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INTRODUCTION

To use a football analogy half time is here and the home team is winning! Which is to say that with this issue of “**The Monty**” we are now half way through 2018 and it has been a very good year to date with captive and commercial heat treaters around the world doing well. Our forecast (which is based upon nothing more than a feeling in our bones) is that the second half of the year will be just as good as the first. Go team go!

Best regards,

Gord, Dale and Jordan

HEAT TREAT NEWS

The Website of Choice for Captive and Commercial Heat Treaters Since 1999

Metlab: Furnace Upgrades, Water Recirculating Cooling System Installation with Small Business Advantage Grant

Commercial heat treater Metlab in Wyndmoor, PA, USA is generally considered to have the largest commercially available pit carburizing furnaces in North America. Read about their recent upgrades and changes.

"As part of its continuing maintenance improvement program, Metlab recently completed a rebuild and upgrade of its two large heat treating furnaces. These furnaces, designated P-1 and P-2 are believed to be the largest atmosphere controlled pit furnaces in North America. With work zones measuring 12' in diameter by 8' tall and 15' in diameter by 10' tall, the equipment is used to neutral harden, carburize and harden, nitride, anneal, and stress relieve



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large components or multiple quantities of parts. With a capacity of up to 50,000 pounds per heat treat cycle, typical components processed include large gears and bearing races, rocket exhaust nozzles, forgings, castings, large weldments and other industrial components.

A capital expenditure of more than \$ 200,000 included new nickel base alloy retorts, cast ceramic floors, insulation and upgrades to the furnace structure. The furnaces utilize different atmospheres to process parts including endothermic gas for neutral hardening and carburizing, ammonia for nitriding, or nitrogen and/or argon for scale free processing. The furnaces rely on sand seals to contain the different gases. The sand seals for both furnaces were also redesigned and replaced. In addition, finned copper tube coils for cooling the sand seals were changed with closed welded stainless steel chambers for better efficiency.

The rebuild to each furnace took about a month. While the nickel base alloy and stainless steel for the retort and sand seals were purchased as fabrications, Metlab maintenance personnel took over 350 hours to weld the different components together. A temperature uniformity survey (TUS) after completion demonstrated that the furnaces meet the strict requirements of AMS 2750E. As part of the upgrades, Metlab utilized funds received from a Small Business Advantage Grant from the PA Department of Environmental Protection. This grant was used to incorporate a closed loop recirculating water system to cool the sand seals and fans of each furnace. The cooling water requirements of the furnaces is in excess of 20,000 gallons per week. The savings in water, not to mention the environmental benefits of recirculating water, are substantial and were recognized by the DEP as a significant benefit, resulting in the grant. Equally important is the elimination of the need to discharge heated water into the sanitary sewer system.

*The Small Business Advantage Grant provided a 50% matching grant for funds spent on the equipment to Metlab. The cost of the recirculation system, purchased from Dry Coolers, Oxford, MI, including piping modifications and installation was about \$ 35,000.00. Metlab began the planning and purchasing of the furnace upgrades and cooling equipment in late 2016. Acquisition of funding as well as material and components allowed the project to be completed in early 2018.” **June 29, 2018***



P-2, Metlab’s largest atmosphere controlled furnace, showing the new nickel base alloy retort and sand seal installed. Also shown in the foreground is plumbing for the new water cooled sand seal.



Metlab maintenance personnel welding the cooling chamber for the sand seal on the furnace.



A load of windmill bearing races being removed from Metlab’s furnace designated P-1 prior to quenching in an 18,000 gallon oil tank. Each of the three races measure about 6 feet in diameter by 12 inches tall, weighing more than 2,000 pounds after carburizing.



Rocket exhaust nozzle forging being hardness inspected by an Metlab inspector, after normalizing, hardening and double tempering in Metlab's largest furnace, P-2.

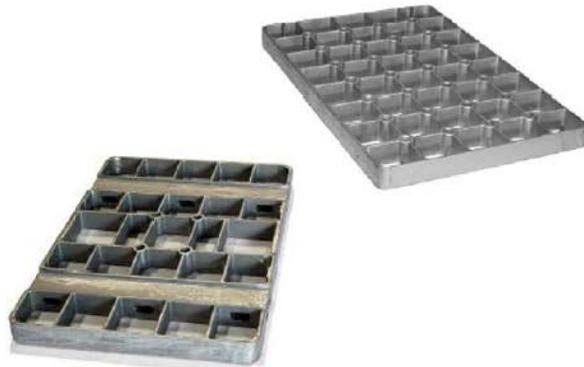
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¹ While supplies last.

² Applies to standard design trays only. Some restrictions apply.

Local Manufacturing Company Purchases TITAN® Vacuum Furnace

“Zenith Cutter, a manufacturing company based in Loves Park, Illinois, recently purchased a TITAN® H6 vacuum furnace with 2 bar gas quenching that will be used at their Metkraft facility in Ho Chi Minh City, Vietnam. This furnace features a graphite work zone measuring a 36” x 48” x 36” (915 mm x 1,220 mm x 915 mm) with a 3,000-pound (1,360 kg) load capacity. It is capable of operating at temperatures of 1,000 °F to 2,400 °F (538 °C to 1,315 °C) with ±10 °F (±6 °C) temperature uniformity. The furnace is also equipped with a closed-loop water system and Ipsen’s PdMetrics® predictive maintenance software. The company also took advantage of Ipsen’s support offerings, which include Ipsen U training, a spare parts kit and installation supervision/start-up.

Zenith Cutter manufactures industrial knives, cutter blades and related accessories to markets including corrugated products, converting, plastics, recycling, tree care, roofing, textiles and wood products. They previously used atmosphere heat-treating for production but have transitioned to using vacuum equipment. Ipsen’s TITAN vacuum heat-treating are available in several sizes with horizontal or vertical configurations, nitrogen or argon quench and graphite or all-metal hot zone construction. To learn more about the TITAN system, visit www.IpsenUSA.com/TITAN.” **June 29, 2018**



Used Equipment

“The Monty” has one of the most complete lists of **Used Heat Treating Furnaces** in North America, a list which is updated weekly. Our most recent additions are mentioned below. If you don’t see what you are looking for please let us know at jordan@themonty.com or 905-271-0033. **June 29, 2018**

- Item # I177** 2 Station Induction Scanning System \$99,500
 - Item # B445** Super 36 Batch IQ Furnaces \$99,000 USD Each
 - Item # B451** Surface Combustion “Super 30” Allcase \$40,000
 - Item # B450** Lindberg Batch IQ 24” x 24” x 36”
 - Item # M380** Wheelabrator Model# SLC500 \$20,000 USD
 - Item # B438** Holcroft Batch IQ Furnace 30” X 48” X 30” \$85,000
-

Aremac Heat Treating, LLC/California

Aremac is a commercial heat treater with two location in the US, one in City of Industry, CA and the second in Eastman, GA. Both plants offer what we would consider to be “high end” heat treating such as vacuum heat treating of aerospace parts. Very unfortunately we understand that the facility in CA will be closing due to circumstances beyond their control. We also understand that this will have no effect on the location in Georgia. **June 28, 2018**



Aaron Ackerman Buys Met-Pro Inc.

I'm sure many of our readers know John Hansen of Heat Treat Rep firm Met-Pro Inc. who is based out of Michigan. What you may not know is that John recently sold his business to Aaron Ackerman. Although the transition has been happening for a while now Aaron officially took over as of June 1st. Aaron comes from a sales position at Wirco where he spent 15 years getting to know the ins and outs of the industry. He's representing several different companies which include Super Systems Inc, South-Tek, Custom Electric, and Wirco. After 40 years in the business John Hansen is still helping Aaron on a regular basis but he's spending more time enjoying life these days. **June 28, 2018**



What's Industry Standard for a Relocation Package?

From the "Employment" file we have this article about what a standard relocation package in the heat treating industry consists of. We thank Mr. Josh Hale of International Search Partners. **June 27, 2018**

In addition to our core business of offering search and placement solutions to companies in the heat treat industry, we also consult with clients on a variety of topics related to human capital, such as recruiting, hiring, terminations, onboarding, etc. One of the most common questions we get asked is about offering relocation packages to new hires. Unfortunately, there's not really a "one-size, fits-all" response to this one... However, there are some general tips and guidelines that are useful to be aware of:

- **Flat Rate vs. Reimbursement.** *Usually when hiring a new employee that requires relocating, the company will pay for all or part of moving expenses. Sometimes that means that the company will hire movers, pay for temporary housing directly, etc. Or, the company will reimburse the employee for approved costs with receipts. Another option is for the company to forgo a full reimbursement and instead offer a "sign on" bonus for the new employee to use as they see fit. Many companies and employees prefer this flat rate option over reimbursement or direct payment. From the company's perspective, this is the simplest solution and for the employee it offers the most flexibility. Sign on bonuses of around \$5k for most mid or entry level positions and up to \$10-20k for upper management is typical.*
- *Whichever way a company decides to pay for a new hire's relocation, it's important that both parties know what they're getting themselves into. Of course, everyone's personal situation is different, and the costs associated with moving a family of four with a*



2000 sf house is quite different from moving bachelor out of a studio apartment. This website has proven helpful to us in the past for giving a reasonably accurate estimate of what costs to expect: <https://www.moving.com/movers/moving-cost-calculator.asp>

- Most relocation packages will have some type of contingency clause meant to protect the company should the employee leave before the employer has gotten a sufficient return on their investment. This typically requires the employee to be responsible for paying back their relocation bonus or reimbursements should they choose to leave before a certain timeframe, typically 2 years.
- **Talk to a Professional.** There really is no hard-and-fast rule when it comes to relocating an employee. At the end of the day, it's all negotiable and comes down to what the employee and employer agree is fair. We've seen situations where an employee has agreed to relocate himself without any assistance and very lucrative relocation packages that have equated to nearly a full year's salary and everything in between... However, we always recommend that you consult with your lawyer and accountant before straying so that you're well informed about any potential legal or tax implications before entering into any formal relocation agreement.

For over 20 years, ISP has been the premier recruiting solution for the Heat Treat industry. The salary information provided is based on information gathered over that time and from interviewing 500+ industry professionals per year. If you're hiring now, or exploring new opportunities for yourself, we are uniquely positioned to be your partner for success and would love to work with you. Please contact us at info@ispards.com or 619-465-9621.



Solar Atmospheres of Western PA Acquires Large Car Bottom Air Furnace

Solar Atmospheres of Western PA has invested in a brand new car bottom air furnace that is 20 feet in length. Delivery of this new piece of equipment will be in July of 2018. The furnace will be surveyed in accordance with AMS2750 and is uniform within $\pm 10^{\circ}\text{F}$ (Class 2). The

furnace has a working zone that is 60-inches square by 240 inches long and will handle a workload up to 30,000 pounds. With a maximum operating temperature of 1400°F, this furnace will accommodate not only the tempering of large tool steel components but also age hardening of 15-5 PH, 17-4 PH, and nickel-based alloys.

*Solar is typically known around the world as a “vacuum only” heat treater. However, there is a great need for heat treating non finished parts and materials in accordance with the same specifications (AMS, MIL, Boeing and Airbus) within different atmospheres where surface oxidation is permissible. This new 20 foot air furnace will allow the “raw material customer” an option, while being more price competitive than with a vacuum environment. This new investment will only complement the vast array of large vacuum furnaces that Solar operates every day. For additional information, contact Mike Johnson at 724-982-0660 x2223 or mike@solarwpa.com, and visit us at www.solaratm.com. **June 27, 2018***



ALD Thermal Treatment, Inc., Port Huron, Michigan

Last week we mentioned we would be profiling what could be the largest single location commercial heat treat in North America, today we are expanding on that. ALD Thermal Treatment is a wholly owned subsidiary of Germany’s ALD Vacuum Technologies GmbH and a member of the Engineering Division of AMG NV. The company has three locations, ALD Thermal Treatment Inc., in Port Huron, Michigan, USA, ALD Tratamientos Termicos, S.A. in Ramos Arizpe, Mexico and VACUHEAT GmbH in Limbach-Oberfrohna,

Germany ***(another brand new location in China will be operational by the second quarter of 2019. The plant will be located in Taicang which is near Shanghai and will specialize in low pressure vacuum carburizing).*** Lets start with Port Huron; this plant



has a total of 41 chambers for low pressure vacuum carburizing and 3 ALD Vacuum Technologies Vacuum Nitriding furnaces either installed or shortly to be installed (in the one photo below you can see a new Vacuum Nitrider). Given the number of furnaces, the process and the type of parts the company is heat treating we are fairly confident that this plant is either the largest single location commercial heat treat in terms of annual sales in North America or pretty darn close to it. Recently this plant was re-tooled for a new product line which required adding 6 automated chambers for Cryo Treatment with each chamber capable of -300F. Future plans are ambitious and include pursuing NADCAP Aerospace Certification (planned for third quarter of 2019), possible robotic automation for fixturing loads and pursuing an ISMS system (Information Security Management System) for risk avoidance and security assurance. Notice the one photo below with

all the General Motors Supplier Quality Excellence Awards on the outside of the building? Both Port Huron and the Ramos facility have received this award for the past 4 years running-2014 through 2017. We really haven't touched upon the facility in Germany, VACUHEAT but we can say that 2017 was a record year for sales for the location and 2018 is looking even better. So if anybody ever asks you which is the largest single location commercial heat treat in North America you can with assurance say ALD Port Huron-but don't put any money on it just in case. ***June 26, 2018***



Rolf Terjung Graphite Materials, Jim Kassin ALD, Eduard Lassel Graphite Materials, Roland Weeske Graphite Materials, Ismail Vahora ALD



Ismail Vahora ALD, Eduard Lassel Graphite Materials



Ismail Vahora ALD, Jim Kassan



Enrique Lopez ALD, Jim Kassan ALD, Kelly Peters ALD, Chuck Sefcovic ALD, Ron Hartinger

ALD



Enrique Lopez ALD, Kelly Peters ALD, Jim Kassan ALD, Chuck Sefcovic ALD, Ron Hartinger

ALD

Monday Morning Briefing

Sit back and relax for a few minutes as this is a longer “Monday Morning Briefing” than usual. First up we go to a furnace builder based in Wels, Austria by the name of **Rubig**. Rubig is known around the world as a manufacturer of Plasma (Ion) Nitriding systems and vacuum furnaces. It would appear that the company is taking the Chinese market very seriously these days as they are setting up a brand new subsidiary by the name of **Rubig, Industrial Furnaces (Taicang)Co., Ltd.** based in China. We have no idea how much of a presence the company currently has in the country. Speaking of furnace builders **Williams Industrial Service Inc.**, in Ohio is having a great year, so much so that they are adding this addition; *“Williams Industrial Service, Inc., an industrial heat treat furnace supplier located in Bowling Green, OH, is pleased to announce the addition to our existing building, as seen below. This additional space will be necessary to accommodate all the projects we are currently building. Additionally, Williams’ plans to add several skilled trades and another engineer, so if anyone is interested, you can reach us at 419-353-2120 (williamsBT@wisfurnaces.com). Ask for Brent. The new building will be ready to go once the concrete has cured and the heating systems are installed, around August 1, 2018.”*



Not to be outdone our friends at **Solar Manufacturing** are now breaking ground on a brand new building; *“Solar Manufacturing, Inc. began a new chapter in its history today with a groundbreaking ceremony for a new manufacturing facility at the Sellersville Business Campus in Sellersville, Bucks County, PA. Due to substantial growth in recent years, Solar Manufacturing expanded into two separate manufacturing facilities located a few miles apart. The new property will allow the 15 year old Company to combine its nearly 50 employees under one roof for more efficient production and triple their current space. Gorski*

Engineering of Collegeville, PA will be the general contractor. The nearly 60,000 square-foot building will be built on 8.55 acres and is expected to be completed in early 2019. The new building will contain a two-story office space of nearly 20,000 square feet and 40,000 square



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feet of crane-served, manufacturing space. Bill Jones, CEO, said of this \$8 million project, "Solar Manufacturing has been very fortunate to experience steady growth over the past 15 years. We needed more manufacturing space to expand and grow our business. Bucks County and Sellersville Borough have been very supportive and welcoming. It is an ideal location for us." Solar Manufacturing is a member of the Solar Atmospheres Family of Companies. Solar Atmospheres is a commercial heat treater with headquarters in Souderton PA, and has four US facilities with over 60 vacuum furnaces in operation. The close affiliation between the companies affords Solar Manufacturing with an unparalleled testing ground for improving furnace design, operation, maintenance and repair. Together, they offer unmatched expertise to advance the art and science of vacuum

furnace technology. For more information about Solar Manufacturing, please contact Pete Reh at 267-384-5040 x1509, or via email pete@solarmfg.com, and visit us

at www.solarmfg.com." Pictured left to right below: Jim Nagy, President; Bob Wilson, VP of Engineering; Scott Jacoby, Corporate Controller; Myrtle Jones, Owner; Bill Jones, CEO/Owner; Trevor Jones, CEO; Nick Cordisco, Service Manager; Pete Reh, VP of Sales; Rick Jones, International Sales Manager



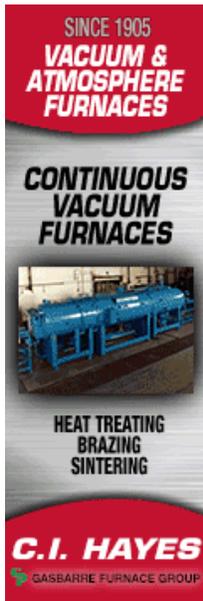
In people news we have this from **Phoenix TM**. "We are pleased to announce that **Mike**



Handscombe has recently joined Phoenix Temperature Measurement as National & International Sales Manager. Mike, comes to PhoenixTM with extensive experience of working in the Paint and Powder Coating markets over the last 30 years. Having worked previously for both Nordson & Jotun Mike is well versed in the importance of temperature

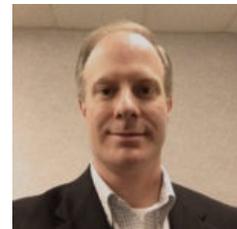
profiling in the paint and powder coating market. His previous market experience will be invaluable to helping him provide current and future Phoenix™ customers a professional consultative service.

Mike will be supporting the entire Phoenix™ range of temperature monitoring solutions used in Industrial Heat Treatment & Furnace Surveying, Paint Thermal Cure, Food Thermal Processing and Ceramic Firing Markets. Mike will be managing sales into the UK and will be working alongside Steve Biggs to support our activities in the USA. Please join us in welcoming Mike to the Phoenix™ team and what will be an exciting and challenging new role.” Mike Handscombe mike.handscombe@phoenixtm.com Mobile UK: +44 (0) 7718648845 Cell USA: (727) 2049280. For additional information, please contact Dr Steve Offley at +44 (0) 1353 223100; +44 (0) 7890 197636, steve.offley@phoenixtm.com”



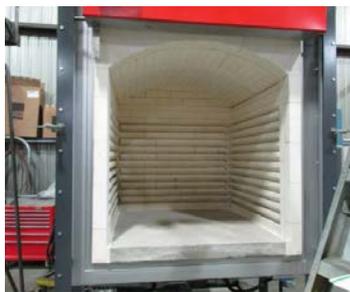
We regret to mention the passing of **Russell Gordon Sherman** who was known by just about everybody in the Titanium heat treating industry; “Sherman’s claim to fame is his research and development concerning alloys and heat-treating protocols for the titanium industry, expanding upon the usability of the metal during the formative years of the titanium industry. These advancements recently landed Sherman, 92, a lifetime achievement award from the International Titanium Association. Sherman’s research helped pioneer the high-volume production of titanium aerospace fasteners (the stuff that keeps airplanes and other air and spaceborne vehicles held tightly together), at a critical juncture in the United States’ history– during the Cold War years of the 1950s, when the United States and the Soviet Union were fighting for space supremacy.”

Commercial heat treater **Paulo** has a new Director of Information Systems; “Paulo’s **John Hynes** has been promoted to Director of Information Systems from his previous role as Manager of Information Technology. John has been with Paulo for just over one year. Prior to joining the Paulo team, he worked for a family-owned regional movie theater chain for 28 years. His final position there was Senior Manager of Information

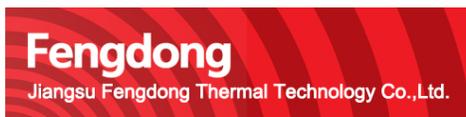


Security and Technology with wide ranging responsibilities for technology in a 1100+ person organization. Founded in 1943, Paulo is one of the largest providers of heat treating, brazing, and metal finishing solutions in North America. Headquartered in St. Louis, Paulo operates six divisions servicing the Midwest, Great Lakes, and Southeast regions of the United States and northern Mexico.”

In Montreal, Canada aerospace company **NSE AUTOMATECH** recently ordered a high temperature furnace from local furnace and oven builder **Pyradia**.



And to round things out commercial heat treater **ALD Thermal Treatment** in Port Huron, USA very recently installed this brand new vacuum nitrider. Lots more about ALD later on this week. **June 25, 2018**



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Braddock Metallurgical

To this news item we will add that Braddock is a family owned company (3rd generation?) and one of the largest commercial heat treats in North America. We will also add that the company dominates the commercial heat treating industry in Florida and is a very strong player throughout the US Southeast. **June 22, 2018**

“Braddock Metallurgical Aerospace Services is proud to announce additional capacity at its FAA approved and NADCAP certified southeast Florida facility. To serve you better and more efficiently we have added a high temperature gas fired heat treat furnace line to: Solution Anneal, Solution Anneal with water quench, Normalize Anneal, Stress Relieve, Precipitation/Age hardening, Temper. Capable of handling sizes of up to 6ft x 6ft x 4ft.”



What's Upcoming?

For the week starting June 25, 2018 we have a number of interesting news items for you. We will tell you about a well known furnace manufacturing company just setting up a facility in **China**, we will be showing you a few photos of what is probably the **Largest Single Location Commercial Heat Treater** in North America and we are going to have a close look at **Laser Heat Treating**. In addition we expect to have some very interesting news about **Furnace Building in Europe**, we are going to profile a couple of **Commercial Heat Treat Shops** in the USA and have a close look at a facility making **New Vacuum Furnaces**. This plus some more real interesting **Stuff**. **June 22, 2018**

SECO/WARWICK Poland

June 5 we had a brief news item about furnace builder SECO/WARWICK's upcoming event in Poland. As part of that news item we included a photo of the SECO facility which we took a few years back. Well it is no surprise that, that photo is rather dated so we have these pictures of the plant as it looks like today. **June 21, 2018**



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Ipsen Press Release

“Ipsen Ceramics recently completed the task of relining the bricks on one of their roller hearth kilns. This re-bricking project brings the kiln’s throughput back to full operating capacity. Additionally, the kiln can now reach greater operating temperatures – up to 2,650 °F (1,454 °C). These improvements mean greater efficiency and more flexibility when processing various materials, such as thermal barrier coatings. Beyond improvements to its equipment, Ipsen Ceramics is also expanding its business connections. They are collaborating with



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ceramics distributor, Carpenter Brothers based in Milwaukee, Wisconsin, along with 19 of their sales representatives throughout the United States to gain exposure across multiple industries.

