

**GLOBAL DESIGNER AND MANUFACTURER**  
**OF AIR MOVING EQUIPMENT**



TWIN CITY FAN COMPANIES, LTD.

## THE GLOBAL LEADER IN THE FAN INDUSTRY

*We are comprised of a diverse group of fan companies that manufacture a full spectrum of air moving equipment across the globe.*

Our ability to design, test and deliver products within very tight time frames are among the many differentiators that separate Twin City Fan Companies from other fan companies. TCFC continues to be extremely successful at translating new ideas into innovative solutions and has aggressively expanded its product offerings to provide the most extensive line of products in the industry.

### WHO WE ARE

We are a group of the most trusted brands in the industry. Our worldwide locations means that we can help provide a solution to your HVAC needs... no matter the application, no matter the location.



OUR IMPRESSIVE DEPTH OF PRODUCT OFFERINGS COMBINED WITH OUR ENGINEERING CAPABILITIES HAS MADE US A TRUE "ONE-STOP-SHOP"

### CUSTOMER COLLABORATION IS KEY

As the industry leader in product development and design, it's no surprise that our customers repeatedly seek our expertise and product solutions for all of their air handling needs. They know that they can count on Twin City Fan Companies to handle any project regardless of its scope, complexity or unique requirements. By working closely with our customers to know their individual requirements and collaborate with them to share our engineering knowledge and expertise in fan applications, we can provide project-specific solutions. It is this "value added" service that has made TCFC the corporation we are today. It has allowed us to show our customers how much we respect their individual needs and has enabled us to develop in-depth relationships that have spanned decades.

TWIN CITY FAN COMPANIES PROVIDES OUR CUSTOMERS WITH THE EXACT PRODUCT FOR THEIR EXACT NEEDS. WE HAVE A FAN SOLUTION FOR VIRTUALLY EVERY INDUSTRIAL AND COMMERCIAL APPLICATION.



## PRODUCTS FOR EVERY MARKET & APPLICATION

Our product portfolio includes the highest quality centrifugal, axial and wall mounted fans in addition to a full line of power roof ventilators, air make-up units, door heaters and related equipment. The list of applications that utilize our products is practically endless and ranges from heavy-duty custom fans for industrial material handling to HVAC supply and exhaust fans for the commercial market. We have completed thousands of successful installations across the globe and have earned a proven track record within the global fan industry for tackling the most technically complex applications.



COMPREHENSIVE INDUSTRIAL AND COMMERCIAL PRODUCTS RANGE

We pride ourselves on the fact that we can support an extremely diverse range of industries on a global level by delivering products that meet our customer's exact requirements. Not only are we known as a one-stop-shop for all industrial and commercial air moving applications, but Twin City Fan Companies has earned a reputation for having the quickest turnaround and delivery times in the entire fan industry. Below is a condensed list of the industries and markets we support with a full line of products.

### *Industrial:*

Automotive, Textile, Nuclear Power, Pulp and Paper, Food Processing, Water Treatment, Petrochemical and Oil, Agriculture, Material Handling, Coal Processing, Foundries, Tunnel Ventilation, Dust Collection, Glass, Waste Management, Snow Making, Chemical, Recycling, Marine, Pharmaceutical, Cement and Lime, Transportation, Ethanol, Air Pollution Control, Energy Recovery, Mining, Marine and General Manufacturing

### *Commercial:*

Commercial Buildings, Laboratory & Fume Hood Exhaust, Schools, Hospitals, Hotels, Restaurants, Retail Shopping, Institutional Facilities, Centers, Sports Arenas and Stadiums, Airports, Data Centers, Emergency Smoke Control, Warehouses and Distribution Centers and HVAC OEMs



## CUSTOM / OEM DESIGNS

TCFC has been custom-designing products for our entire customer base for decades. By leveraging our expansive engineering and application expertise, we have become experts at tackling the most technically complex and unique applications. This often involves evaluating our customers' existing fan technology and, in many cases, requires us to redesign and prototype a fully-customized fan solution. We have worked side-by-side with the most prevalent companies in the world and have earned a reputation for turning ideas into innovative solutions. Our individualized efforts to satisfy the specific needs of our customers is yet another way that we continue to distinguish ourselves in the market.



# THE GLOBAL LEADER IN THE FAN INDUSTRY

## ENGINEERING AND TESTING CAPABILITIES

### STATE-OF-THE-ART TESTING LABORATORY

With the most sophisticated research and development testing laboratories in the industry, only Twin City Fan Companies has the collective experience and knowledge needed to tackle the most technically complex testing requirements for the most demanding environments.

