

Vektor® Product Hot Sheets

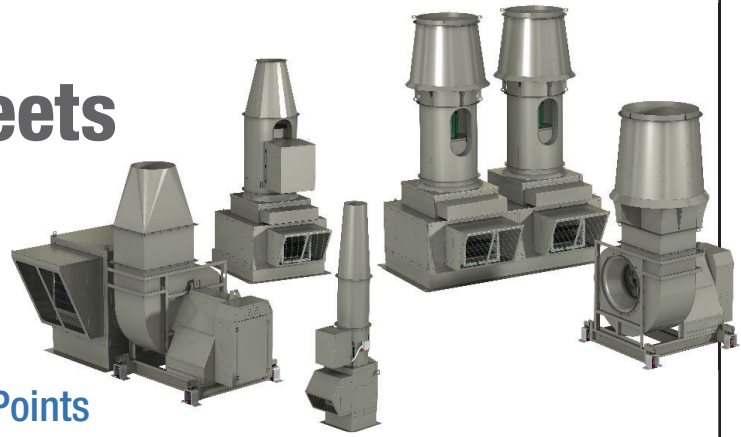
[Vektor Product Line Overview](#)







[Laboratory Exhaust Selection Matrix](#)



[Model by Application with Summary and Selling Points](#)



	Vektor-H <small>Click here</small>	Vektor-CH <small>Click here</small>	Vektor-CD <small>Click here</small>	Vektor-MH <small>Click here</small>	Vektor-MD <small>Click here</small>
Ammonia Refrigeration 	✗	✗		✗	
Biological, Chemical and Physical Laboratories	✗	✗	✗	✗	✗
Biosafety Laboratories		✗	✗	✗	✗
Compounding Pharmacies 	✗	✗	✗	✗	✗
Diesel Generator Exhaust 			✗		
Forensic Labs	✗	✗	✗	✗	✗
High School Laboratories	✗	✗		✗	
Hospital Isolation Rooms	✗	✗	✗	✗	✗
Manufacturing and Industrial Process	✗	✗	✗	✗	✗
Restaurant Exhaust	✗				
Wastewater Treatment / Odor	✗	✗	✗	✗	✗

 = Typically used  = Alternative

Common Questions to Ask:

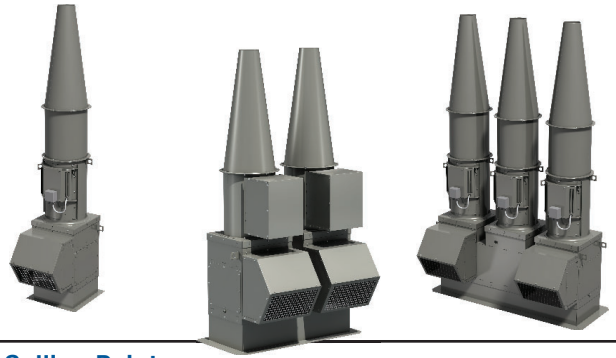
- Are there space or height requirements?
- Is fan redundancy required? Type (N+1, N-1)?
- Other factors on the project? Sound? Plume height? Weight?
- Ease of maintenance?

Vektor Video Playlist:

[Click here](#) to view videos available to explain and demonstrate Vektor Laboratory Exhaust Systems.

Product Sales Hot Sheets

Model: Vektor®-H



Description:

Tubular centrifugal fan with an efficient conical nozzle designed to propel fumes safely away from the building. These fans can be configured in single, double or triple fan systems.

Performance:

Single fan – 500 to 26,000 cfm
Up to 4 in. wg
Maximum system volume (3 fans) – 78,000 cfm
Volume at maximum pressure – 500 to 13,500 cfm

Standard Construction and Options:

Belt or direct drive
Spark B resistant construction

Certifications:

UL/cUL listed for electrical (UL/cUL 705) and grease exhaust (UL/cUL 762)
AMCA licensed for FEI, Air and Sound performance
High wind rated –
Florida Product Approval
Miami-Dade NOA
Texas Department of Insurance

Key Accessories:

Vektor System Controls – stand-alone control
Sure-Aire™ – airflow monitoring with communications (piezometer ring)
Fan Monitoring System – fan health, operating metrics

[Click here](#) to go to Competitor cross-reference

Unique Selling Points:

- Compact footprint with fan(s) on top of common plenum – saves roof deck space when a concern.
- Direct drive over 20% more efficient than belt drive for lowering operation costs.
- No maintenance option – direct drive units have lubricated-for-life sealed bearings.
- High plume discharge to prevent re-entrainment of contaminated exhaust effluent into the supply air (safety).

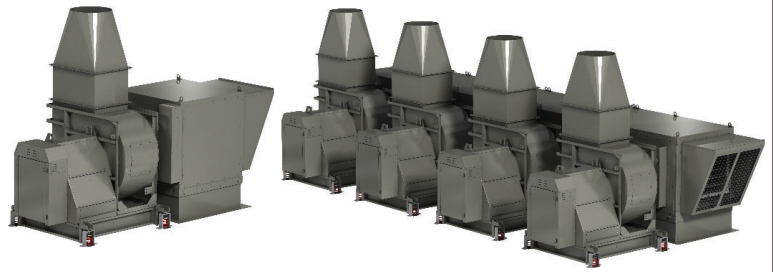
Common Vektor Selling Points:

- Complete fan system designed, tested and sized with all losses included. Much simpler to install than to design and field build. No fit-up issues.
- No stack caps to interfere with plume rise (ASHRAE Chapter 46 – fans with stack caps equal zero plume rise).
- Wind load ratings – 125 mph wind rating without guy wires – fewer roof deck penetrations for potential water leakage, does not require a structural engineer to approve.
- NFPA 45 – 10 ft minimum discharge height to comply with regulations pertaining to laboratory exhaust.
- Redundancy option with a common plenum.
- LabCoat™ coating with stainless steel fasteners in the airstream.
- Factory assembled vibration tested – 0.10 in./sec direct drive, 0.15 in./sec belt drive, peak, filter-in.



