

Solutions for

# HVAC/ Refrig- era- tion

Focus  
**Train  
Applications**

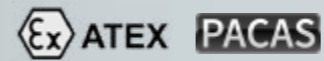
Axial Fans and Clutches

# Smart Fan Technology

WingFan's core competence in aerodynamic engineering allows us to develop advanced technology blade profiles to minimize fan power consumption with the lowest noise emissions.

Advanced CFD development tools enable us to offer highly efficient and light weight fan solutions for all types of HVAC and refrigeration fans. Various blade materials are available to meet the requirements of almost any application. Validation of fan performance data is performed on our state-of-

the-art wind tunnel built according to AMCA Std. 210-99 (fig.15). Compliance to the ErP energy efficiency directive for electrically driven fans can be easily checked using the integrated ErP feature in our SELECT fan selection software.



## Anti-Static fans

Our flame retardant carbon fiber reinforced **PACAS** blade material is suitable for all **ATEX**, mining and offshore applications with a temperature range from -40 to 110°C. Special epoxy coatings can also be applied to the hubs to further improve the resistance to sparks caused by debris impact. Typical applications: Compressors, oil and gas industrial coolers, chemical plant coolers.

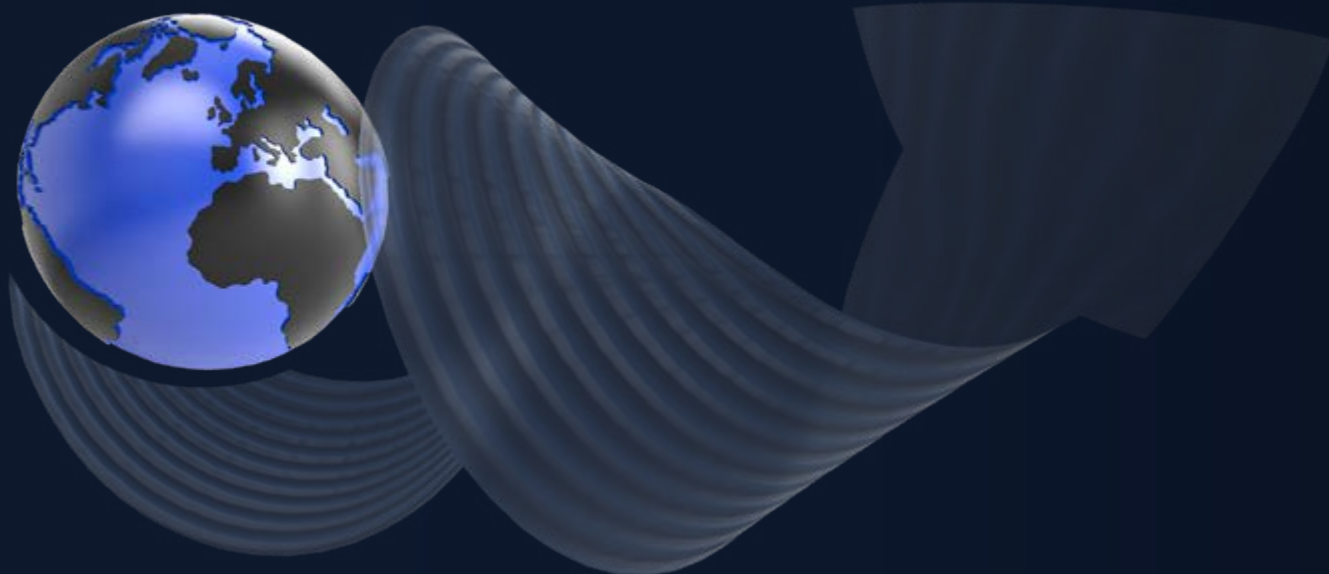
## BLEX® the gap

With WingFan's BLEX® technology, the **static pressure is dramatically improved** and the noise may be reduced by 2 to 3 dB(A). The **noise at the fan blade tips** caused by air slippage and turbulence **is significantly reduced** due to minimized tip clearances.

The same air flow can be achieved while reducing pitch angle and fan speed, thus lowering power consumption. The overall **system efficiency is increased** by up to 20% resulting in significant **fuel/energy savings**.

The flexible nylon fabric is designed to adapt the fan diameter to the contour of the shroud thereby reducing the clearance close to ZeroTip®.