About Carpenter Brothers; *Carpenter Brothers has been in business for 100 years and is a dealer/distributor/representative for manufacturers of industrial supplies and equipment. They specialize in foundry and metal casting equipment. The 100 years of Carpenter Brothers’ continuing success is attributed to the high-level expertise on specific foundry processes and products as well as the technical and manufacturing knowledge of their sales and customer service personnel. Learn more about Carpenter Brothers at www.CarpenterBrothersInc.com.*

About Ipsen Ceramics ; *Ipsen Ceramics specializes in the toll firing business, serving a variety of industries such as aerospace, automotive and petrochemical. The materials they process are used in many different applications: gas, oil, polishing, precious metals and thermal barrier coatings. In addition to toll firing, Ipsen Ceramics manufactures high-temperature refractories, which can be used in a variety of applications. Learn more by visiting www.IpsenCeramics.com.” June 20, 2018*



Business Opportunities

Please **take a look** at our most recent employment offerings. If you see anything you like don't hesitate to get in touch with us at jordan@themonty.com or 905-271-0033. **June 20, 2018**

Item # 0358 McGard Needs a Heat Treat Technician

Item # 0357 Quality Control Manager



ThermoFusion Installs McLaughlin Furnaces and Endo Generator

“ThermoFusion, a full service brazing and heat treating company, recently installed several pieces of McLaughlin equipment, including a 2200 Tru-Mix Generator and an indirect temper furnace. The purchase was part of ThermoFusion’s investment in new equipment and technologies to support current and future customer demands. Glen Ottinger, President of ThermoFusion, recently reviewed the performance of the 2200 Tru-Mix generator with Jeff McLaughlin, President of McLaughlin Services. Glen noted that the generator is more robust, more efficient, and has less downtime than the previous unit.

Currently the Tru-Mix 220 is supporting two internal quench furnaces and a high temperature tool furnace, almost twice as much equipment as the previous generator it replaced. It has had minimal down time since start up, actual gas usage has been constant even as the equipment and usage have increased (indicating a much greater efficiency), and dew points appear to be within 2 points at all times. According to Glen, the results were better than he had anticipated when researching the 2200 Tru-Mix and other gas generators. Nick Schreiber, Quality Manager at ThermoFusion, installed and surveyed the McLaughlin Indirect Temper Furnace. He has been consistently surveying it at +/- 10F or less, between 300F and 1400F. Nick reported that the furnace was fully functional and ready for operations only two days after it arrived, indicating both it’s ease of installation and it’s high quality of manufacturing. One of the surprises of the furnace was how quiet it was during full operations.

As the leading heat treat and braze shop in northern California, and as the only Northrop SPAR holder in the area, up-time and performance of equipment is paramount to the success of ThermoFusion. Satisfying both existing and new customers through on-time deliveries and high quality servicing has been key to ThermoFusion's growth over the past fifty years, and McLaughlin has played a part in that success. For more information, contact Nils Kjell, Director of Sales & Marketing, at 510-782-7755 x225 or nkjell@thermo-fusion.com. Visit ThermoFusion on the web at thermo-fusion.com. Visit McLaughlin on the web at mclaughlinsvc.com." June 20, 2018



Nick, Glen, Jeff



Jeff, Nick



Home Page Pictures

At "The Monty" we pride ourselves on having one of the largest collections of heat treating photos in the world. Our photos reflect 40 years of history and span the globe covering captive and commercial heat treaters as well as industry suppliers. On a regular basis we

share these with our readers <https://www.themonty.com/> and our latest batch shows heat treaters from the USA, Australia, Colombia, Germany and India. **June 20, 2018**

Want to Sell Your Commercial Heat Treat?

As the owner of a commercial heat treat we are betting that you receive e-mails such as this on a weekly basis since we receive them on pretty much a weekly basis; **June 19, 2018**

"We are a private investment firm interested in investing in the heat treatment industry. I think there could be a great and mutually beneficial way to work together that I would like to discuss. Here is some information about us: XXX Group is actively looking to



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invest in U.S.-based heat treating businesses generally with at least \$20 million of annual revenues (depending on the margins in the particular business) and around \$2 million in pre-tax earnings." A number of years ago the "money people" discovered the world of heat treating and decided that this was a good investment field with the result that everybody and their brother appears to be looking at buying up commercial heat treat shops. We would hesitate to call this the Bodycote model since Bodycote operates as a commercial heat treater rather than a hands off venture capital firm however Bodycote is the world's most successful commercial heat treater, partly because they make very strategic acquisitions and are willing to make the necessary investment in new acquisitions. The problem for investors though is that there appears to be an almost infinite about of

capital chasing a very finite number of commercial heat treaters. The average commercial heat treat in North America has annual sales of \$4-\$5 million USD which generally is too small to be of interest to venture capital firms. The larger commercial heat treats are in some cases already owned by venture capital firms and the remaining well managed companies are in many cases family owned with the family having little or no interest in selling at a reasonable price which takes us back to our original point-there is a lot of money chasing a very limited number of companies. It all means it would be a real fun time to own a commercial heat treater.

Solar Atmospheres

*Solar Atmospheres of Western PA recently continued its merit status for NADCAP Nondestructive Testing for penetrant inspection. Solar Atmospheres specializes in Method A (water washable) Fluorescent Penetrant inspection and is able to accommodate parts of varying sizes in their world class NDT cell. Solar has its own in-house Level 3 inspector as well as six Level 2 inspectors and one Level 1 inspector. Solar is on Boeing's approved supplier list and typically inspects three linear miles of vacuum stress relieved weldments for the 787 Dreamliner per month. Please contact Mike Johnson at 724-982-0660 x2223 or mike@solarwpa.com. He will be glad to discuss your requirements with you. For additional information about Solar Atmospheres, visit us at www.solaratm.com. **June 19, 2018***



Monday Morning Briefing

We told you a couple of weeks back about **Mark Hemsath** rejoining furnace builder SECO/WARWICK but here is the official press release; "**SECO/VACUUM Technologies, LLC**(SECO/VACUUM) is pleased to welcome Mr. Mark Hemsath as director of nitriding and special vacuum furnaces. Mark had previously held a position with SECO/VACUUM's sister company, SECO/WARWICK Corp., as manager of the thermal group from 2014 – 2017 before taking time away to serve as director of sales and marketing with Advanced Heat Treat Corporation in Waterloo IA. Mr. Hemsath will be the primary contact for gas Nitriding furnace applications in North America; he will cover the



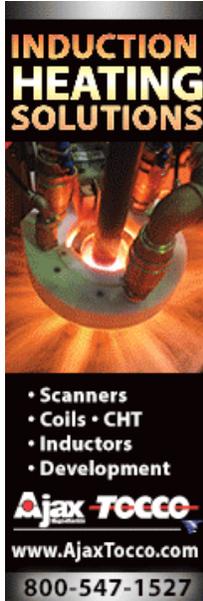
Southeast USA from North Carolina to Texas for all SECO/VACUUM products; and he will handle special vacuum furnace products throughout North America. Mr. Hemsath boasts a long and rewarding history in thermal processing, having operated his own heat treat furnace manufacturing and alloy fabricating company from 1993-2009. He has also designed, built, and sold vacuum, Nitriding, hydrogen annealing and various other furnaces since the 1980s. And he is a descendant of a well-respected leader in thermal processing; his father acquired nearly 65 patents as vice president of technology for Midland Ross, parent of Surface Combustion. SECO/VACUUM welcomes Mark to the team!”



L & L Special Furnace in the US recently sold a furnace into New Zealand of all places. We probably would not have mentioned this but New Zealand? Seriously?” L&L Special Furnace Co., Inc. has commissioned a large resistance box furnace and quench tank in New Zealand for a leading aerospace manufacturer of landing gear and associated components. The company has supplied a model XLA3472 with an effective work zone of 22” high by 34” wide by 68” deep. The oil quench tank provided with the furnace is capable of quenching parts up to 24” by 36” in oil.” French furnace builder **BMI** recently landed an order for a vacuum nitriding furnace from a North American customer. We mention it because BMI does not concentrate on the North American market and we seldom run across them on this side of the pond. **Southwest Heat Treat** is expanding. Southwest Heat Treat in Houston, Texas, a division of Bluewater Thermal (*and not to be confused with Southwest Metal Treating in Fort Worth which is owned by our buddy Ryan Fussell*) is adding this furnace. We don’t know anymore than you do-possibly a tip up or carbottom furnace since the company is very heavily oil and gas?



“Dutch” Summers, Jasco Heat Treating. If you’re a heat treater in NY state you know the name “Dutch” Summers, if you are outside of NY you probably have never heard of the man. Jasco Heat Treating in Rochester, NY has been around for forever and is one of the larger



heat treaters in the area. Jasco Heat Treating is one of a few companies owned by “Dutch”. *“John “Dutch” Summers, CEO of Graywood Companies, Jasco Heat Treating and Jasco Pharmaceuticals LLC, has been named the 2018 recipient of the Herbert W. Vanden Brul Entrepreneurial Award, presented by Saunders College of Business at Rochester Institute of Technology. The award, which is given to entrepreneurial leaders within the upstate New York region, was presented at Oak Hill Country Club on June 6. Summers manages Graywood Companies, a Rochester-based holding company managing residential and commercial real estate. For decades, he also served as CEO of Jasco Tools Inc., a global provider of standard and specialty cutting tools, custom components and heat treatment services. He was the third employee at Jasco Tools, which was founded by his father in*

1951. Summers began running the company in his 20s and grew Jasco Tools into a holding company overseeing four businesses, one of which became the largest tool-and-die manufacturer in Rochester. In 2014, Jasco Tools was acquired by Michigan-based Arch Global Precision LLC.



*We have this last photo from the recent **IFHSTE Conference** in South Carolina, USA which shows much of the executive committee; **Scott MacKenzie**, Houghton International, **Andy Banka**, Airflow Sciences, **Rob Goldstein**, Fluxtrol, **Lesley Frame**, University of CT, **Bill Mahoney**, ASM CEO. The scary thing is every single person in this photo is smarter than I.*



From **TE Wire & Cable** we have this press release; “On July 11th at 2 pm EST, CCPI Europe Limited and TE Wire and Cable Company will be hosting a free webinar presenting the Low Drift Dual Wall MIMS Cable. This low drift mineral insulated wire technology (types K and N) is the greatest thermocouple wire innovation in more than 50 years! This product was developed to improve temperature measurement accuracy, extend thermocouple life, and significantly enhance drift characteristics. The Low Drift MIMS Cable has no changes of instrumentation, wiring, or operational procedures, and it’s still a type K or N thermocouple. This MI construction shows less drift than any other form (drift reduction > 80% above 1100 °C). The webinar will be led by Trevor Ford, who oversees CCPI’s UKAS Accredited Calibration Laboratory and is the Technical Director of CCPI Europe Limited. To learn more, the link to sign up for the webinar is: <https://register.gotowebinar.com/register/3175303110868264707> “



To round things out we see that **Atlas Pressed Metals** in Dubois, PA is adding 45,000 square feet on to their plant bringing it to 100,000 square feet in total. Being a powdered metal components manufacturing facility the company does sintering in house but this addition will NOT include any additions to the heat treat department. PA is of course the powdered metal capital of the world. **June 18, 2018**





Robotic Laser Heat Treating?

Even in the conservative, staid heat treating industry change happens and this would appear to be a very substantial one. We have abbreviated this story slightly but there will be more to come; **June 15, 2018**

“Laser Hard, Inc. has invested in the world’s first mobile robot for targeted laser hardening and tempering of metal surfaces. This state of the art Robotic Laser Heat Treating System is the first production system of its kind in the United States. The robot combines the latest innovations in laser technology and optical pyrometry (temperature control). It utilizes a six axis robotic arm which articulates with a two axis tilt-able rotary table. This movement control provides the capability to project the laser beam in free 3D movements precisely following contours of parts with complex geometries. Laser Hard, Inc. is a partnership between the Learn family of Phoenix Laser Solutions and the Peters/Wilkosz family of Peters’ Heat Treating, Inc., both with deep roots in the Meadville community. “This technology will connect the vast knowledge that we both have acquired in two different fields; it will take the science of metallurgy and the craft of toolmaking to new horizons”, said Blair Learn, owner of Phoenix Laser Solutions. The Laser Heat Treating processes include hardening, tempering and annealing; therefore delivering the same properties as conventional heat treating, but with added benefits of accuracy and adaptability to work piece geometry. The improved accuracy is made possible by the heat treatment process being delivered via laser energy. With the recent advancements in laser technology, highly efficient and vastly more powerful instruments are now available. When this technology is integrated with the latest advancements in robotic automation, the heat-treating process can now be adaptively applied to simple or complex geometries. The flexibility of this system imports basic part coordinates from a component through a convenient scanning function, which replicates a virtual 3D workpiece, providing exact dimensional details of the areas where hardening is required. This doubling down in advanced technology coupled with optical pyrometry, provides the ultimate competitive advantage by achieving accurate and repeatable case

depth hardness with work piece versatility, which eliminates secondary machining of unwanted hardened surfaces.

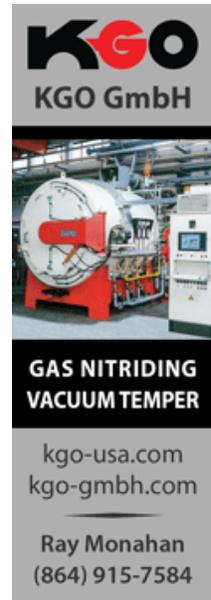
The digitally controlled laser heat source elevates temperature for heat treating by localizing energy directly to the required work area. The following benefits are provided via this process:

- The surrounding area of the workpiece receives minimal to nil thermal load;*
- Pinpoint accuracy of workpiece surface hardening;*
- For quality control, the hardening process is documented with an onboard temperature control and charting, ensuring process reliability and reproducibility.*

You cannot find the same precision through induction or flame hardening. The actual hardened surface is not cosmetically compromised as much as an induction or flame hardening operation; the treated area quite often will require little or no hard finish time. The precision repeatability of the technology assures us of a hardening process that is much more accurate than anything else that is available today. In addition, the machine is portable, so if a customer has parts that are too large to move or cannot be easily disassembled for processing the machine can be brought to their facility.

About Laser Hard, Inc.: *Laser Hard was formed as a partnership between Peters' Heat Treating, Inc. and Phoenix Laser Solutions, both of Meadville, Pennsylvania, "Tool City, USA". It is a strategic partnership between two companies who have a depth of knowledge in both heat treating and laser technology, respectively. Both companies have a long history as part of the manufacturing supply chain. Phoenix Laser Solutions is now in its third generation of family ownership and Peters' Heat Treating is second generation. "The synergy between our two companies made this opportunity too good to pass up. We feel that we will be on the forefront of a technology that is sorely needed for many applications and not yet readily available in the United States", said Doug Peters, President of Peters' Heat Treating, Inc. Learn more at www.laserhard.com.*

About Peters' Heat Treating, Inc.: *Since 1979, Peters' Heat Treating, Inc. has been one of the leaders in the precision parts heat treating industry. Located in Northwestern Pennsylvania, Peters' Heat Treating has three locations servicing the tristate region. Processing capabilities*



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Bodycote Share Price

Just look at them go! *"Shares of Bodycote (LON:BOY) reached a new 52-week high during trading on Monday . The company traded as high as GBX 1,046 (\$13.93) and last traded at GBX 1,040 (\$13.85), with a volume of 381106 shares trading hands. The stock had previously closed at GBX 1,019 (\$13.57). A number of analysts recently commented on BOY shares. Numis Securities restated a "hold" rating and issued a GBX 925 (\$12.32) price objective on shares of Bodycote in a research report on Wednesday, February 14th. Peel Hunt restated a "buy" rating and issued a GBX 965 (\$12.85) price objective on shares of Bodycote in a research report on Tuesday, February 20th. Jefferies Financial Group restated a "buy" rating and issued a GBX 1,100 (\$14.65) price objective (up previously from GBX 980 (\$13.05)) on shares of Bodycote in a research report on Thursday, February 22nd. Liberum Capital reiterated a "buy" rating and set a GBX 1,050 (\$13.98) target price on shares of Bodycote in a report on Tuesday, March 6th. Finally, Credit Suisse Group reiterated an "outperform" rating and set a GBX 1,020 (\$13.58) target price on shares of Bodycote in a report on Tuesday, March 6th. One research analyst has rated the stock with a sell rating, four have issued a hold rating and nine*

have given a buy rating to the company's stock. The company has an average rating of "Buy" and a consensus target price of GBX 1,008.08 (\$13.42)." **June 15, 2018**



Jeff McLaughlin Interview

We are pleased today to be speaking with Mr. Jeff McLaughlin, founder and owner of McLaughlin Services in Avilla, Indiana which is soon to be part of McLaughlin Furnace Group LLC.

Jeff, I think if we talk about your background to begin with it will give us a good insight into how McLaughlin Services came into being. Where and how did you get started in the heat-treating industry?

I Graduated Hobart Welding School in Troy Ohio in 1992. My first job was a welder/ironworker, building gas station canopies. That was not for me. So I got into a maintenances position in a mobile home factory. I married a lady whose grandfather was Dean Ramer. Dean and I talked for sometime about me coming to work at Advanced Thermal Technologies Inc (ATTI). I started there in 1993 as a maintenance man/welder. Working my way up the ladder, I became a maintenance manager/ purchasing manager. Dean and Dave VanderKaay, the owners, were two great mentors to me over the course of my career at (ATTI). They taught me the hands on operation and maintenance of a heat treat company. ATTI was sold to a company known as MP Steel, where I stayed on as maintenance manager. MP Steel had several plants throughout the Midwest, and had a fire at plant #1, where everything was lost. MP Steel was sold to Advantage Thermal Services. I stayed working at Plant #2, where I built and installed many furnaces through the years.

Over the course of my career I met a lot of good people that told me I was way more than a heat treat maintenance guy. Well I guess them guys were right, huh! To name a few of them, Randy Simmons of RMA, and John Hansen of Met-Pro, who you know. I thought to myself, if all these guys, with years of experience, are telling me this, then what do I have to lose? In April of 2007, I formed McLaughlin Services LLC with \$10,000 dollars. I primarily grew my company on nights, weekends, vacation days, holidays, etc, -whatever it took. Moving forward to April

2010, I left ATS to focus on McLaughlin Services LLC full time. My experience as an in-house maintenance manager is reflected today in the core principles of McLaughlin Service, LLC. Timely service when production is down and reliability and ease of maintenance on new equipment are a few examples. All the hard work I've put in the heat treat industry sure has paid off!

When you first started your working career was the idea of starting and running your own business a focus for you or something which just happened.

For years, as I worked at the heat treat, I wanted to be the guy that changed the furnace industry. My goal in life is to make a difference with my unique designs of furnace building. I saw many things on the equipment that weren't quite right and never understood why they were always the same. Nothing seemed to change. Now, I'm changing up the industry.

On a very personal note you and I had a very good mutual friend, Randy Simmons who also started his own furnace business. It turned out to be a real success but unfortunately Randy passed away a number of years ago at a young age. Did you regard him as a mentor?

*Yes, Randy was one of the people that pushed me to where I am today. He told me that I was going to change the furnace industry with all the ideas I had. I helped Randy with his furnace company in Thailand off and on over the years until his passing. I truly miss working with him. I really wish he was here to see the growth and development of McLaughlin Services LLC and my expansions. **June 14, 2018***

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Trisha McLaughlin, Marketing and Jeff McLaughlin, McLaughlin Services

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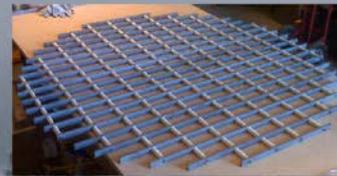
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Brevini Wind/AFC-Holcroft

In a recent article we spoke about how the failure of the wind energy industry in North America at least in terms of developing domestic suppliers had spilled over into the associated heat treating which is certainly no surprise (by the way as far as we know nobody else other than “The Monty” has ever written about the relationship between the failure of the wind industry and how it effected heat treaters). An example which we used was Brevini Wind Division in Muncie, Indiana which closed some time ago with the equipment being sold off, this included a really nice, state of the art AFC-Holcroft batch IQ line with oversized working dimensions (36" X 54" X 72" possibly?) It came on the market recently with what we suggested was a rather high asking price. Well either we don't know our stuff, the asking price was flexible or demand was higher than we expected because it has now sold to an undisclosed buyer. We do expect more details to come. **June 14, 2018**



First Load!

