

MEDICAL

Blowers & Motors



Motors & Blowers

for Medical Applications

Medical care depends on high-quality equipment. The success of this equipment depends on durable components built for performance, safety, and low noise. To make sure equipment is functioning optimally, high-quality motor and blower technology is required. At AMETEK Dynamic Fluid Solutions (DFS), we're proud of our decades-long experience offering industry-leading motors and blowers specifically designed for the medical industry's wide range of requirements.

AMETEK DFS Medical Overview

At AMETEK (DFS) we are proud designers and manufacturers of optimized blowers, motors, and control boards used in the medical industry.

AMETEK DFS provides our customers with almost 120 years of experience in: product design and development, precision engineering, pre-production to commercialized manufacturing, supply chain management, and quality assurance.

Airflow design is our specialty, and we are market leaders in this space with engineers having a combined 625+ years of experience to back that up!

We have passion for innovation and collaboration with customers to address complex challenges and produce optimal solutions.

AMETEK DFS creates value for its customers through a collaborative approach to iterative design and development, supply chain integration, manufacturing, and regulatory compliance.

Medical Applications Served

- Low Loss Air Mattress
- Surgical Smoke Evacuation
- Sterilization
- Dental Evacuation
- Laboratory Analysis
- Pill Dispensing
- Respiratory Assistance



For many decades, AMETEK DFS has designed and manufactured Windjammer® Brushless Blowers and Lamb® Vacuum Motors to serve the medical market.

Designed for reliability and performance, these product lines are ideal for medical applications.

Lamb®

Thru Flow



Fan Diameters 5.7, 5.4, 5.1, 4.8, 4.3, 4.2
Stages 1 and 2
Voltages 12 to 240

Bypass



Fan Diameters 9.0, 8.4, 7.2, 6.6, 5.7, 5.1, 4.8, 4.2
Stages 1, 2, 3, 4, 5, and 6
Voltages 12 to 240

