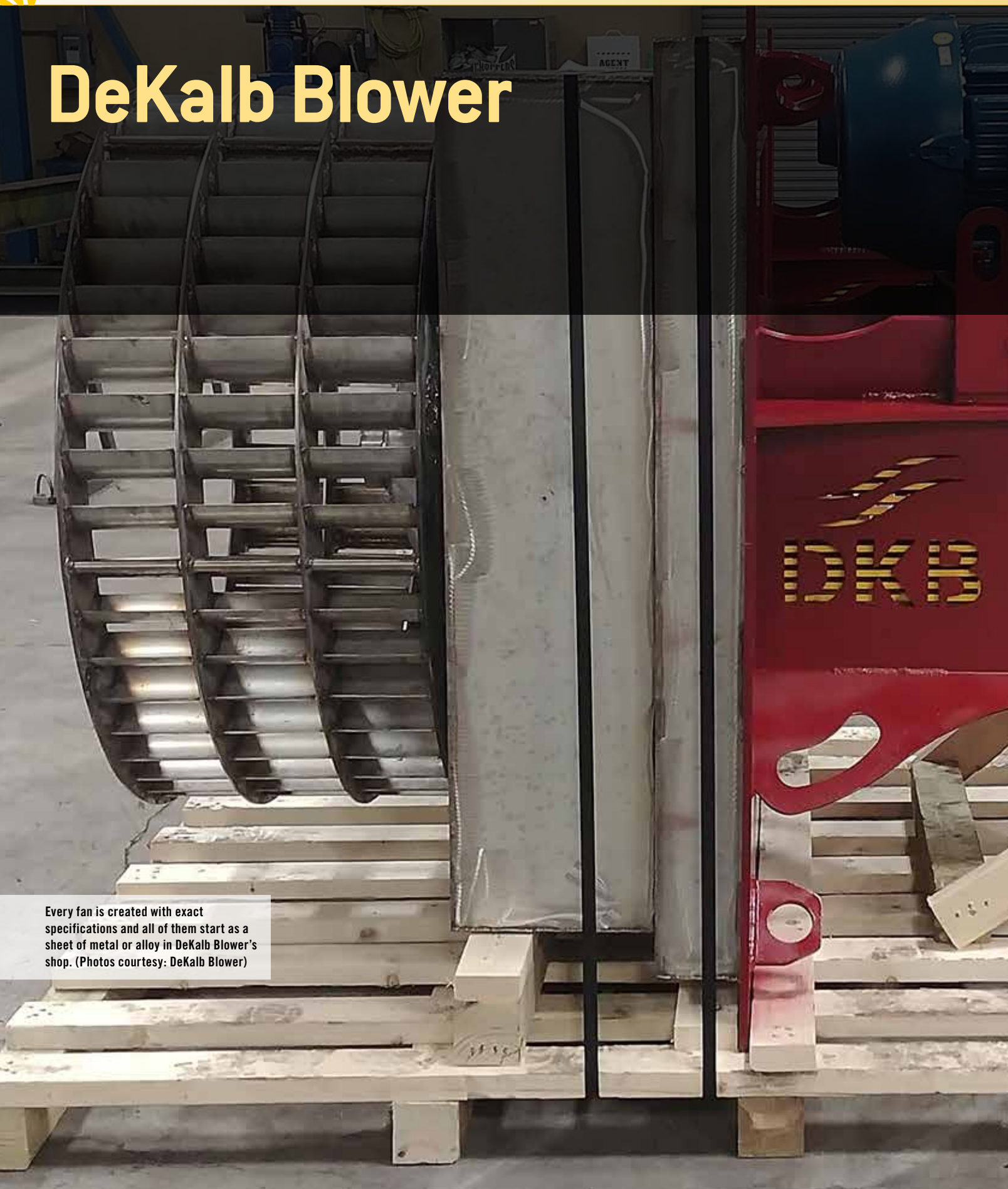
DeKalb Blower



Every fan is created with exact specifications and all of them start as a sheet of metal or alloy in DeKalb Blower's shop. (Photos courtesy: DeKalb Blower)

High-temperature fans made in the U.S.