Product Sales Hot Sheets

Model: Vektor®-CH



Description:

Industrial centrifugal fan design offers greater airflow and pressure capabilities. High efficiency centrifugal wheel with backward-inclined flat or airfoil blade technology in a scroll-style fan with an engineered high plume discharge nozzle. The Vektor-CH is available in belt or direct drive arrangements and single to quadruple fan system configurations.

Performance:

Single fan – 1,000 to 56,000 cfm
Up to 12 in. wg
Maximum system volume (4 fans) – 224,000 cfm
Volume at maximum pressure – 6,000 to
168,000 cfm

Standard Construction and Options:

Belt or direct drive
Spark C or B resistant

Certifications:

UL/cUL listed for electrical (UL/cUL 705)
AMCA licensed for FEI, Air and Sound performance
California HCAI (formerly OSHPD) - Special Seismic Certification Preapproval

Key Accessories:

Vektor System Controls – stand-alone control
Sure-Aire™ – airflow monitoring with communications (piezometer ring)
Attenuation options – Inline silencer (3 ft, 5 ft)
Double-wall weatherhood – bypass attenuation
ERS energy recovery system
Fan Monitoring System – fan health, operating metrics

Unique Selling Points:

- High plume discharge to prevent re-entrainment of contaminated exhaust effluent into the supply air (safety).
- Less expensive nozzle with as high or higher discharge as the dilution windband (CD).
- Motors, drives and bearings at roof deck level for safety and easy servicing.
- Seismic control restrained spring isolators selected for use in critical areas and sized for a complete system.
- Low maintenance option – direct drive arrangement 4 (12-month lubrication interval), no monthly belt inspection.

Common Vektor Selling Points:

- Complete fan system designed, tested and sized with all losses included. Much simpler to install than to design and field build. No fit-up issues.
- No stack caps to interfere with plume rise (ASHRAE Chapter 46 – fans with stack caps equal zero plume rise).
- Wind load ratings – 125 mph wind rating without guy wires – fewer roof deck penetrations for potential water leakage, does not require a structural engineer to approve.
- NFPA 45 – 10 ft minimum discharge height to comply with regulations pertaining to laboratory exhaust.
- Redundancy option with a common plenum.
- LabCoat™ coating with stainless steel fasteners in the airstream.
- Factory assembled vibration tested – 0.08 in./sec direct drive, 0.15 in./sec belt drive, peak, filter-in.



[Click here](#) to go to Competitor cross-reference

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Product Sales Hot Sheets

Model: Vektor®-CD



Description:

Centrifugal blower with a backward-inclined flat or airfoil bladed wheel and air entrainment windband makes the Vektor-CD ideal for systems requiring horizontal exhaust duct runs or having higher system pressures. Configuration options include parallel or opposed fan systems using up to four fans with a common plenum.

Performance:

Single fan – 1,500 to 122,000 cfm
Up to 13.5 in. wg
Maximum system volume (4 fans) – 488,000 cfm
Volume at maximum pressure – 12,000 to 200,000 cfm

Standard Construction and Options:

Belt or direct drive
Spark C or B resistant

Certifications:

UL/cUL listed for electrical (UL/cUL 705)
AMCA licensed for FEI, Air, Sound and Induced Flow Performance

Key Accessories:

Vektor System Controls – stand-alone control
Sure-Aire™ – airflow monitoring with communications (piezometer ring)
Attenuation options –
 Inline silencer (3 ft, 5 ft)
 Sound attenuating windband
Double-wall weatherhood - bypass attenuation
ERS energy recovery system
Fan Monitoring System – fan health, operating metrics

Unique Selling Points:

- High plume discharge with dilution to prevent re-entrainment of contaminated exhaust effluent into the supply air (safety).
- High velocity exhaust effluent for high plume heights.
- Motors, drives and bearings at roof deck level for safety and easy servicing.
- Seismic control restrained spring isolators selected for use in critical areas and sized for a complete system.
- Low maintenance option – direct drive arrangement 4 (12-month lubrication interval), no monthly belt inspection.

Common Vektor Selling Points:

- Complete fan system designed, tested and sized with all losses included. Much simpler to install than to design and field build. No fit-up issues.
- No stack caps to interfere with plume rise (ASHRAE Chapter 46 – fans with stack caps equal zero plume rise).
- Wind load ratings – 125 mph wind rating without guy wires – fewer roof deck penetrations for potential water leakage, does not require a structural engineer to approve.
- NFPA 45 – 10 ft minimum discharge height to comply with regulations pertaining to laboratory exhaust.
- Redundancy option with a common plenum.
- LabCoat™ coating with stainless steel fasteners in the airstream.
- Factory assembled vibration tested – 0.08 in./sec direct drive, 0.15 in./sec belt drive, peak, filter-in.



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Product Sales Hot Sheets

Model: Vektor®-MH

Description:

Efficient mixed flow fan & high plume, conical nozzle maximizes effective plume height. Bifurcated housing allows safe, easy access to all drive components. Several configurations with up to six fans on a single plenum.

Performance:

Single fan – 2,000 to 47,000 cfm
Up to 11 in. wg
Maximum system volume (6 fans) – 282,000 cfm
Volume at maximum pressure – 8,000 to 150,000 cfm

Standard Construction and Options:

Belt or direct drive
Spark C or B resistant

Certifications:

UL/cUL listed for electrical (UL/cUL 705)
AMCA licensed for FEI, Air and Sound performance

Key Accessories:

Vektor System Controls – independent control
Sure-Aire™ – airflow monitoring with communications (piezometer ring)
Attenuation options –
Attenuated nozzle – reduce sound without height increase
Inline silencer (3 ft, 5 ft)
Double-wall weatherhood – bypass attenuation
ERS energy recovery system
Fan Monitoring System – fan health, operating metrics

[Click here](#) to go to Competitor cross-reference

Unique Selling Points:

- Compact footprint with fan(s) on top of common plenum – saves roof deck space when a concern.
- Less expensive nozzle with as high or higher discharge as the dilution windband (MD).
- Mixed flow wheel for high efficiency and lower sound level operation.
- Bifurcated housing for safety and accessibility (drive components do not get contaminated by the exhaust air stream).
- Low maintenance option – direct drive arrangement 4 (12-month lubrication interval), no monthly belt inspection.
- High plume discharge to prevent re-entrainment of contaminated exhaust effluent into the supply air (safety).

