

Laboratory Exhaust Systems



Greenheck has the most extensive line of laboratory exhaust systems in the industry. The main objective of a laboratory exhaust system is to remove hazardous or noxious fumes from a laboratory, dilute the fumes as much as possible and expel them from the laboratory building preventing contamination of the roof areas and re-entrainment into building make-up air systems.

All Vektor® blowers and bypass air plenums are constructed of heavy-gauge welded steel and coated with LabCoat™, a two-part corrosion-resistant zinc-rich coating. Systems are designed to a code compliant minimum discharge height of 10 feet (3m) and able to withstand 125 mph (200 km/h) windloads without the use of guy wires. Good for constant or variable volume exhaust applications.

High Plume Discharge

The high plume discharge nozzle is an engineered, tapered outlet nozzle designed to accelerate laboratory exhaust to maximize the effective plume height. Multiple discharge nozzles per fan size are available to custom-tailor discharge velocity and plume rise.



Vektor®-H

Model Vektor-H is a cost efficient product designed for lower volume, lower pressure applications. Vektor-H uses an inline centrifugal wheel built to AMCA Spark B construction. Belts, bearings and drives are fully sealed from the contaminated airstream. Capacities range from 270 to 24,000 cfm (460 to 40,700 m³/hr) and 3.5 in. wg (875 Pa). Model is OSHPD seismic certified, UL 705 Power Ventilators Listed and UL 762 Listed Power Ventilator for Restaurant Exhaust Appliances. AMCA Licensed for Sound and Air Performance.

Catalog: *Laboratory Exhaust Systems — Vektor-H*



Vektor®-MH

Model Vektor-MH uses an inline mixed flow fan to quietly and efficiently exhaust fumes and odors above a laboratory. This is a low cost application for projects with moderate levels of exhaust and static pressure. Benefits include efficient operation for reduced energy consumption and lower overall sound levels. The Vektor-MH increases safety for maintenance and service by utilizing a bifurcated housing that separates the exhaust airstream around drive components. Vektor-MH is available with AMCA Spark B or C construction. Airflow capacities range from 1,500 to 60,000 cfm (2,500 to 102,000 m³/hr) and 8 in. wg (2,000 Pa). Model is UL 705 Listed for Power Ventilators. AMCA Licensed for Sound and Air Performance.

Catalog: *Laboratory Exhaust Systems — Vektor-MH and Vektor-MD*



Vektor®-CH

The Greenheck Vektor-CH is a high plume laboratory exhaust system. Vektor-CH utilizes a centrifugal blower to achieve high pressures and flow rates commonly required by filtration systems. Systems are available as single fan with or without bypass air plenum or multiple fan systems with common plenum. Belt and direct drive configurations. Eleven model sizes with a per fan performance range 1,000 to 55,000 cfm and up to 14 in. wg of static pressure.

Catalog: Laboratory Exhaust Systems — Vektor-CH and Vektor-CD



High Plume with Constant Velocity Discharge

Utilizing Greenheck's Variable Geometry Nozzle (VGN) 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 changes to maintain a constant and safe discharge stack velocity regardless of the laboratory exhaust flow. End-users will enjoy benefits such as demand-based laboratory ventilation, reduced fan energy consumption, and reduced operating costs.



Vektor®-HS

Model Vektor-HS combines the VGN and controls with a base model providing advanced system operation for lower costs. The Vektor-HS uses an inline centrifugal wheel with AMCA Spark B construction. Vektor-HS bypass air plenums are designed to support single or multiple Vektor-HS inline exhaust blowers. Airflow capacities range from 300 to 24,000 cfm (500 to 40,700 m³/hr) and 3.5 in. wg (875 Pa). Model is UL 705 Listed for Power Ventilators. AMCA Licensed for Air Performance.