It is always an exciting moment when that first load successfully comes out of a new furnace. Commercial heat treater Thermetco in Canada received a new AFC-Holcroft batch IQ furnace earlier this year as you can see below. The other photo shows the first load coming out of the furnace just the other day-what a sight to see. **June 13, 2018**



Baker Furnaces, Brea, California, USA

We welcome with open arms our most recent advertiser Baker Furnaces in California whose ad can be found on this page. Baker offers a number of services of interest to the heat treating industry including Calibration and Uniformity Services, replacement parts, installation services, even new furnaces and ovens. All of the details can be found at <https://www.bakerfurnace.com/products/aftermarket-parts-services> **June 13, 2018**

Ambrell Expansion

Ambrell (you know the Induction heating equipment guys) recently moved into a new facility in Rochester, NY, USA. Looks like a nice facility but we have to say the old one which we have visited in the past was quite respectable. Rochester surprisingly enough has a reasonable number of companies associated with the industry, this includes Gleason Works (press quenching equipment and captive heat treating). Rochester Steel Treating, Bodycote and several other captive and commercial operations. “Ambrell, an inTEST Company and leading manufacturer of induction heating solutions worldwide, held a ribbon-cutting ceremony today to celebrate its new 80,000 square foot (7,430 square meters) facility in Rochester, NY. The \$2.1 million project, which started in September 2017, included a complete company relocation from its previous manufacturing facility in Scottsville, NY. The new facility in Rochester is double the size of the Scottsville location. “This is an exciting and special day for us,” said Tony Mazzullo, President of Ambrell. **June 13, 2018** *“We built this facility from the ground up and have many organizations and individuals to thank for their contribution and hard work.” Mazzullo continued, “From the electrical, plumbing, painting and other contracting firms, Rochester is a community where the construction trades are second to none.”*



Thermal Processing in Motion, Spartanburg, SC

Time to wrap up our coverage of the recent “Thermal Processing in Motion” conference in Spartanburg, SC, USA. We can add that there were approximately 140 attendees from 15+ countries and 32 exhibitors. *June 12, 2018*



Janusz Kowalweski, Gord Montgomery, Scott MacKenzie



Michael Hager, Verder Scientific



Rick Sisson, Worcester Polytechnic Institute, D. Scott MacKenzie, Ph.D, Lesley Frame and Rafael Colas. Rafael and Rick were awarded IFHTSE fellows. Lesley was my vice chair to Scott



Where Are They Now? Jamie Kuriger

We have been running across Mr. Jamie Kuriger for many years now, first when he was with graphite supplier Toyo Tanso at their location in Connecticut and then when he was with furnace builder Ipsen in Rockford, Illinois. Jamie has switched his career path slightly in that he is now on the commercial heat treating side of the industry. He recently accepted a position at international commercial heat treater Bodycote as Sales Manager – North America East, Aerospace, Defence & Energy – Heat Treatment. We wish him the best. **June 12, 2018**

John Hansen, Michigan International Speedway

There is probably not a single captive or commercial heat treater in the Michigan, USA area who do not know John Hansen of rep firm Met-Pro Inc. For probably 40 years John represented companies such as controls company SSI in the area and every single heat treater had a healthy respect for him. A reader sent us this interesting “human interest” story John and his great love of auto racing.

The story tells us how John has a permanent spot to park his RV and view the races. **June 12, 2018**

“Michigan International Speedway is the ideal vacation spot and since 1968, many fans have camped at the two-mile oval for a summer getaway. The rolling hills and forest make for a natural back drop to any campground. Guests who come to camp can choose the one that meets their style. And as often happens, life changes. What once started out as a party weekend, transitions to more of a family campground before even moving to a quiet campground close to the track. John

Hansen has been coming to the races for years, but was at a crossroads recently. He faced the reality that he might have to stop coming because of a life change. But when APEX opened, it

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was the spot for him. He was the first to buy in to APEX and has continued to come. In fact, he wanted to keep his spot that he reserved it last year even though he was unable to attend the race.

“I have so many memories that I find it hard to remember my favorite.” Hansen said. My son dropped his stuff after shopping halfway down the stands and they were hooked on the cross beams in the stands. We had to call security to come up with a machine to get it down. That turned into a lot of fun getting that thing down.” Hansen and his wife camp in APEX campground now. They like to experience the thrill of the race, but also the convenience of watching the action right from their camping spot. But they used to camp at MISCAMPING.com Graves Campground.”

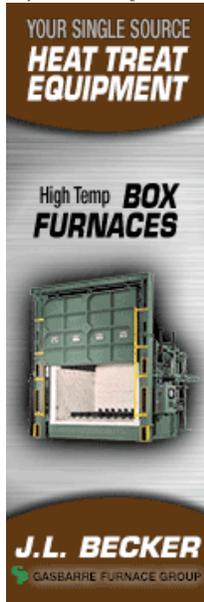


A promotional banner for Leybold vacuum pumps. It features the Leybold logo in the top left, the text "Leybold vacuum pumps can:" in the center, and "On-demand webinar" with a red "WATCH NOW" button in the bottom right. The background is a blue-tinted image of industrial machinery.

Monday Morning Briefing

To start off the week we have to say that we find this to be a very interesting press release. **Advanced Heat Treat Corp.**, based in Iowa is one of the largest commercial heat treaters in North America. What this press release tells us is that the company is adding a large addition and investing in new furnaces. Please note that the company now has 55 Ion and Gas Nitriders which is quite something; *“Advanced Heat Treat Corp. (AHT) is pleased to announce it has officially broken ground on a new 15,000 square foot expansion at its corporate headquarters at 2825 MidPort Boulevard, Waterloo, IA 50703. This marks the first expansion at its corporate headquarters since it broke ground on the airport location back in 1998. The new addition will allow AHT to segregate its trademark processes, UltraGlow® Ion*

Nitriding / Nitrocarburizing and UltraOx® (Gaseous Ferritic Nitriding/Nitrocarburizing and Oxidation Treatments) and maintain its state of the art manufacturing feel and presence. The new expansion will also bring with it two new gaseous ferritic nitriding/nitrocarburizing units w/sizes up to 13' tall and 5' wide. The new additions will be twofold: (1) the larger unit (13' x



5') will allow AHT to grow its longer-like product line, for processing long plastic injection screws for the plastics industry, hydraulic cylinder rods for the agriculture and/or construction industry lines and various pump, motor, shaft components for the oil and energy industries and (2) the smaller unit (4' x 5') will be designed to capture more of the aerospace product line market; this unit will be targeted to be Nadcap approved by late 2018 / early 2019. By doing so, AHT will then have two (2) Nadcap approved processes inside its walls: Ion Nitriding and Gaseous Nitriding. "This expansion will allow us better control of product flow, inventory control and process capacity," says William Cowell – VP Ion Nitriding / Plant Manager. "We'll be nearly doubling our gaseous nitriding capacity w/these additional units and with the floor space, we'll be able to better accommodate our customer

demands." AHT currently has 55 Ion / Gaseous Nitriding units across its four (4) locations: 2 in Waterloo, IA, Monroe, MI, and Cullman. "I'm excited on many counts. One, we're adding capacity/backup to an already growing agriculture/construction market. Two, we're targeting to add a new Nadcap process in order to expand further into the aerospace market and meet more of our aerospace customer demands and requests. And three, we're gearing up to go even bigger in 2019: with the expansion, we've planned to build / design a gaseous unit that will process parts up to 20 feet. This unit will allow us to enter various markets for growth" stated Mikel Woods, President."



Friday we had a photo of two Batch IQ furnaces being built for a North American heat treater however it was a bit of a teaser as we did not mention the builder or buyer. The buyer is **Cambridge Heat Treat** in Cambridge, Ontario, Canada a family owned commercial

heat treater who has made some major investments in the past few years including a very impressive Ion Nitriding system from **Rubig** of Austria and a gas fired vacuum furnace from **SECO/WARWICK**. In this case the company has purchased two batch IQ furnaces from Surface Combustion in Ohio. We have known Cambridge for almost 40 years now and we have seen it grow from a fairly modest shop to a quite impressive operation.



As a matter of fact this is not the only major new project which **Cambridge Heat Treat** is investing in these days. In addition to the two new furnaces mentioned above they are also in the process of rebuilding and installing these two used batch IQ furnaces, each of which has working dimensions of 36" X 48" X 36".



Something else that we talked about last week was **Nickel Pricing**. The chart on the right hand side of this page shows how in 1 year the price of nickel has almost doubled. While we can't give you an exact figure about how this would effect the price of a 330SS rod basket or a HT base tray we can certainly say that it would make for a substantial increase. We have no crystal ball so we can't tell you what the future will bring however this is little reason to believe that we will see any price decreases in the near future but the trend as you can see it up, up and away. We leave it up to you to decide if you want to accelerate your alloy purchases to avoid possible (probable) price increases. Out in Nevada commercial heat treater **Nevada Heat Treating** recently added an aluminum drop bottom oven which means they can now offer Aerospace Accredited Aluminum Heat Treating. Nevada Heat

Treating is located in Carson City and if you want a trivia question how about this one? What CEO of a major worldwide furnace builder use to run Nevada Heat Treating? The answer is **Pat McKenna** who is now CEO of Ipsen North America.



We talked a little bit about the recent ***“Thermal Processing in Motion Conference”*** in Spartanburg, SC which we attended this past week. We will have some more photos of this event later this week but for today we will provide you with this one note about how **Dr. Valery Rudnev of Inductoheat** received two awards for his efforts in the heat treating industry. *“Dr. Valery Rudnev was recognized during the opening ceremony of the American Society for Materials (ASM International) Thermal Processing in Motion conference. Dr. Rudnev, Director of Science and Technology at Inductoheat Inc., an Inductotherm Group Company, received two prestigious awards for his contributions in the field of induction heating and heat-treating. Dr. Rudnev was elected as a Fellow to The International Federation for Heat Treatment and Surface Engineering (IFHTSE), “For his preeminence in induction heat treating and modeling of the induction heat treating process” (IFTSE, 2018). Dr. Rudnev was also presented with the ASM International “Best-Paper in Heat Treating” award for co-authoring an article entitled “Revolution – Not Evolution – Necessary to Advance Induction Heat Treating.” The ASM International Heat Treating Society, Research and Development Committee, established this award to recognize the best papers in the heat treat industry each year.” June 11, 2018*



Where Are They Now? Mark Hemsath

Mark is like many in this industry, in that he is in it because his father was in the business, as a matter of fact if I understand correctly Mark's father has something like 80 patents for ideas related to heat treating furnaces. Mark has followed in his Dad's footsteps and spent quite some time with furnace builder SECO/WARWICK before moving to the commercial heat treating side of the industry. We ran across Mark at the just completed "Thermal Processing in Motion" conference in Spartanburg, SC where we found out that he is back at SECO on the vacuum side of the equation. *June 8, 2018*



Batch IQ Furnaces

We have these photos of two almost completed batch IQ furnaces which are currently on the floor of a furnace builder in the US. What you see are two 36" X 48" X 36" units which will be shipped within the next few weeks to a North American customer. Monday as part of our "Monday Morning Briefing" we will tell you who the builder is and who the end customer is. *June 8, 2018*



Thermal Processing in Motion Conference & Exhibition

June 5-7th, 2018 saw the “Thermal Processing in Motion Conference & Exhibition” in Spartanburg, SC, USA and “The Monty” was in attendance. This event is a joint venture between ASM and IFHTSE (International Federation for Heat Treatment and Surface Engineering) and attracted roughly 150 exhibitors and visitors. Over the years we have attended many, many heat treating exhibitions and conferences and each has a different “flavor”. For instance IFHTSE events in general are not organized to be everything to everybody, rather their focus is very much on the academic side of heat treating and consequently their events attract some of the most knowledgeable and academic experts in the industry-this was no exception. Well organized and interesting this was an exhibition designed for learning. These photos show some of the exhibitors and attendees, a few more will follow over the next few days. *June 7, 2018*



Bill Gornicki, ALD, Dale Montgomery



John Ludeman, Mikel Woods, Advanced Heat Treat Corp.



Mike Coburn, Ron Graham, AFC-Holcroft



Josh Harvey, Heat Treating Services Unlimited



Janusz Kowalwski, Ipsen

ECM Technologies

*“ECM Technologies is about to ship its 11th ICBP Jumbo to a North European customer. This system is designed for low pressure carburizing of large production volumes. **June 6, 2018***



View from ECM workshop



ICBP Jumbo Transfer chamber

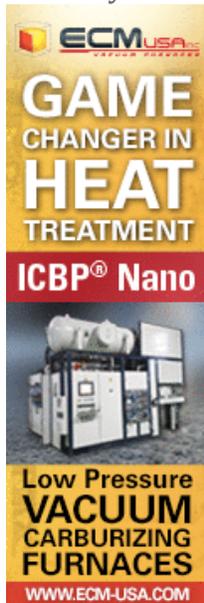
This installation, fitted with 9 carburizing chambers and a gas quenching cell, is ready to be delivered, respecting a tight 7 months lead-time before shipment thanks to a highly

integrated manufacturing process. In this high activity period in Europe, this is a noticeable success.

While ECM Technologies' ICBP FLEX is the most known and most spread solution worldwide, the ICBP JUMBO focuses on easy maintenance access, without having to stop production thanks to smart solutions. This is a real advantage for large production systems. ICBP JUMBO users benefit from reduced downtimes, better maintenance scheduling and a leaner production flow. Thanks to the optimization of its industrialization processes, ECM Technologies was able to successfully fulfill the customers' challenging requirements."

Heat Treating Technologies, Lima, Ohio

Recently we told you how commercial heat treater Heat Treating Technologies in Ohio had



invested in several brand new batch IQ furnaces. From a local newspaper we have this update saying that the installation is now complete. **June 6, 2018**

"A local company has installed the final piece of their \$3 million dollar expansion project. Heat Treating Technologies brought in their third and final heat treating furnace Monday(6/4/18) morning. These machines are the largest production furnace ever produced and will be used to make parts more durable for the agriculture and automotive industries. Heat Treating Technologies has seen an increased demand for their services and the expansion was needed so they could meet that demand. "It's going to provide more capacity for our current customers because they are picking up volume and it's going to allow us to maybe pick up a few extra customers along the

way and expand and grow as a business," said Amberly Deibel. Deibel says they have hired six people since Heat Treating Technologies started their expansion project and are looking at hiring another eight by August to help with the increased workload they have."

Ouch This is Going to Hurt!

Thursday the US announced new tariffs on steel and aluminum products. Friday we were told by two US companies involved in the high temperature alloy industry that prices would be rising by 20% immediately which we mentioned yesterday in our Monday

morning briefing. Today we heard from 5 other US suppliers to the heat treating industry including capital equipment companies that prices would be rising although outstanding quotes would be honored for 30 days. We don't believe upcoming prices increases in the industry are entirely due to new US tariffs but it is certain that there is a great deal of pressure on raw material prices and that will translate into higher prices for virtually every product required by the heat treat industry. **June 5, 2018**

SECO/WARWICK "Heat Treatment 4.0"

September 12-14th furnace builder SECO/WARWICK will be hosting their 21st heat treating seminar in Świebodzin, Poland. While we at "The Monty" will not be in attendance we do have this photo of the last time we visited this facility; *"The role of optimization, transparency and automation in production processes grows steadily, and affects maintaining and gaining of competitive advantage. Definitions, trends and changes brought by the 4th industrial revolution in the heat treatment of metals, will be explained by experts at the 21st edition of the SECO/WARWICK seminar, which this year gains a new title: "Heat Treatment 4.0" and a new convention. "As a leader in metal heat treatment solutions, we closely monitor the situation in the industry. Keeping our finger on the pulse, we observe changes in the sector and analyze all reports. We combine this knowledge with a passion for innovation, thanks to which the seminar we organize ensures such a high substantive level and a program that perfectly fits the current trends," says Katarzyna Sawka, Global Marketing Director at SECO/WARWICK Group. The three-day event (12-14/09/2018) will cover an Open Day combined with a visit to the heart of the company in Świebodzin and lectures included in three thematic blocks: hybrid technologies, optimization and transparency of production processes and intelligent tools including SECO/PREDICTIVE maintenance 4.0. In a word, Industry 4.0 in heat treatment discussed during the 2 days of seminar."* **June 5, 2018**



JPW New Plant

We very seldom run across this company however it appears to be a growing, expanding manufacturer of ovens and furnaces so what the heck-we always like mentioning companies in the industry that are growing. **June 5, 2018**

“Williamsport, PA (June 1, 2018) – JPW Industrial Ovens and Furnaces yesterday held a grand opening and ribbon cutting ceremony, in conjunction with the Williamsport/Lycoming Chamber of Commerce, to celebrate the opening of a new manufacturing facility. Attending the event were several elected officials and members of the regional business community including: Congressman Tom Marino; Lycoming County Commissioners Jack McKernan, Rick Mirabito and Tony Mussare; and Williamsport Mayor Gabriel Campana. JPW’s Plant 2, located at 3607 West Fourth St., Williamsport, will produce the company’s expanding line of standard industrial ovens. Plant 1, located in Trout Run, will continue to craft custom-made industrial ovens and serve as the company’s headquarters. Plant 2 began operation in January and, with 10 new hires in place, production of the company’s standard product line is quickly accelerating. The company anticipates that an additional 15 new employees will be hired between now and 2020.”



Monday Morning Briefing

Happy Monday, if you are in the US ***your alloy costs just went up-probably a lot!*** This is for two reasons; A quick glance at our nickel price chart on the right side of this page will

tell you that nickel per pound is **pretty close** to \$7.00 USD a level not seen since 2015. As experienced heat treaters know there is no time lag between when nickel goes up and basket prices go up-the price increases are immediate. Second and more important are the new US tariffs which went into effect June 1/2018. We have now heard from two suppliers of alloy products telling us about the increases with one mentioning 20%-wow that kind of hurts! **Aero Gear** is in Connecticut is expanding again. They have made our news section in the past for having a top notch heat treat department the centerpiece of which is a Solar Manufacturing vacuum carburizing system. *“As the sky-high demand for jet engines shows no signs of slowing down, one Connecticut manufacturer is rising up to meet the challenge. For over three decades Aero Gear in Windsor has been a key player in complex gearbox assemblies for the global aerospace market. Now the company continues to set a course for success as it completes a 24,000 sq ft expansion of its facility. The overall majority of their Lean Flow processing is conducted within their modern climate controlled 69,000 sq. ft. facility, including unique gear processing capabilities such as Low Pressure Vacuum carburized and hardened heat treatment, super finishing, balancing, and non-destructive testing. The new space will have a total of 100,000 sq ft with 175 employees, plus provide a brand new lobby, conference room, offices, and manufacturing space for several new programs.”* **June 4, 2018**



Bob Dilk of ZF, TRW in Rogersville, TN, USA will be retiring this month. Bob has had a long, varied and interesting career as a Heat Treat Metallurgist. As you would guess this plant has an in house heat treating department dedicated to auto parts. **Northwest Territorial Mint / Medallion Art Co., in Dayton, Nevada is auctioning off some equipment June 6. There is a little bit of heat treating equipment included mainly in the form of some annealing ovens. Nothing fancy but they might be worth a few bucks to the right person.** We told you how all the remaining equipment at captive heat treater **Rexnord** in Indianapolis, USA was being auctioned off. Well all the good heat treating stuff is gone and the “dregs” are left. You can see an example below-\$150.00 and it is yours if we understand correctly, personally we think it is overpriced.

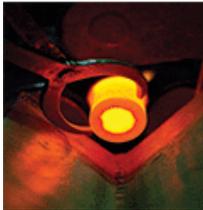


On May 24th we had a news item about an energy storage system being installed at commercial heat treater **Thermal Vac Technology** in California. The purpose of the system is to cut down on peak demand charges. The founder of the company **Mr. Steve Driscoll** sent us some more details about the system along with some news about how the company is



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expanding; *“Our new system is in phase one of a three part strategy to become energy independent. Phase one deployed a battery storage system to store energy and redistribute at the appropriate time. Phase two will be to cover our three acre campus with solar panels that will generate over half a megawatt to supply the energy storage system and power auxiliary systems. Phase three will deploy a series of Cogen systems to heat our plating facility’s tanks and provide the balance of power necessary to become energy independent. The roll out will be over four years and represent a capital investment of 5.5M. I believe we are the First in the US as an independent brazing and heat treating organization leading this technology. Generating our own power will also assist in the concurrent roll out of our industrial gas generating systems that depends on electricity to produce industrial gas, we*

are slated to install Hydrogen, Nitrogen, and Argon generation in the next three years. These considerable investments will bring two major vendors under cost control who’s price climbs every year. I have to tell you I’m really looking forward to controlling those costs. We have purchased two more industrial buildings in close proximity of our general campus this year bringing our total facility’s to 74,000 sq. ft. including our Santa Fe Springs steel treating facility (City Steel Heat treating). The steel treating facility has seen capital investments over the past 18 months of 1.5M and will be NADCAP approved in November 2018, the facility is in top condition and rapidly becoming a top rate steel treating facility. We will deploy the same energy independence to those facilities as well in the near future. We hope to have some other significant announcements later this year regarding our growth. Have a great day, Steve”



Furnace manufacturer **Diablo Furnaces** has a new rep on the US East Coast; “**Dave Wolfe of Augusta Energy Solutions, LLC** will represent Diablo Furnaces as East Coast Sales Representative. June 1, 2018We are pleased to announce Dave Wolfe has recently joined

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forces with Diablo Furnaces as East Coast Sales Representative for the following states: Connecticut, Delaware, Maryland, New Jersey, Pennsylvania, New York, Massachusetts, New Hampshire, Vermont, Rhode Island, and Maine. Dave comes to Diablo with a Thermal Processing background, which spans from technical sales since 1990 to controls engineering. Working within this industry and understanding the manufacturing of ovens and furnaces, we are pleased to welcome Dave as part of the Diablo Team. Diablo offers new thermal processing equipment, retrofits, upgrades, recontrols, service and parts. Furnace builds include IQ Batch Furnaces 900 lbs to 6,000 lbs, Tempers, Ovens, Washers, Charge Carts, Car Bottoms, Belt Furnaces, custom and others. For more information on how Dave can assist you, please call: AUGUSTA ENERGY SOLUTIONS, LLC., Annville, PA 17003, Phone: 717

202-5609, E-

mail: sales@AugustaEnergySolutions.com, www.augustaenergysolutions.com **ATI Forged**

Products in Wisconsin, USA is expanding their heat treatment department; “The planes flying over the ATI Forged Products facility on South Packard Avenue in Cudahy serve as a regular reminder of the mission-critical work completed in the 1.4-million-square-foot plant. They are also a working example of why ATI is investing \$95 million to increase its isothermal press and heat treating capacity. “You can stand here and tell what planes have those engines and what planes don’t, especially when they take off,” ATI Forged Products president John Minich said as he entered one of the plant’s buildings while a Southwest Airlines flight passed overhead. The engines Minich is referring to are the next generation of jet engines, designed to be quieter and more fuel-efficient. To be more fuel-efficient, the engines need to run even hotter, requiring parts made from alloys that can withstand higher temperatures. ATI uses an

isothermal press and advanced heat treating to achieve the unique properties needed for parts to withstand the heat of a jet engine.”



John Storm, Contour Hardening

“John Storm, President and CEO of Contour Hardening Inc. (CHI), passed away on May 13, 2018, at the age of 63. A member of ASM International, John studied Metallurgical Engineering at Purdue University and graduated in 1977 with a BSMetE degree. After a co-op with US Steel in Gary, Indiana, John started his career at the Detroit Diesel Allison (DDA)



Division of General Motors. While at DDA, John helped pioneer work with dual frequency induction hardening to strengthen gears and shafts by creating a uniform hardened case pattern. In 1986, his entrepreneurial spirit was sparked as he ventured out to co-found CHI with the goal of supplying the industry with innovative induction hardening systems.