Windjammer®



WINDJAMMER 5.7" PRO



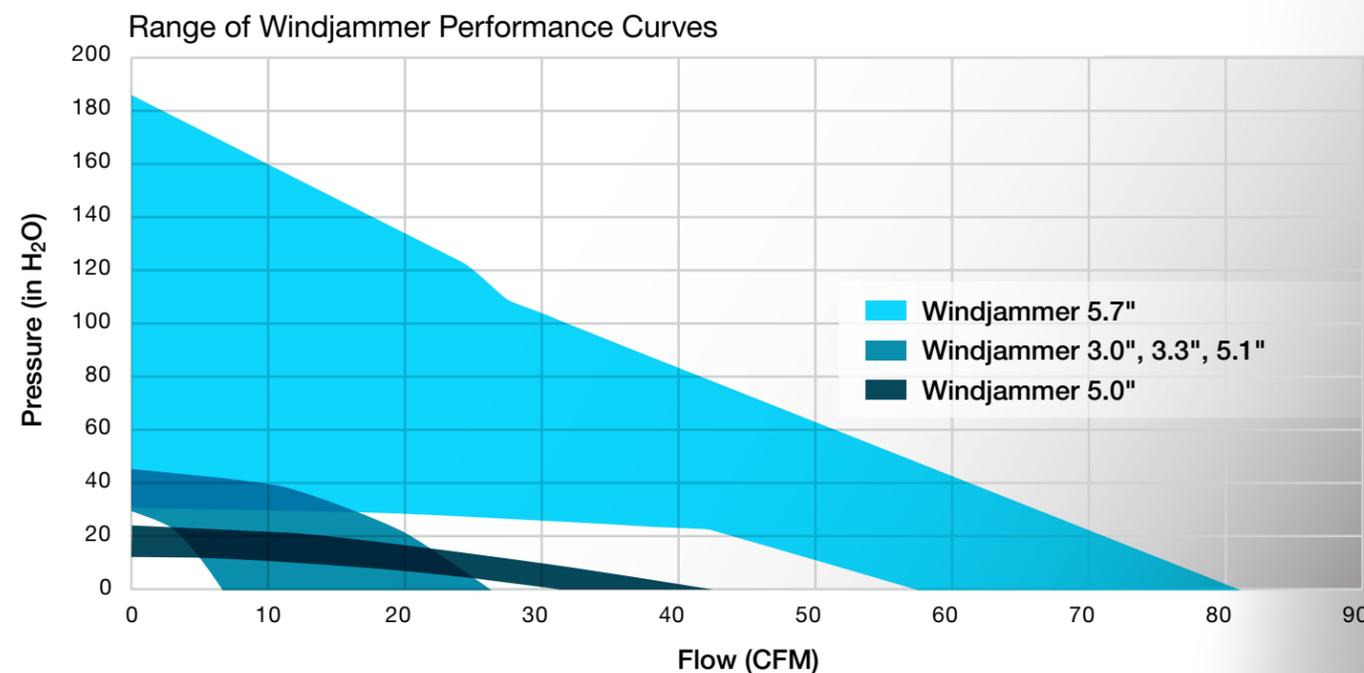
WINDJAMMER 5.7" Thru-Flow & Bypass



WINDJAMMER 3.0", 3.3" and 5.1"



WINDJAMMER 5.0"



Answer these questions to help select the right air-moving device:

- ▣ What is the maximum output pressure at what flow rate?
- ▣ What is the supply voltage?
- ▣ Is the BLDC controller external or internal to the blower?
- ▣ Are there any size considerations?
- ▣ Are there any sound considerations?
- ▣ What are the acceleration/deceleration rates?

Medical Air Bed Case Study

Problem

A new air bed manufacturer came to AMETEK DFS with a need for a reliable, high performing, low-noise mattress-inflating blower enabling low air loss and a fast rate of inflation. The point of a low air loss system is to redistribute patient weight over the largest area possible, immerse the patient in the air bed (not bottoming out), and wick away moisture to keep the patient cool and dry. The cost of such bed systems puts a premium on durability where systems can be in use for 10 years or more and warranties can extend to five years.

Solution

The AMETEK DFS reputation for domestically produced products helped influence the decision to trial our Windjammer® 5.7" thru-flow blower due to its power, size, and quietness.

Compared to conventional compressors that just provide air pressure, Windjammer blowers address air flow requirements as well as pressure. Compressors on low-cost mattresses just blow up the topper as if it were a conventional air mattress. Compressors also use brushed motor technology which wears out and does not support the durability requirements and warranties of low-loss air beds.

During the manufacture of Windjammer products, all bearing bores are machined to tight tolerances so fan alignment is better than on less expensive competing units. This, plus rotor balancing, makes for a quieter and longer-life blower.

The electronic controls on Windjammer blowers allow fine tuning of operating parameters which enables optimized performance.

AMETEK DFS engineers and the customer worked together to optimize blower operation. The application engineering team tuned the software to the exact performance requirements. The task was to match the operating parameters of the system, find the right signal level, and minimize noise of the system.

Result

The customer was pleased with their resulting product and appreciated our close collaboration and communication throughout the prototyping, trialing, and production process. This new bed was commercialized in 2022.



AMETEK, Inc.

AMETEK is a global leader in electronic instruments and electromechanical devices with colleagues at numerous manufacturing, sales and service locations in the United States and in many other countries around the world.

AMETEK Dynamic Fluid Solutions

For more than 100 years, AMETEK Dynamic Fluid Solutions (DFS) has helped OEMs differentiate their products by developing robust, flexible and durable blowers, motors and pumps under the brand names – Lamb®, Nautilair®, Prestolite Motors, ROTRON® Regenerative Blowers, ROTRON® Transportation and Windjammer®.

Our engineering experts understand technical challenges and can provide OEMs so much more than an off-the-shelf part. We are a true technology partner, offering customizable and collaborative fluid-moving solutions.

AMETEK DFS has worldwide sales representative support, research facilities and three manufacturing sites in the United States, China and Mexico. The company is headquartered in Kent, OH, which is also home to a state-of-the-art-engineering laboratory that helps customers expedite agency certifications, performance testing, prototyping and more.