Catalog: Laboratory Exhaust Systems — Vektor-HS, Vektor-MS and Vektor-CS



Vektor®-MS

Model Vektor-MS with increased performance range means higher building turndowns and more cost savings available. The mixed flow wheel provides higher performance ranges at higher efficiencies and reduced sound levels. The Vektor-MS models incorporate the bifurcated housing for increased personnel safety. Airflow capacities range from 1,500 to 38,500 cfm (2,500 to 65,000 m³/hr) and 8 in. wg (2,000 Pa). Model is UL 705 Listed for Power Ventilators. AMCA Licensed for Sound and Air Performance.

Catalog: Laboratory Exhaust Systems — Vektor-HS, Vektor-MS and Vektor-CS



Vektor®-CS

Model Vektor-CS is a high plume laboratory exhaust system with an energy saving variable geometry nozzle to maintain a constant discharge velocity. The Vector-CS features an efficient centrifugal airfoil wheel design, air handling quality bearings and is in compliance with ANSI and NFPA standards for laboratory exhaust applications. Single or multiple fan systems are available with or without integral variable frequency drive. Belt and direct drive configurations. Eleven model sizes with airflow capacities range from 1,000 to 38,000 cfm (2,500 to 65,000 m³/hr) and up to 14 in. wg (3,484 Pa)

Catalog: Laboratory Exhaust Systems — Vektor-HS, Vektor-MS and Vektor-CS



High Plume with Dilution

The high plume nozzle with dilution entrains additional air for a less concentrated exhaust. High plume nozzles and the dilution windband entrain ambient air to assist in the dilution of the laboratory exhaust and to maximize the plume rise. This nozzle and windband combination is especially effective with high demand levels of exhaust at moderate to high external static pressures.



Vektor®-MD

Model Vektor-MD brings together higher dilution with the high efficiency mixed flow wheel and bifurcated housing. The benefits include inline style fan mounted on top of the bypass air plenum for increased effect plume heights and reduced footprint requirements. Vektor-MD units available in AMCA Spark B or C construction. Airflow capacities range from 1,500 to 80,000 cfm (2,500 to 136,000 m³/hr) and 8 in. wg (2,000 Pa). Model is UL 705 Listed for Power Ventilators. AMCA Licensed for Sound, Air and Induced Air Performance.

Catalog: *Laboratory Exhaust Systems — Vektor-MH and Vektor-MD*



Vektor®-CD

Model Vektor-CD utilizes a backward inclined, flat blade or airfoil blade centrifugal wheel with efficient scroll housing. This design is ideal for applications requiring horizontal air intake or for systems with external static pressures in excess of 8 in. wg (2,000 Pa). Vektor-CD units are available in AMCA Spark B or C construction. Airflow capacities range from 500 to 120,000 cfm (850 to 203,881 m³/hr) and 14 in. wg (3,500 Pa). Model is UL 705 Listed for Power Ventilators.

AMCA Licensed for Sound, Air and Induced Air Performance.

Catalog: *Laboratory Exhaust Systems — Vektor-CH and Vektor-CD*



Energy Recovery Systems

Models Vektor-MD, Vektor-MH and Vektor-MS can be integrated for use with an energy recovery plenum to reduce the operating cost of your laboratory. Greenheck Vektor energy recovery systems utilize glycol filled, run-around coil loops to safely transfer energy between the laboratories' exhaust and supply airstreams. These sensible only heat transfer systems allow the supply and exhaust duct systems to be separated safely and prevent the possibility of cross contamination.

The energy recovery system utilizes a cost saving pre-engineered plenum with capabilities to handle a range from 2,000 to 66,000 cfm (3,400 to 112,200 m³/hr) and external static pressure up to 8 in. wg (2,000 Pa). This system offers single source responsibility while providing up to 55% efficiency of energy recovery.

The plenum is manufactured with an insulated double-wall exterior design, a stainless steel interior and comes complete with corrosion resistant coated energy recovery coils. Systems can be manufactured for constant or variable volume systems as well as options for multiple blower configurations when redundancy is required.

Catalog: *Energy Recovery Laboratory Exhaust Systems — ERS-MD*