Under his guidance, CHI has grown to be a leader in the field of induction hardening. The company has facilities in Indianapolis, Indiana, and Silao, Mexico, and has supplied equipment and heat treating services all over the world. He holds over 200 U.S. and International patents on a variety of processes and applications. In 2003, John formed the Real Power Division of CHI, which manufactures chassis-integrated electric generator systems for trucks. In 1998, he combined his love for Indy Car racing with the development of ultra-lightweight transmission gears heat-treated using CHI’s Micropulse technology. The CHI gearbox contributed to Arie Luyendyk’s 1997 Indy 500 win, and Scott Goodyear’s second place finish in that same race.

John received many awards and accolades in his life, but none he cherished more than the “Distinguished Engineering Alumni” award bestowed on him in 2004 from the Purdue University Materials Engineering department. John is survived by his wife, Mary Ann (Gibbs) Storm, daughter Emily Ann (Storm) Smith (Donald L.A. Smith), daughter Allison Ann Storm, and grandson Charles Storm Smith.” June 1, 2018

Diablo Furnaces Press Release

Burk Glogowski completes Pyrometry Course; June 1, 2018...Burk Glogowski has completed the Pyrometry course by PRI and is certified to conduct SAT and TUS evaluations based on NADCAP Interpretation of SAE AMS 2750D. As Diablo Furnaces continues to grow, we have expanded our services and offerings to coincide with our customer’s needs, which include the SAT and TUS evaluations. Diablo Furnaces is an OEM of atmospheric thermal processing equipment ranging from IQ Bath Furnaces, Tempers, Washers, Charge Carts, Car Bottoms, Mesh Belt Furnaces, custom, parts and service. For more information, please contact Anne Miner at 815-636-7855 ext. 223 or 815-558-4542. June 1, 2018



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BATCH FOR SALE

See something you need, click on the link or scroll through all the items for sale. Searching for something we don't have listed, let us know.

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Quick Jump To Items:

- Item # B451** Surface Combustion "Super 30" Allcase
 - Item # B450** Lindberg 24" x 24" x 36"
 - Item # B449** Air Atmosphere Box Furnace 2,000 F
 - Item # B448** Tip Up Furnaces (3 Available)
 - Item # B445** Surface Combustion "Super 36" Furnaces (3 available)
 - Item # B444** BOREL Furnace 550 °C
 - Item # B443** SOLO Heat Treatment Line
 - Item # B442** SOLO Quenching Machine
 - Item # B441** GM Batch IQ with Top Cool
 - Item # B439** Surface "Super 36" Allcase
 - Item # B438** Holcroft Batch IQ Furnace
 - Item # B437** Ipsen Recirculating Box Furnace
 - Item # B436** 36" x 60" Pit Gas Nitrider
 - Item # B426** Plasma Nitriding Unit 1000 kg Capacity
 - Item # B425** Box Furnace 2000 F
 - Item # B418** Lindberg High Temperature Oven 36" Cubed
 - Item # B415** J.L. Becker Car Bottom 1800 F
 - Item # B399** Car Bottom Furnace 10' x 12' x 8'
 - Item # B398** Sauder Batch IQ Line 24" x 24" x 36"
 - Item # B397** "Lift-Off" Atmosphere Box Furnaces (2)
 - Item # B374** Atmosphere Box Furnace 2100 F
 - Item # B352** Pacific Scientific Box Furnace
-

ITEM # B451

SURFACE COMBUSTION "SUPER 30" ALLCASE

Surface Combustion "Super 30" Allcase. Manufactured by Surface Combustion this is a batch IQ furnace. Working dimensions of 30" wide X 48" deep X 24" high. Gas fired. Nitrogen/Methanol with updated controls and an Atmosphere Engineering SmartMeth panel. Included datalogging and trending. SSi oxygen probe. Honeywell overtemp. Currently installed, complete and in good condition. Ready to go and available immediately.

Asking \$40,000 USD.



ITEM # B450

LINDBERG 24" X 24" X 36"

Lindberg Batch IQ 24" x 24" x 36". Straight through design with PLC controls. Serial number: 102350.

Asking Price: 35,000 Canadian



ITEM # B449

AIR ATMOSPHERE BOX FURNACE 2,000 F

Lindberg/MPH air atmosphere box. Model Number: 11-ROMT-243624-20, Job Number: 224745. Chamber Dimensions: 24" W x 36" D x 24" H. Electrically heated 40KW. Max Temp: 2,000°F. Capacity: 1,200 lbs. @ 2,000°F. Elect. Input: 480/3/60. SCCR Rating: 65 KW. F.L.A.: 5 AMPs. Elect. Drawing: 7315-1134-00A. Largest Motor/Load: 40 KW. Control Panel is included. Manufactured Date: September 2016. Never used this unit is available for immediate delivery with a full warranty.

Asking \$60,000 USD.



ITEM # B448

TIP UP FURNACES (3 AVAILABLE)

Tip Up Furnaces (3 available). Manufactured by Kleenair Products these "Tip Up" style furnaces have working dimensions of 60" wide X 60" high X 72" long. Natural gas heating-1200CFH. Maximum temperature 1500F & 2000F. 460/6/60 electrical. External dimensions of 8'W x 10'6"H (closed) x 14'L Each, 13'6"H when open. Controls: Temperature controls are missing. There is one (1) control cabinet which houses the flame relay modules, motor starters etc. and is common to all three (3) furnaces. Description: Currently available are two (2) 1500°F furnaces and one (1) 2000°F furnace. There is also one (1) loader and one (1) quench tank. Furnaces are ceramic fiber lined with Eclipse "TJ" direct fired burners. Burners fire from top rear and bottom front under the refractory piers. Dual hydraulic cylinders open/close the furnace cover. One (1) common hydraulic power unit for all three (3) furnaces. We will separate the line to sell individually or as a whole. We can provide hydraulic power units for each furnace. Very good condition.

Asking \$55,000 USD each or \$150,000 for all three.



ITEM # B445

SURFACE COMBUSTION "SUPER 36" FURNACES (3 AVAILABLE)

Surface combustion gas fired batch IQ furnaces model "Super 36". Working dimensions of 36" wide X 48" deep X 32" high. Late 1980's vintage. Casemate controls, SBS quench oil filter. Set up for endo atmosphere with ammonia addition. Currently installed, furnaces were in operation until February 27th 2018. Complete and in good operating condition. Pricing to come.



ITEM # B444

BOREL FURNACE 550 °C

BOREL Furnace 550 °C. Built by BOREL in 2006. Technical data: Power 20 kW – Frequency: 50 Hz – Tension: 400V 3LNPE – Maximum temperature: 550 °C – External dimensions: Length 135 cm, Width 130 cm, Height 175 cm – Internal dimension: Width 74 cm- Depth 82 cm – Height 39 cm. Located in France.

Price on request jordan@themonty.com



ITEM # B443

SOLO SWISS HEAT TREATMENT LINE

SOLO Swiss Heat Treatment Line 202-30/30/60. Built by Solo of Switzerland this is a SOLO 202-30/30/60 model. This heat treatment line was manufactured and modified in

1981-1987-1994. Composition: 1 washing machine, 1 “5 bar gas tank”, 1 “5 bar gas tank” with 35 kW turbine, 1 oil tank, 1 tempering furnace, 1 salt tank, 1 furnace with max. temperature of 850 °C, 1 manual manipulator, temperature regulation system and % CP with regulator, loading material. Possibility of mounting and commissioning by the manufacturer (SOLO). Actually, in operation, located in Switzerland. Good condition. All manuals included.

Price on request jordan@themonty.com



ITEM # B442

SOLO QUENCHING MACHINE

SOLO Quenching Machine 209-30/30 6981 – 1150 °C. Built by Solo of Switzerland this is a SOLO 209-30/30 model. This furnace was manufactured in 1991. Quenching machine for self-hardening and oil quenching. Composition: quenching Bell Furnace, nitrogen quenching unit, tempering furnace, oil quenching unit, controller / programmer, operator panel, temperature controller, hydraulic control. Dedicated for austenitizing, annealing, tempering, oil quenching, quenching under nitrogen. Max. temperature: 1150°C. Main voltage: 3 x 400 V – 50 Hz. Power input: 10 kW. Effective load dimensions: Diameter 300 mm*Height 300 mm. Max. loading weight: 20 kg. Protective gas: N2 or mixture N2 to max. 5 % H2. Overall dimensions: Height 2200mm, width 2070mm, depth 2250m. Possibility of mounting and commissioning by the manufacturer (SOLO). Located in France. Good condition. All manuals included.

Price on request jordan@themonty.com



ITEM # B441

GM BATCH IQ WITH TOP COOL

GM Batch IQ with Top Cool. Manufacturer: GM. Type: Integral Quench Furnace with Top Cool. Heated: Natural Gas – 1.2 M BTU's/Hour. Max. Temperature: 1450-1875 deg. Voltage: 460/3/60. Work Area: 36"W x 36"H x 48"L.

Controls: All mounted in two freestanding panels next to the furnace Includes motor starters relays, pushbuttons, signal lights etc. Honeywell indicating controller and overtemp. Honeywell circular chart recorder for recording temperature. Carbon control system.

Description: Furnace has (4) "U" shaped radiant tubes mounted vertically, (2) on each side wall. Heated by recuperated burners. Alloy roller rail hearth, alloy circulating fan, dual quench cylinders, top cool chamber and heated quench tank. Brick lined with fiber roof. Rear handler system, 1998 vintage. Installed, complete and operational. Condition: Very Good. Availability: Immediate.

Asking Price: \$150,000.00



ITEM # B439

SURFACE "SUPER 36" ALLCASE

Surface "Super 36" Allcase. Surface Combustion "Allcase" batch IQ furnace with working dimensions of 36" X 48" X 30" high. Natural gas heating, 1 MBTU's/Hour. Maximum operating temperature of 1750F, voltage 460/3/60. External Dimensions: 10'W x 12'H x 15'L. Controls: All mounted in a panel attached to the furnace includes motor starters relays, pushbuttons, signal lights etc. Honeywell digital strip chart recorder for recording temperature, indicating controller and overtemp. Partlow controls for oil heating/cooling.

Description: Surface Combustion Allcase Furnace with (6) "U" shaped radiant tubes mounted vertically 3 on each side wall. Fiber lined. Alloy roller rail hearth, alloy circulating fan, dual quench cylinders, top cool chamber and heated quench tank. Furnace has some

missing components (temperature controls, pressure switches, ignition transformers, regulator) which will be replaced prior to shipment. Condition: Very Good.

Please call for pricing.



ITEM # B438

HOLCROFT BATCH IQ FURNACE LINE

Holcroft Batch IQ Furnace Line. Model GP2500. Serial Number S/N #CJ-4233. Installed new in 1980. Gas fired, working dimensions of 30" X 48" X 30" and a capacity of 2500 pounds. Furnace was operational until shut down on 11/30/17 when plant closed. Also included is a double ended charge car (Holcroft) to handle loads of 30" X 48", a Holcroft Spray/Dunk washer with heating system 30" X 48" X 30" and 2 load tables, 1 stationary and 1 scissor lift. Complete, in very good condition and ready to go.

Asking \$125,000 USD for everything.



ITEM # B437

IPSEN RECIRCULATING BOX FURNACE

Ipsen Recirculating Box Furnace 38" high x 43" wide x 48" deep. Gas fired, 1,000,000 BTU/hr with a max temperature: 1400 deg.F. Model Number: DL-3036. Serial Number: 60458. Updated controls, Honeywell indicating controller and overtemp. High temperature tempering furnace. Vertical lift air operated door with overhead air cylinder. Fiber board insulation. Alloy roller rail hearth. Direct fired furnace, but the heating chamber is separate

from the work chamber and has a high velocity roof mounted circulating fan. Top mounted package burner. Complete combustion controls and safeties. 460/3/60 power. Test fired prior to shipment.

Asking Price: \$39,500.00



ITEM # B436

36" X 60" PIT GAS NITRIDER

36" x 60" pit gas nitrider (Lindberg Homo Nitrider – electric) built in late '70's, c/w with Super Systems Gas Nitriding Control system built in 2012. System was operational up until decommissioning last year, when it was replaced with new equipment. Price includes fixtures shown in pictures.

Asking Price \$50,000 USD.



ITEM # B426

PLASMA NITRIDING UNIT 1000 KG CAPACITY

Plasma Nitriding Unit. Manufactured by Plateg this is a Plateg Puls Plasma Nitriding unit. Type; Hot Wall Plasma Nitriding Furnace (Tandem). Built in 1997, the programmer was replaced in 2017. Working dimensions of 1000 mm diameter X 1450 mm high. Load capacity 1000 kg. Installed power 95 kW, 400 V, 50 Hz, 160 A.

Asking 98.000 Euro. Located in Turkey.



ITEM # B425

BOX FURNACE 42" HIGH X 48" WIDE X 14' LONG

Box Furnace 42" High X 48" Wide X 14' Long. Manufactured by Lindberg. Working dimensions of 42" high x 48" wide x 14'-0" long. Electrically heated 480/3/60, 160 KW. Operating temperature of 2000F. Temperature Controls: Free standing enclosed panel with updated Honeywell controls, including circular chart recorder, SCR controls, back up contactors and step down transformers for the heating elements. Description & Features: Fiber lined. Heated by Nichrome ribbon heating elements on both side walls. Two zones of control. Air cylinder operated door. Includes motor driven load/unload system. 8000 pound capacity. Originally installed at Boeing. Condition: Good. Vendor will repair the back wall, replace all broken element hanger modules and provide and install serviceable heating elements.

Asking \$85,000 USD.



ITEM # B418

LINDBERG HIGH TEMPERATURE OVEN

Lindberg High Temperature Oven. Model 41-MT-363636-2. Serial number 949223. Working dimensions of 36Wx36Lx36H. Manufactured in 1994. Maximum operating temp of 2050F. 240V, 3-phase 60hz. Honeywell Truline round chart recorder, model DR45AT and Watlow F4 digital control. Air operated vertical lift front door. Heating is provided by Lindberg MPH heating elements. Recirculating fan is mounted in the bottom. Furnace can be used for hardening, carburizing, carbo-nitriding, normalizing, and annealing. Includes retort box measuring 34x34x32 with gas connection. Excellent

condition. Only used in the jet aviation industry by 1 owner. The retort was purchased with the furnace but was not actually used. Retort is brand-new. Unit has been well taken care of. Also included is a Clark Hardness Tester, Model CPT.

Asking \$21,000 USD for both.



ITEM # B415

J.L. BECKER CAR BOTTOM

J.L. Becker Car Bottom. Working Dimensions are 96" wide x 180" Long x 66" High with a Maximum Temperature of 1,800 Deg. F. Natural Gas fired with 4.3 Million Btu's. Serial Number: J 2060. Double Ended Car Bottom with Air Operated Doors to accommodate Dual – Full Length Motorized Cars. Each Car is 108" wide x 200" long with Castable Refractory Floor Insulation – Sand Sealed. The Furnace is Fiber/Refractory Lined with 8 Tempest Burners (4) per side wall, firing opposite and opposed. The Exhaust Flues are floor level mounted for excellent temperature uniformity. Temperature Controls : Free Standing Panel Honeywell Digital Controls and Honeywell Tru-line Circular Chart Recorder.

Asking Price: \$95,000.00 USD.



ITEM # B399

CAR BOTTOM FURNACE

Car Bottom Furnace. Manufactured by Huber this is a gas fired car type furnace. Maximum operating temperature of 2000F. Working dimensions of 10' 4" wide X 12' 8" long X 8' high. Overall dimensions of 16' wide X 16" long X 14' high. Gas fired. Electricity requirements; 480 Volts, 3 Phase, 60 Hertz. Controls; Watlow digital controller, Honeywell digital overtemp and Honeywell digital recorder. Power driven car with (3) three sets of axles. Door is attached to furnace. Furnace is fibre lined and equipped with (4) four power flame model JD 130 package burners. Approximately 1,300,000 btu's each.

Asking \$85,000 USD.



ITEM # B398

SAUDER BATCH IQ LINE

Sauder Batch IQ Line. Serial Number 881978-83. Electrically heated 480/3/60/150kW total load. Maximum operating temperature of 1850F. Working dimensions of 24" Wide X 24" high X 36" long. Controls; Mounted and wired in an enclosure attached to the right hand side of the furnace includes a Marathon 10 Pro digital temperature controller, Marathon Carbpro digital carbon controller, Barber Colman analog high limit and a Honeywell digital strip chart recorder. Three power meters are face mounted to the same enclosure which monitor power in each zone of the furnace. A Halmar "SCR" power controller controls power to the heating elements. Two (2) Allen Bradley PLC controllers are mounted in the same enclosure. Standard In/Out Integral Quench Furnace w/Top Cool. This line consists of IQ furnace with top cool, heated quench tank, charge car, dunk & spray washer, temper furnace, SBS oil cooler, scissors table, atmosphere flow panel and several spare parts. Very good condition. Asking \$125,000 USD for the complete line. Shipping

Dimensions:

Temper Oven: 72"W x 11'H x 72"L

Washer: 80"W x 10'3"H x 120"L

Furnace: 109"W x 11'H x 96"L

Quench: 106" x 10'H x 72"

Top Cool: Skid - 5' x 5' x 6'H

Charge Car: 78"W x 60"H x 86"L

Misc. skids, flow panel, SBS, spare parts

Asking \$125,000 USD for the complete line.



ITEM # B397

"LIFT-OFF" ATMOSPHERE BOX FURNACES (2 AVAILABLE)

"Lift-Off" Atmosphere Box Furnaces (2 available). Manufactured by Drever. Effective working dimensions of 10'6" Wide x 35' Long x 6' High. Gas fired-12,000,000 BTU/Hr. Max. Operating temperature of 1450F. Description; Ceramic Fiber Lined, Vertical Rising Atmosphere "Lift-Off" Furnace complete with (26) U-Shaped Radiant Tubes, North American Burner System, (4) Top-Mounted Alloy Circulating Fans, (4) Zones of Control, Stationary Hearth, "Knife-Edge" Atmosphere Seal, and Hydraulic Lifting Cylinders on each end of furnace. Furnace is capable of 100,000 lb. loads. Instrumentation; Free-Standing Control Panel with Honeywell PLC Digital Temperature Controller, and Honeywell Flame Safety System. Very good condition. Overall dimensions of 15'11" Wide x 41' Long x 13'6" High. Approximate weight 70,000 pounds. Units each can hold up to 100,000# loads and were used prior for tempering/normalizing wire rod and bar stock. Both of these have top mounted recirculating fans and are "atmosphere capable", good for FNC work.

Asking \$325,000 USD each.



ITEM # B374

ATMOSPHERE BOX FURNACE

Atmosphere Box Furnace. Manufacturer: R&G Services, Inc. Inside Dimensions: 18" high x 32" wide x 36" deep. Heated: Electric, 230/3/60, 60 KW. Temperature: 2100 deg. F Model

Number: EB-183236 Serial Number: 77021 Temperature Controls: Updated indicating controller and overtemp. Description & Features: Air operated vertical rising door. Slanted face plate. Brick lined with silicon carbide hearth. Heated by heavy Nichrome ribbon heating elements. Atmosphere inlet and burn-off. Flame curtain with controls and safeties. Condition: Very good. Furnace will be cleaned & painted, repaired as necessary, checked out & test fired prior to shipment.

Asking Price: \$18,000.00 USD.



ITEM # B352

PACIFIC SCIENTIFIC BOX FURNACE

Pacific Scientific Box Furnace. Working dimensions of 72" wide X 120" long X 48" high, Gas fired radiant tube, maximum operating temperature of 2050F. Air operated vertical lift door, fiber lines, new refractory piers (12), hi-temp horizontal radiant tubes (6 above, 6 below), full safeties, side exhaust guard. Free standing control panel-rewired panel with Honeywell Tru-Trend circular chart and Honeywell digital controllers and overtemp. Atmosphere capable. Comes with spare radiant tubes. Very good condition.

Asking \$70,000 USD.



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Quick Jump To Items:

Item # C337 BTU-TCA Series Belt Conveyor Furnace

Item # C335 Compact Belt Furnace

Item # C330 Mesh Belt Furnace Line

Item # C329 CI Hayes Atmosphere Belt Furnace

Item # C328 CI Hayes Atmosphere Belt Furnace

Item # C327 Rogers Engineering Continuous Brazing Furnace

Item # C325 Sinterite Mesh Belt Furnace 1180 C

Item # C324 C.I. Hayes Mesh Belt Furnace 12" Wide Belt

Item # C323 Aichelin Cast Link Furnace Line 750 lbs/hr

Item # C322 Surface Combustion Rotary Hearth Line

Item # C321 Austempering System 500 lbs/hr

Item # C319 CI Hayes High Temperature Pusher Furnace

Item # C317 CI Hayes High Temperature Pusher Furnace

Item # C314 Roller Hearth (Atmosphere) 4800 lbs/hr

Item # C308 AFC Mesh Belt Furnace 54" Wide Belt

Item # C301 Cast Link Belt Line 4000 lbs/hr

Item # C296 C.I. Hayes High Temperature Tube Furnace

Item # C283 Rotary Hearth Furnace System

Item # C269 CI Hayes Mesh Belt Furnace 12" Wide Belt

Item # C265 Sunbeam Pusher Carburizer 3000 lbs

ITEM # C337

BTU-TCA SERIES BELT CONVEYOR FURNACE

BTU-TCA Series Belt Conveyor Furnace. Manufactured by BTU this is a mesh belt furnace with a metallic muffle and a 120" heating chamber. 4" clearance above the belt. 18" wide belt, 10 Zones of control. Maximum operating temperature of 1100C. 24" long loading/unloading tables. OAL: 29.0 Ft. Microprocessor controls. 32.5 KW, 440/3/60. Overtemp. Protection. Water cooling sections. N2 curtains front and back with burn-offs. Protective atmosphere: DA with N2 purge. Very good condition.

Asking \$80,000 USD or Best Offer.



ITEM # C335

COMPACT BELT FURNACE

Compact belt furnace 321-7-90 6677 1000°C. Built by Solo of Switzerland this is a SOLO 321-7-90 model. This furnace was manufactured in 1990. Composition: Loading frame, heating part with frame, cooling part with frame, unloading frame, driving system, conveyor belt, NH3 cracker 3m³/h, distribution for treatment and cabinet gas, operator panel. Dedicated for annealing under cracked ammonia, brazing and hardening. Max. temperature of 1000 °C Heated length: 900 mm, cooled length: 1500 mm, channel section: 80 x 40 mm, Main voltage: 3 x 380 V – 50 Hz / TN, power input: 10,5 kW, gas generated: 75% H₂ and 25% N₂ (NH₃), effective height with belt: 30 mm, conveyor belt width: 70 mm, external dimensions: L 5300 mm x l 800 mm x H 1250 mm. Perfect condition, ll manuals included. Located in France.