All regular blade profiles in the WingFan product range made of PA and PAG material are available with state-of-the-art BLEX® technology.





# Train Applications

WingFan has developed a special fan blade material PAGAFR\* that meets most fire standards worldwide (e.g. **EN 45545-2**

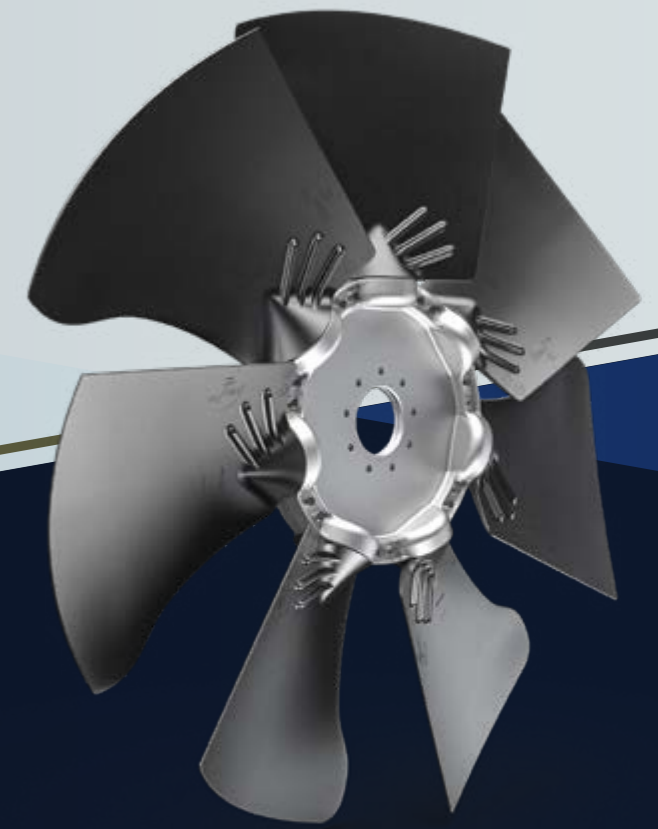
and **NFPA 130**) to comply with the latest and most stringent international safety standards for rail applications.



**Special materials that meet most fire standards worldwide**

Our fans can also be offered with special corrosion resistant hub coatings and railway compliant fastening systems. We have the right fan solution for roof mounted or underfloor HVAC units (split

or compact), as well as extra-heavy duty large diameter fans for locomotive cooling systems. WingFan axial fans are also suitable for hydraulically driven reverse operation to clean clogged coolers.



**Low noise and robust**

High performance with low noise emissions are two requirements that **S45Y** achieves in modern train applications.



**Overcome high resistance**

The **S14H** in an 8 bladed configuration overcomes even the highest cooling package resistances with minimum noise.



**PAGAFR**

\*PAG Advanced Flame Retardant

Smart Fan Selection Software

# We make things easier for you!

**WingFan SELECT 3D**, the leading fan selection software in the industry, is the best tool to **support your fan sizing**. Learn about the unique features like 3D visualization, resonance data, project management or 3D file export.

Free download at  
[wingfan.com](http://wingfan.com)



## 3D Visualization

The feature create highly accurate 3D visualizations to show what the fan configuration will look like once completed.



## Resonance Check

This particular feature identify and/or confirm a high vibration level caused by a resonance frequency caused by the chosen fan speed.



## Performance Data

The feature is intended to provide an overview of the performance of the selected fan and its parameters.



## 3D Animation

Automated 3D Animation provides a faster way to easily visualize the function and behavior of your fan configuration.



## Drawing Export




Each individual fan selection can be exported as a technical drawing to the Portable Document Format (PDF).



## 3D File Export

An important function in the data exchange relationship between the SELECT and CAD worlds is the ability to port the Fan assembly into mechanical design software for the purposes of physical clearance checking.




-  WingFan Headquarters
-  Subsidiaries with full local production facility
-  Licenced distributors



WE DELIVER TO ALL FIVE CONTINENTS



## We think global and act local!

WingFan with its headquarters in Hamburg, Germany is operating a global network of manufacturing on 5 continents and distribution in over 36 countries.

WingFan also offers phone support for your product and technical questions. To discuss a specific application, specification question or request a prototype, contact the WingFan location closest to you.

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