

solutions provider

A SYSTEM THAT BLENDS SIMPLICITY WITH COMPLEXITY

FUMES BACKFLOW PROBLEM ?? we have the perfect solution

The Problem : Smoke Gets In Your Eyes

Backflow of engine fumes is a frustrating and common problem that many oil rigs have been grappling with. Due to low outlet velocity, fumes generated from engines onboard rigs do not get propelled far enough before being dispersed into the atmosphere. As such, they get trapped below (due to the common design of current systems) or around the vessel, thereby creating an unfriendly working environment. In an attempt to solve this problem, some rig owners have resorted to frequent turning of the entire rig, so that wind will carry the engine fumes along with it and away from the vessel. Nonetheless, this is an ineffective solution to the problem since constant turning of the whole rig is counterproductive.

Our Solution : A System That Blends Simplicity With Complexity

Azen's answer to the above problem was our very own in-house Custom Design Axial Exhaust Blower System, comprising of a specially designed Marine Duty Bifurcated Vaneaxial Fan and our high efficiency Weather Louver cleverly assembled with some pipes. Together, they would be responsible for propelling the engine fumes 10 to 15 meters away from the oil rigs, eventually solving the fume backflow problem that all oil rigs have to deal with.

Mechanics of Azen's Axial Exhaust Blower System

With the requirement for an air throw of 10~15 meters at 2,500~3,000 FPM, our custom designed system must be capable of producing sufficient air velocity in order to convey the fumes to the desired distance. To do so, Azen's Axial Exhaust Blower System is specifically designed with a high outlet velocity in order to achieve the required air throw.

Based on Air Discharge Characteristics, when a designed outlet velocity of at least 6,000 FPM is created, our Axial Exhaust Blower System will be able to retain a centerline velocity of 3,000 FPM at approximately 12 meters away from our system's outlet, thereby satisfying the conveying velocity for fume and light dust.

While it may seem extremely simple to collectively assemble the components, the designing of the entire Axial Exhaust Blower System was an extremely complicated process, with the need to pay much attention to the many intricate engineering details involved: angles at which the pipes were connected had to be precisely calculated, diameters of the connecting pipes had to be of a certain ratio, back pressure must be absent and a natural draft had to be created to aid in the breathing of the engine etc. This is in addition to other hidden modifications that were performed, extras that would play a crucial role in perfecting the entire system!

Ultimately, what was presented to our customer was a simple looking, creative, and most importantly, cost effective solution to address a real problem that oil rigs are facing.



AZEN MANUFACTURING

A Twin City Fan Company

AZEN Manufacturing Pte Ltd

Astounding **Results** : Outlet Velocity and Air-Throw that Exceeded Requirements



To ensure that Azen's Custom Design Axial Exhaust Blower System was true to its claims, a test was done in the presence of our client's engineering team at our facility. To our customer's greatest satisfaction, not only did our system achieve the required outlet velocity, it far exceeded the required amount, thus propelling the engine fumes to an even greater distance away!

Clearly, with our strong engineering applications know-how and technical knowledge, Azen Manufacturing Pte Ltd is extremely confident of solving all problems associated with ventilation that customers from all industries may be facing. With Azen's Axial Exhaust Blower System, the problem of smoke in one's eyes will be a thing of the past.

product feature

TCF Aerovent **Marine Duty Vaneaxial Fan** :

Aerovent's Marine Duty Vaneaxial Fans are specifically designed for the marine duty market. Featuring medium and high static pressure capabilities from 0" to 5" and air volumes to 127,000 CFM, they offer a heavy duty, compact design for various marine duty applications such as:

- Machinery Ventilation
- General Bulkhead Ventilation
- Cargo Hold Ventilation
- Engine Room Ventilation
- Heating & Air Conditioning

Azen **High Efficiency Weather Louver** :

Designed and manufactured specially with the Marine Industry in mind, Azen High Efficiency Weather Louver has been used extensively onboard oilrigs, power barges etc. Features include:

- Designed for High Velocity for Intake Exhaust
- Stationary Double Drainage
- Extreme Low Water Penetration
- Low Pressure Drop Across Louver
- Free Area of Approximately 52%
- Heavy Gauge Construction for Excellent Strength & Stability
- Extremely Corrosion Resistant
- Performance Test in Accordance to AMCA 500-L-99



Azen Manufacturing Pte Ltd your solutions provider

Azen Manufacturing is extremely privileged to be part of the Twin City Fan Companies group, one of the largest and most recognized fan manufacturers in the United States. At Azen Manufacturing Pte Ltd, you can find an extensive range of products to meet all your air handling needs: centrifugal fans & blowers, axial fans, roof ventilators, louvers etc. All our products comply with strict standards of international bodies like AMCA, ASME and BS.

However, we are not merely a fan supplier. Azen Manufacturing is a **solutions provider**. Our core competency lies in the ability to come up with **creative** and **effective solutions** to meet the needs of all customers, at a reasonable cost. This is coupled with superior service before and after the sale.

*We are proud to say that Azen's Axial Exhaust Blower System is our company's Registered Design. For more information on how to get rid of the 'smoke in your eyes', kindly contact us at :
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