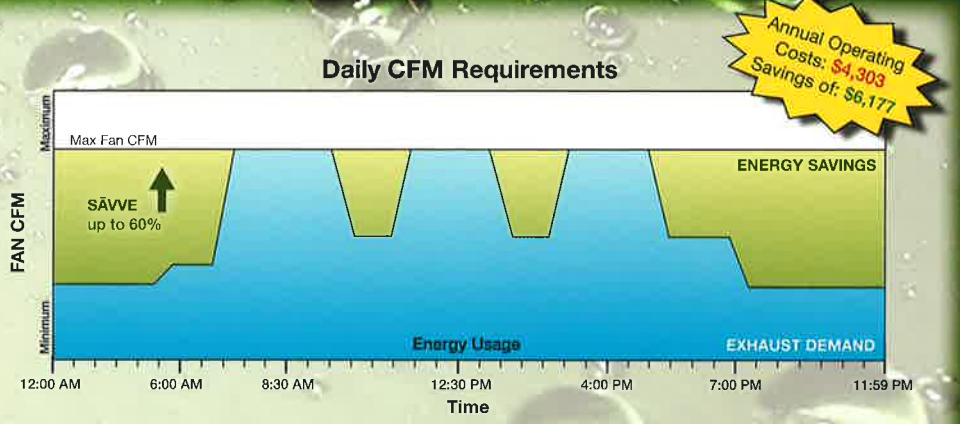
Traditional Variable Air Volume

Traditional VAV laboratory exhaust systems use constant speed fans and a bypass air damper. Fans run full speed at all times; no energy savings.



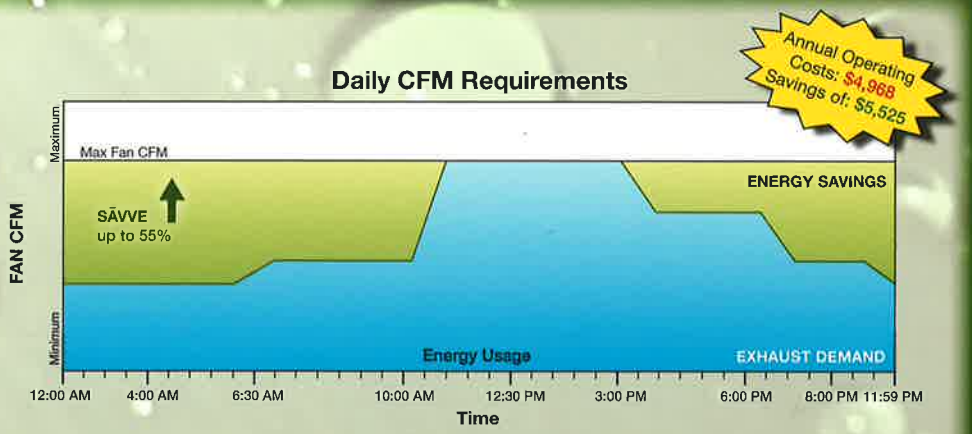
High School and University Laboratories

Educational laboratories combine chemical storage, research and multiple class periods during a typical day. Peak loads occur during class periods.



Research Laboratories

Research laboratories have longer periods of peak load based on the operating hours of the facility.



Examples provided are based on a comparison of 20,000 cfm maximum at 1 in. wg at $.10 kWh

Vektor®-HS SĀVVE Technology Details



Components

- Constant velocity nozzle
- Sure-Aire™ airflow monitoring with pressure transducer in NEMA-3R enclosure
- Variable frequency drive with integral controller and bypass mode
- Modulating actuator on nozzle with position feedback
- Two-position, spring/return actuator on isolation damper

Benefits

- Reduced fan energy consumption
- Lower sound when laboratory is unoccupied
- Simplified start-up process
- Maintain discharge velocity to meet ANSI Z9.5
- Single-source responsibility
- Real time system monitoring with BMS
- Used with demand-based ventilation system
- LEED™ Credit Opportunities
  - Energy & Atmosphere
  - Outdoor Environmental Quality

Payback

- Lower energy consumption
  - Reduce heating or air conditioning cost
  - Reduce operating costs
- Lower horsepower
- Maintain proper pressurization of occupied spaces
- System designs incorporating SĀVVE technology may qualify for energy rebate programs

for better air – specify Greenheck.

SĀVVE technology will reduce fan operating cost based on the actual exhaust demand within the laboratory. To learn more about the Vektor®-HS with SĀVVE technology, contact your local Greenheck representative or visit Laboratory Exhaust Systems at greenheck.com.

GREENHECK
Building Value in Air.

P.O. Box 410 | Schofield, WI 54476-0410 USA
Phone 715.359.6171 | Fax 715.355.2399
greenheck.com

U.S. GREEN BUILDING COUNCIL MEMBER

Prepared to Support Green Building Efforts

SĀVVE Technology *(00.LAB.NB005 R2 10-2011 RG)* | October 2011 | Copyright © 2011 Greenheck Fan Corp.