

vcPlume-Lite

PRODUCT GUIDE



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INTRODUCTION

vcPlume-Lite

High Plume Centrifugal Laboratory Exhaust

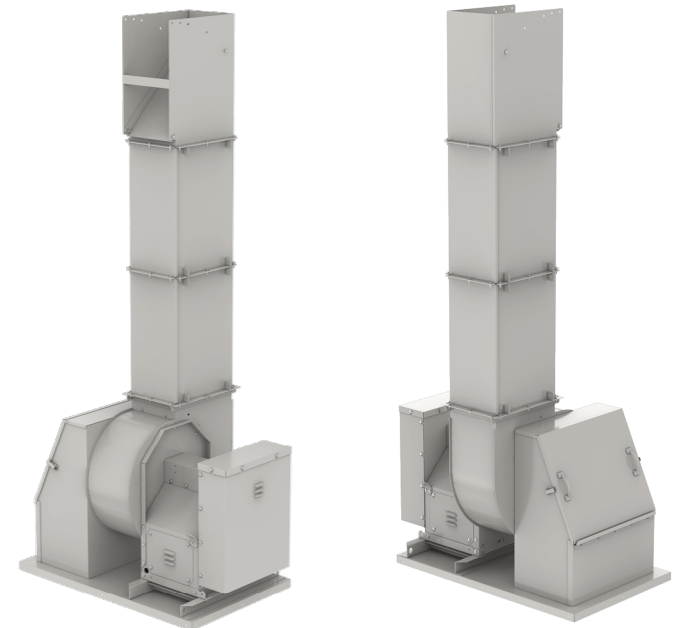
The vcPlume-Lite is a high-efficiency Pre-engineered exhaust solution designed to safely and effectively disperse hazardous or unwanted fumes, safeguarding your environment by preventing re-entrainment through adjacent ventilation systems. Engineered for durability and flexibility, it features a broad performance range supported by robust construction and energy-smart technologies - including Electronically Commutated (EC) and Premium Efficient Induction Motors paired with Variable Frequency Drives - for precise airflow control and optimized energy usage.

Ideal for a wide range of demanding environments, vcPlume-Lite delivers reliable performance for all types of applications including academic labs, biohazard / biomedical labs, pharmaceutical facilities, manufacturing plants, and hospital research spaces.

vcPlume-Lite Direct Drive (Sizes 060-330)



vcPlume-Lite Belt Drive (Sizes 060-365)



Static Pressure up to 12.5 in. w.g.
(3113 Pascal).

Flow capacity up to 37,000 CFM.
(62863 Cubic meter/hour).

CERTIFICATIONS

PennBarry utilizes AMCA and UL to certify fan for air and sound performance, efficiency, and electrical safety to meet the demands of a diverse range of applications.

AMCA SOUND & AIR

AMCA Certified Rating Seal

PennBarry certifies that the vcPlume-Lite Fans shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.



vcPlume-Lite

UL 705 LISTED

Power Ventilator

vcPlume-Lite Fans carry the UL label, 705 Power Ventilators (ZACT, ZACT7): File #E28413.



FEATURES AND BENEFITS

BEARING LIFE

Bearings are sized for a minimum L10 life 80,000 hours of operation. They require no maintenance other than periodic lubrication. Standard Zerk lube fittings allow for ease of lubrication.

SOLID STEEL SHAFTS

Sized to withstand a minimum of 125% of maximum catalogued operating speed, shafts are precision ground, polished, and treated for rust resistance.

DURABLE WELDED HOUSING

vcPlume-Lite blowers are provided with a continuous welded housing, for strength and durability. Coated, mild steel housing is standard with optional aluminum housing available.

MOTORS AND DRIVES

Preset at factory. V-belt drives are set to at least 150% of driven HP. Offering Induction and Electronically Commutated (ECM) motor solutions. See page 14 for additional details of the Motor and VFD solutions.

INTEGRAL LIFTING LUGS

All units are furnished with lifting lugs integrated into the inlet cover and drive pedestal.