Common Vektor Selling Points:

- Complete fan system designed, tested and sized with all losses included. Much simpler to install than to design and field build. No fit-up issues.
- No stack caps to interfere with plume rise (ASHRAE Chapter 46 – fans with stack caps equal zero plume rise).
- Wind load ratings – 125 mph wind rating without guy wires – fewer roof deck penetrations for potential water leakage, does not require a structural engineer to approve.
- NFPA 45 – 10 ft minimum discharge height to comply with regulations pertaining to laboratory exhaust.
- Redundancy option with a common plenum.
- LabCoat™ coating with stainless steel fasteners in the airstream.
- Factory assembled vibration tested – 0.08 in./sec direct drive, 0.15 in./sec belt drive, peak, filter-in.



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Product Sales Hot Sheets

Model: Vektor[®]-MD



Description:

Mixed flow fan with a bifurcated housing keeps drive components out of the contaminated airstream. The windband and nozzle combination entrain air to assist in the dilution of the contaminated exhaust. Available with up to six fans on a common plenum.

Performance:

Single fan – 1,500 to 83,000 cfm
Up to 11 in. wg
Maximum system volume (6 fans) – 498,000 cfm
Volume at maximum pressure – 19,000 to 270,000 cfm

Standard Construction and Options:

Belt or direct drive
Spark C or B resistant

Certifications:

UL/cUL listed for electrical (UL/cUL 705)
AMCA licensed for FEI, Air, Sound and Induced Flow Performance

Key Accessories:

Vektor System Controls – stand-alone control
Sure-Aire™ – airflow monitoring with communications (piezometer ring)
Attenuation options –
 Inline silencer (3 ft, 5 ft)
Double-wall weatherhood – bypass attenuation
ERS energy recovery system
Fan Monitoring System – fan health, operating metrics

Unique Selling Points:

- Compact footprint with fan(s) on top of common plenum – saves roof deck space when a concern.
- Mixed flow wheel for high efficiency and lower sound level operation.
- Bifurcated housing for safety and accessibility (drive components do not get contaminated by the exhaust air stream).
- Low maintenance option – direct drive arrangement 4 (12-month lubrication interval), no monthly belt inspection.
- High plume discharge with dilution to prevent re-entrainment of contaminated exhaust effluent into the supply air (safety).

Common Vektor Selling Points:

- Complete fan system designed, tested and sized with all losses included. Much simpler to install than to design and field build. No fit-up issues.
- No stack caps to interfere with plume rise (ASHRAE Chapter 46 – fans with stack caps equal zero plume rise).
- Wind load ratings – 125 mph wind rating without guy wires – fewer roof deck penetrations for potential water leakage, does not require a structural engineer to approve.
- NFPA 45 – 10 ft minimum discharge height to comply with regulations pertaining to laboratory exhaust.
- Redundancy option with a common plenum.
- LabCoat™ coating with stainless steel fasteners in the airstream.
- Factory assembled vibration tested – 0.08 in./sec direct drive, 0.15 in./sec belt drive, peak, filter-in.

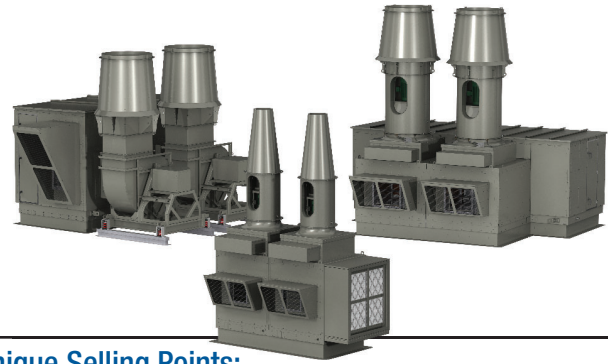


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Product Sales Hot Sheets

Model: Vektor®-ERS



Description:

Vektor Energy Recovery Systems are a pre-engineered laboratory exhaust and energy recovery system. In combination with our Vektor-C or Vektor-M series blowers, this system effectively removes contaminated laboratory exhaust and disperses the exhaust high above the roof while conditioning supply air. The system utilizes corrosion-resistant run-around coils that maintain separation between the exhaust and supply air components. The run-around coils recover energy from the exhaust airstream and apply this energy to the make-up air system lowering heating and cooling costs. Vektor-ERS offers a safe and efficient solution, eliminating the possibility of cross-contamination between exhaust and supply airstreams.

Performance:

Vektor-M Series – 5,000 to 65,000 cfm

Vektor-C Series – 4,000 to 40,000 cfm

Standard Construction and Options:

Pre-engineered cabinet sizes for different flow rates and fan configurations

Epoxy eCoat or Aqua Aero corrosion resistant coating with anti-microbial properties

Insulated double-wall plenum

Internal or external coil connections

MERV 8 or MERV 13 filters

Standing seam roof for improved strength

Stainless fasteners in the airstream

Tool lockable door handles

All field installation hardware is supplied by Greenheck

Access door locations

Unique Selling Points:

- Safe and efficient solution with zero possibility of cross-contamination between exhaust and supply airstreams.
- Single source supplier and responsibility removing performance, fit-up and component misapplication issues.
- Run-around coil loops can achieve energy recovery efficiencies up to 50% to lower heating and cooling costs for the laboratory facility.
- Designed together with Vektor laboratory fans as a system, not a one-off design through a third-party supplier of just the ERS cabinet.
- Fan selections account for pressure losses internal to the ERS (filters, coils and dampers). This has to be coordinated with other suppliers.
- Foam panels with a better insulation R value versus fiberglass.