Price on request jordan@themonty.com



ITEM # C330

MESH BELT FURNACE LINE

Mesh Belt Furnace Line. Lobo Hornos built this mesh belt furnace line with all the engineering coming from Sunbeam. The line consists of a loader, high heat furnace, quench tank, wash, temper, and post wash. It has Honeywell, Shinha, and Siemens controls that are approximately 12 years old. The furnace has a heated length of 6 meters and a tempering length of 11.09 meters. Both the high heat and tempering lines can handle 500 KG/Hour each. The high heat furnace has an opening of 7" high by 40" wide. The tempering line has an opening of 6" high and 47" wide. Max temperature is 930 C. This mesh belt line is capable of either controlled atmosphere or Nitrogen gas. The alloy (AISI I-330, AISI I-310) and brickwork (T23& ceramic fiber) are in good condition. The quench oil is Equimsa 770 and there is a washer included. The furnace is complete in good condition and currently installed in Mexico.

Best offer.



ITEM # C329

CI HAYES ATMOSPHERE BELT FURNACE

CI Hayes Atmosphere Belt Furnace. Model: BAC. 385 KW 460 VAC. 2 zones of control, ribbon elements and glow-bars.

Asking Price \$15,000 USD



ITEM # C328

CI HAYES ATMOSPHERE BELT FURNACE

CI Hayes Atmosphere Belt Furnace. Model: LACMB 6" Belt. 306 KW 240 VAC. Ribbon elements. This furnace has been modified into a hump furnace with new controls and SCR. Bubbler, for wet hydrogen use.

Asking Price \$15,000 USD



ITEM # C327

ROGERS ENGINEERING CONTINUOUS BRAZING FURNACE

Rogers Engineering Continuous Brazing Furnace. Manufactured in 2007 by Rogers Engineering this an electrically heated, continuous, controlled atmosphere brazing furnace. System consists of an entry chamber with a manual door, two electrically heated braze zones, an Air-Jacketed atmosphere cooling chamber, manual door exit chamber and a Vac-U-Cool air cooling chamber. Parts are brought to a brazing temperature of 1112F (600C) then cooled in a controlled atmosphere to 482 F (250C). Each heating chamber is 7' 4" long. Maximum operating temperature of 1202F (650C). Like new condition.

Asking \$250,000 USD.



ITEM # C325

SINTERITE MESH BELT CONVEYOR FURNACE

Sinterite Mesh Belt Conveyor Furnace. 120" long preheat, 2 zones, silicon carbide heating elements with metallic muffle. 180" long high heat with 3 zones of control, silicon carbide heating elements and ceramic muffle. 180 KW, 480/3/60. Belt width 12" with 4" clearance over belt. Overall dimensions 60"W X 75"H X 54'-0"L. Cooling length 282". Preheat is rated for 1100 degrees C and high heat is rated for 1180C. New in 2000 it has seen very limited production and is in excellent condition. Has pre-heat bubbler. New pre-heat muffle, new belt, and several new glo-bars.

Asking \$70,000.00 USD or best offer.



ITEM # C324

C.I. HAYES MESH BELT FURNACE

C.I. Hayes Mesh Belt Furnace. LAC Type. Work Zone: 12" Wide Belt, 12" High work area, 12' heat, 12' cool with 3 zones of temperature control. 1120C maximum temperature (2000F operating temperature). Power: 220V, 75KW, 212Amp, 60Hz, 3Ph. "Air Products" Gas Mixing Panel (N2, H2). Footprint: 9'W x 54'L (90'L Belt), 10'H + ductwork. Extra set of cooling muffles. Please call for pricing.



ITEM # C323

AICHELIN CAST LINK FURNACE LINE

Aichelin Cast Link Furnace Line. The line consists of a loading table, cast link belt hardening furnace, oil quench, cross conveyor, post wash and two continuous tempering furnaces. High belt is 24" wide X 300" long with a capacity of 336 Kg/h. Nitrogen/Methanol atmosphere. Electrically heated 300 kW. Operating temperature of 1650F. Quench oil tank holds 7,000 litres. Air/oil quench oil cooler. Post wash has oil skimmer. Both tempering furnaces are electrically heated, 57 kW each. Belt widths 20" X 250" long. Maximum operating temperature of 575F. Installed in 2005 and currently used for automotive bearings. Complete installed and in operation until March 2017. Excellent condition.

Best offer.



ITEM # C322

SURFACE COMBUSTION ROTARY HEARTH FURNACE LINE

Surface Combustion Rotary Hearth Furnace Line. This system was designed for heat treating and straightening crankshafts and consists of a rotary hearth furnace, 2 Gleason straightening presses and a robot for loading/unloading. The furnace is S/N CC11590-1 with an outside diameter of 17' 3", inside 15', inside height of 2' 11" with an overall height of 8' 6". Built August 1979. Gas fired with 8 trident tubes. Atmosphere is Endo/Natural gas. Nominal tray size is 5" X 21", number of tray positions 60, tray loader/unloader length 10' 6". Hearth has ceramic tray support and guide tiles and embedded in 12" thick insulating firebrick. Sidewalls consist of 9" of insulating firebrick

backed with 4 1/2" of insulating block. Alloy and brickwork are both excellent. System is complete, installed but not in operation.

Asking \$50,000 USD.



ITEM # C321

AUSTEMPERING SYSTEM

Austempering System. Ipsen Model SG500, S/N52822. Shaker hearth style hardening furnace is capable of 500 pounds/hour, 1850F operating temperature, gas fired 800,000 BTU's/hour with an 18" wide tray. Temper has an operating temperature of 800F and a heat input of 300,000 BTU's. Controls on both are Honeywell UDC units. Entire system consists of a magnetic conveyor loading system, Ipsen shaker-feeder-hopper. Mitsubishi variable speed AC drive on salt conveyors, 900 gallon wash tank with 30" conveyor and 280 gallon rust inhibitor tank with 32" conveyor. Currently installed but not in production. System is in reasonable condition but has not been used for some time.

Asking \$20,000 USD or best offer.



ITEM # C319

CI HAYES HIGH TEMPERATURE PUSHER FURNACE

CI Hayes High Temperature Pusher Furnace. C.I. Hayes model MY-040848-94PH high temperature pusher furnace. 4" opening above the hearth, 8" tray width. Max. Temp: pre-heat 1100 C, High Heat 1700 C. 94" long preheat, 1 control instrument/1 zone, 15

KW@440/3/60, metallic heating elements. 48" high heat, 1 instrument, 3 control zones, 45 KW@440/3/60, molybdenum heating elements. 48" metallic front tunnel with nitrogen curtains and burn off. 3 cooling sections. each 36" long, 1 section is insulated and all are water jacketed. Rear tunnel with nitrogen curtains and burn off. Multiple atmosphere inlets, for hydrogen/dissociated ammonia with nitrogen purging. Pusher screw drive. Atmosphere bubbler. High heat chamber recently rebuilt. Overall Dimensions; 6'H x 4'-6"W x 39'L (Approx.)

Asking \$100,000 USD.



ITEM # C317

CI HAYES HIGH TEMPERATURE PUSHER FURNACE

CI Hayes High Temperature Pusher Furnace. Model MY-040848-94PH. 4" opening above furnace hearth. 8" tray width. Maximum temperature of the pre-heat is 1100C, maximum temperature of the high heat is 1700C. 94" preheat, 1 control instrument/1 zone, 30KW@440/3/60, metallic heating elements. 48" high heat, 3 instruments, 3 control zone, 45KW @ 440/3/60, moly heating elements. 48" metallic front tunnel with nitrogen curtains and burn off. 3 cooling sections each 36" long, 1 section is insulated and all are water jacketed. Rear tunnel with nitrogen curtains and burn off. Multiple atmosphere inlets for hydrogen/dissociated ammonia with nitrogen purging. Pusher screw drive. Atmosphere bubbler. Return conveyor system. High heat chamber recently rebuilt. Overall dimensions 6' high X 7.5' wide X 39' long (approximate). Excellent condition. Furnace was used for co-firing, can be converted for sintering with preheat muffle.

Asking \$110,000 USD.



ITEM # C314

ROLLER HEARTH FURNACE (ATMOSPHERE)

Roller Hearth Furnace (Atmosphere). Manufactured by Wellman in 1982. Model #AL-81-180 RH, S/N 180. Working dimensions of 60" Wide x 42' Long x 14" High – 4800#/HR. Electric – 480/3/60 – 469 KW (over (4) Zones of Control). Operating temperature of 1650° F. Brick Lined Atmosphere Capable Roller Hearth Furnace complete with (4) Zones of Control, Heating Elements above and below Rolls, Transformers, 25' Slow Cool Chamber (Air Cooled with Fans), and Variable Speed Drive. Free Standing Control Panels with Watlow Digital Controllers ((1) Per Zone), Watlow High Limits, and SCR Power Controls. Overall dimensions; Entrance Chamber: 12'Wide x 14' Long x 10' 6" High. High Heat Chamber: 10' 6" Wide x 30' Long x 10' 6" High. Cooling Zone: 12' Wide x 27' Long x 10' 6" High. Approximate weight 80,000 pounds. Very good condition.

Asking \$225,000 USD.



ITEM # C308

AFC MESH BELT HARDENING FURNACE

AFC Mesh Belt Hardening Furnace. Manufactured by Atmosphere Furnace Company this furnace has working dimensions of 6" high x 54" wide x 12' long (heated section). Gas fired with radiant tubes. Operating temperature of 1800F. S/N 6948. Temperature Controls: Free standing enclosed panel. Honeywell solid state digital readout indicating controllers, L&N overtemps. L&N strip chart temperature & carbon recorder. Marathon Monitors Carb-Pro carbon control. Description & Features: Fiber lined. Heated by (9)North American

4724-2-E burners firing into recuperated U-tubes. Two zones of control. Rear zone has a roof mounted recirculating fan. Cold belt return. Furnace has a flame curtain and complete combustion controls and safeties. Includes quench tank and conveyer.

Asking \$75,000 USD.



ITEM # C301

CAST LINK BELT QUENCH AND TEMPER LINE

Cast Link Belt Quench and Temper Line. Manufactured by Rogers Engineering 4,000 pounds/hour cast link belt furnace line consisting of a 1750F high heat furnace and 1700F temper furnace. Serial # CC-3977-0 (1997). High Heat Furnace: 48"W Omega Cast Link Belt, 4" pitch, 3" sides. Furnace has a 30'L heating section. Four (4) zones of control with three (3) roof mounted in the last three (3) zones. Maximum operating temperature of the hardening furnace is 1750°F. Furnace is radiant tube heated with recuperators. Furnace is currently set up for Endothermic w/Enriching Natural Gas & Air. Total BTU's for hardening furnace is 3,180,000 BTU/HR. Controls; All mounted in a free standing panel includes Allen Bradley PLC w/HMI Touchscreen, Honeywell UDC Digital Temperature Controls, SSi Carbon Controls. Voltage 480/3/60/200kW.

Tempering/Anneal Furnace: 60"W mesh belt with support rollers. Furnace has a 35'L heating section. Four (4) zones of control with four (4) roof mounted fans. Maximum operating temperature is 1700°F. Total BTU's for the tempering/annealing furnace 3,790,000 BTU/HR. Please note that this furnace has two (2) different modes of operation. Click on 'PDF' below for more information on the different modes of operation.

The sequence of this furnace is as follows:

- Load parts into pre-wash dump loader
- Pre-Wash, 190°F, Gas Heat
- Parts vibrate onto mesh (soft load) then onto cast link belt.
- High heat cycle
- Quench cycle, 200°F, Gas Heat, 8000 Gallon
- Wash cycle, 190°F, Gas Heat
- Temper cycle
- Oil blackening cycle

Includes:

- 5600 CFH Air Cooled Endothermic Gas Generator
- SBS Air to Oil Heat Exchanger which consists of three (3) 5 H.P. fans.- Manuals & Drawings

Very good condition, available immediately.

Asking \$650,000 USD.



ITEM # C296

C.I. HAYES HIGH TEMPERATURE TUBE FURNACE

C.I. Hayes High Temperature Tube Furnace. Model MY-0002.528, 2-1/2" ID Tube x 28" Long Heating Chamber. Operating temperature of 1700°C, 10.5 KW, Single Zone Control with overtemp protection. Overall dimensions of 75" H x 32" W x 91"L. Hydrogen Atmosphere. Included is an automatic loader.

Asking Price \$21,000 USD / OBO.



ITEM # C283

DENTON THERMAL SYSTEMS (O'BRIEN & GERE) 2150°F ROTARY HEARTH FURNACE SYSTEM

Denton Thermal Systems (O'Brien & Gere) 2150°F Rotary Hearth Furnace

System. Includes high temperature furnace, Nitrogen-Methanol Panel and Quench Press. Working Zone: 6 ft Diameter Hearth, Door Opening is 14"W x 13"H Overall Size: 9ft-8in Diameter x 10ft-10"Tall. Heating: Electric, 125 kW, 1 Zone, Globar Heating Elements. Power Requirement: 200 Amps, 480V/3Ph/60Hz. Temperature Rating: 2150°F. Water Requirement: 3 GPM. Air Requirement: 100 PSI. Controls: GE90 PLC. Honeywell Temperature Controller and Overtemp (missing but will be replaced). Marathon Monitors Carbon Control System. Includes Quench Press that was handling up to 5" Diameter bearings. Prior user reference available upon request.

Asking price: \$29,000 USD.



ITEM # C269

CI HAYES MESH BELT FURNACE

CI Hayes Mesh Belt Furnace. Working dimensions of 5" over belt, 12" wide X 120" of heated length. Electrically heated 230/3/60, operating temperature of 2100F. Model LAC. Temperature controls are new state of the art, control panel with Honeywell solid state digital readout controller and overtemp for each of three zones, includes volt and amp meters. Full alloy muffle in hot zone. 20' long sealed water jacketed cooling. Globar heating elements over and under the belt. (3) zones of control. (4) argon flowmeters. Dayton AC inverter provides adjustable belt speed. Updated SCR controls. Muffle and belt are new. Very good condition.

Asking \$39,000 USD.



ITEM # C265

SUNBEAM PUSHER CARBURIZER

Sunbeam Pusher Carburizer. This is a very unusual style of furnace and perfect for carburizing of large gears, bearings or races. Working dimensions of 50" X 50" X 34" high. Operating temperature of 1750F. 3,000 pound capacity. Gas fired 12 Honeywell composite single ended recuperated tubes (recently replaced). Surface Casemate controls. 1800 gallon quench tank. System does not need a pit. Comes with a spray washer, temper and an oversized IHRE air cooled quench oil cooler. System is installed but not currently in use. Very good condition.

Asking \$40,000 USD.



DRAW/TEMPER FOR SALE

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Quick Jump To Items:

Item # T353 Williams Temper Furnace

Item # T351 Mesh Belt Temper Furnace

Item # T350 Sunbeam Mesh Belt Temper

Item # T349 Recirculating Box Type Draw Furnace

Item # T343 Batch Temper 36"W X 36"H X 96"L

Item # T342 Recirculating Walk In Oven 72" X 48" X 120"

Item # T341 Temper Furnace

Item # T340 Safed/Borel Annealing Furnace

Item # T339 Box Tempering Oven

Item # T336 Mesh Belt Temper Furnace 48" Wide

Item # T335 Batch Oven 37"H X 37"W X 25"D

Item # T325 3-Station Despatch Temper Furnace

Item # T320 Pifco Conveyor Oven

Item # T318 Temper 48" W X 48" D X 36" H

Item # T303 Pifco Temper Furnace

Item # T290 Tempering Ovens 36" X 48" X 36" (2 available)

Item # T286 Tempering Ovens 36" X 48" X 36" (2 available)

ITEM # T353

WILLIAMS TEMPER FURNACE

Williams Temper Furnace. Indirect gas fired, 750C / 1380F max temp., 36" wide x 19' heated length, chain drive mesh belt furnace. No atmosphere. In good working condition.

Asking 29,000 USD



ITEM # T351

MESH BELT TEMPER FURNACE AVAILABLE

Mesh Belt Temper Furnace Available. Manufactured by Electric Furnace Company in the early 1980's. Gas fired with one burner, recirculating fan. Operating temperature of 1200F. 48" wide belt, rated for 3,000 pounds per hour. 480V. 24' heated length. Currently installed and in operation. Good overall condition.

Asking \$20,000 USD.



ITEM # T350

SUNBEAM MESH BELT TEMPER

Sunbeam Mesh Belt Temper. Manufacturer: Sunbeam. Inside Dimensions: 8" x 36" wide belt x 14' heating. Heated: Gas Fired, (4) North American nozzle mix burners. Temperature:

1250 deg.F. Model Number: F-246-67. Serial Number: 35214. Temperature Controls: Free standing enclosed panel. Solid state digital readout indicating controller & overtemp. Description & Features: Brick lined. Tight weave mesh belt. Four side mounted burners fire above the work zone. Two 1300 deg. Garden City top mounted recirculating fans. Complete combustion controls and safeties. Condition: Very Good, needs minor brick repairs

Asking Price: \$35,000.00



ITEM # T349

RECIRCULATING BOX TYPE DRAW FURNACE

Recirculating Box Type Draw Furnace. Manufacturer: Eclipse. Inside Dimensions: 30"high x 42"wide x 96"deep. Heated: Gas fired. Temperature: 1250 deg.F. Model Number: Box Draw. Serial Number: 3424-00773. Temperature Controls: Updated controls, Honeywell indicating controller and overtemp, circular chart recorder. Description & Features: Vertical lift air operated door. Brick lined. Alloy roller rail hearth. Seven adjustable roof baffles. Rear combustion chamber with atmospheric burner and high velocity recirculating fan. Complete combustion controls and safeties. Includes manual load table. Condition: Very Good, Operational.

Asking Price: \$39,500.00



ITEM # T343

BATCH TEMPER 36"W X 36"H X 96"L

Batch Temper 36"W X 36"H X 96"L. Manufactured by Wisconsin Oven, Model SDB-6616-10G, S/N 033899307. Natural gas fired, 1 MBTU's/hour. Maximum temperature rating 1000F. Voltage 480/3/60/16 amps. External dimensions of 96" wide X 13' 4" high assembled (10'6"H shipping) x 11'L. Controls; Mounted and wired in an enclosure with fused disconnect attached to the side of the furnace. Temperature controls consist of a digital Barber Colman 560 digital for temperature and a Barber Colman digital "Limitrol" 75L high limit. ATC process timer to control heating cycle. Allen Bradley switches for control power, circulation fan, ignition and gas valve reset. Signal lights for control power, air flow, high/low gas pressure, purge, etc. Eclipse package burner with Honeywell flame safety, UV scanner and spark ignition.

General Description; Recirculating gas fired batch temper with air operated vertical lift doors on each end. Eclipse package burner with roof mounted recirculating fan distributes heated air in a combination air flow pattern. Roller rail hearth with chain guide. Furnace includes two (2) scissor lift tables. Manual and drawings are included with this furnace. Very good condition.

Asking \$49,900.00 USD.



ITEM # T342

RECIRCULATING WALK IN OVEN 72" X 48" X 120"

Recirculating Walk In Oven. Manufactured by Precision Quincy. Working dimensions of 72"high x 48"wide x 120"deep. Gas heated, 300,000 BTU's per hour. Operating temperature of 450F. Model EC-410, S/N 25766. Temperature Controls: Partlow indicating controller and overtemp. Side mounted control cabinet. Double swing open doors, horizontal air flow. Powered exhaust blower, rear mounted combustion and fan chamber. Atmospheric type burner system. Complete combustion controls and safeties. Air flow switch. Oven will be checked out and test fired prior to shipment. Approximate shipping weight 4,310 lbs.

Asking \$16,500 USD.



ITEM # T341

TEMPER FURNACE

Temper Furnace 36" X 48" X 36". Made by McLaughlin Services. Working dimensions of 36" X 48" X 36", 5,000 pound capacity. Gas fired 750 cfh @ 2-5 PSI, 750,000 BTUH. Operating temperature 250F to 1400F, +-10F. Electricity; 40 Amps, 480V/3Ph. Compressed Air; 100 psi, Intermittent. Temperature Controls; Super Systems 9130 Temperature Controller with 12" Touchscreen, Super System 7SL 1/16 DIN Limit Controller. Logic Controls; Allen Bradley Micrologix PLC is included for alarming and sequencing.

Asking \$91,000 USD.



ITEM # T340

SAFED/BOREL ANNEALING FURNACE

Safed/Borel Annealing Furnace built in 1991. The working dimensions consist of: Diameter 400 mm, Height 500 mm. External Dimensions: 1800 mm x 1767 mm x 2412 mm. Maximum Temperature: 650 C with a maximum load capacity of 100 kg (not including baskets). Main voltage is 3 x 400V / 50 Hz, Control voltage is 230V / 24V. This setup includes a Eurotherm programmer, threshold controller, recorder, programmable clock, timing relay, control for water flow, vacuum pump, pressure reducer, and fire engine. Located in France.

Price on request.



ITEM # T339

BOX TEMPERING OVEN

Box Tempering Oven. Manufactured by Eisenmann in 2002. Model HN-FNC-006. Working dimensions of 108" Wide x 96" Deep x 64" High. Natural Gas (3,200,000 BTU/HR). Operating temperature of 1200F. Stainless Steel Lined Recirculating Box Tempering Oven complete with Top-Mounted Alloy Recirculating Fan (20 HP – 13,000 CFM), Rear-Mounted Heater Box with Eclipse Burner System, Alloy Skid Hearth, Forced Cool Down Fan System (7,333 CFM), Vertical Rising Motor Driven Front Door, and Stationary Loading Table. Free Standing Control Panel with Eurotherm Digital Set Point Programmable Temperature Controller, High Limit, Chessel Strip Chart Recorder, and Honeywell Flame Safety System. Overall dimensions of 13'2" Wide x 23' Long x 17'8" High (includes Door Structure). Approximate weight of 32,000 pounds. Excellent condition.

Asking price is \$72,500 USD.



