

Laboratory Exhaust Systems Inline Dilution Selection Criteria & Consideration Facts

Building Value in Air.		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 air and sound performance.	Induced Flow Fan Air and Sound	FEI, Induced Flow Fan Air and Sound	Induced Flow Fan Air and Sound	Tri-Stack Series M: Induced Flow Air and Sound Tri-Stack Series TS: 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
Windload 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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