The scope of Twin City Fan Companies' testing capabilities is very broad and covers a wide spectrum of in-house and on-site testing services. With this level of technology, we can continue to provide our customers with proven solutions to their particular air movement needs while ensuring that they receive the highest quality product for their exact requirements and structural needs. This includes the evaluation of existing systems to optimize equipment performance and reduce power consumption.



### TESTING CAPABILITIES

In today's business world, adapting to the needs of customers is more important than ever. That is why Twin City Fan Companies continues to make substantial investments to greatly enhance our comprehensive testing capabilities.

#### IN-HOUSE SERVICES

- > AMCA 204 BALANCE & VIBRATION TESTING
- > AMCA 210 PERFORMANCE TESTING
- > AMCA 250 JET FAN THRUST TESTING
- > AMCA 260 INDUCED FLOW TESTING
- > AMCA 300 SOUND TESTING
- > UL 705 SAFETY TESTING
- > HIGH TEMPERATURE/SURVIVABILITY TESTING
- > MECHANICAL RUN TESTING
- > NARROW BAND SOUND & VIBRATION TESTING
- > IMPACT (BUMP) & OVERSPEED TESTING
- > STRAIN GAGE TESTING & ANALYSIS
- > MODAL ANALYSIS TESTING
- > VIBRATION ANALYSIS & FFT SPECTRUM ANALYSIS
- > SCALED MODEL TESTING
- > CUSTOM / OEM PRODUCT DESIGNS

#### ON-SITE SERVICES

- > AMCA 203 & 803 PERFORMANCE TESTING
- > SOUND TESTING
- > VIBRATION ANALYSIS & FFT SPECTRUM ANALYSIS
- > BALANCE & ALIGNMENT TESTING
- > MODAL ANALYSIS TESTING & OPERATION DEFLECTION SHAPE (ODS) ANALYSIS

FOR MANY COMMERCIAL APPLICATIONS, UL 705 SAFETY TESTING IS REQUIRED TO ENSURE THAT THE MOTOR IN A POWER ROOF VENTILATOR WILL WITHSTAND VOLTAGE FLUCTUATIONS, OVERHEATING AND A VARIETY OF OTHER ABNORMAL CIRCUMSTANCES.



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### ENGINEERING SERVICES

TCFC products are engineered and optimized through a series of analyses and validation including Finite Element Analysis (FEA) and Non-Destructive Testing (NDT). These tools are used to verify the structural integrity of our products under various loading conditions and analyze the natural frequencies and the torsional natural frequencies. To better serve our customers, we can offer these services upon request.



# QUALITY MANUFACTURING

## CUSTOMIZED SOLUTIONS

Our unique mass-customized approach to manufacturing ensures that you are not only getting the fan elements your project demands – you’re getting a complete package of customized solutions. “Mass-customized” means you get cost efficiencies from an incredibly broad range of standard products, plus project specific flexibility that allows us to build on and customize our exceptional offerings.

We strive for the highest quality at every step of the manufacturing process – fabrication, welding, machining, painting, assembly, testing and crating. We offer a wide choice of construction materials and accessories for specialty applications including fiberglass, stainless steel, aluminum, hot-dip galvanized steel, abrasion and spark resistant alloys, along with numerous protective coatings.

OUR ABILITY TO RESPOND RAPIDLY TO YOUR REQUIREMENTS IS BASED ON OUR PROVEN “MASS-CUSTOMIZATION” APPROACH.



WE ARE INVESTED IN MAKING GREAT STRIDES IN OUR BUSINESS, WHICH MEANS INVESTING IN OUR MANUFACTURING PROCESSES WITH NEW EQUIPMENT SUCH AS THIS LATHE IN ABERDEEN.

## 5S METHODOLOGY AT OUR PLANTS

In simple terms, the 5S methodology helps a workplace remove items that are no longer needed (**(SORT)**), designate a place for everything and put everything in its place (**(STRAIGHTEN)**), clean the area in order to more easily identify problems (**(SHINE)**), implement color coding and labels to stay consistent with other areas (**(STANDARDIZE)**) and develop behaviors that keep the workplace organized over the long term (**(SUSTAIN)**).