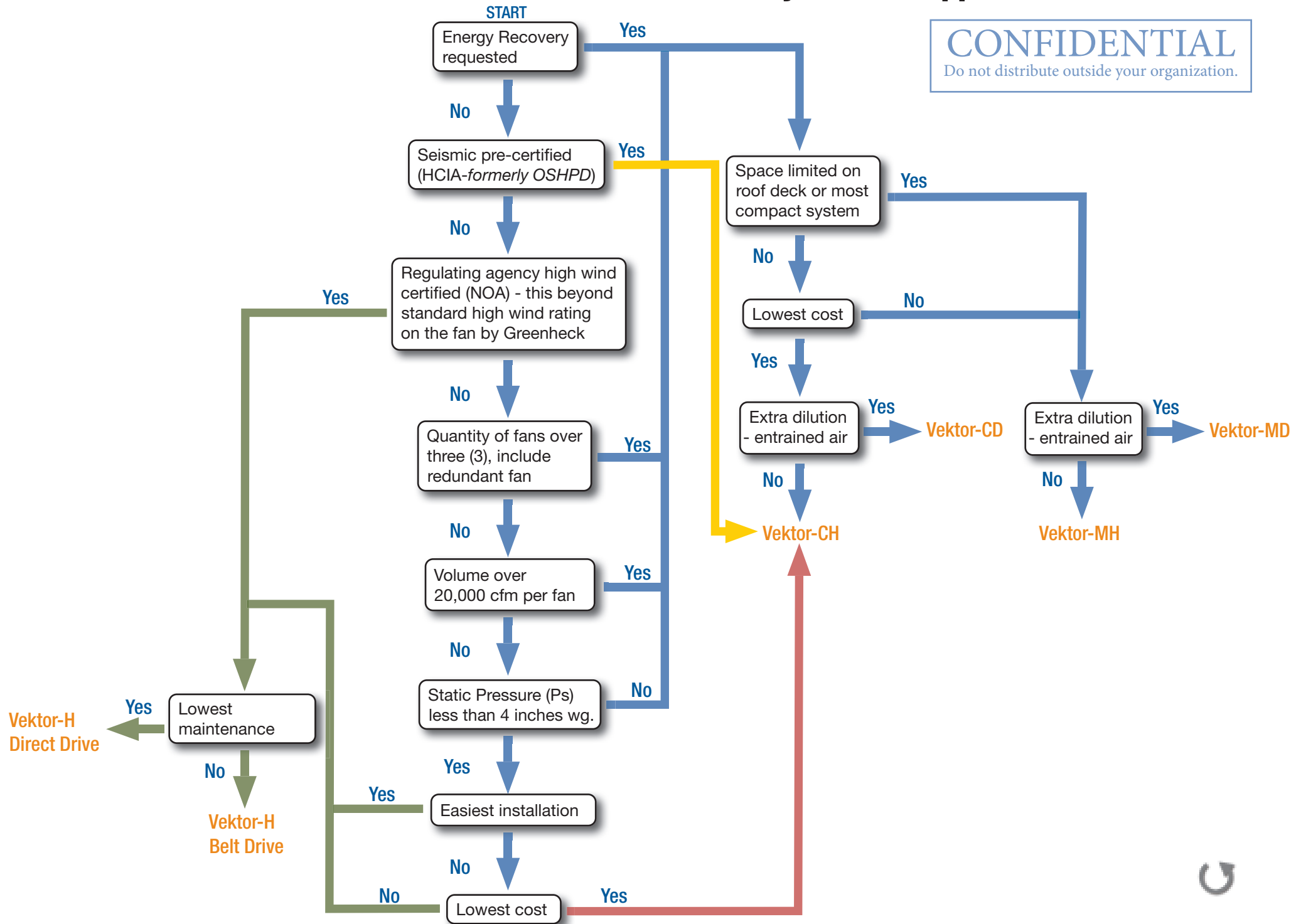


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VEKTOR® Model Selection Matrix for Laboratory Exhaust Applications

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VEKTOR® Product Overview

Nozzle Types



High Plume Nozzle

- Engineered conical nozzle
- Highest overall plume rise
- Low energy usage
- Lowest price
- No dilution
- Suitable on Vektor-H, M and C series



High Plume Dilution Nozzle

- Ideal for congested roof decks where diluting effluent increases safety
- Dilution rates of 150% or greater
- Energy use and sound levels can increase
- Moderate price
- Available on Vektor-M and C series

Vektor Systems...

- Selection provides chemical dispersion model per ANSI Z9.5
- High velocity discharge nozzle maximizes dispersion and plume height per ANSI Z9.5
- Meet NFPA 45 requirements of 10 feet overall height
- Are suitable for constant or variable volume labs

Fan Styles



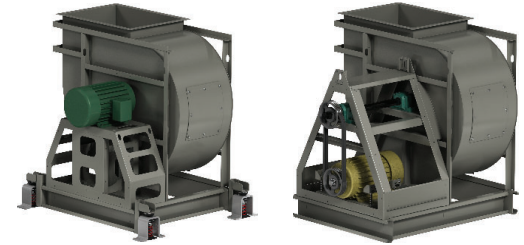
Vektor-H Series

- Centrifugal wheel in tubular inline style, belt or direct drive
- Targets lower pressure and airflow applications
- Up to 3 fans per system configuration
- Smallest overall footprint
- Easy to service; minimal service requirements



Vektor-M Series

- Mixed flow wheel in tubular inline style, belt or direct drive
- Low to high pressure and airflow applications
- Bifurcated housing style improves safety and service
- Up to 6 fans per system configuration
- Small footprint
- Minimal service but taller service access heights

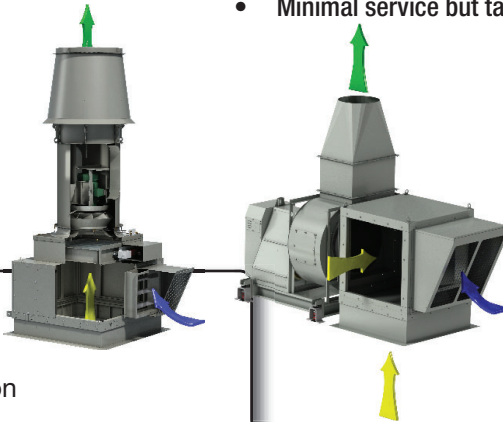


Vektor-C Series

- Centrifugal blower style in belt or direct drive
- Highest efficiency operation
- Low to high pressure and airflow applications
- Up to 4 fans per system configuration
- Larger overall footprint
- Minimal service and easy service access