For almost 20 years, DeKalb Blower has offered custom fan and blower solutions to the heat-treat industry.

By Kenneth Carter, Thermal Processing editor

Things can really heat up when an industrial furnace gets going — often surpassing temperatures of more than 2,000 degrees. In order to keep the work flow going between jobs, furnaces and ovens need to recirculate air to provide optimal uniformity and cool down quickly.

That's where Eric Johansen and his team at Dekalb Blower come in.

DeKalb Blower offers a variety of fans and blowers for the thermal processing industry, as well as the ability to do custom work and repairs on existing models or problem fans that may be slowing production.

"Our niche is the high-temperature market, so we cater to industrial furnace applications," said Johansen, president of DeKalb Blower. "The products we offer are up to 2,200 degrees Fahrenheit construction. We offer water-cooled and air-cooled designs. Many of our patented and patent-pending features on our products are geared specifically for these harsh environments or repetitive thermal cycling the fans will be exposed to, and will then be able to provide years of smooth, hassle- and maintenance-free operation."

DeKalb Blower also offers fan arrangements for gas-tight sealing used to contain toxic or explosive atmospheres. Other products use vacuum-sealed and hermetically sealed electric motors for direct drive applications (often ideal for cooling fans on vacuum furnaces), O-ring sealed applications, as well as products including axial flow fans, backwards inclined fans, FHD forward curve fans, and radial blade fans.

CATERING TO SPECIFICS

"We have our standard product line, and we kind of cater, since the high temperature market is typically manufactured to the customers' specifications and individual applications," Johansen said. "It's almost like, you've got Ford, who would be our competitors in the lower temperature market, let's say. They standardize and make one Model T. But if you want them to make a Model T with certain provisions to the design, that would cost the customer an arm and a leg to go outside of their standard 'Model T' design. That's where we come in. Because many of our designs are suited specifically to the customer's exact application, we can offer these changes or requests that best suits our customers' needs — many times for no additional costs outside of our standard offerings."

DeKalb Blower gives its clients the capability to use state-of-the-art 3D CAD modeling down to 2D CAD drawings and even to a dimensional PDF, according to Johansen.

"What's unique with us is that you can download the CAD files of our standard products right from our website," he said. "What they can do is instantly download the size of the fan that's going to accommodate their application or specific sizing requirements. They can mark off things like a 10-inch wall or a 12-inch panel, for example, and then we accommodate to their design. We'll take our standard design; they'll mark it up to what would best suit their application, and then we can manufacture the product to exactly what they need without any extra costs associated with it. Our customers really like that feature a lot, and that we are very easy to work with."

WORKING WITH OEMS

Since DeKalb Blower has such a good relationship with the actual manufacturers of the original equipment, the company often deals with the OEMs directly instead of the actual end user, according to Johansen. From being able to offer customized fan solutions to meet the OEM's exact application needed, also offering the fastest lead times and response times in the industry provides great assistance. Instant quoting offered by DeKalb Blower

DeKalb Blower offers a variety of fans and blowers for the thermal processing industry.

often gives the OEM's applications engineer a jump start with things on their project.

"We do deal some with the end user, but we're more specifically geared toward the OEM furnace designer or oven designer with the products we offer and manufacture," he said. "To help our customers streamline their production, we not only offer the impeller or fan type that will best suit their application, we also offer the airflow accessory to accommodate all of our product impeller series and sizes. From our scroll housings to radial air diffusers, this can optimize the flow rates, and assist with the manufacturers plenum sizing restraints, as the airflow accessories also come complete with mounting sleeves and studded flange plates to provide ease of installation."

A lot of the custom work DeKalb Blower finds itself doing is air cooling conversion, according to Johansen.

