

Solar Manufacturing will Exhibit at ASM Heat Treat 2015 in Detroit

October brings with it falling leaves, hot cider, and ripe pumpkins. Question: What does October bring in 2015 for the heat treat industry? Answer: Heat Treat 2015, the ASM International Heat Treating Society's Conference and Exposition. This year's conference will be held October 20 – 22 at the Cobo Center in Detroit, Michigan. The event features specialized training, vendor exhibits, information about advances in technology, and networking opportunities for those in the heat treat industry.

Solar Manufacturing will be represented in Detroit this year as well. Visit our booth to see our popular new furnace model HFL-2018-2IQ, The Mentor, on display. The Mentor is not your typical lab-sized vacuum furnace. Compact but by no means short on capability, the Mentor is loaded with standard production furnace features and rugged enough to perform without compromise. The Mentor's work zone size of 12" by 12" by 18" allows heat treaters the convenience of running smaller workloads economically. The graphite insulated hot zone is rated to 3000°F, complemented with the SolarVac® 3000 interactive controls featuring the Allen-Bradley Micrologix 1500 PLC, the Allen-Bradley PanelView 1000 touch-screen monitor and the Eurotherm 6100A graphic video recorder. The Mentor is mounted on a single, portable platform for easy shipment and maneuverability. It is the perfect furnace for heat treating and brazing smaller workloads.



Further, Solar Manufacturing will be displaying a full-sized hot zone, featuring our innovative energy conserving insulation configuration, and other advanced technologies such as graphite heating elements and mounting hardware, unique forward-tapered graphite gas nozzles, and insulation retainers.

For those looking ahead at the future of heat treating, Solar Manufacturing's founder and CEO, Bill Jones, will participate in a special panel session taking a look at what the industry may become in the next 20 – 30 years. New technology and new opportunities will be discussed by Mr. Jones and other industry experts.

Look for us there, at Booth #743 in the Cobo Center. We'll be happy to answer any questions you may have, and you can see and touch the versatile Mentor furnace. See you there!

Temperature Measurement in Vacuum Furnaces

This past February, our CEO William R. Jones, presented a webinar through the American Society of Materials entitled "Understanding Vacuum Furnace Temperature Measurement Issues."

The objective of this webinar was to provide technical information relating to vacuum furnace temperature measurement, covering the following subjects:

- Thermocouple Construction
- Types of Thermocouples
- Vacuum Furnace Control Thermocouple Placement
- Temperature Uniformity in a Vacuum Furnace
- Use and Placement of Work Thermocouples
- How Work Material Properties Affect Heating Rates – Emissivity, Surface Finish, Mass, Surface Area
- Using Thermocouple Dummy Blocks and Their Placement
- Non-electrical Temperature Monitoring Devices

Solar Manufacturing considers the information presented to be of significant value to any furnace user. We have converted the webinar content into an informative technical paper which will be available in the September issue of *Industrial Heating* magazine.

An example of what can be found in this document would be how to properly position Control and Over-Temperature thermocouples in a furnace to provide proper readings. (Note how the thermocouples extend an adequate distance into the hot zone and beyond the heating elements).



Featuring acknowledged experts in their fields, ASM webinars share information of interest to many in the diverse materials industry. Viewing is free to ASM members.

To view the webinar, please visit www.asminternational.org/news/webinars

Bob Daley Retires



Solar Manufacturing employees and other members of the Solar family gathered at a local banquet facility on June 26 to say goodbye to a gentleman who spent virtually his entire career in the vacuum furnace industry. Bob Daley worked as an electrical engineer first for Abar Corporation, then for Vacuum Furnace Systems, and finally for Solar Manufacturing, and has now moved into retirement with its new mode of living. During the celebration, Solar's founder and CEO, Bill Jones, praised Bob's contributions to the industry and thanked him for his many years of significant service.

In his three decades plus as a professional electrical engineer, Bob applied his formidable skills in designing electrical systems for vacuum heat treat furnaces. His thorough knowledge of the National Electrical Code, NFPA standards and OSHA codes allowed for Solar's furnaces to demonstrate enhanced furnace performance, operator safety and comfort. Bob has consistently performed in a methodical, precise, and diligent way.

"Bob's technical contributions extend beyond the boundaries of the electrical engineering discipline," said company president James Nagy. "His professional deportment has over the years influenced others within the company to conduct themselves in a similar manner."

Making his home in Northeastern Pennsylvania, Bob is saying goodbye to long commutes, sometimes in bad weather, and hello to spending more time with his wife, Cynthia, as well as to hunting, fishing, and enjoying life as an outdoorsman. His colleagues and friends at Solar will miss Bob's quiet professionalism.

Bob Daley will be succeeded by a highly capable electrical engineering team, comprised of Electrical Engineer and Service Manager Nick Cordisco, Electrical Engineer George Andress, and Sr. Controls and Instrumentation Engineer Dave Rossi. Solar Manufacturing expects to continue to grow and advance the equipment in the coming years. This electrical engineering team is poised to continue performing to a high standard of professionalism and technical competence in order to sustain both.



Our Newest Employees



George Andress IV
Electrical Engineer

George is a Pennsylvania native who grew up in Philadelphia. He was educated in Electrical Engineering Technology at Spring Garden College, and has 25 years of experience in various aspects of manufacturing engineering. He has worked on a wide variety of projects, from sterilizers and hyperbaric chambers to jet engine test stands. George loves mechanical things, and tinkering with machines. He works on cars in his spare time, and has a special interest in Jeeps. George is a serious bowler, and coaches high school as well as community bowling. He bowls for his own pleasure several times a week, and is an officer in his bowling league.

George lives in Southeastern PA, and enjoys camping when the opportunity arises.



Grant Christy
Field Service Engineer

Grant, who grew up on a farm in Bucks County, found an early enjoyment of mechanical things and tinkering with machines. With a special love of airplanes and flying, Grant got a pilot's license at age seventeen. He began post-high school education at LeTourneau University in Longview, Texas, with the intention of getting a degree in aviation. Finding at college that he was as interested in understanding and fixing airplanes as in flying, Grant settled on an engineering major, and graduated in 2014.

His love of machines and mechanical things gives Grant the curiosity and motivation to understand vacuum furnaces and to keep them running smoothly. He enjoys the travel aspect of his position, and is bringing great energy to his job.

In his leisure time, Grant enjoys cars, motorcycles, and airplanes.



Dave Rossi
Senior Controls and Instrumentation Engineer

Dave grew up in Modesto, California, and Yardley, PA. Currently living in Montgomery County, PA, Dave has a degree in Manufacturing Engineering from Penn State University. He has a particular interest in automation and programming, and has worked in the oil and gas industry as well as in plastics manufacturing. Dave is a certified project manager, and enjoys the broad applicability of principles of the automation process across industries.



Listen at
www.solarmfg.com/podcast

The latest podcast, released in June, titled "Measuring and Monitoring Trace Levels of Water Vapor, Oxygen and Other Gases in the Vacuum-Furnace Atmosphere," deals with reducing part contamination through the use of a residual gas analyzer for in-process vacuum analysis, research and development, and maintenance.

This newsletter is published quarterly by Solar Manufacturing, a leader in world-class vacuum heat treating furnaces.

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