

Laboratory Exhaust Systems



UL/cUL 705 Power Ventilators
E40001 - Vektor-H

UL 762 Power Ventilators for Restaurant
Exhaust Appliances - MH11745 - Vektor-H



86



Greenheck Fan Corporation certifies that the Model Vektor-H shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.

AMCA Licensed Sound and Air Performance is found in Greenheck's Vektor-H Performance catalog, 00.LAB.NB002 R2 1-2012

**Best
Available
Program**

15 Days

Model Vektor®-H

Vektor-H models use a conical outlet nozzle to accelerate the exhaust to a high velocity. This provides the exhaust with additional momentum for displacement high above the roof. The Vektor-H is a curb-mounted, self-contained unit, so installation time is reduced by eliminating costly field fabricated inlet and outlet duct. The optional bypass air plenum and damper accommodates constant and variable volume laboratories.

| | |
|---------------|--|
| Housing Style | Inline Centrifugal |
| Stack Style | High Plume Nozzle |
| Minimum Flow | 270 cfm (459 m ³ /hr) |
| Maximum Flow | 24,000 cfm (40,776 m ³ /hr) |
| Maximum ESP | Up to 3.5 inches wg (875 Pa) |

Standard Construction

| |
|---|
| Galvanized steel construction |
| LabCoat™ - a two-part electrostatically applied coating |
| Belt drive configuration |
| Designed and guaranteed to withstand 125 mph wind load ratings |
| Constant speed drives |
| Premium efficient, totally enclosed fan cooled motors, Class F insulation, VFD compatible |
| Spark B resistant construction |
| Minimum bearing life of L ₁₀ 100,000 hours |
| Aluminum wheel and shaft seal |
| UL/cUL Listed Power Ventilators |

Options and Accessories

| |
|---|
| NEMA-3R disconnect |
| Roof curb (12-, 18-, or 24-inch high) |
| Bypass air plenum - bottom or side inlet |
| Factory mounted actuators - manual, electric |
| Isolation dampers |
| Bypass dampers |
| UL Listed Power Ventilators for Restaurant Exhaust Appliances |
| OSHPD Seismic Certification |
| Custom height stack extensions |

Performance for Vektor-H

| Model Size | 9 in. | 10 in. | 12 in. | 13 in. | 16 in. | 18 in. | 22 in. | 24 in. | 30 in. | 36 in. |
|-------------------------------|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Minimum CFM | 270 | 450 | 600 | 810 | 1050 | 1320 | 1650 | 2760 | 3690 | 5310 |
| Maximum CFM | 1750 | 1800 | 2640 | 3160 | 7080 | 7880 | 10560 | 14760 | 19640 | 24000 |
| Plume Rise at 3000 (ft./min.) | Minimum (ft.) | 14 | 15 | 16 | 17 | 18 | 20 | 22 | 24 | 26 |
| | Maximum (ft.) | 19 | 19 | 20 | 21 | 25 | 26 | 30 | 33 | 42 |

Performance certified is for installation type A: Free Inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories). Power rating (Bhp) does not include transmission losses. Plume rise calculated assuming a 10 mph crosswind. 3,000 ft./min. is the minimum recommended outlet velocity per ANSI Z9.5. The AMCA Certified Ratings Seal does not apply to plume rise.

For a full range of fan performance, consult the Laboratory Exhaust Systems, Vektor-H Performance Supplement. (00.LAB.NB002 R2 1-2012)



Why use Greenheck Vektor Laboratory Exhaust Systems?

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 lab building so that the fumes do not contaminate the roof area nor are re-entrained into the building makeup air system.

Greenheck Vektor laboratory exhaust systems offer the following benefits:

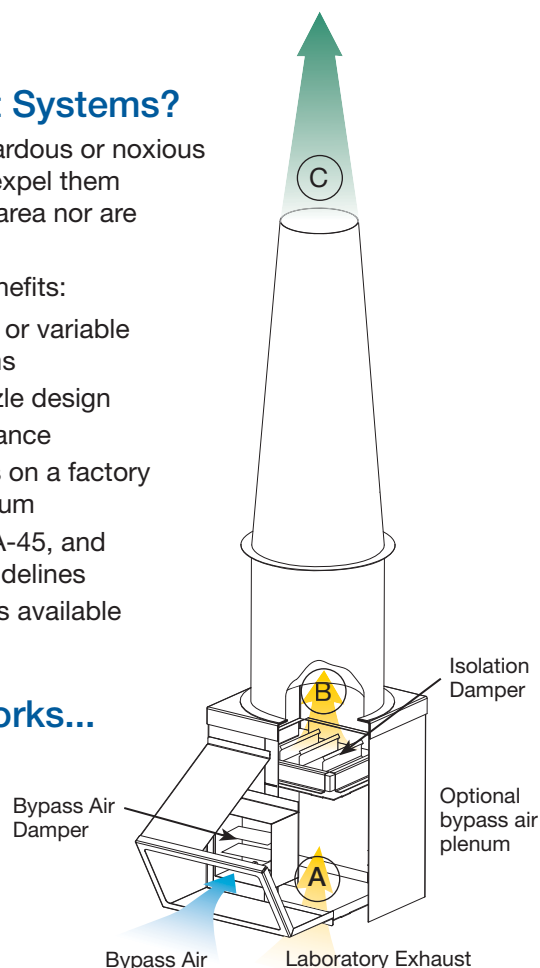
- Significant plume rise without unsightly exhaust stacks that detract from the buildings aesthetics
- Significant dilution of laboratory exhaust effluent, reducing contaminant concentration
- Inline or side inlet centrifugal arrangements
- Reliable drive systems
- Efficient and quiet blower technology
- Application to constant or variable volume exhaust systems
- Efficient discharge nozzle design
- Safe and easy maintenance
- Multiple fan assemblies on a factory provided common plenum
- Meets ANSI Z9.5, NFPA-45, and ASHRAE lab design guidelines
- Energy recovery options available

How Vektor High Plume Dilution Technology Works...

Laboratory exhaust is drawn into the Vektor fan (A).

The exhaust is discharged into the Vektor multistage induction nozzle and ambient dilution air is induced into the Vektor windband (B).

The laboratory exhaust plus induced dilution air is discharged at a high velocity into the atmosphere (C).

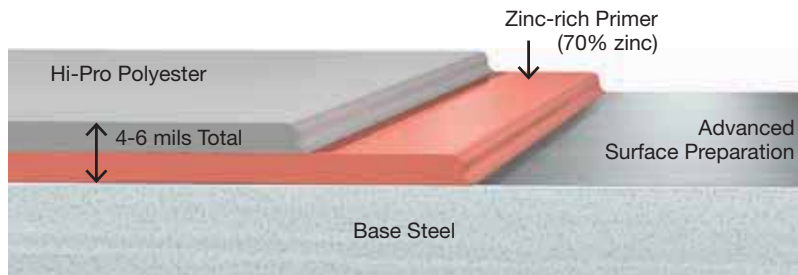


LabCoat™ for Laboratory Exhaust Applications

LabCoat™ corrosion-resistant coating is electrostatically applied uniformly in two steps after an advanced surface preparation involving a multi-stage chemical wash. This cleaner surface results in better coating adhesion and durability.

Step 1: A zinc-rich epoxy primer is applied and partially cured

Step 2: The finish coat of polyester resin (Hi-Pro Polyester) is applied and then fully cured at 400°F (204°C)



LabCoat™ is not affected by the UV component of sunlight (does not chalk) and has superior corrosion resistance to acid, alkali, solvents, and harsh environments (high humidity, coastal applications). The LabCoat™ system exceeds 4000 hour ASTM B117 Salt Spray Resistance—several times that of other corrosion-resistant coatings commonly offered.

| Salt Spray ASTM B117 | | | | | Durability | | *Chemical Resistance Ratings | | | | | |
|----------------------|-------------------------|------|------|------|-------------------------------|--------------------------------------|---|---------------------|-----------|-----|-----------------|------------|
| Hours | 1000 | 2000 | 3000 | 4000 | Pencil Hardness ASTM D3363 | Cross-Hatch Adhesion ASTM D3359-B | Bleach | Sulfuric Acid (10%) | HCl (10%) | MEK | Chlorine (0.1%) | NaOH (20%) |
| | | | | | | | 0 | 0 | 0 | 1 | 0 | 1 |
| Permatector™ | [Progressive bar chart] | | | | 3H | No Failure | 0 - No effect | | | | | |
| Hi-Pro Polyester | [Progressive bar chart] | | | | 2H | No Failure | 1 - Slight change in gloss or color | | | | | |
| Perma-Z™ | [Progressive bar chart] | | | | 3H | No Failure | 2 - Surface etching, severe staining, but film integrity remains | | | | | |
| LabCoat™ | [Progressive bar chart] | | | | 2H | No Failure | 3 - Significant pitting, cratering, swelling, or erosion with obvious surface deterioration | | | | | |

*For additional chemical resistance of Hi-Pro Polyester, see Greenheck's Product Application Guide FA/110-04R4, Performance Coatings for Ventilation Products