

COMPANY PROFILE ///

AFC-HOLCROFT

INNOVATION THAT ENDURES

AFC-Holcroft designs and builds many different types of thermal-processing equipment. (Courtesy: AFC-Holcroft)

AFC-Holcroft produces high quality thermal processing equipment used in the production of metal components, while providing related aftermarket service.

By **KENNETH CARTER**, Thermal Processing editor

In order to give gears the necessary wear properties, those newly manufactured gears need to be heat treated. It takes thermal processing equipment to make that happen.

By offering a variety of custom designed thermal processing equipment including integral quench batch furnaces (UBQ and UBQA), continuous pusher furnaces, rotary reheat furnaces, and more, AFC-Holcroft is able to offer gear manufacturers equipment capable of producing the best products available.

“Right from the start, we review each customer’s specific gear-design requirements,” said Tracy Dougherty, vice president of sales at AFC-Holcroft. “We explore all options for the heat-treating process, from the best type of equipment (continuous or batch), to the quenchant (i.e. oil, salt, etc.) to minimize distortion and the need for expensive secondary machining and grinding operations.”

MANY DIFFERENT TYPES OF EQUIPMENT

To that end, AFC-Holcroft designs and builds many different types of thermal-processing equipment including continuous pusher furnaces (single row and multi-row) for high volume; as well as integral quench batch furnaces, which offer maximum flexibility in terms of volume, footprint, and process, and rotary furnaces used mostly for reheating and press quenching applications, according to Dougherty.

“As part of these systems, we also provide full turnkey automation,” he said. “And by automation, I mean in some cases there are customized multi-head quench presses that have automatic load-unload systems, which may be robots, or they may have custom gantry type systems. This equipment can also include a variety of quench media: oil, salt, polymer, and water.”

EQUIPMENT MADE TO ORDER

Customers coming to AFC-Holcroft won’t find much by way of inflexible, off-the-shelf solutions. Each and every furnace from AFC-Holcroft is customized to meet technical specifications and process requirements, according to Dougherty.

“We provide a customized solution regardless of industry, which includes the gear industry,” he said. “That has always been a big part of our business — gears for automobiles, trucks, buses, agricultural equipment, and construction/mining equipment as well as a variety of other industries. Our goal is to provide a robust solution that’s customized to the customer-specific needs rather than trying to sell them a standard piece of equipment and make their product, process, or production quantities match something standard. We match the equipment to what they need. Another focus for us is to

provide a solution that maximizes their uptime — ease of maintainability, part and process tracking (IOT), remote diagnostics (RDX), while minimizing distortion.”

REDUCING DISTORTION

In its long history, Dougherty pointed out that AFC-Holcroft has always searched for methods to reduce distortion.

“(Reducing distortion) eliminates that need for secondary operations,” he said. “That’s always been a push for us: to look at different types of equipment and quench media to help reduce that distortion. As the automotive industry moves to EVs, the gears require much higher RPMs than we’ve seen historically, so distortion becomes more important than ever. Our company continues to invest in R&D projects to develop new equipment and processes that are going to help our customers well into the future. In fact, we currently have several EV-related projects in various stages of engineering and manufacturing.”



By offering state-of-the-art equipment and innovative technology, AFC-Holcroft is poised to deliver just what a customer may need. (Courtesy: AFC-Holcroft)

A GREENER FUTURE

Another aspect of AFC-Holcroft’s approach to the gear industry and beyond is the company’s push to offer green technology to reduce its customers’ carbon footprint, according to Dougherty.

“We invest in new product development through the use of CFD modeling,” he said. “The expansion of salt quenching as an alternative to oil is an example. Salt-recovery systems can reclaim more than 98 percent of the salt from the wash tanks and return it to the quench tank. We’re also developing green technology alternatives through the use of high-efficiency burners with recuperation, heat-recovery, electric heating, and hydrogen-heating systems. We’re currently doing testing and proof-of-concept on hydrogen heating. These are all efforts designed to help our customers reduce their carbon footprint.”



AFC-Holcroft is able to offer gear manufacturers equipment capable of producing the best products available. (Courtesy: AFC-Holcroft)

By offering state-of-the-art equipment and innovative technology, AFC-Holcroft is poised to deliver just what a customer may need, but it takes a lot of planning to get there, according to Dougherty.

“We really like to be involved as early in the process as possible,”

he said. “Best case is when we can get involved very early on, when a customer is just putting proof-of-concept together, and they’ve got a new product that might be five or 10 years down the line. That’s when we like to be engaged and involved with our customers, because



costs and selecting the best solution, which might include multiple options for them to review and consider.”

AFC-HOLCROFT’S NO. 1 GOAL: CUSTOMER SATISFACTION

With a 98-percent customer retention rate, AFC-Holcroft has obviously found the best path to customer satisfaction, according to Dougherty.

“One of the things that we take pride in as a company is an extremely high customer retention rate,” he said. “When our customers buy from us, they come back. And the reason they do is that we’ve got a very strong team of dedicated people who have a high sense of urgency and pride in servicing our customers after the sale. For many of our customers, once they purchase the type of equipment that we build, they might have enough capacity to last them for another decade and beyond, but that doesn’t change the care our team takes with that particular customer. We are proud of retaining our customers by taking good care of them with service and support, even long after the installation.”

LONG HISTORY

Depending on which timeline you follow, AFC-Holcroft has a long and storied history. Holcroft was started in 1916, while AFC (Atmosphere Furnace Company) opened its doors in 1962. In 2000, AFC acquired Holcroft at which point it became AFC-Holcroft. And most recently, AFC-Holcroft was acquired in 2016 by the Aichelin Group based in Austria, whose history goes back more than 150 years.

In a nutshell, that’s a lot of furnaces.

And those furnaces will only become more necessary as the gear market continues to move into new and exciting frontiers.

“The EV market — electric vehicles — is certainly going to have an impact on the number and types of gears that we see moving forward,” Dougherty said. “The industry includes a variety of other gear manufacturers as well, but automotive — light truck, heavy truck — is still a very large portion of that. We are already seeing some of these new higher-RPM gear design specifications and have successfully run samples using alternative quenching solutions with great results.”

BIGGER GEARS, TOO

As the number of gears required for the EV market is reduced, Dougherty said AFC-Holcroft will continue to see growth in other industries such as wind energy.

“There’s going to be a renewed push for the much larger gears that we’re going to see in things like wind turbines, as everybody looks at renewable energy sources and green alternatives,” he said. “I think that’s going to be something that we see again. In both cases, we’ve already begun development of some new products to support the challenges that the gear manufacturers will face in these smaller, lighter, high-RPM gears for the EV market, as well as very large, deep-case carburized gears for the wind-turbine industry.”

That’s a push that Dougherty especially wanted to drive home: AFC-Holcroft is committed to a greener future.

“We at AFC-Holcroft, as well as the Aichelin Group as our parent company, all the way up to their corporate parent company Berndorf AG — take the reduction of the carbon footprint and the green-energy solution seriously,” he said. “And we’re doing things ourselves through facility improvements and expansion to greatly reduce our carbon footprint. There’s also investment in R&D throughout our corporate structure in areas that we think will have a significant impact on green-energy solutions for the future.”



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we’re really a company of engineers who thrive on the ability to help our customers pick the best solution, and the best way for us to do that is to be involved from the beginning. That includes assisting our customers with everything from infrastructure to operating