"Air cooling is pretty good," he said.

DeKalb Blower has the ability to do custom work and repairs on existing models or problem fans that may be slowing production.

"We've been converting a lot of older or problematic water-cooled competitions' plug fans. We've been doing a lot of air-cooling conversion to that stuff. That's a good maintenance eliminator right there. The furnace companies like it, because they can eliminate problematic water and the maintenance that comes with it. If they've got blocked water passages and then it backs up and the fan fails or overheats, we can convert that over and eliminate the water cooling altogether if the parameters are right."

CUSTOMERS FIRST

Johansen said the team at DeKalb Blower prides itself in putting the customer in front of its products, and it backs that up with a two-year guarantee.

All work is performed in DeKalb Blower's 30,000-square-foot shop and done by DeKalb Blower employees.

"If any issues do arise, we attack them instantly," he said. "We stand behind every blower we manufacture 100 percent. If they're getting a little more pressure in the system than they were anticipating, or even some slight system effect that may be affecting flow rates, and they need to speed the fan up, we'll go as far as recalculating the data and sending them a new set of pulleys on the house. In manufacturing, you're going to have some sort of issues at some point. We stand by the product, and if there's ever an issue, we'll resolve it immediately."

Every fan is created with exact specifications and all of them start as a sheet of metal or alloy in DeKalb Blower's shop. And all materials used in the company's products are made by industry leading, high quality suppliers of power transmission components.

"We don't use import materials, and we don't outsource the machining work; all work is performed in our 30,000-square-foot shop and done by DeKalb Blower employees, or our 'TEAM,'" Johansen said. "That allows us to have quick lead times and deliver a superior-quality product repetitively."

DeKalb Blower has jig and fixture sets for every fan it manufactures that will deliver repetitively to that specific capacity or that performance, according to Johansen.

"We have a state-of-the-art, high definition CNC cutting system for repetitive accuracy," he said. "If they've got a foreign fan or any hard-to-find part, we can run it through our manufacturing process with these manufacturing capabilities and the CNC machining centers that we have, and we can output a superior quality part that is ideal or even better than the original part."

PROUD ACCOMPLISHMENTS

As DeKalb Blower continues to deliver quality products and services, Johansen is quick to point out several accomplishments he is particularly proud of, including creating a fan capable of air cooling from 1,950 degrees Fahrenheit.

"That was quite a feat," he said. "No water with an auxiliary cooling source on the fan."

Fans for a hydrogen atmosphere also are on the top of Johansen's list.

"We've done a bit of hydrogen atmosphere," he said. "We've sealed hydrogen atmospheres. As you know, hydrogen and oxygen don't get along, so we've done some nice gas tight sealing arrangements to those where you need an absolute hermetic seal."

Johansen is also proud of his patented and many patent-pending designs that give ultimate durability and optimal results in these extreme atmospheres his products may be exposed to.

However, some of Johansen's best memories of his company come from the positive reviews he gets from his customers.

"Good moments come from people calling you and saying you stand by your product 110 percent," he said. "And being able to work with our customers to design a fan to best suit their applications. If they come in with these requirements like, 'we need 2,200 degrees continuous, or we need air cooled because our end user doesn't have water available, or it's going to be a whole other maintenance issue to have water,' we can design to meet this. And we go to the drawing board with our OEM customer and map the best solution using those state-of-the-art 3D CAD modeling tools."

DeKalb Blower started in 2000 by Johansen's father, Chester, a well-known figure in the heat-treating industry, and as he looks to the future, Johansen said he expects the business to continue growing.

"I see growth and potential as manufacturing shifts its way back domestically," he said. "I see an increase in demand for products in our industry."

The company will be showing just what that future may hold at FNA 2018, where Johansen said DeKalb Blower will be demonstrating to attendees some interesting concepts for the potential customer that uses the company's products.

"They should definitely expect some great giveaways," he said.

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