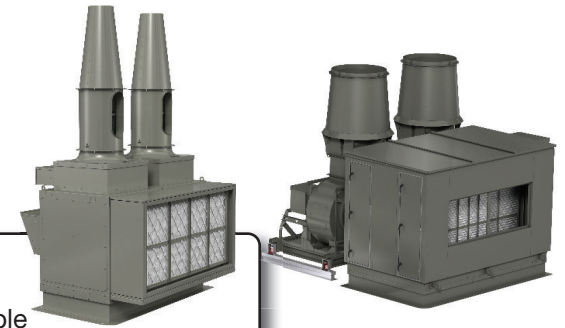
Bypass Plenum Options







- Bypass and isolation dampers
- Bottom or side intake
- Single or double-wall construction
- All exterior service access



Energy Recovery Options







- Run-around glycol systems
- Bottom or side intake available
- Double-wall construction
- Coated coils with pre-filter
- No airstream cross-contamination



Feature	Benefit / Comment	Greenheck			Loren Cook		
		 Vektor®-H	 Vektor®-MH	 Vektor®-CH	 TCNHBLE	 QMXLE (HP)	 CPS-LE
Performance Ranges	Volume and static pressure each fan is capable of exhausting.	500 - 26,000 cfm Up to 4.5 in. wg	2,000 - 47,000 cfm Up to 11.0 in. wg	1,000 - 56,000 cfm Up to 12 in. wg	350 - 49,500 cfm Up to 4.0 in. wg	260 - 72,500 cfm Up to 5.25 in. wg	450 - 14,200 cfm 0.25 to 5.5 in. wg
AMCA Certification	Independent, third-party certification of air and sound performance.	FEI, Sound and Air	FEI, Sound and Air	FEI, Sound and Air	FEI, Sound and Air	No	FEI, Sound and Air
UL Certification	Independent, third-party certification of UL 705 for electrical or UL 762 for grease.	UL 705 UL 762	UL 705	UL 705	UL 705	UL 705 UL 762	UL 705 UL 762
Wind load Certification	MPH rating the entire system can withstand without the use of guy wires.	125 mph	125 mph	125 mph	125 mph	125 mph	No Data
Vibration Balance/Testing AMCA 204-05	Level of factory testing performed. Written vibration report available from Greenheck at no charge.	Category BV-3 <0.15 in./sec peak	Belt: Category BV-4 <0.10 in./sec peak Direct: Category BV-5 <0.08 in./sec peak	Belt and Direct: Category BV-4 <0.10 in./sec peak	Yes No Data	Yes No Data	No Data
Variable or Constant Volume	Ability to meet demands of a variable or constant volume application.	Both	Both	Variable Volume	Both	Both	
Drive Arrangement	Belt: More flexibility for field adjustments.	Arrg. 9	Arrg. 9	Arrg. 10	Arrg. 9	Belt	Belt
	Direct: Locked into specific motor RPM.	Arrg. 4	Arrg. 4	Arrg. 4 – sizes 12-30 Arrg. 8 – sizes 33-44		Direct	
Wheel Type	Type of wheel used in fan housing.	Centrifugal	Mixed Flow	Centrifugal, backward- inclined airfoil	Centrifugal, backward-inclined	Mixed Flow	Centrifugal, backward- inclined airfoil
Materials of Construction and Finish	Material for correct application and finish. Offer superior resistance and longevity for lab exhaust applications. Epoxy and FRP material break down with exposure to sunlight.	Coated Steel with LabCoat™ (4 to 6 mils)	Coated Steel with LabCoat™ (4 to 6 mils)	Coated Steel with LabCoat™ (4 to 6 mils)	Coated Steel with Phenolic Epoxy (5 mils)	Coated Steel with Lorenized Phenolic Epoxy (2 mils)	Coated Steel with Phenolic Epoxy (5 mils)
Discharge / Outlet	Cone sized to handle an outlet velocity up to 6000 fpm. Use of discharge caps or hinged covers impede exhaust and are not recommended.	Yes No cap	Yes No cap	Yes Up to 7,000 fpm No cap	Yes No cap	Yes Cap present Hinged discharge damper	No Data
Spark Proof Construction	Ability to meet demands of application for spark resistance. NOTE: FRP blowers require optional graphite liner.	AMCA B	AMCA B or C	AMCA B or C	AMCA B	AMCA A, B or C	No Data
Bearings	Bearing type and life.	Concentric Lock L ₁₀ 100,000 hrs	Concentric Lock L ₁₀ 200,000 hrs	Concentric Lock L ₁₀ 80,000 hours, std. L ₁₀ 200,000 hours, opt.	Concentric Lock L ₁₀ 100,000 hrs	No Data L ₅₀ 200,000 hrs	No Data L ₅₀ 200,000 hrs
Drain in Housing and/or Plenum	Allows for removal of rain or condensation.	Fan and Plenum	Fan and Plenum	Fan and Plenum	Fan and Plenum	Fan and Plenum	No Data
Sizing of Belts	Indication of durability. Industry Standard = 150% of BHP.	200%	200%	200%	150%	150%	150%
Vibration Isolators	Used to isolate the fan from building structure. Isolation may be required in seismic zones.	Not Required	Not Required	Restrained Vibration Isolators	Not Required	Not Required	Not Required