ITEM # T336

MESH BELT TEMPER FURNACE 48" WIDE

Mesh Belt Temper Furnace 48" Wide. Continuous belt temper furnace manufactured by Industrial Heating Equipment, Model # TF-5. Inside dimensions 10" over belt, 48" wide X 12' heating. Gas fired, Eclipse package burner. Maximum operating temperature 1000 F. Temperature Controls: Free standing enclosed panel. Solid state digital readout indicating controller & overtemp. Top mounted brick lined combustion chamber houses high velocity stainless steel circulating fan. Steel lined work chamber has 8-1/2" insulation. Stainless steel mesh belt on top of edge wire belt. Very good condition.

Asking \$29,500 USD.



ITEM # T335

BATCH OVEN 37"H X 37"W X 25"D

Batch Oven 37"H X 37"W X 25"D. Batch type recirculating oven manufactured by Despatch, Model V-29-STD. Inside dimensions of 37" high X 37" wide X 25" deep. Electrically heated 480/3/60, 12 KW. Serial number 126552. Temperature Controls: Partlow indicating controller and Honeywell overtemp, timer. Double swing open doors. Side mounted recirculating fan. Adjustable horizontal air flow. Provisions for 12 shelves, 4 shelves included. Powered exhaust blower. Oven has been checked out and test fired and is ready for immediate shipment. Excellent condition.

Asking \$8,000.00 USD.



ITEM # T325

STATION DESPATCH TEMPER FURNACE

3-Station Despatch Temper Furnace. Manufactured in 1980 by Despatch Industries, Inc. 3 Independently loaded and operated furnace stations with shared panel. Tops elevate off bases for loading and unloading. Work Zone: 22"W x 40"L x 25"H Each. Hearth Height: Estimated at 36-40" (Can measure for you). Max. Temperature: 850°F with a Uniformity of +/- 25°F (Center area of 12"W x 20"L x 10"H meets +/-10°F). Electrically heated with a power of 490V/3Ph/60Hz. 3 West 4400 Temperature Contrl. & West 6700 Hi-Limit. (We can quote upgrade to new Super Systems, Inc. controls, if desired.). Just rebuilt. New heating elements, new hearth ceramics, New stainless steel side panels, new paint.

Asking Price: \$39,500 USD, Offers considered.



ITEM # T320

PIFCO CONVEYOR OVEN

Pifco Conveyor Oven. Electrically heated 2 zone conveyor oven 480/3/60/144 kW. Maximum operating temperature of 600F. Work area; 72"W x 12"H x 25'L heated length. External dimensions 9'W x 10'H x 40'L – approx.. Controls; Mounted and wired in a free standing panel includes an Allen Bradley PLC with PanelView Plus 1000 touchscreen interface. Power to the heating elements are controlled through two (2) Allen Bradley "SCR" power controllers, one (1) for each zone. An Allen Bradley PowerFlex "VFD" controls oven conveyor belt speed. Standard two (2) zone electrically heated conveyor oven with a wire on edge belt. This oven has a 10'L load end and 8'L unload end with cooling. Access doors with "Brixon" door latches on both sides of oven and one in each heating chamber. Very good condition.

Asking Price: \$59,000 USD.



ITEM # T318

TEMPER 48" W X 48" D X 36" H

Large Box Tempering Ovens (4 available). Built by Eisenmann in 2002, Model # HN-FNC-002. Working dimensions of 108" Wide x 96" Deep x 64" High. Natural gas fired, 3.2 million BTU's per hour. Operating temperature of 1200F.

Description; Stainless Steel Lined Recirculating Box Tempering Oven complete with Top-Mounted Alloy Recirculating Fan (20 HP – 13,000 CFM), Rear-Mounted Heater Box with Eclipse Burner System, Alloy Skid Hearth, Forced Cool Down Fan System (7,333 CFM), Vertical Rising Motor Driven Front Door, and Stationary Loading Table.

Instrumentation; Free Standing Control Panel with Eurotherm Digital Set Point Programmable Temperature Controller, High Limit, Chessel Strip Chart Recorder, and Honeywell Flame Safety System.

OVERALL DIMENSIONS: Oven: 13' Wide x 20' Long x 17'8" High (includes Door Structure. (Shipping Dimensions: 12'6" Wide x 20' Long x 10'8" High). Loader: 9'6" Wide x 12" Long x 4' High. Approximate weight 20,000 pounds. Excellent condition, operational.

Asking Price: \$72,500 USD each.



ITEM # T303

PIFCO TEMPER FURNACE

Pifco Temper Furnace. S/N 8177 built in 1988. Working dimensions of 126" long x 60" wide x 40" high. Overall dimensions of 13' x 11' x 11' high. Comes with load and unload discharge tables and combustion fan. Maximum operating temperature 950 deg. F. Rated for 250 pound net weight x 37.4in long tray loaded every 15 minutes. Furnace holds three (3) trays. Approximate nineteen (19) minutes to operating temperature. Forty-five minutes in furnace @ 15 minute load cycle. Heated by one gas burner approximate rating 600,000 BTU/hour. Utilities required: 1000 BTU natural gas @ 5PSI, 480v 3Ph 60Hz. Water 80 deg. F maximum @ 20PSI. Compressed air 60PSIG minimum. Adequate drain for water. Good condition.

Asking Price: \$38,000 USD.



ITEM # T290

TEMPERING OVENS 36" X 48" X 36" (2 AVAILABLE)

Tempering Ovens 36" X 48" X 36" (2 available). Working dimensions of 36"W x 48"D x 36"H. Shells have just been completed and buyer has the option of Gas-Fired or Electric, Hearth Height, Burner Locations (Left or Right) and Panel Location. These can be completed, fully tested and ready to ship to your facility in 8-9 weeks at a very attractive price.

Please call for pricing.



ITEM # T286

LINDBERG BOX TEMPER

Lindberg Box Temper. Model 11-7212048-G14, S/N 24947. Working dimensions of 72" wide X 120" long X 48" high. Gas fired with a maximum operating temperature of 1200F. Vertical lift-air operated door, brick lined, 5 course refractory hearth, alloy roof baffles, alloy side wall ducts, dual zone burners-roof mounted combustion chambers with dual belt driven fans. Free standing prewired control panel. Good condition.

Asking Price: \$65,000 USD



GENERATORS FOR SALE

See something you need, click on the link or scroll through all the items for sale. Searching for something we don't have listed, let us know.

[Contact Us](#)

Quick Jump To Items:

Item # G201 Ammonia Dissociator 250 SCFH

Item # G198 Endothermic Generator 3000 CFH

Item # G197 Ammonia Dissociator 1000 CFH

Item # G196 Surface Combustion 5000 CFH Endo Generator

Item # G189 Surface Combustion 2400 CFH Endo Generator

Item # G178 Ammonia Dissociators 3000 CFH

Item # G176 Surface "Multi-Bottle" Endo Generators

Item # G173 Lindberg Endo Generator 4500 CFH

Item # G169 Gasbarre Endo Generator 3000 CFH

ITEM # G201

AMMONIA DISSOCIATOR 250 SCFH

Ammonia Dissociator 250 SCFH. Manufactured by CI Hayes. Model ADC 250. Included is a CI Hayes Molecular Sieve Dryer Model: MSA 11 Molecular – Dryer. Good operating condition.

Best Offer



ITEM # G198

3,000 CFH ENDOTHERMIC GENERATOR

3,000 CFH Endothermic Generator. Manufactured by Sunbeam, model # ENG-30, S/N F-377-79. Gas fired, operating temperature of 1900F. Temperature Controls: Upgraded controls. Honeywell digital indicating controller and overtemp. Single alloy retort. Selas compressor. Waukee flowmeters. Air cooled. Package burner. Complete combustion controls and safeties. Good condition.

Asking \$22,500.00 USD.



ITEM # G197

AMMONIA DISSOCIATOR

Ammonia Dissociator. Manufactured by Lindberg. 1,000 CFH. Model Number: 16-1000-HYAM. Serial number 26004. Electrically heated, 460/3/60, 30 KW, 37.6 amps. Operating Temperature: 2000 deg.F. Temperature Controls: Honeywell indicating controller and overtemp. Standard Lindberg design with vertical sealed catalyst chamber. Ceramic fiber insulation. Nichrome heating elements. Air cooled heat exchanger. Includes pressure gauges, SSOV, Waukee DA flowmeter. Includes operating manual and drawings. Very good condition. Unit is complete and guaranteed operational.

Asking Price \$11,500.00 USD.

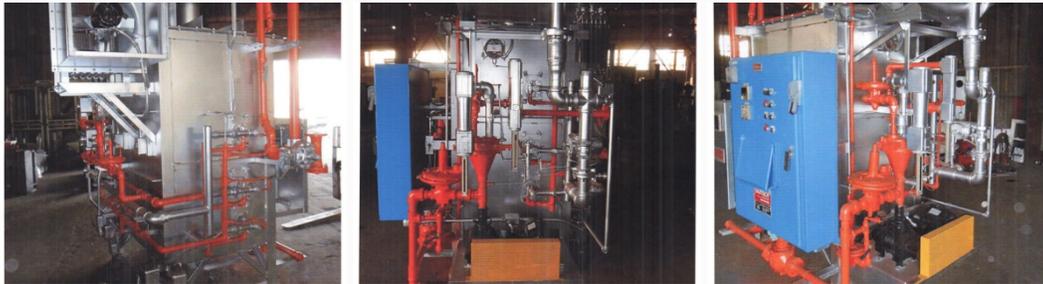


ITEM # G196

SURFACE COMBUSTION 5000 CFH ENDO GENERATOR

Surface Combustion 5000 CFH Endo Generator. Serial number AC 42332-1A. Maximum temperature 1950F. Barber-Coleman controls with digital recorder and over temp. Air cooled. Shipping dimensions of 8'5" W X 10'1" high X 8'11" long. Very good condition. Included is a new pump.

Asking \$31,500.00 USD.



ITEM # G189

SURFACE COMBUSTION 2400 CFH ENDO GENERATOR

Surface Combustion 2400 CFH Endo Generator. Two retort "multi-bottle" configuration allowing one retort to operate while the other is shut down for maintenance. New in 1995. S/N AC-43349-1. 2400 CFH capacity. Casemate controls, air cooling. Good condition. Currently installed and in operation but will be available shortly.

Asking \$59,000 USD.



ITEM # G178

AMMONIA DISSOCIATORS (4 AVAILABLE)

Ammonia Dissociators (4 available). Built by Sargeant & Wilbur, 4 electrically heated Ammonia Dissociators. Model GAD3000E. 3,000 CFH capacity. Maximum temperature 1759F. Voltage 480/3/60/60 kW. External dimensions of 5'W x 6'H x

8'L. **Controls:** Mounted and wired in a free standing panel includes the following:

- Yokogawa UT 350 digital control for dissociator undertemp.
- Yokogawa UT 350 digital control for dissociator overtemp.
- Yokogawa UT 350 digital control for dissociator temperature control.
- Two(2)Yokogawa UT 350 digital controls for vaporizer lower/upper zone.
- Yokogawa UT 350 digital control for vaporizer overtemp.
- All necessary signal lights, timers etc.

Mounted in the same control cabinet are three (3) SCR's. Two (2) "Halmar Robicon" and one (1). "Ametek". One is for dissociator heating elements and the other two are for vaporizer lower/upper zone heaters.

Description: Electrically heated Ammonia Dissociator suitable for supplying up to 3000 CFH of atmosphere with a composition of 75% Hydrogen and 25% Nitrogen. This atmosphere is obtained by cracking anhydrous ammonia vapor in a catalyst filled vessel maintained at a temperature of 1700°F to 1850°F. Incoming ammonia pressure is reduced before retort entry. At the outlet of the retort the hot dissociated ammonia passes through a dry cooler where the gas is cooled to near room temperature. It then passes through a flowmeter and on to the consuming device. This dissociator includes a Sargeant & Wilbur Ammonia vaporizer. This dissociator is provided with two (2)catalyst filled heat resisting alloy retorts. The retorts are mounted within the insulated dissociator heating chamber. The heating chamber consists of heavy Mullite T-Slot tiles. Retorts are heated with Sinuous-wound Nichrome Ribbon Heating elements which are mounted in the tile slots. The element tails and studs extend through the rear wall of the dissociator. Elements can be removed through the rear wall without having to unpack furnace insulation etc. A step-down transformer (480V to 240V 112.5 KVA) is included. Manuals and drawings are also included. Very good condition.

Asking \$29,500.00 USD each.



ITEM # G176

SURFACE "MULTI-BOTTLE" ENDO GENERATORS

Surface "Multi-Bottle" Endo Generators. Manufactured by Surface Combustion. Natural gas heated 675 CFH/HR. Model # RX 35-75-3V. Maximum temperature 1950F. 7500 CFH

capacity. Controls are complete, water cooled. SSi atmosphere controls and Atmosphere Engineering "Endo Injector". Very good condition, ready to go.

Asking \$75,000 USD.



ITEM # G173

LINDBERG ENDO GENERATOR

Lindberg Endo Generator. 4500 CFH, gas fired. Retorts and brickwork are in excellent condition however it requires temperature controls and an air cooler (vendor has partially completed changing from water cooling to air).

Asking \$17,500.00 USD.



ITEM # G169

GASBARRE/SINTERITE FURNACE DIVISION ENDO GENERATOR

Gasbarre/Sinterite Furnace Division Endo Generator. 3000 CFH, electrically heated 460/3/60/63 Amps/50kW. New in 2006. External dimensions of 106" wide x 75" deep x 116" high. Controls are enclosed in a panel attached to the side of the generator. Honeywell UDC 3200 digital temperature controller and Honeywell UDC 2500 digital high limit safety. Control switches with indicating lights are flush mounted in the enclosure. Flange mounted fused disconnect switch for control power. Separate non fused disconnect for the main power. Waukee flow meters are manifold mounted for incoming and outgoing gases. Flow

meters include: Natural Gas 0-1000 CFH, Air 0- 2500 CFH, (3) Mixed Gas 0-1500 CFH and Endo 0- 3500 CFH. Step down transformer for reduced voltage to the heating elements. Electrically heated 3 retort generator. Refractory lined shell with vertically mounted retorts. Total of twelve (12) silicon carbide heating elements, 6 on each side are mounted through the chamber for good uniform heating of the alloy retorts. The natural gas and air pass through a Waukee "mixor" valve then into the Waukee gas pump. Mixed gas enters the 3 "mixed gas" flow meters, through the Selas fire checks and enters the top of the retorts. The gas travels through the catalyst filled heated retorts and exits at the bottom. The exiting Endothermic gas passes through water cooled chambers then finned cooled air heat exchangers then through the Endothermic flow meter. A pressure regulator is supplied on the exiting gas piping. Good condition.

Asking \$29,500.00 USD.



INDUCTION FOR SALE

See something you need, click on the link or scroll through all the items for sale. Searching for something we don't have listed, let us know.

[Contact Us](#)

Quick Jump To Items:

Item # I177 2 Station 24" Single Spindle Scanners

Item # I176 Radyne Scanner and Power Supply

Item # I175 Inductoheat /Lepel Induction Power Supply

Item # I174 Ajax/Tocco Induction Heating Power Supply & Heat Station

Item # I164 Ajax Tocco Induction Power Supply Unused

Item # I160 Ajax Tocco Power Supply Unused

ITEM # I177

2 STATION 24" SINGLE SPINDLE SCANNERS

This is an integrated Ajax 2 Station (single spindle per station) 150 kW, 10 kHz Scanner System. It has a single SCR type power supply with a transfer switch to send power to station A or B. It has a single shared Quench Recirculating System with bag filter, single shared Water Recirculating System. Each station has a PLC Control and servo control. PLC is A/B SLC 5/03, Pacific Scientific Servos, and Nematron MMI. Also has Quick Change Coild Adapters (would cost about 4-5k today). This was built in 1998 but appears to have been well maintained and contains currently serviceable components.

Asking Price: \$99,500 USD



ITEM # I176

RADYNE SCANNER AND POWER SUPPLY

Radyne Scanner and Power Supply. Built by Radyne this is a Model 125TC10 unit, Serial Number 93118. 125 kw, 7-11 khz. Scanner has a travel length of 48". Heat Station is a model #14226.

Asking \$9,900.00 USD



ITEM # I175

INDUCTOHEAT /LEPEL INDUCTION POWER SUPPLY

Inductoheat /Lepel Induction Power Supply. This is a Lepel/ Inductoheat SP5-40 kW, 3/10 kHz SCR type induction heating power supply with a separate Heat Station (I believe this could be operated at 3 kHz but the heat station is currently arranged for 10 kHz). This is an "HS-3" Heat Station with 3 capacitors and a Jackson Transformer with ratios of 5-3 to 17-3. The Inductoheat SP5 has been a proven reliable power supply for heating and heat treating for many years. It can be used for short heat times as it has fast and consistent ramp up to set power. There is no warranty but it is sold with the assurance it is in good working order. It has recently been connected and tested in our facility. I can supply a video of the unit in operation. Start up and Training service is available at extra cost by an experienced induction heating service engineer. Excellent condition.

Asking \$19,500.00 USD



ITEM # I174

AJAX/TOCCO INDUCTION HEATING POWER SUPPLY & HEAT STATION

Ajax/Tocco Induction Heating Power Supply & Heat Station. Manufactured by Ajax/Tocco in August 2005. 480V three phase input is rated to be 1.2MW (1200KW). 660V three phase input is rated to be 2.2MW (2200KW). Unit requires three phase input of 480V, 2500A. System is deigned to work at 2.5 kHz in frequency. Requires 65 GPM of cooling. Buyer must have a dedicated transformer at the three phase input for this machine. Buyer must provide their own coils, bus, and water-cooled cables to attach power supply to heat station and heat station to coils. Limited warranty available. Note: Currently set up to work at 480V input voltage. In order to switch to 660V, buyer needs to change the input breaker. Excellent condition.

Asking \$129,000 USD.

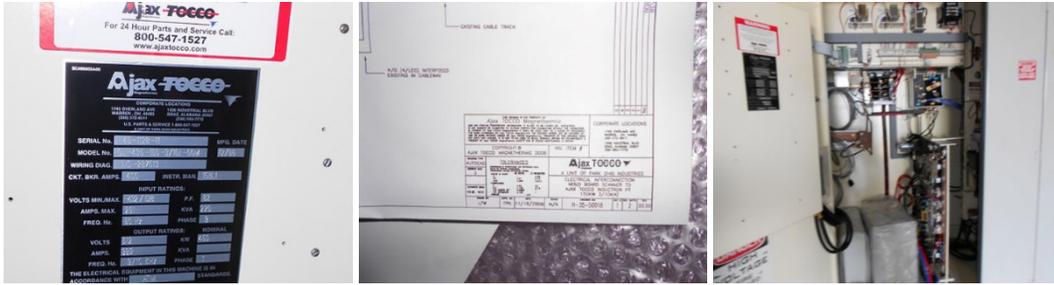


ITEM # I164

AJAX TOCCO INDUCTION POWER SUPPLY

Ajax Tocco Induction Power Supply. Model #OL-426-150-3/10-00M. Manufactured 12/06. Serial Number: 46-1128-11. Wiring Diag.: WD-287513. CKT.BKR. AMPS. : 400. Input Ratings: Volts Min./Max. : 432/528 P.F. : 82 Amps.Max. : 291 KVA : 220 Freq.Hz. : 60Hz Phase : 3 Output Ratings: Volts : 512 KW : 150 Amps. : 389 Freq.Hz. : 3/10 KHz Phase : 1 This unit was sold new to Caterpillar in 2006 and never installed and never used. Excellent condition.

Asking \$33,000 USD.

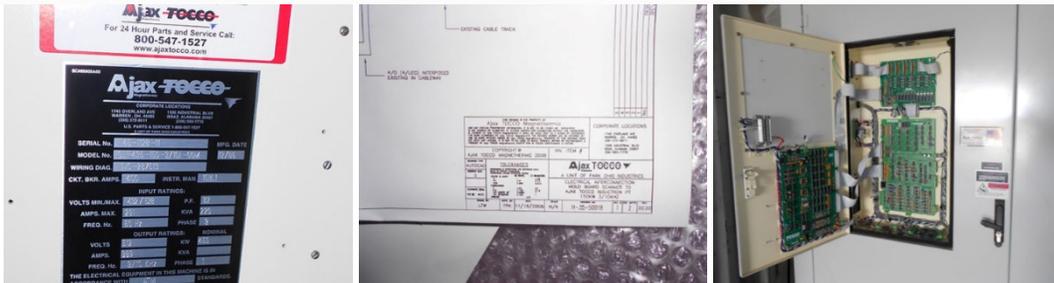


ITEM # I160

AJAX TOCCO POWER SUPPLY (UN-USED)

Ajax Tocco Power Supply (un-used). Ajax Tocco Inductron PT power supply, capacity: 450kW. Frequency: 3-10 kHz. Output Voltage: 400 *. Year of manufacture: 2006. This unit was never installed and is unused. *Price quoted from Ajax Tocco to convert output voltage from 400 to 800 including parts and labor is \$15,230. New this unit was \$86,000 USD, http://www.ajaxtocco.com/applications/documentlibrary/Inductron%20PT_092003.pdf

Asking \$39,000.00 USD.



LAB EQUIPMENT FOR SALE

See something you need, click on the link or scroll through all the items for sale. Searching for something we don't have listed, let us know.

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Quick Jump To Items:

Item # L7 Leco Micro Hardness Tester

Item # L3 Laser Diffraction Particle Size Analyzer

Item # L1 Detroit Testing Brinell Hardness Tester

ITEM #L7

LECO MICRO HARDNESS TESTER

Leco Micro Hardness Tester. Complete and in good condition. Unit has become surplus to the vendors organization.

Asking \$7,000.00 USD.



ITEM #L3

LASER DIFFRACTION PARTICLE SIZE ANALYZER

Laser Diffraction Particle Size Analyzer. Manufactured by Microtrac, Model S3500. Measurement capability from 0.02 to 2800 microns. Wet and dry measurements. Complete and in very good shape.

Asking \$20,000 for complete system.

