

## Q&A /// INTERVIEW WITH AN INDUSTRY INSIDER

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**As a quick refresher, remind our readers of Solar Manufacturing’s role in the heat-treat industry?**

Solar Manufacturing is a premier vacuum furnace manufacturer that specializes in designing, building, and servicing vacuum furnaces. Together with Solar Atmospheres, our affiliate company and largest privately held commercial vacuum heat treater in North America, we offer unique solutions and maintain cutting-edge thermal-processing technology. Our founder, engineers, and metallurgists bring decades of processing expertise to the design side of the business, and our knowledgeable technicians provide world-class manufacturing. This experience is one reason why Solar Manufacturing’s vacuum heat treating and brazing furnaces are the most energy efficient, technically advanced, and highest performing furnaces on the market.

**Tell us about the Mentor Pro vacuum furnace.**

It would help to first tell you a little about the Mentor vacuum furnace. The original Mentor furnace was designed and built as a donation to ASM International to teach the basics of vacuum heat treating in an academic setting. Hence the name Mentor or “teacher.” Mentor furnaces were then sold to our affiliate company, Solar Atmospheres. Once their customers learned of the Mentor’s capabilities, the demand grew rapidly for processing smaller developmental and production loads in this compact furnace. Solar Manufacturing saw this as an opportunity to make the Mentor a standard model. As a result of the success of our Mentor vacuum furnace, the Mentor Pro was conceived as an extension on our vacuum furnace product line.

**What makes it unique when compared to other vacuum furnaces on the market?**

The Mentor Pro is unique in that, just like the Mentor, it offers the same ruggedness, quality, and advanced control system of large production furnaces, but in a compact design. The Mentor Pro is mounted on a portable platform for easy shipment and maneuverability, so it is the smallest overall footprint for the given size working zone. The Mentor Pro comes with several standard features including enhanced temperature uniformity with three distinct digital trimming technology element sections, two gas backfill and three gas partial pressure (including hydrogen), a variable frequency drive on the 50-horsepower gas quench blower, 2 bar quench, diffusion



pump for high vacuum, single power drop for the customer, and a short circuit current rating of 65,000 amps. Optional molybdenum-insulated hot zone and heating elements are also available upon request.

**What types of materials and components would you expect to process with this new furnace?**

This furnace is designed for all types of vacuum heat treating including hardening, stress relieving, normalizing, annealing, tempering, homogenizing, degassing, diffusion bonding, creep forming, and brazing. However, the size of the working zone was really tailored to the additive-manufacturing market. The more common build plate sizes are a perfect fit for the Mentor Pro’s work zone of 18” x 18” x 36” deep. The hearth has a weight capacity of up to 1,000 pounds. And with a 2,400°F operating temperature and precise temperature uniformity, it is just right for processes such as sintering.

**What has been the industry reaction to the Mentor Pro vacuum furnace so far?**

Inquiries for a Mentor Pro came in before we even had the design concept finished. The success of our customers who already purchased the Mentor raved about the performance and were asking if we would build a duplicate, just a little bigger. I can tell you there is a definite sense of eagerness from our customers to start receiving the Mentor Pro.

**With trade shows on hold, what other steps are being taken in order to ensure the industry is aware of what the Mentor Pro offers?**

We have an outstanding in-house marketing team, and with their assistance, we are in the process of developing an aggressive marketing campaign to highlight our furnaces (particularly the Mentor Pro), replacement hot zones, rebuilds, spare parts, and service. With trade shows on hold and the general economy in a downturn, we have taken steps to enhance and advertise our image and products further in the industry using an increased presence online, social media, direct mail, and email campaigns. ♣

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