HEAVY DUTY SUPPORT FRAME

The heavy duty support frame provides a strong structural foundation for the motor and drive assembly, as well as rigidity to support the housing.

GASKETED ACCESS DOOR

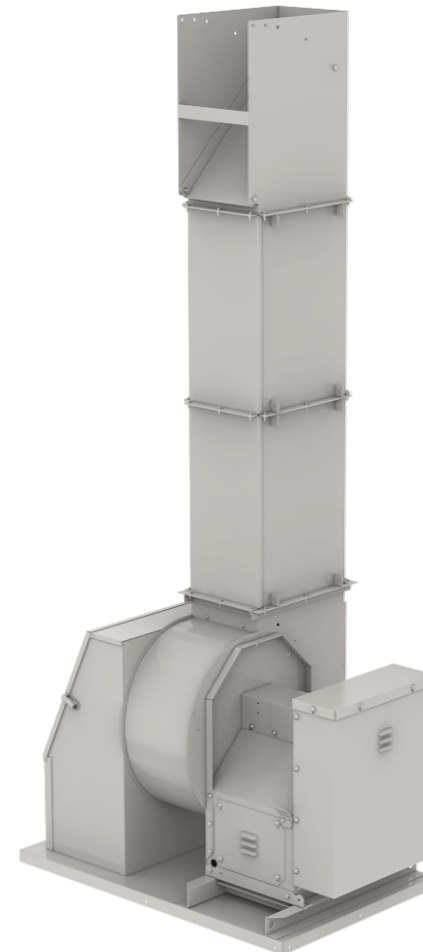
The standard gasketed and bolted access door enables easy inspection of internal components.

BACKWARD INCLINED WHEEL

vcPlume-Lite ventilators use PennBarry's computer designed wheel. They are backward inclined and non-overloading, constructed of high strength aluminum or steel construction. All vcPlume-Lite wheels provide a high level of static efficiency while reducing start-up torque. All wheels are statically and dynamically balanced to minimize vibration levels and extend the service life of the fan.

SLIP FIT INLET

Some applications for Housed Centrifugal Fans call for the use of flexible connectors. The vcPlume-Lite is supplied with a slip fit inlet as standard. This reduces the total fan length and the cost for slip connections.



OPTIONS & ACCESSORIES

COATINGS

The fan housing is available with optional for Air Dry Epoxy with UV Topcoat, Air Dry Phenolic Epoxy with UV Topcoat and an Epoxy Powder Coat for laboratory applications, approved for 4,000 HR Salt Spray. All coating options come standard in Gray color, see Colors and Coatings brochure for additional options.

DISCONNECT SAFETY SWITCHES

NEMA-3R non-fused, rotary type switches are available for easy power disconnect at the fan.

INTERNAL WIRING

NEMA-3R for internal wiring of electrical components.

STAINLESS STEEL SHAFTS

Available on belt drive units for highly corrosive environments.

DRAIN CONNECTIONS

A 3/4 inch NPT connection at the lowest point of the scroll allows any moisture to exit the fan housing.

EXTENDED LUBE LINES

Lube Lines allow easy bearing lubrication when a weather cover or shaft guard is installed preventing direct access to the bearings. Lines are prefilled prior to shipment.

EC MOTOR CONTROLLER OPTIONS

Onboard Potentiometer and 0-10 VDC Remote Output
iQ Controllers available
0-10 VDC BMS Wire Harness

VARIABLE FREQUENCY DRIVES

Variable Frequency Drives (VFDs) are designed to meet performance requirements while increasing efficiency. By varying the fan motor input frequency and voltage, the VFD controls the motor speed and torque, helping to improve productivity and lower energy consumption. Available Mounted or shipped loose for field wiring and installation.

HEIGHT SAVING ISOLATION RAILS

Constructed of high strength steel and used with spring isolators.

SHAFT GROUNDING

When Induction (Totally Enclosed and Open Drip Proof) motors are used with VFDs, Shaft Grounding can be added to the motor to help protect the bearings against shaft currents.