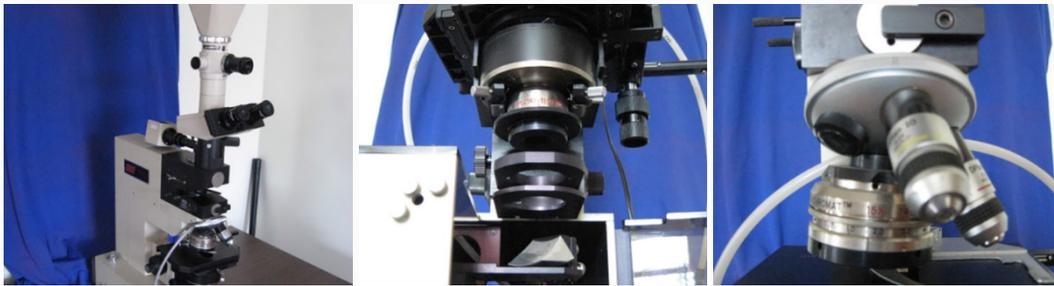


ITEM # L1

SPECTRA-TECH 0044-003 INFRARED MICROSCOPE

Spectra-Tech 0044-003 Infrared Microscope. Model WHK 10X 201, Reflected & Transmitted light, multiple objectives, Polaroid 4×5 attachment.

\$6,500.00 USD.



MISCELLANEOUS FOR SALE

See something you need, click on the link or scroll through all the items for sale. Searching for something we don't have listed, let us know.

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Quick Jump To Items:

- Item #M420 SBS "Quench Airs", (9 available)
- Item #M417 Soluble Oil Dunk Tank
- Item #M416 Wheelabrator 6' Diameter
- Item #M415 Surface Combustion Parts Washer
- Item #M414 Vacuum Residual Gas Analyzer (3 available)
- Item #M412 Atmosphere Engineering "Endoinjector"
- Item #M411 SBS Quench Oil Coolers (2 available)
- Item #M408 Surface Combustion Power Loading Table 30" Wide
- Item #M406 Surface Combustion Parts Washer
- Item #M400 Nitrogen Generating System 99.999 Purity
- Item #M396 Surplus Cast Link Belt HT Material
- Item #M381 Water Cooling System
- Item #M380 Bronco Wheelabrator 36" Meshbelt
- Item #M366 Wheelabrator Rubber Belt Tumbler
- Item #M363 SBS Large 3 Fan Unit
- Item #M348 Ipsen Dunk/Spray Washer 36" x 48" x 24"
- Item #M346 SBS Quench Air Single Fan Unit
- Item #M341 AFC Charge Car 36" x 48" Tray
- Item #M334 Berg Water Chiller Nearly New
- Item #M314 Holcroft Dunk/Spray Washer 24" x 24" x 36"

ITEM #M420

SBS "QUENCH AIRS", (9 AVAILABLE)

SBS "Quench Airs", (9 available). We have available 9 SBS air to oil quench oil coolers "Quench Air". These are all in good condition and range in size from 2' long up to 10' long with a total of 5 different models. All are 460V. Asking from **\$1,000 USD** for the 2' units up to **\$5,000 USD** for the 10' long model.



ITEM #M417

SOLUBLE OIL DUNK TANK

Soluble Oil Dunk Tank

Working dimensions of 30" X 48" X 30". Tank has a capacity of 2500 pounds. Includes chart recorder, cooler, recirculation pump, and controls. This could easily be modified or used to water quench aluminum. Good condition.

Asking \$8,000 USD.



ITEM #M416

WHEELABRATOR 6' DIAMETER

Wheelabrator 6' Diameter. 6" Diameter table blast wheelabrator. 30 HP belt drive. Installed and in use until March 2018. Recently reconditioned with rebuilt auger. Brand

New wheel and wheel housing. Good controls with pneumatic operated control and timer to shut down wheel and notify operator when cycle is complete. Very reliable machine in excellent condition. Table is mounted on the door with full access for overhead crane.

Asking \$75000.00 USD.



ITEM #M415

SURFACE COMBUSTION PARTS WASHER

Surface Combustion Parts Washer. Manufactured by Surface Combustion of Ohio this is a spray washer with working dimensions of 30" X 48" X 30" high. Radiant tube gas heat and rotary drum oil skimmer and separate skim tank located on back of wash. This is partially reconditioned . It is in overall good condition.

BEST OFFER



ITEM #M414

VACUUM RESIDUAL GAS ANALYZER (3 AVAILABLE)

Vacuum Residual Gas Analyzer (3 available). Pfeiffer Vacuum PrismaPlus QMG220 Compact Mass Spectrometer, Mass Range 1-200 amu, Catalog # PT M06 211 111, Residual Gas Analyzer. Unused these were new in Dec. 2015 and are still in original factory packaging. Warranty expired, but still factory supported. Each set consists of the following;
1. 1 Each, Quadrupole electronics QME220, P/N PTM28612

2. 1 Each, Quadrupole analyzer QMA200, P/N PTM25253
3. 1 Set, QMS220, Accessories & Spare Parts
4. 1 Each, SP 220, (033-0038 43202) Power Supply 90-264VAC, 2.1mm R/A (24 V Output)
5. 1 Each, 45-0007 43024 UTP-Patch-Cable, 3m, Crossed, Red
6. 1 Each, B4564309YX Inficon Mains Cable (USA) LNPE, AWG 18, 2.5m
7. 1 Each, 45-0006 UTP-Patch-Cable, 3m, 1:1, grey 43024
8. 1 Each, PT882400-T Quadera-software, Version 4.61 12/10/2015 for Windows 7 or XP (32-bit Pro)
9. 2 Each, PrismaPlus QMG220 Operating Instructions (1-English & 1-German)
10. 1 Each, Test Reports and Configuration
11. 1 Each, PT R 26 002 Compact Full Range Vacuum Gauge PKR 251, DN 40 CF F
12. 1 Each, PT 448 250-T Sensor Cable

Price: \$8,800/Set (3 Available) Free Shipping included in price



ITEM #M412

ATMOSPHERE ENGINEERING "ENDOINJECTOR"

Atmosphere Engineering "Endoinjector" 3 year old Atmosphere Engineering Endoinjector for controlling output on an endothermic generator. S/N 0601-DP1, Endo Output 600-3000 CFH. Includes PLC. Good condition and less than a third of the price of new.

Asking \$6,500.00 USD.



ITEM #M411

SBS QUENCH OIL COOLERS (2 AVAILABLE)

SBS Quench Oil Coolers (2 available). Air to oil quench oil coolers manufactured by SBS Corporation. 480V/6/60. External dimensions of 6' wide X 5' high X 21' long. This unit has three (3) NEMA type disconnect switches mounted on side of unit. Standard "SBS Quench Air" air cooled heat exchanger with removable tube manifold, propeller fans for moving air across the tube bundle, flanged inlet & outlets, three (3) NEMA type disconnect switches mounted on the side of the heat exchanger. This unit has a removable top that has louvers for directing the air horizontally instead of vertically. Good condition.

Asking \$13,500.00 USD Each.



ITEM #M408

SURFACE COMBUSTION POWER LOADING TABLE 30" WIDE

Surface Combustion Power Loading Table (stationary), 30" wide.

Asking Price: \$1,000 USD



ITEM #M406

SURFACE COMBUSTION PARTS WASHER

Surface Combustion Parts Washer. Manufactured by Surface Combustion this is a Spray washer with working dimensions of 30" wide X 48" deep X 30" high. Gas fired with an operating temperature of 200F. Good overall condition. **Asking price of \$12,500 USD**

ITEM #M400

NITROGEN GENERATING SYSTEM

Nitrogen Generating System. Manufactured by South Tek Systems in 2013 this system is in "like new" condition. The unit includes; STS N2-GEN 200S with Oxygen Analyzer, 1,060 Nitrogen Storage Tank, Kaeser ASD40T Complete Air Compressor package with Refrigerant Dryer and 240 Gallon Air Receiver Tank, Connection Package. Performance Capabilities: Nitrogen Purity Ranging from 95% – 99.999%, Nitrogen Hourly Flow Rate Ranging from: 473 SCFH – 5,371 SCFH *depending on purity setting, Nitrogen Outlet Pressure Range: 0 – 80 PSI. Excellent condition, available the end of June.

Asking \$82,500.00 USD.



ITEM #M396

SURPLUS CAST LINK BELT

Surplus Cast Link Belt. Used Omega HT Cast Link belt with HR 120 connecting rods. 4" pitch, 78" wide X 130' long. Weight 26,741 pounds. Also available is a porcupine drive roll, 11' long, 700 pounds. A tail roll 11' long X 11" diameter, 700 pounds, entry and exit hearth rolls 10.5' long X 6" diameter and a return roll 10.5' long X 14.4" diameter. Good condition. Buyer can inspect condition upon request.

Please call for pricing – Gord: 905.271.0033



ITEM #M381

WATER COOLING SYSTEM

Water Cooling System. VFC 500 gallon, 10HP 150 GPM pump, 3500 rpm motor. Plate heat exchanger, Graham model VFX-18, s/n 93-10058-1. This unit was used on 5,000 lb. loads.

Asking \$7,500.00 USD.



ITEM #M380

WHEELABRATOR - BRONCO

Wheelabrator - Bronco. Model# SLC500. 36" Mesh Belt -VFD drive. 8 - 20hp Blasting Wheels - VFD drive. Media separator, Torrit dust collector. Some spare parts are also included. Well maintained and works well. Footprint - 30' long, 16' high, aprox. 12' wide.

Asking Price: \$39,900 USD. (Includes loading at the facility)



ITEM #M366

WHEELABRATOR RUBBER BELT TUMBLAST

Wheelabrator Rubber Belt Tumbler. Model # TBR-12, Serial # A142403, Voltage 480/3/60, 12 cubic feet, Controls – complete. Available Immediately, very good condition.

Asking: \$55,000.00 USD.



ITEM #M363

SBS UNIT

SBS Unit. Specs: S/N: 4926. Year: 2007. Three (3) Fans with side mounted disconnects. Overall Size: 6'w x 6'h x 21'l. W-RES, MAWP 75 psi @ 450°F, MBMT -20°F, 75 psi.

Price: \$15,500.00.



ITEM #M348

IPSEN AUTOMATIC DUNK/SPRAY WASHER

Ipsen Automatic Dunk/Spray Washer. Model #WRD-11, Serial Number 57690. Working dimensions of 36" wide X 48" deep X 24"+ high, 2200 pound capacity. Electrically heated,

72KW. Companion washer-In/Out or straight through design. Door each end, Cal Rod element bundle. 12" wide belt oil skimmer, air operated-full width elevator rack for submerged oscillation, overhead spray rinse. Overall dimensions of 7' 5" wide X 5' 4" long X 11' 8" high. Rebuilt,

Excellent condition asking \$35,000 USD.



ITEM #M346

SBS "QUENCHAIR"

SBS "QuenchAir". SBS Corporation air/oil quench oil cooler. Single fan unit model 5084-Q4. Serial number: 2365, 230/460 voltage, overall size: 74" wide X 104" long X 55" high. Comes with disconnects. Very good condition.

Asking \$5,500.00 USD.



ITEM #M341

AFC CHARGE CAR

AFC Charge Car. Drawing # MT-237014. Voltage 480/3/60. Suited for a 36" wide X 48" tray. External dimensions of 100" wide X 84" deep X 84" high. Side mounted control panel with Allen Bradley SLC 500 PLC Logic Control. Double ended chain driven powered charge car with roller rail top. Excellent condition.

Asking \$28,500.00 USD.



ITEM #M334

BERG WATER CHILLER

Berg Water Chiller. This is a BERG Air Cooled portable Chiller, Model PA-1.5-1P capable of supplying 1.5 tons of cooling capacity at 15 degrees F leaving and 95 degrees F ambient temperature. Used for only 3 days (low hours), and is in nearly new condition. Electrics are 460/3/60 and it comes with a 575-460 transformer.

Asking \$5,500.00.



ITEM #M314

HOLCROFT DUNK/SPRAY WASHER

Holcroft Dunk/Spray Washer. Model GPWS 24-36-24. Electrically heated, 480/3/60/50 amps. Working dimensions of 24" wide X 24" high X 36" deep. External dimensions of 96"W X 143" high X 124" long (91" without skimmer attached). This is a standard dunk/spray washer with 4 Warren Electric immersion heaters. Spray nozzles are arranged over and all sides of the wash area. Load height is 51" from floor to top of rollers. Wheel centres are 14-1/2". Controls are mounted and wired on the right hand side of the washer and includes all necessary pushbuttons and signal lights. There is a dunk cycle timer and spray cycle timer. A Honeywell UDC 2000 digital temperature controller controls wash temperature. Good condition. **Asking \$18,500.00 USD.**



VACUUMS FURNACES FOR SALE

See something you need, click on the link or scroll through all the items for sale. Searching for something we don't have listed, let us know.

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Quick Jump To Items:

Item # VF337 Oil Quench Vacuum Furnace

Item # VF336 C.I. Hayes Vacuum Furnace

Item # VF335 ALD Vacuum Carburizing Furnace

Item # VF334 Degussa Vacuum Hardening Furnace

Item # VF333 Low Temperature Vacuum Tempering Furnace

Item # VF332 IVA Vacuum Furnace 6 Bar

Item # VF331 High Temperature Vacuum Furnace 2300 °

Item # VF330 Surface 2-Bar Quench Vacuum Furnace

Item # VF328 Abar Ipsen Model HS-26 Vacuum Furnace

Item # VF327 Surface Combustion Vacuum Temper Furnace

Item # VF326 Ipsen 924 Vacuum Furnace

Item # VF321 Ipsen Vacuum Furnace

Item # VF320 High Temperature Vacuum Furnace

Item # VF319 Vacuum Induction Melting System

Item # VF317 Twin High Temperature Vacuum HT Sintering Furnaces

Item # VF316 AVS Vacuum Furnace 24" x 24" x 48"

Item # VF315 AVS Vacuum Furnace (Rebuilt)

Item # VF314 Ipsen Bottom Load Furnace 60" x 96"

Item # VF313 Top Loading Vacuum Furnaces 2100 C

Item # VF312 Vacuum Furnace 2400 C

Item # VF307 Bottom Loading Vacuum Furnace 48" x 60"

Item # VF299 Sunbeam Vacuum Furnace 36" x 120"

Item # VF294 Vacuum Annealing Furnace 8" x 90"

Item # VF289 Ipsen Vacuum Temper 12" x 16" x 24"

Item # VF282 AVS Vacuum Debinding/Sintering Furnace

Item # VF271 Sintering/De-Wax Furnace 1400 C

Item # VF267 Semi-Continuous Titanium Diffusion Bonding Hot Press

Item # VF266 Kinney 75 CFM Vacuum Pump

Item # VF243 35" Diffusion Pump

Item # VF242 35" Diffusion Pump

ITEM # VF337

OIL QUENCH VACUUM FURNACE

Oil Quench Vacuum Furnace (with gas quench capability at 1000 m bar). Manufactured in 2004 with working dimensions of 500 mm W x 420 mm H x 710 mm L. Loading Capacity : 280 kg. Max. Temperature : 1250 deg C. Heating Power : 100 kW. Vacuum Level : 10exp-1 mbar range.

Price : 120.000 Euros. (quench oil and loading truck included, located in Turkey)



ITEM # VF336

C.I. HAYES VACUUM FURNACE

C.I. Hayes Vacuum Sealed Quench Furnace Model: VSQ-182436; S/N: 16007. Working Dimensions: 18" High x 24" Wide x 36" Long. Graphite Heating Elements. Max Operation Temp: 2400°F (1093°C). Temperature Uniformity: 25°F Total Spread. Connected Load: 90 KVA. Total Load: 120 KVA. Gas Backfill Requirements: 160 SCF. Typical Loading and Quenching Capacity: 500 lbs. at 1600°F. Quench Tank Capacity: 685 Gallons. Compressed Air Requirements: Small Demand at 100 psig. (must be maintained at ±10%). Sight Port: 5" Dia. Hearth Level: 25-1/4". Cooling Water: 5-15 GPM (60°F). Quenching Speed: <10 Seconds (heating chamber into quench tank). Furnace needs work in order to run parts. System was originally installed with a Stokes 412 vacuum roughing pump.

Asking Price: \$20,000



ITEM # VF335

ALD VACUUM CARBURIZING FURNACE

ALD Vacuum Carburizing Furnace. Loading Dimensions : Width 400 x Length 400 x Height 400 mm. Loading Capacity : 80 kg max. Cooling Fan Motor : 75 kW, 3000 rpm for 10 bar N2. Vacuum System : Leybold SV100 Mechanical Pump. Leybold WA501 Roots Pump. Leybold E250 Mechanical Pump. Leybold WA1001 Roots Pump. Vacuum Level : $<5 \times 10^{-2}$ mbar. Leak Rate : $<5 \times 10^{-3}$ mbar l/s. Heating Zone : 120 kW, 2 zones. Plasma Chamber : 60 kW, 1 zone. Diffusion Zone : 180 kW, 3 zones. Max. Temperature : 1250 °C (Heating chamber). Operating Temperature : 800-1100°C. Process Gases : Nitrogen, Methan, Argon, Hydrogen. Installed Power : 700 kVA, 3x400V 50 Hz. Manufacturing Year : 2002.

Price: FOT/Germany : 75.000. Euro



ITEM # VF334

DEGUSSA VACUUM HARDENING FURNACE

Degussa Vacuum Hardening Furnace. Year of construction 1990. The furnace name is VKSQ 80/80/120. The maximum temperature is 1350 °C, the max. The load is 1500Kg gross, the heating capacity is 250kW, the working space is 800x1200x800mm, the permissible pressure of the system is 6bar absolute and the furnace has the possibility of convective heating. The furnace control was renewed a few years ago (Demig). Located in Germany.

Price : FOT / Germany Euro 60.000



ITEM # VF333

LOW TEMPERATURE VACUUM TEMPERING FURNACE

Low Temperature Vacuum Tempering Furnace. Maximum temperature is 500 C. Located in Turkey.

Price : FOT/Germany Euro 28.000



ITEM # VF332

IVA VACUUM FURNACE 6 BAR

IVA Vacuum Hardening Furnace. Useful Dimensions: W300xL500xH300 mm. Capacity: 100 kg. Max. Temperature: 1300 C. Temperature Uniformity: +/- 5 C. Heating Power: 50 kW. Vacuum Level: 10exp-2 mbar. Cooling Pressure: 6 bar. Year of Manufacturing: 1993. Located in Turkey.

Price : FOT/Germany Euro 28.000.



ITEM # VF331

HIGH TEMPERATURE VACUUM FURNACE 2300

High Temperature Vacuum Furnace 2300. Manufactured by Elnik this is a MODEL T-3000 unit, built in 1993. The vacuum furnace consists of a watercooled cylindrical chamber, a molybdenum hot zone with tungsten heaters, a roughing pump, a holding pump, a diffusion pump, a heat exchanger assembly, and all associated valving.

- The furnace runs on 480 volts
- Stokes roughing pump Model 148 H-9
- Holding pump (Walsh) 1402
- Varian diffusion pump - VHS-6
- Water system - Model WCS 305-ET with a 300 gallon stainless steel recirculating tower model 1CT4-64
- 2300F operating temperature
- Ut35 temperature controller controls the temperature of the furnace as programmed by the operator via the computer's profiler utility
- Complete and in Good Condition
-

Asking \$19,950.00 USD



ITEM # VF330

SURFACE 2-BAR QUENCH VACUUM FURNACE

Surface 2-Bar Quench Vacuum Furnace. Model# HVPI 484824. Maximum Temperature: 2400F. Power requirements: 460/3/60, 275 KW. Hot Zone Dimensions: 48" Wide x 48" Deep x 24" High. External Dimensions: 12' Wide x 12' Deep x 11' High. Features: Horizontally Loaded Vacuum Furnace complete with 412 Stokes Vacuum Pump, Roots 615 Booster Pump, 2 Bar Quenching, Graphite Heating Elements, "Autoclave" Style Swing-Out Front Door, and Powered Big Joe Loader. Also Included is (1) Crate of New Spare Heating Elements and Connectors. Controls: Free-Standing Control Panel complete with Marathon Monitors Digital Temperature Controller, Honeywell Digital High Limit, and Honeywell Round Chart Recorder. Condition: Very good – Operational. Approx. Weight: 25,000 lbs

Asking Price: \$119,000



ITEM # VF328

ABAR IPSEN MODEL HS-26 VACUUM FURNACE

Abar Ipsen Model HS-26 Vacuum Furnace. Model HS-26 Abar Ipsen vacuum furnace. Working dimensions of 24" wide X 18" high X 36" deep. Working capacity of 750 pounds. Stocks vacuum pumps and Varian Diffusion pump. 1 zone of temperature control. Honeywell controllers with Honeywell paper chart recorder. MKS vacuum instruments. Operating temperature of 2400F. 480 volts. Was used in an aerospace facility before it was very recently removed. Complete. Please ask for pricing and more details.



ITEM # VF327

SURFACE COMBUSTION VACUUM TEMPER FURNACE

Surface Combustion Vacuum Temper Furnace. Working dimensions of 36" x 48" x 24" and is approximately 23 years old. The equipment is in good condition with Honeywell HC900 Controls, Telvac Vacuum Control & Sensors, Honeywell UDC 2000 overtemp control, Stokes 412 Vacuum Pump, Controls Concepts SCR, McLeen Cabinet Cooler. Brand New Heating Elements ready to be installed. Internal Fan Circulation. This unit was pulled from service to make room for a new Vacuum furnace just recently. Max Temp 1500° F, 480 Volt / Three Phase.

Asking Price: \$85,000 USD



ITEM # VF326

IPSEN 924 VACUUM FURNACE

Ipsen 924 Vacuum Furnace. Ipsen VFC-924-R Vacuum Furnace. Working dimensions of 32" wide X 53" deep X 26" high. Maximum operating temperature of 2400F, recently surveyed from 1400-2000F at +-25F. Stokes vacuum pumps and Varian Diffusion pump. One zone of control. Honeywell controllers. Good operating condition, currently installed but not in use. 480 Volts.

More details and asking price available upon request.



ITEM # VF321

IPSEN VACUUM FURNACE

Ipsen Vacuum Furnace:

- Manufacturer: Ipsen
- Model: VFC-524
- Temperature: 2400F
- Moly-faced hot zone
- Graphite heating elements
- 18" Ipsen Diffusion Pump
- Stokes 412H-10 (old style) mechanical pump
- 50 kVA power transformer
- Top-mounted cooling fan with 15 HP Motor
- Had a new control Panel with Athena AT25 Digital Temp Control, Hastings Series 310 Digital Vacuum Controller, and L&N strip chart recorder.
- Currently in storage in San Diego, CA area

Price: \$58,000 USD.



