

# HY-PLUME

INDUCTION EXHAUST SYSTEM



PENNBARRY™



**FINALLY!**

**A CRITICAL EXHAUST ASSEMBLY  
THAT PERFORMS IN A  
DYNAMIC ENVIRONMENT  
(CROSSWIND).**



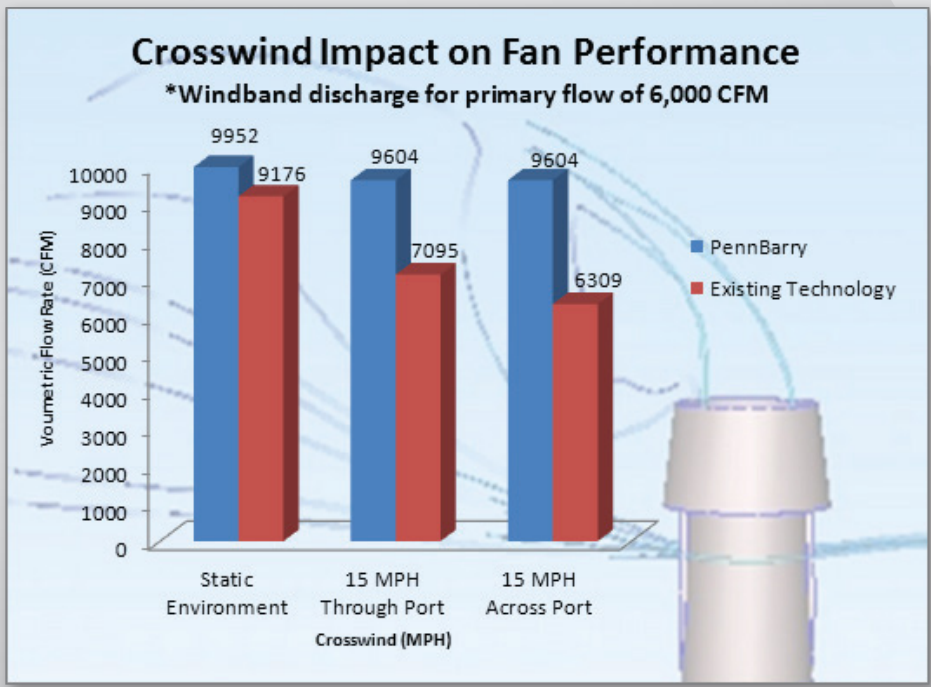
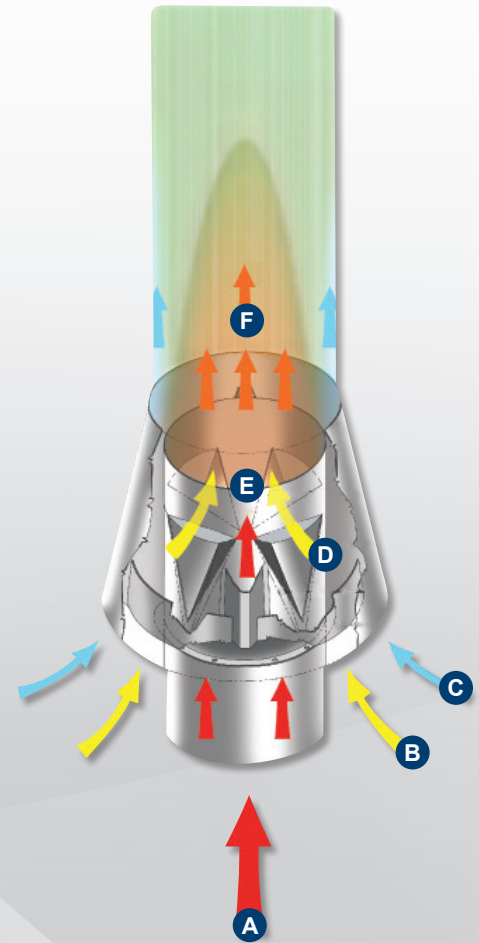
## GREAT PERFORMANCE IN A DYNAMIC ENVIRONMENT

PennBarry's family of HY-PLUME exhaust assemblies discharge building effluent high into the atmospheric jet stream. The HY-PLUME Induction Exhaust System (Left) is designed for critical applications and relies on an efficient mixed flow fan coupled to a unique induction nozzle which sufficiently dilutes and propels the contaminated airstream to the required effective stack height. The HY-PLUME induction systems are designed to perform in a true "DYNAMIC" condition where crosswinds exist. The available combinations of fans and nozzles provide a reliable, cost effective, alternative to unsightly tall stacks. Also available from PennBarry is a non-induction type HY-PLUME model (Right) for non-critical applications.

# HOW IT WORKS

PennBarry's HY-PLUME induction nozzle (patent pending) is the industry leading technology for critical laboratory and diesel exhaust applications.

- A** Primary exhaust exits the purpose-built mixed flow fan and enters the induction nozzle. The armored induction nozzle has the unique ability to induce fresh air and dilute the primary airstream.
- B** Fresh ambient air enters the protected internal induction ports. The ports rely on the Venturi principle and physics to create an aspirating effect with no moving parts. The induced air encapsulates the contaminated primary effluent as it enters the windband / plume development chamber.
- C** Additional ambient air is induced directly into the windband and further dilutes the contaminated airstream.
- D** The induction and primary airstreams enter the multi-purpose windband / plume development chamber. The full-length Windband protects the induction ports from crosswinds and provides a means for the induced and primary airstreams to merge.
- E** The merged exhaust volume is accelerated to critical discharge velocity as it exits the windband.
- F** The outlet velocity profile at the system discharge is uniform, ensuring maximized plume integrity and resilience to crosswind degradation.



Plume performance minimally impacted in dynamic ambient conditions (crosswind).

- Accurately rated plume performance.
- Dilution maintained.
- System performs as rated.

Find more information on-line by scanning the QR code (right) with a smart phone or tablet.