VIBRATION ISOLATORS

Spring Restrained Isolators - Add for non-curb applications, especially where wind loading is a concern.

SPARK RESISTANT CONSTRUCTION

Available in type A, B, or C construction adheres to the guidelines defined by AMCA 99.

INLET GUARDS

Inlet Guards provide safety in non-ducted installations. Inlet Guards are constructed of heavy gauge steel wire and are easily removable for maintenance personnel cleaning or inspection.

FLEXIBLE DUCT CONNECTORS

Used as an alternative to rigid connections. These duct connectors are highly recommended to reduce vibration transmission through the duct work. Outdoor connectors contain UV protection suitable for that environment.

WEATHER COVER

The weather cover protects the motor and drive components from weather and other detrimental conditions. Steel covers are easily removed and reinstalled with typical mechanical fasteners. Cover also acts as a guard to protect personnel from rotating drive assemblies. Tamper proof hardware is available to provide an extra layer of safety to minimize unauthorized access.

SHAFT GUARD

Covers the shaft and bearings to help protect against accidental exposure while the fan is running. Included as part of weather cover. Two piece construction for ease of assembly, and offered in material to match housing material. Meets OSHA requirements.

OPTIONS & ACCESSORIES

BELT GUARD

Covers the belts the belts and pulleys to help protect against accidental exposure while the fan is running. Removable top and front cover for quick inspection. Included as part of weather cover, and offered in material to match housing material. Meets OSHA requirements.

FLANGES

Punched Flanges and Companion Flanges are available for the fan Inlet. Coated mild steel is standard but material will match housing material selection. Outlet is standard with continuous welded and punched flange.

Flanges facilitate the connection of duct work Companion flanges are also available when the vcPlume-Lite is connected to duct work by a transition section. The companion flange fits the fan to the transition and allowing for proper sizing.

ACCESS DOORS

Bolted access door is standard. A hinged access door option is available and ideal to keep parts/guards local to the fan.

SHAFT SEAL

Neoprene and ceramic shaft seals are available where the shaft penetrates the fan housing. Shaft seals are secured in place by fastening an aluminum rub ring / retainer plate to housing.

AUTOMATIC BELT TENSIONER

Belt tensioner increases life of the belts by maintaining proper tension and reducing maintenance to tension belts. Tensioners are available up to 10-hp motors. (Not available on Life Safety applications).

PIEZOMETER RING

Piezometer Ring measures the pressure differential across the fan inlet which can be converted to an airflow measurement. An optional transducer (w/ readout) is available, along with the option to mount the transducer and transformer to power (24V) transducer.

CURB CAP AND INLET BOX

See page 8 for details.

ROOF CURB

See page 11 for details.

DISCHARGE STACK

See page 9 for details.