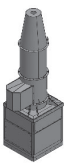


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Feature	Benefit / Comment	Greenheck			Twin City		Strobic Air	
		 Vektor®-H	 Vektor®-MH	 Vektor®-CH	 TFE	 QFE	Not Available BS Series	 Mono-Stack
Performance Ranges	Volume and static pressure each fan is capable of exhausting.	500 - 26,000 cfm Up to 4.5 in. wg	2,000 - 47,000 cfm Up to 11.0 in. wg	1,000 - 56,000 cfm Up to 12 in. wg	Up to 78,000 cfm Up to 8.0 in. wg	Up to 89,000 cfm Up to 9.0 in. wg	Up to 5.1 in. wg	Up to 24,000 cfm Up to 8.0 in. wg
AMCA Certification	Independent, third-party certification of Fan Energy Index, Sound and Air Performance.	FEI, Sound and Air	FEI, Sound and Air	FEI, Sound and Air	Sound and Air	Sound and Air	No	Sound and Air
UL Certification	Independent, third-party certification of UL 705 for electrical or UL 762 for grease.	UL 705 UL 762	UL 705	UL 705	UL 705	UL 705 UL 762	UL 705	No Data
Wind load Certification	MPH rating the entire system can withstand without the use of guy wires.	125 mph	125 mph	125 mph	125 mph	125 mph	No Data	No Data
Vibration Balance/Testing AMCA 204-05	Level of factory testing performed. Written vibration report available from Greenheck at no charge.	Category BV-3 <0.15 in./sec peak	Belt: Category BV-4 <0.10 in./sec peak Direct: Category BV-5 <0.08 in./sec peak	Belt and Direct: Category BV-4 <0.10 in./sec peak	Category BV-3 <0.15 in./sec peak	Category BV-3 <0.15 in./sec peak	No Data	Category BV-3 <0.15 in./sec peak
Variable or Constant Volume	Ability to meet demands of a variable or constant volume application.	Both	Both	Variable Volume	Both	Both	Both	
Drive Arrangement	Belt: More flexibility for field adjustments.	Arrg. 9	Arrg. 9	Arrg. 10	Arrg.9	Arrg. 9		
	Direct: Locked into specific motor RPM.	Arrg. 4	Arrg. 4	Arrg. 4 – sizes 12-30 Arrg. 8 – sizes 33-44			Direct	Direct
Wheel Type	Type of wheel used in fan housing.	Centrifugal	Mixed Flow	Centrifugal, backward-inclined airfoil	Centrifugal, backward-inclined airfoil	Mixed Flow	Mixed Flow	Centrifugal
Materials of Construction and Finish	Material for correct application and finish. Offer superior resistance and longevity for lab exhaust applications. Epoxy and FRP material break down with exposure to sunlight.	Coated Steel with LabCoat™ (4 to 6 mils)	Coated Steel with LabCoat™ (4 to 6 mils)	Coated Steel with LabCoat™ (4 to 6 mils)	Coated Steel with Epoxy or Heresite	Coated Steel No Data	Coated Steel with Epoxy Phenolic	Coated Steel with Epoxy Phenolic
Discharge / Outlet	Cone sized to handle an outlet velocity up to 6000 fpm. Use of discharge caps or hinged covers impede exhaust and are not recommended.	Yes No cap	Yes No cap	Yes Up to 7,000 fpm No cap	No Cap present	No Cap present	Yes No cap	Yes No cap
Spark Proof Construction	Ability to meet demands of application for spark resistance. NOTE: FRP blowers require optional graphite liner.	AMCA B	AMCA B or C	AMCA B or C	AMCA B or C	AMCA B or C	AMCA B or C	AMCA B or C
Bearings	Bearing type and life.	Concentric Lock L ₁₀ 100,000 hrs	Concentric Lock L ₁₀ 200,000 hrs	Concentric Lock L ₁₀ 80,000 hours, std. L ₁₀ 200,000 hours, opt.	Ball or Roller Type L ₁₀ 200,000 hrs	Ball or Roller Type L ₁₀ 200,000 hrs	Motor Bearing L ₁₀ 40,000 hrs	No Data
Drain in Housing and/or Plenum	Allows for removal of rain or condensation.	Fan and Plenum	Fan and Plenum	Fan and Plenum	Fan and Plenum	Fan and Plenum	No Data	No Data
Sizing of Belts	Indication of durability. Industry Standard = 150% of BHP.	200%	200%	200%	200%	200%	Not Applicable	Not Applicable
Vibration Isolators	Used to isolate the fan from building structure. Isolation may be required in seismic zones.	Not Required	Not Required	Restrained Vibration Isolators	Not Required	Not Required	No Data	No Data