## U.S. MANUFACTURING FACILITIES

### BROOKINGS, SD

Brookings is the flagship manufacturing facility and focuses on the heavy-duty welding operations, working on our larger products involving more customization. Products manufactured in Brookings include axial, heavy industrial, fume exhaust and fiberglass.  
*Total Area: 291,500 sq. ft.*

### MITCHELL, SD

The Mitchell production plant was opened in 1988 and has over 200 employees. The plant has several pieces of automated equipment, such as CNC machining centers, laser tables and turning lathe. Products manufactured in Mitchell include plenum, centrifugal, vent sets and fume exhaust.  
*Total Area: 167,800 sq. ft.*

### ABERDEEN, SD

The Aberdeen facility specializes in manufacturing our axial product lines and employs a combination of heavy-duty customized construction and high-tech, automated processes and equipment. Products manufactured in Aberdeen include light commercial, axial, inline and fume exhaust.  
*Total Area: 152,000 sq. ft.*

### ELKTON, SD

The Elkton facility utilizes modern manufacturing and assembly techniques to supply fans not only to the US, but to our international customers as well. The facility leads the charge for the commercial side of our business. Elkton manufactures light commercial products.  
*Total Area: 108,000 sq. ft.*

### TEA, SD

The Tea plant is Twin City Fan Companies’ composites facility. Fiberglass and carbon fiber products are made here and then shipped to the Brookings Plant to be assembled and shipped to the customer.  
*Total Area: 8,675 sq. ft.*

### PULASKI, TN

The Pulaski facility houses Clarage, the heavy-duty division of Twin City Fan Companies Ltd. that specializes in designing and engineering custom, built-to-specification, industrial and centrifugal fans, dust collectors, heavy-duty variable and fixed pitch axial fans.  
*Total Area: 90,000 sq. ft.*

## **TWIN CITY FAN** EST. 1974

Twin City Fan & Blower is an industry-leading designer and manufacturer of high quality custom, semi-custom and standard fans ranging from heavy-duty industrial process fans, OEM fans and a comprehensive line of commercial supply and exhaust fans for the HVAC plan and spec market. With the industry's most experienced engineering staff and sales representatives, Twin City Fan & Blower's unique ability to customize fan solutions for the exact application is second to none.

In addition to an impressive breadth of product offerings, Twin City Fan & Blower is well known for their technical design capabilities, comprehensive testing services and a responsive sales team. Due to the company's extensive expertise and long-standing reputation for proven quality, Twin City Fan & Blower products continue to be specified around the globe with expanded manufacturing and service operations located in the U.S., South America, Europe, India, China and Singapore.



## **AEROVENT** EST. 1932

Aerovent is a leading manufacturer in the industrial fan market that designs, engineers and supplies a wide variety of industrial-grade axial fans, centrifugal process blowers, corrosion resistant composite fans, OEM fans and impellers, and custom air handling units. With more than 80 years of experience, Aerovent has "stood the test of time" providing products that are built to last, meticulously consistent and highly reliable. Aerovent supports a diverse range of industrial markets for virtually every industry and has earned a particularly strong reputation in markets such as power generation, heat transfer OEMs, automotive, water treatment, pulp and paper, foundries, mining and general manufacturing for the most critical air handling applications.

Over the years, Aerovent has invested heavily into product research and development, state-of-the-art engineering design tools, in-house laboratory testing services and the latest manufacturing technologies to provide market-leading products to make the customer's processes more effective and ultimately more profitable.





As a major player in the heavy-duty custom fan business, Clarage is one of the few companies in the fan industry that have the ability to execute extremely complex projects from start to finish. In addition to these capabilities, Clarage also specializes in the aftermarket business and can provide complete turnkey services for retrofitting existing systems – from the demolition all the way to the complete rebuild and testing of fans.



## TWIN CITY FAN OFFICE BUILDING APPLICATION



## CLARAGE DUST COLLECTION SYSTEM APPLICATION



## AEROVENT AUTOMOTIVE PAINT BOOTH APPLICATION



## Energy Twin City Sales & Manufacturing





TCF Vzduchotechnika is well known for providing customers with technical support, application expertise, custom-engineering and commissioning of the final product. By leveraging the extensive R&D expertise and testing capabilities of the global TCFC infrastructure, they have become one of the most sophisticated fan manufacturers in the entire region.



### Aerial View of the TCF Vzduchotechnika Facility

In 2004, Twin City Fan Companies established a branch office in India with the primary objective of providing support services in engineering, R & D, sales and sourcing. Over the years, the branch office has provided top notch engineering support to all of the TCFC corporate facilities and other TCFC subsidiaries around the globe. Today, with highly skilled fan engineers and 3D designers, the branch office has developed into a highly dependable and knowledgeable engineering resource center for the entire corporation.