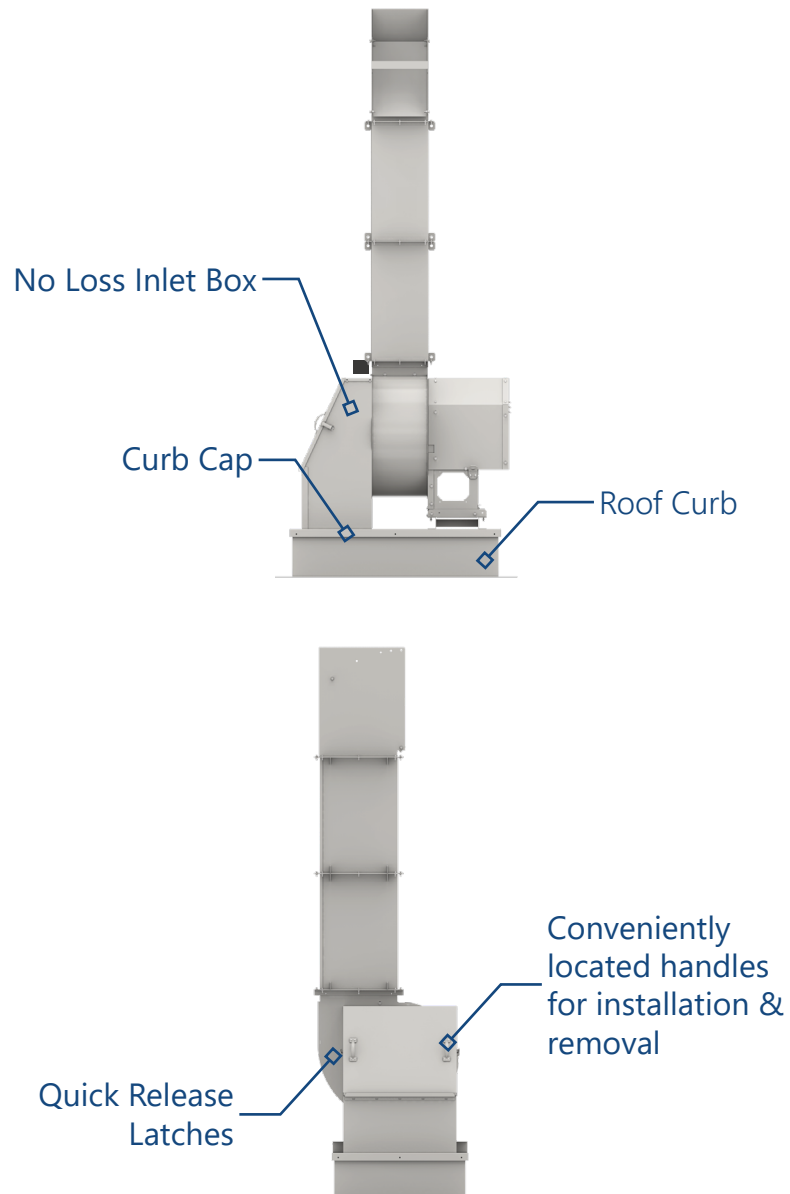
DUCT DROP FOR CURB

Welded steel and coated. Divider for duct to be galvanized and not coated. See page 11 for example.