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Feature	Benefit / Comment	Greenheck			PennBarry	MK Plastics	ACME
		 Vektor®-H	 Vektor®-MH	 Vektor®-CH	 vPlume™	 KVC	 TIB-LE
Performance Ranges	Volume and static pressure each fan is capable of exhausting.	500 - 26,000 cfm Up to 4.5 in. wg	2,000 - 47,000 cfm Up to 11.0 in. wg	1,000 - 56,000 cfm Up to 12 in. wg	220 - 7,100 cfm Up to 3.0 in. wg	450 - 38,000 cfm Up to 8.0 in. wg	283 - 17,500 cfm Up to 5.0 in. wg
AMCA Certification	Independent, third-party certification of Fan Energy Index, Sound and Air Performance.	FEI, Sound and Air	FEI, Sound and Air	FEI, Sound and Air	Sound and Air	No	No
UL Certification	Independent, third-party certification of UL 705 for electrical or UL 762 for grease.	UL 705 UL 762	UL 705	UL 705	UL 705	No Data	UL 705
Wind load Certification	MPH rating the entire system can withstand without the use of guy wires.	125 mph	125 mph	125 mph	125 mph	No Data	125 psf
Vibration Balance/Testing AMCA 204-05	Level of factory testing performed. Written vibration report available from Greenheck at no charge.	Category BV-3 <0.15 in./sec peak	Belt: Category BV-4 <0.10 in./sec peak Direct: Category BV-5 <0.08 in./sec peak	Belt and Direct: Category BV-4 <0.10 in./sec peak	No Data	Category BV-3 <0.15 in./sec peak	Category BV-3 <0.15 in./sec peak
Variable or Constant Volume	Ability to meet demands of a variable or constant volume application.	Both	Both	Variable Volume	Both	Both	Both
Drive Arrangement	Belt: More flexibility for field adjustments.	Arr. 9	Arr. 9	Arr. 10	Belt	Arr. 9	Belt
	Direct: Locked into specific motor RPM.	Arr. 4	Arr. 4	Arr. 4 – sizes 12-30 Arr. 8 – sizes 33-44		Arr. 4	
Wheel Type	Type of wheel used in fan housing.	Centrifugal	Mixed Flow	Centrifugal, backward-inclined or airfoil	Centrifugal, airfoil	Centrifugal	Centrifugal
Materials of Construction and Finish	Material for correct application and finish. Offer superior resistance and longevity for lab exhaust applications. Epoxy and FRP material break down with exposure to sunlight.	Coated Steel with LabCoat™ (4 to 6 mils)	Coated Steel with LabCoat™ (4 to 6 mils)	Coated Steel with LabCoat™ (4 to 6 mils)	Coated Steel with Phenolic Epoxy	Coated Steel with Plastifier™ Polyester (4 to 6 mils)	Coated Steel with Polyester with Zinc Primer (4 to 6 mils)
Discharge / Outlet	Cone sized to handle an outlet velocity up to 6000 fpm. Use of discharge caps or hinged covers impede exhaust and are not recommended.	Yes No cap	Yes No cap	Yes Up to 7,000 fpm No cap	Yes	Yes No cap	Yes No cap
Spark Proof Construction	Ability to meet demands of application for spark resistance. NOTE: FRP blowers require optional graphite liner.	AMCA B	AMCA B or C	AMCA B or C	AMCA B	AMCA A, B or C	AMCA B
Bearings	Bearing type and life.	Concentric Lock L ₁₀ 100,000 hrs	Concentric Lock L ₁₀ 200,000 hrs	Concentric Lock L ₁₀ 80,000 hours, std. L ₁₀ 200,000 hours, opt.	Concentric Lock L ₁₀ 100,000 hrs	Pillow Block L ₁₀ 200,000 hrs	Concentric Lock L ₁₀ 100,000 hrs
Drain in Housing and/or Plenum	Allows for removal of rain or condensation.	Fan and Plenum	Fan and Plenum	Fan and Plenum	Fan Only	No Data	Fan and Plenum
Sizing of Belts	Indication of durability. Industry Standard = 150% of BHP.	200%	200%	200%	150%	150%	200%
Vibration Isolators	Used to isolate the fan from building structure. Isolation may be required in seismic zones.	Not Required	Not Required	Restrained Vibration Isolators	Not Required	Neoprene Vibration Pads	Not Required

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		Greenheck	Loren Cook	MK Plastics	Strobic Air	Twin City	
Feature	Benefit / Comment	 Vektor®-MD	 QMXVP (HP)	 Axijet-VM	 Tri-Stack	 TVIFE	 QIFE
Performance Ranges	Volume and static pressure each fan is capable of exhausting.	1,500 - 83,000 cfm Up to 11.5 in. wg	1,500 - 94,500 cfm Up to 6.0 in. wg	1,200 - 78,000 cfm Up to 8.0 in. wg	Up to 82,000 cfm Up to 9.7 in. wg	Up to 86,000 cfm Up to 8.0 in. wg	Up to 71,000 cfm Up to 8.0 in. wg
AMCA Certification	Independent, third-party certification of Fan Energy Index, Sound and Air Performance.	Induced Flow Fan Air and Sound	FEI, Induced Flow Fan Air and Sound	Induced Flow Fan Air and Sound	<u>Tri-Stack Series M:</u> Induced Flow Air and Sound <u>Tri-Stack Series TS:</u> No	Induced Flow Fan Air and Sound	Induced Flow Fan Air and Sound
UL Certification	Independent, third-party certification of UL 705 for electrical.	Yes	Yes	No Data	Yes	Yes	Yes
Wind load Certification	MPH rating the entire system can withstand without the use of guy wires.	125 mph	125 mph	125 mph	No Data	125 mph	125 mph
Vibration Balance/Testing AMCA 204-05	Level of factory testing performed. Written vibration report available from Greenheck at no charge.	Belt: Category BV-4 <0.10 in./sec peak Direct: Category BV-5 <0.08 in./sec peak	Yes No Data	Belt and Direct: Category BV-3 <0.15 in./sec peak	Category BV-4 <0.10 in./sec	Category BV-3 <0.15 in./sec peak	Category BV-3 <0.15 in./sec peak
Variable or Constant Volume	Ability to meet demands of a variable or constant volume application.	Both	Both	Both	Both	Both	Both
Drive Arrangement	Belt: Allows for easier field adjustments for airflow and static pressure.	Arrg. 9	Arrg. 9	Arrg. 9	No	No	Arrg. 9
	Direct: Arrg. 4 impeller mounted directly to motor shaft. Locked into specific motor RPM.	Arrg. 4	Arrg. 4	Arrg. 4	Arrg. 4	Arrg. 4	No
Wheel Type	Type of wheel used in fan housing.	Mixed Flow	Mixed Flow	Mixed Flow or Straight Line Centrifugal	Mixed Flow	Mixed Flow	Mixed Flow
Materials of Construction and Finish	Material for correct application and finish. Offer superior resistance and longevity for lab exhaust applications. Epoxy and FRP material break down with exposure to sunlight.	Coated Steel with LabCoat™ (4 to 6 mils)	Coated Steel with Phenolic Epoxy Powder with UV Topcoat (5 mils)	Coated Steel with Plastifier™ Polyester or Stainless Steel (4 to 6 mils)	Coated Steel with Epoxy Phenolic	Coated Steel with Epoxy	Coated Steel with Epoxy
Dilution / Nozzle	Entrains ambient air to dilute the lab exhaust air. Results in greater mass flow at discharge and greater plume rise.	Yes	Yes	Yes	Yes	Yes	Yes
Dilution / Nozzle Construction and Finish	Material for correct application and finish. Epoxy and FRP material break down with exposure to sunlight.	Coated Aluminum with LabCoat™	Fiberglass Reinforced Plastic (FRP)	Coated Steel with Plastifier Polyester or Stainless Steel	Fiberglass Reinforced Plastic (FRP)	Coated Steel	Coated Steel
Spark Proof Construction	Ability to meet demands of application for spark resistance. NOTE: FRP blowers require optional graphite liner.	AMCA B or C	AMCA A, B or C	AMCA A, B or C	AMCA B or C	AMCA B or C	AMCA B or C
Bearings	Bearing type and life.	Concentric Lock L ₁₀ 200,000 hrs	Concentric Lock L ₁₀ 40,000 hrs	Pillow Block L ₁₀ 200,000 hrs	Motor Bearing L ₁₀ 150,000 hrs	No Data	Pillow Block L ₁₀ 200,000 hrs
Drain in Housing and/or Plenum	Allows for removal of rain or condensation.	Fan and Plenum	Fan and Plenum	No Data	No Data	Fan and Plenum	Fan and Plenum
Sizing of Belts	Indication of durability. Industry Standard = 150% of BHP.	200%	150%	150%	Not Applicable	Not Applicable	200%
Vibration Isolation	Used to isolate the fan from building structure. Isolation may be required in seismic zones.	Not Required	Not Required	Neoprene Vibration Pads	Not Required	Not Required	Not Required