In January 2013, Twin City Fan India Private Limited (TCF India), a wholly owned subsidiary of Twin City Fan Companies, was established in Chennai, India. The formation of TCF India has strategically positioned the company to meet customers' fan requirements per Indian/International standards and practices under the management of TCF India's highly experienced fan engineers. TCF India provides local manufacturing for the entire gamut of TCFC's high quality air moving products and offers services for new installations, aftermarket retrofits, as well as consulting services. TCF India also manages the existing branch office, which continues to provide support services to all of TCFC's global operations.

In November 2021, Twin City Fan Companies signed an agreement with our partner Energy Industrial Company to form Energy Twin City, a joint venture (JV) manufacturing company in United Arab Emirates (UAE). The company is located in Sharjah, next to Dubai, and will be producing a complete range of Twin City Fan products, servicing the entire Middle East region.



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- TCF China
- TCF India
- TCF Azen
- TCF VT
- Energy Twin City

# THE GLOBAL LEADER IN THE FAN INDUSTRY

## FIELD SERVICES

### START-UP SERVICES

- FAN ASSEMBLY INSPECTION
- VIBRATION CHECKS
- COUPLING & SHEAVE LASER ALIGNMENT
- INSTALLATION ASSISTANCE

### TURNKEY SERVICES

- INSTALLATION & COMMISSIONING
- FIELD REPAIRS/REBUILDS
- DUCT WORK MODIFICATION
- MOTOR/TURBINE ALIGNMENT
- COUPLING ALIGNMENT
- PREVENTIVE MAINTENANCE
- ENGINEERED RETROFITS
  - ALL BRANDS
- FAN BALANCING



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## FULL RANGE OF FIELD SERVICES

### START-UP SERVICES

Having the peace of mind that your fan is installed and operating properly prior to start-up is crucial. Twin City Fan Companies can offer a wide range of start-up services and precision checks, including inlet and impeller operational clearances, torque verification, shaft alignment, balance and vibration testing. As part of our standard start-up services, TCFC field personnel will conduct a variety of inspection checks to ensure the fan is ready for start-up — all the way from the foundation bolts to the lubrication of the fan.

OUR HIGHLY TRAINED FIELD SERVICE PERSONNEL IS READY TO ASSIST WITH INSTALLING OR REPAIRING YOUR FAN.



### TURNKEY SERVICES

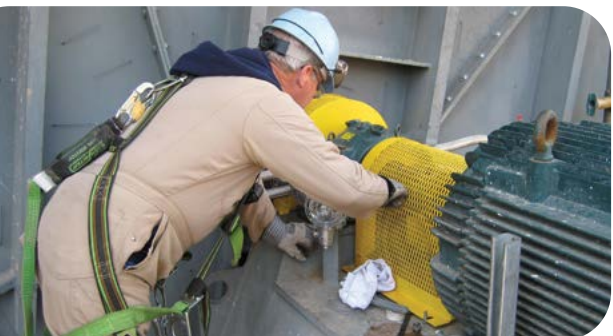
Keeping existing fans in service as systems change to suit environmental regulations, process enhancements and energy consumption is an extremely important aspect of our business. We are proficient at applying our engineering experience to make the necessary modifications to existing equipment and can provide complete turnkey solutions for rebuilding and repairing fans in the field.

### RETROFIT / AFTERMARKET

Twin City Fan Companies also has a retrofit program designed to increase the efficiency of large industrial fans that can have paybacks in as little as six months.

### REPLACEMENT PARTS

Whether you need common replacement parts or a backup supply of spare parts for process critical applications, Twin City Fan Companies can help keep you up and running. Even if you're not sure which part you need, our team can assist you in selecting the right part for your fan – regardless of the manufacturer.



Field Service Technician Working on a Repair



TWIN CITY FAN COMPANIES' PRODUCTS HAVE BEEN **INSTALLED AROUND THE WORLD**, PROVIDING AIR MOVING SOLUTIONS FOR A WIDE VARIETY OF INDUSTRIAL AND COMMERCIAL APPLICATIONS.



## INSTALLATIONS FOR EVERY APPLICATION



Steam Tunnel Exhaust with Aerovent Model VW  
Location: Wisconsin



OUR COMMITMENT TO QUALITY IS  
VISIBLE IN EVERY INSTALLATION

Composting Application with TCF Models BAE and BCS  
Location: New Zealand



Garage Ventilation with Aerovent Model ATA  
Location: Canada



Smoke Exhaust with TCF Model BCRUSH  
Location: Colorado



Tunnel Ventilation with Clarage Jet Fans  
Location: California