FAN PACKAGES

CURB CAP AND INLET BOX

BENEFITS

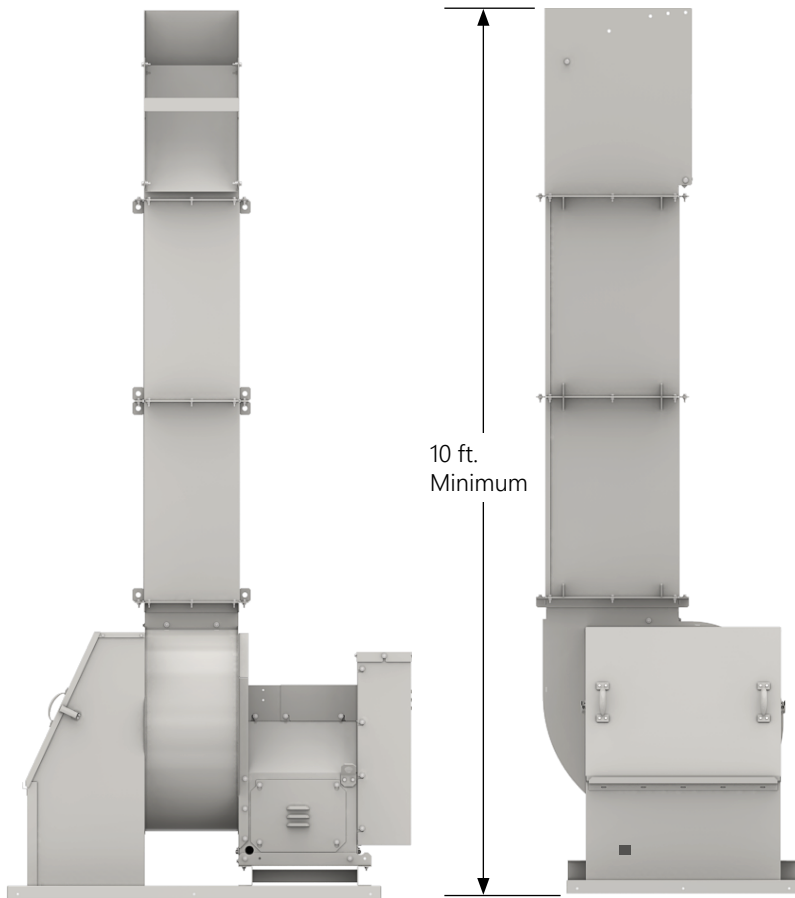


- vcPlume-Lite sizes 60-270 are available with optional integral curb cap and inlet box. Contact the factory for availability of larger sizes.
- The inlet box is designed to have less than 1% impact on performance
- Large gasketed access doors feature quick release latches for quick inspection.
- Fully welded box to minimize leakage.
- Configurable roof curbs (See Page 11)

FAN DISCHARGE

STACK EXTENSION AND NOZZLE

PennBarry can provide a pre-engineered stack to extend the vcPlume-Lite discharge to 10ft. Helps prevent contaminated air from re-entering the ventilation system.



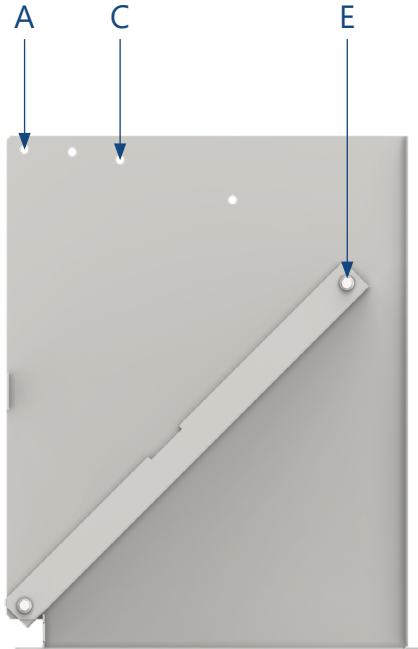
BENEFITS

- Rated up to 125 mph without guy wires when used with Curb Cap and Inlet Box. Otherwise guy wires needed.
- Exhaust Stack designed to meet requirements of ANSI/AIHA Z9.5; minimum 10ft discharge above adjacent roof line.
- Available for sizes 60 to 365 for standard construction & up to 270 with curb cap and inlet box.
- Versatile with/without curb cap and inlet box. Direct drive or belt drive.

FAN DISCHARGE

NOZZLE

PennBarry vcPlume-Lite Nozzle has five distinct blade positions to control outlet area & discharge velocity depending on the system requirements.



A - Maximum nozzle position (Default from Factory)

C - Intermediate nozzle positions

E - Minimum nozzle position

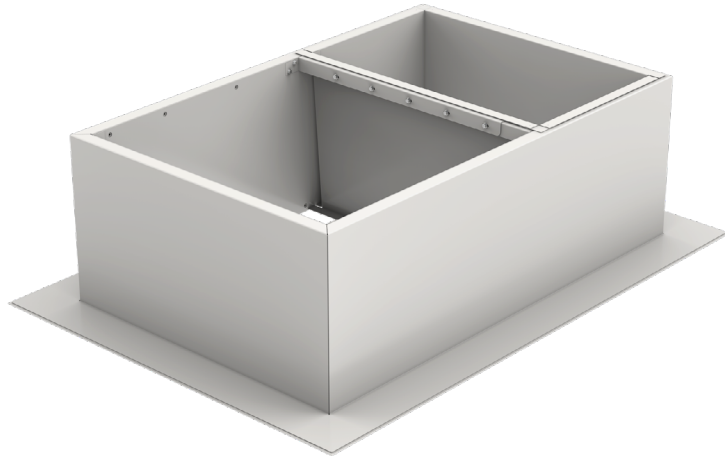
BENEFITS

- Adjustable discharge area to change outlet velocity and plume rise
- Five distinct blade positions to provide widespread operating range
- User-Friendly design allows changes without specialized tools