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		Greenheck	Loren Cook	MK Plastics	Plasticair	Twin City	
Feature	Benefit / Comment	 Vektor®-CD	 CA-VP/S/A	 Axijet F/S	 Skyplume G1-EL	 Skyplume G1-SC	 BAIFE/BCIFE
Performance Ranges	Volume and static pressure each fan is capable of exhausting.	1,500 - 122,000 cfm Up to 13.5 in. wg	1,500 - 143,800 cfm Up to 12.0 in. wg	1,200 - 95,000 cfm Up to 10.0 in. wg	Up to 75,000 cfm Up to 12.0 in. wg	Up to 123,000 cfm Up to 17.0 in. wg	Up to 135,000 cfm Up to 16.0 in. wg
AMCA Certification	Independent, third-party certification of Fan Energy Index, Sound and Air Performance.	Induced Flow Fan Air and Sound	FEI, Induced Flow Fan Air and Sound	Induced Flow Fan Air and Sound (on certain sizes)	Induced Flow Fan Air and Sound	Induced Flow Fan Air and Sound	BAIEE: Induced Flow Fan Air and Sound
UL Certification	Independent, third-party certification of UL 705 for electrical.	Yes	Yes	No Data	No Data	No Data	Yes
Wind load Certification	MPH rating the entire system can withstand without the use of guy wires.	125 mph	125 mph	125 mph	125 mph	125 mph	125 mph
Vibration Balance / Testing AMCA 204-05	Level of factory testing performed. Written vibration report available from Greenheck at no charge.	Category BV-4 <0.10 in./sec peak	Yes No Data	Category BV-3 <0.15 in./sec peak	No Data	No Data	Category BV-3 <0.15 in./sec peak
Drive Arrangement	Belt: Easier field adjustments for airflow and static pressure (Arrg. 1, 9 and 10). Direct: Direct coupled.	Belt and Direct	Belt and Direct	Belt and Direct	Belt and Direct	Belt and Direct	Belt and Direct
Wheel Type	Type of wheel used in fan housing.	Centrifugal, backward- inclined airfoil	Centrifugal, backward- inclined airfoil	Centrifugal, backward- inclined airfoil	Centrifugal, backward-inclined	Centrifugal, backward- inclined airfoil	Centrifugal, backward- inclined airfoil
Materials of Construction and Finish	Material for correct application and finish. Epoxy and FRP material break down with exposure to sunlight.	Coated Steel with LabCoat™	Coated Steel with Phenolic Epoxy	Fiberglass Reinforced Polymers (FRP)	Fiberglass Reinforced Plastic (FRP)	Coated Steel or Aluminum	Steel, Aluminum, Stainless
Dilution / Nozzle	Entrains ambient air to dilute the lab exhaust air. Results in greater mass flow at discharge and greater plume rise.	Yes	Yes	Yes	Yes	Yes	Yes
Dilution / Nozzle Construction	Material for correct application and finish. Offer superior resistance and longevity for lab exhaust applications. Epoxy and FRP material break down with exposure to sunlight.	Coated Aluminum with LabCoat™ (4 to 6 mils)	Fiberglass Reinforced Plastic (FRP), Aluminum, or Coated Steel with Phenolic Epoxy Powder with UV Topcoat (5 mils)	Fiberglass Reinforced Polymers (FRP) with Plastifier™ Epoxy	Fiberglass Reinforced Plastic (FRP) with Epoxy	Coated Steel or Aluminum with Heresite 413-P	Coated Steel or Aluminum with Epoxy
Spark Proof Construction	Ability to meet demands of application for spark resistance. NOTE: FRP blowers require optional graphite liner.	AMCA B or C	AMCA A, B or C	AMCA A, B or C	AMCA A, B or C	AMCA A, B or C	AMCA A, B or C
Bearings	Bearing type and life.	Concentric Lock L ₁₀ 80,000 hours, std. L ₁₀ 200,000 hours, opt.	No Data L ₁₀ 40,000 hours	No Data L ₁₀ 200,000 hours	Pillow Block L ₁₀ 200,000 hours	Ball or Roller Type L ₁₀ 110,000 hours	Pillow Block L ₁₀ 200,000 hours
Drain in Housing and/or Plenum	Allows for removal of rain or condensation.	Fan and Plenum	Fan Only	Fan Only	No Data	No Data	Fan and Plenum
Sizing of Belts	Indication of durability. Industry Standard = 150% of BHP.	200%	150%	150%	150%	150%	200%
Vibration Isolation	Used to isolate the fan from building structure. Isolation may be required in seismic zones.	Restrained Vibration Isolators	Vibration Isolators	No Data	No Data	No Data	Vibration Isolators

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