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FOR IMMEDIATE RELEASE

Harper Launches Advanced Oxidation Ovens for Carbon Fiber Processing

Buffalo, NY – Harper International, leader in thermal processing solutions for advanced materials, has launched the next generation of custom Oxidation Ovens for the processing of carbon fiber available at 300mm to greater than 4000mm tow band widths. The addition of Oxidation Oven technology to Harper's already industry-standard furnace technologies strengthens its portfolio as the leader in complete thermal processing solutions for critical materials industries such as carbon fiber.



Harper's innovative design brings well needed advancements to oxidation technology, incorporating multiple improvements beyond what's available on the market today. As a key feature, Harper has developed proprietary atmospheric seals based on decades of experience in building systems for atmospherically controlled thermal processes. These unique seals reduce fugitive emissions, increase the active volume of the oven, and offer reduced energy consumption over alternatives. The modular construction design has demonstrated a 90% reduction in labor versus similar field erection times: into a full line pilot system (300mm).

For the customer, these and other technology advancements equal faster oxidation, improved velocity uniformity and velocity range capability, assurance of temperature uniformity throughout a variety of flow rates, and optimal control of the

reaction for the customer's product to ensure fiber quality. These improvements come in the form of clearly stated performance guarantees.

"Through our many decades of experiences in the carbon fiber industry and trusted customer relationships, Harper has identified the growing need for an enhanced solution in the oxidation processing step. The existing technology is simply outdated and no longer sufficient," commented Robert Blackmon, Vice President, Process Systems Division at Harper. "The unique technology enhancements incorporated in our Oxidation Ovens will help our customers efficiently and effectively meet advancing production needs."

Harper's carbon fiber conversion lines, including its Oxidation Ovens, are available as an open reference and capabilities demonstration to select Harper clients.

About Harper International

Harper International is a global leader in complete thermal processing solutions, as well as technical services essential for the production of advanced materials. From concept to commercialization, from research scale to full production line operations, Harper is perpetually on the cutting edge. Since our founding in 1924, we have pioneered some of the world's most innovative, customized systems, with a focus on processing materials at high temperature and in non-ambient atmospheres. For additional information about Harper, please visit www.HarperIntl.com or email us at info@HarperIntl.com.

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