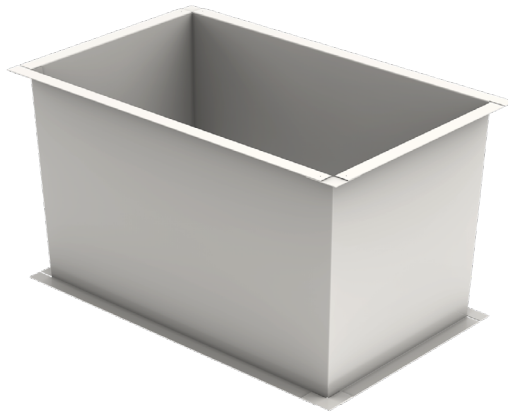
CURB

CURB AND DUCT DROP

BENEFITS



Curb with Duct Drop



Optional Duct Drop

STANDARD CONSTRUCTION

- Coated steel exterior
- Heavy Duty Welded construction
- Various heights of 12, 14, 16, 18, 24
- Neoprene Gasket

LINER AND INSULATED (OPTIONAL)

- Stainless steel lined and insulated

DUCT DROP (OPTIONAL)

- Length to be equal to or greater than curb height
- Coated and fully welded steel construction
- Drop sits on top lip of curb
- Bolted cross brace provided for support
- Allows for easy connection to ductwork

MOTOR AND VFD AVAILABILITY

Unit Size	ECM Motor		Induction Motor	
	Motor HP Range - 1/6 hp to 3/4 hp		Motor HP Range - 1/4 hp to 60 hp	
	Motor RPM Range - 500 to 1725		Motor RPM Range - 900, 1200, 1800, 3600 (750, 1000, 1500, 3000 50 hz)	
	Motor Enclosure - OPAO		Motor Enclosure - ODP, TEFC, EXP	
	Phase-Voltages - 1-ph: 115V/230V/277V		Phase-Voltages - 1-ph: 115/230, 3-ph: 230/460 (380-480) (50hz)	
	Direct Drive	Belt Drive	Direct Drive w/ or w/o VFD	Belt Drive w/ or w/o VFD
60	Yes	N/A	Yes	Yes
70	Yes	N/A	Yes	Yes
80	Yes	N/A	Yes	Yes
105	Yes	N/A	Yes	Yes
122	Yes	N/A	Yes	Yes
135	Yes	N/A	Yes	Yes
150	Yes	N/A	Yes	Yes
165	N/A	N/A	Yes	Yes
182	N/A	N/A	Yes	Yes
200	N/A	N/A	Yes	Yes
222	N/A	N/A	Yes	Yes
245	N/A	N/A	Yes	Yes
270	N/A	N/A	Yes	Yes
300	N/A	N/A	Yes	Yes
330	N/A	N/A	Yes	Yes
365	N/A	N/A	N/A	Yes

NOTE: N/A = Not Available, Yes = Available



PENNBARRY PRODUCT SOLUTIONS



Commercial

Roof & wall exhaust centrifugal fans
Ceiling, wall, & inline centrifugal fans
Roof supply centrifugal fans
Square & round centrifugal fans
Wall mounted axial fans
Hooded roof axial fans
Upblast roof axial fans
Gravity ventilators
Roof curbs



Industrial

Freestanding centrifugal fans
Industrial & material handling fans
Tubular centrifugal inline fans
Mixed flow centrifugal fans
Plenum fans
Wall mounted propeller fans
Tube axial fans
Vane axial fans
Lab exhaust



Kitchen ventilation

Exhaust fans

PennBarry is proud to be your preferred manufacturer of commercial and industrial fans and blowers. Learn how PennBarry can assist you in your next application by contacting your PennBarry Representative or visiting us on the web at www.pennbarry.com

PennBarry | www.pennbarry.com | pbtsr@pennbarry.com | Tel 765 483 5860

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