ITEM # VF320

HIGH TEMPERATURE VACUUM FURNACE

High Temperature Vacuum Furnace. Manufactured by Thermal Technologies LLC, Model 121224G. Working dimensions of 12" wide X 12" high X 24" deep. Maximum load weight of 200 pounds. Operating temperature of 1565C, maximum temperature of 2000C. Operating vacuum level 10-2 torr range. Ultimate vacuum level 10-3 torr. Process gas argon. Front and rear doors. Graphite heating elements with rigid fibrous graphite insulation panels (hot zone is NOT installed but virtually all the components are included) 125jVA power supply. Rotary vane pump , Trivac B Leybold Model D65B (53CFM). Eurotherm Model 2704 high performance controller/programmer with SpecView software. Furnace comes complete with chiller and parts washer.

Asking \$100,000 USD for everything.



ITEM # VF319

VACUUM INDUCTION MELTING SYSTEM

Vacuum Induction Melting System. Manufactured by Ionex, Model 260 LB VIM, S/N 93978. Electrically heated 480/3/60/200 KVA. Work area 150 kW, 3 kHz, 260 Pound. External dimensions of 10' wide X 10' high X 15' long. Controls; Complete with PLC and touchscreen HMI interface. 260 pound horizontal front loading VIM with water cooled stainless steel vacuum chamber. Pumping system includes a BOC/Edwards 1722 package with mechanical pump/booster and a stainless steel 20" T-M Vacuum diffusion pump. Induction power supply consists of a Pillar 150 kW, 3 kHz and includes water cooled power leads. This furnace has automatic tilt and includes two (2) crucibles. Also included with this VIM is a rotating load table that moves up and down for accurate pouring. Lot of misc. spare parts and molds are included. Excellent condition.

Asking \$285,000 USD.



ITEM # VF317

TWIN HIGH TEMPERATURE VACUUM HT & SINTERING FURNACES

Twin High Temperature Vacuum HT & Sintering Furnaces. Two each Seco/Warwick Model V40-35/48 Vacuum Furnaces, 1500C (2732 F) Max. operating temperature, 1600C (2912F) burn-out temperature, Work Zones: 600mm x 650mm x 1200mm (23.6" x 25.6" x 47.2"), Design uniformity +/- 10C, but with elements on all 6 sides we would expect much

better uniformity, One furnace hot zone is in excellent condition and the other is nearing time for replacement, All-Metal Hot Zones (Layers: 1 Tungsten, 7 Moly, 1 Stainless Steel), Low voltage Tungsten Heating Elements, Moly hearth, Load Rating: 2850 lb. (1300 Kg), Power: 480V/3Ph/60Hz, 390 kW SCR Heating Input with 3-zone control, 420 kVA total power, Stainless steel chamber, water jacket and hot zone plenum, Controls are CompactLogix PLC with computer, touch screen and SCADA software, Leybold TTR91 pirani vacuum sensor, Edwards (Stokes) 212J mechanical pump with Edwards 607 booster pump, Gases set up for Argon cooling and hydrogen purge, Hydrogen mass flow controller, Gas quench pressure rating is 1.05 Bar absolute. Mezzanine-mounted power supplies for minimal floor space requirement. Both furnaces (2), factory loader and existing spare parts are included at this price. Disassembly and Loading: Buyer's responsibility. Built in 2010 these furnaces were only used for 1 year. Excellent condition!

Asking \$275,000 USD for Both.



ITEM # VF316

AVS VACUUM FURNACE

AVS Vacuum Furnace. Model HMF-24-24-48-1100. Hot Zone: 24" x 24" x 48" deep, Moly with moly elements. Eurotherm controls 2704 & 2116i, Turbopump controller needs to be replaced. Operating temperature of 2400F. Cryotorr high vacuum pump; Turbopump may need rebuild. Additional Port for 20" Diffusion Pump. Current footprint: 15' Deep x 15' Wide x 11' High (8'H without power supply). Power: 250KVA, 440-480V, 3Ph, 60Hz. 2-Tier Moly Fixture. VFD on blower. Rear Access Door. Needs new hot zone. May need turbopump and turbopump controller.

As is or Asking \$195,000 USD with COMPLETE Rebuild.



ITEM # VF315

AVS VACUUM FURNACE (REBUILT)

AVS Vacuum Furnace (Rebuilt). Model HMF-24-24-48-1100, Hot Zone: 24" x 24" x 48" deep, Moly with moly elements. Controls new in 2015. Operating temperature of 2400F. Pumps: Cryotorr high vacuum pump; Turbovac MAG Intregra roughing pump; New turbopumps and valving in 2015. Additional Port for 20" Diffusion Pump. (GVT has 20" D.P. & right angle valve available). CTI-Cryogenics 9600 compressor. Current footprint: 15' Deep x 15' Wide x 11' High (8'H without power supply). Power: 250KVA, 440-480V, 3Ph, 60Hz. Loader Included as well as a 2-Tier Moly Fixture. VFD on blower. Rear Access Door. EXCELLENT condition. Rebuilt July 2015.

Asking \$195,000 USD.



ITEM # VF314

IPSEN BOTTOM LOAD VACUUM FURNACE

Ipsen Bottom Load Vacuum Furnace. Work Zone: 60" Diameter x 96" Tall with a Temperature of 2400F. Diffusion pump: 35" diffusion pump, with port and right angle valve. Manufactured in the 1980's with a Power of 480V/3Ph/60Hz; 600kW. Hot Zone: 2008 reline, graphite elements. Cooling Gas: Was running Argon; capable of 1-Bar cooling. Top mounted cooling fan. Water Cooling: Includes Dry Cooler closed-loop AquaVent water cooling system; 2005, 200 GPM, Plate & Frame Heat Exchanger with Thermacare fiberglass Tower.

Asking Price: \$325,000 USD.



ITEM # VF313

TOP LOADING VACUUM FURNACES (6 AVAILABLE)

Top Loading Vacuum Furnaces (6 available). Manufactured by GT Technologies, Model # AMPF-4836HP – 2015. Working dimensions of 1200mm diameter x 900mm High. Operating temperature of 2100C. Controls by Loy Instruments (Honeywell graphic touchscreen). This unique ultra high temperature furnace is high vacuum, has resistance heating with all graphite hot zone and graphite felt insulation for high efficiency operation. 480 volt 3PH 50/60 HZ, 160 KVA. Maximum load 1,000 KG. Double Wall Stainless Steel Vessel construction. Platform with Stairs included. Halogen Gas Purge equipped, Dry Vacuum Pumping System with Blower. Graphite Purity levels to less than 5ppm. Cycle time 72 – 84 hours. 10 – 3 Torr vacuum level achievable. Options: Exhaust Scrubber System, Overhead Crane. Very good condition.

Asking \$175,000 USD each.



ITEM # VF312

2400C VACUUM FURNACE

2400C Vacuum Furnace. Capable of 2400C (4320F). Working dimensions of 10" high x 22" wide x 36" deep element-to-element. External dimensions of 86" high x 76" wide x 85" deep. 480 volts, 3 phase, 225 kw. This unit is capable of both vacuum and atmosphere operation. Graphite rigid board insulations, graphite heating elements on all 4 sides, graphite hearth plate, 6 channel digital chart recorder, Yokogawa UP 550 digital

programmable controller. High accuracy Raytek digital optical pyrometer. All New Vacuum Chamber – Tested and Certified and new graphite hot zone. Very good condition.

Asking \$149,000 USD.



ITEM # VF307

BOTTOM LOADING VACUUM FURNACE

Bottom Loading Vacuum Furnace. Manufactured by Vac Aero. Working dimensions of 48" diameter X 60" high. 4860 High Vacuum (diff pump) bottom loader Main Chamber replaced new in 2000. 50 HP Spencer Turbine gas quench blower with a .85 Bar pressure quench. Closed loop water system w/o air coil. Yokogawa paperless chart recorder. Honeywell DCP550 Set point programmer. Edwards vacuum gauge controller. Furnace is installed and presently in operation. Customer responsible for removal. Complete and in good overall condition.

Please call for pricing.



ITEM # VF299

SUNBEAM VACUUM FURNACE

Sunbeam Vacuum Furnace. Model # 40236, Serial Number F-170-82. Working dimensions of 36" wide X 120" long X 36" high. Maximum operating temperature of 2552F (1400C). 460 volts, 400Kw, 3 phase. Honeywell digital program control, Honeywell digital overtemperature control, Honeywell strip chart (inoperative) and Granville-Phillips 375 Convectron vacuum controller in enclosed panel. Double walled water cooled horizontal

load vessel. Interior has a molybdenum liner with graphite heating elements on both walls, roof and floor. 20 HP cooling fan mounted in rear. Pumping system consists of a Stokes 412-11 mechanical pump with Roots booster. Power to the heating elements is through VRT's. A battery powered loader is included. Some of the heating elements were damaged during shipment and will need to be replaced by buyer.

Asking Price: \$95,000 USD.



ITEM # VF294

VACUUM ANNEALING FURNACE

Vacuum Annealing Furnace. Manufactured by Thermionics this is a custom designed vacuum annealing furnace designed to heat treat wire up to 210 cm long. The vacuum chamber has an 8" Dia. X 90" effective working length. The operating temperature was developed for a maximum operating temp of 1200° F, The vacuum nominal level (continuous) duty was developed as 1×10^{-6} Torr. Maximum vacuum level to operate in continuous duty is 5×10^{-8} Torr. The unit was designed to use N₂ gas. The unit was an R & D unit that was built in 1998, but has had little to no use. Excellent condition. New this was \$90,000 USD.

Asking Price: \$29,000.00 USD.



ITEM # VF289

IPSEN VACUUM TEMPER FURNACE

Ipsen Vacuum Temper Furnace. Built in 1981. Working dimensions of 280 mm high X 420 mm wide X 590 mm deep (11" X 16.5" X 23.2"). Maximum load 100kg (220 pounds). Minimum operating temperature 150C, maximum operating temperature 700C. Input power 94 KVA, heating 71Kw, 575 volts, 60Hz. Type K T/C's, Honeywell controls. Vacuum contact point 1.0 X 10⁻¹ mbar, operating pressure 1000 mbar. Maximum vacuum level 5.0 X 10⁻² mbar. Circulated nitrogen atmosphere gas. Elements Cr-Ni Steel. Stokes model 149H vacuum pump. SS hot zone. Class 3 furnace with a temperature uniformity of +/- 8C. Used in an aerospace heat treat facility until it was replaced with a new furnace. Complete although missing the temperature recorder. Included are a manual loader and 3 baskets. Excellent condition.

Asking Price: \$59,500 USD.



ITEM # VF282

AVS VACUUM DEBINDING/SINTERING FURNACE

AVS Vacuum Debinding/Sintering Furnace. This is a horizontal graphite vacuum debinding sintering furnace for steel MIM parts completely rebuilt from top to bottom by AVS in 2010. Working volume – approximately 18 cubic feet, 28" wide x 26" high x 42" long graphite retort, 1500# capacity. Temperature – rated for continuous operation at 1400°C ±10°C in vacuum, 1450°C burn-out. 50µ ultimate vacuum; leak rate <10µ / hour, CEDORT (Clean, Empty, Dry, Outgassed, Room Temperature). De-bind system - nitrogen or argon sweep gas, 0 - 100 torr differential pressure controlled by PLC and automatic I-to-P modulating vacuum valve, binder trap, condenser assembly; options available for hydrogen gas and burn-off. De-bind lines heated to keep vapor from condensing in vacuum lines. Fast cooling with circulation fan and automatic gas re-circulation ports. Control system - AVS ACE™ control/data acquisition system. Estimated cold-to-cold cycle time of 16 to 20 hours with AVS "Fast Cool" option. Horizontal jacketed chamber - 60" dia. x 80" long, nominal dimensions, flanged, on legs. SA-516-70 mild steel construction on water jackets and door + body flanges. Stainless Steel inner jacket & dished head plus all power ports Front-loading chamber with 2 doors - both doors on adjustable hinges, with buna o-rings, manual clamps, for operation from 50 millitorr vacuum to 3 psig positive pressure; rear door opens for service. Ports - rough line on side of chamber, delube line from bottom, fan housing flange on rear door Additional PORTS added to the system to accommodate future system modifications for processing 'sinter-hard' P/M materials – a total of up to 7 additional ports

ranging from 18" in diameter down to 1" in diameter will be added. Further details available upon request. Currently installed and in excellent condition.

Asking Price: \$169,000 USD.



ITEM # VF271

SINTERING / DE-WAXING FURNACE

Sintering / De-Waxing Furnace. Horizontal sintering furnace with wax condenser 1470°C operating temperature. Water cooled 304 stainless steel chamber with mild steel flanges. Graphite hot zone – 24" wide x 18" high x 36" deep, with hearth rails. Graphite retort – 4 to 5 cubic foot work space, shelves, graphite rollers, de-wax tube and -cooling. 5 HP recirculation cooling fan system – cooling flaps in insulation and retort. Wax condenser assembly with hot water circulation system and removable wax receiver pot. Power supply – transformer-type, low voltage secondary, nominal 250 kW. Vacuum pumps – Stokes 212-H, 150 cfm rough pump, Roots 615, 1600 cfm booster. Dynamic partial pressure gas system. Unit can be seen in operation and is available for immediate delivery.

Asking Price: \$299,000 USD.

ITEM # VF267

SEMI-CONTINUOUS TITANIUM DIFFUSION BONDING HOT PRESS

Semi-Continuous Titanium Diffusion Bonding Hot Press. System consists of; Load Chamber. Rated for 2720 kg load Moly Pin walking system rated for 2720 kg load 44" w x 54" d x 6.5" high product size in semi continuous mode Stokes 612/300 pump/blower Mounted on roll out frame for easy maintenance

Preheat Chamber. 35" diffusion pump / 100 CFM holding pump Moly Pin walking system rated for 2720 kg load 44" w x 54" d x 6.5" high product size in semi continuous mode Stokes 300 CFM mechanical pump 5 x 10⁻⁵ Torr in 20 minutes 300 kW heater power (Hunterdon) Moly Hot Zone Mounted on roll out frame

Bonding Chamber. 20" diffusion pump / 100 CFM holding pump Moly Pin walking system rated for 2720 kg load 44" w x 54" d x 20" high product size in batch mode 44" w x 54" d x 6.5" high product size in semi continuous mode Constant 1100°C Heated Platens, Moly pressing surface 1000 tons of force, up pressing ram 300 kW heater power (Hunterdon) Moly Hot Zone Mounted on roll out frame

Cooling Chamber. 20" diffusion pump. Stokes 612/300 pump/blower Moly Pin walking system rated for 2720 kg load 44" w x 54" d x 6.5" high product size in semi continuous mode Fast Cool 60°F /min argon. 1750F to 1200F. 25°F variation over part 5 x 10⁻⁵ Torr in 20 minutes Fast Backfill Port Mounted on roll out frame

This system is ideal for any company wanting to develop process for diffusion bonding of any materials which are capable of being processed within the specifications of the furnace. The system is available as a batch or semi-continuous, as the system can be set up in Batch mode for development purposes and semi continuous mode for production. The system is available for inspection as warehoused in the Northeastern USA. New Price for this system is over USD \$16,000,000. This system is available in almost any configuration.

cash and carry with support available from the original manufacturer at a reduced rate, or reconfigured to match your specific requirement at a price TBD. Immediate delivery.

As is \$890,000.00 USD



ITEM # VF266

KINNEY 75 CFM VACUUM PUMP

Kinney 75 CFM Vacuum Pump. Warranty Rebuilt Kinney Model KTC-75, Part No. 804982-D, S/N 1105-Y 7710-5 mechanical vacuum pump. 12 Month warranty on rebuild. Will be repainted at rebuilders' shop. Running without problems when removed from service.

Asking Price: \$ 5,700 USD F.O.B. West Coast U.S.



ITEM # VF243

35" DIFFUSION PUMP

35" Diffusion Pump. CVC Model PMC-32C, 35" Diffusion Pumps (Today this is the Varian HS-35. Varian purchased CVC rights to this pump.) Rebuilt condition with a 12 Month warranty. 35" Throat Diameter. Bolt Circle is approx. 38-3/4" with 14 Holes on approx. 8-9/16" Centers. Flange O.D. is 41-3/4". O-Ring Center Diameter is 36-1/8". Approx. 72-3/4" Overall Height (79" on 48" x 48" shipping pallet). Note: Mating 35" Cryo-Baffle is also available for improved low-range vacuum and elimination of backstreaming (See Item# 3161 Below). 6" Foreline with approx. 9-1/2" Bolt Circle with 8 Holes on approx. 3-5/8" Centers. 1/4" dia. O-ring is approx. 8-7/8" diameter to center. Shipping Wt. with pallet approx. 2050 lb. Price in Warranty Rebuilt Condition, Painted:

\$ 12,250.00 (with existing working elements. Add \$6,000 if you want brand new elements.)



ITEM # VF242

35" DIFFUSION PUMP

35" Diffusion Pump. CVC Model PMC-32C, 35" Diffusion Pumps (Today this is the Varian HS-35. Varian purchased CVC rights to this pump.) Can be purchased either in As-Is condition or in Rebuilt condition with a warranty. 35" Throat Diameter. Bolt Circle is approx. 38-3/4" with 14 Holes on approx. 8-9/16" Centers. Flange O.D. is 41-3/4". O-Ring Center Diameter is 36-1/8". Approx. 72-3/4" Overall Height (79" on 48" x 48" shipping

pallet). Note: Mating 35" Cryo-Baffle is also available for improved low-range vacuum and elimination of backstreaming (See Item# 3161 Below). 6" Foreline with approx. 9-1/2" Bolt Circle with 8 Holes on approx. 3-5/8" Centers. 1/4" dia. O-ring is approx. 8-7/8" diameter to center. Shipping Wt. with pallet approx. 2050 lb.

Price in As-Is Condition: \$ 6,400.00 USD

Price in Warranty Rebuilt Condition, Painted: \$ 12,250.00(with existing working elements. Add \$4,500 if you want brand new elements.)



HEAT TREAT CENTRAL

- High Quality Low Cost Base Trays
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- Fast Delivery for in-stock trays¹
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- UBQ Furnace Tray
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Please send your enquiries to:

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905-271-0033

¹While supplies last

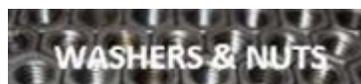
²Applies to standard design trays only. Some restrictions apply.

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Moly

At “**The Moly Store**” we offer extremely competitive pricing on all your molybdenum requirements including wire, round bar, nuts, washers, studs, all thread, sheet, plate even designed and assembled grids! This is combined with unsurpassed quality and a large inventory in the USA available for immediate delivery. The links below will take you to our current inventory all of which can be shipped almost immediately.

Bob and Ben Grammer welcome the opportunity to help with your requirements Sales@gvtinc.com Phone: 208 765-6854



NEW EQUIPMENT

As most of you are aware our background is as Manufacturers Representatives selling Heat Treating Equipment. The alphabetical list below shows the companies which we represent with a brief description of what each does.

AFC-Holcroft



AFC-Holcroft of Wixom, Michigan manufactures heat treat furnaces, including batch integral quench, continuous austempering lines, mesh belt furnaces, pusher lines, endothermic generators and continuous solution heat treat for aluminum parts. The Process Master division of AFC/Holcroft offers complete control systems for the HT Industry.

<https://afc-holcroft.com/en/>

ALD Vacuum Systems



ALD Vacuum Systems of Wixom, Michigan provides *'The Solution'* to your high volume, vacuum based heat-treating equipment requirements. We provide process capabilities such as Low Pressure Carburizing (LPC) and high pressure gas quenching (HPGQ) as well as vacuum oil quenching, neutral hardening and on and on. Automated processing of heat treat is the most economical means to gaining the most from your capital investment.

<https://www.ald-web.de/en/>

Cooley Wire Products



Cooley Wire Products: When it comes to fabricated 330 SS baskets we are unbeatable! A quality manufacturer of heat treating and corrosion resistant fabrications. We manufacture industry standard and custom designed baskets and fixtures. We can manufacture to your drawing, or design something based on your submitted part or part drawing.

<http://www.cooleywire.com/>

Custom Electric Manufacturing



Custom Electric Manufacturing (Electric Heating Elements): The Custom Electric engineering team has more than 75 years of heating element design experience. Working with original equipment manufacturers and end users, they design elements for new and unusual applications in addition to replacement elements that ensure production efficiency. Phone Number: 248-305-7700.

<https://custom-electric.com/>

Dry Coolers



Dry Coolers Inc. of Oxford, Michigan makes closed loop process water cooling systems either Air Cooled, Evaporative Cooled, or Mechanically Refrigerated. Dry Coolers also offers quench oil coolers, filtration systems, and a unique outdoor mechanical room "Tower Shed". They are industry leaders in vacuum furnace cooling packages.

<http://drycoolers.com/>

Grammer Vacuum Technologies, Inc. (Molybdenum)

Grammer Vacuum Technologies, Inc. (Molybdenum): Molybdenum Mill Products, Custom Moly Fixtures and Grids, & Custom Moly Mill Products. All of these are stocked in the USA. Phone Number: 208-765-6854, Sales@gvtinc.com.

<http://www.gvtinc.com/pages/MolybdenumProducts.htm>

Graphite Materials



Graphite Materials is your reliable partner for carbon and CFC (Carbon Fibre Composite) components for high temperature applications. We have years of experience designing, manufacturing and testing fixturing for high temperature applications such as vacuum furnaces and vacuum carburizing systems. Carbon and CFC components offers you a product which is light, precise and will offer years of service with no cracking or distortion. More and more heat treaters around the world are considering carbon and CFC fixtures as an alternative to fabricated and cast fixturing.

<http://www.graphite-materials.com/en/>

Heat Treat Central



Based in Michigan HTC is your supplier for high quality, low cost investment cast base trays. Investment cast trays offer you a longer service life, less porosity and tighter tolerances than standard sand cast base trays at a substantially lower cost. Standard trays available within 1 week.

<http://www.heattreatcentral.com/>

Idemitsu



Idemitsu is one of the largest suppliers in the world of Quench Oils and Polymer Quenches. Cold, Semi-Hot or Hot quench oils- we have a product that will work for you. We are able to ship typically in less than 5 days from multiple locations around the world. You will find us fast, responsive, cost competitive and we offer free analysis of your current quench oils.

<http://www.idemitsu.com/products/lubricants/index.html>

South-Tek



South-Tek. South-Tek manufactures a variety of Nitrogen Generators, from those designed to output a few liters per minute of Nitrogen flow rate for table top laboratory applications, to designs capable of producing 75,000 cubic feet per hour to meet the demands of some of the largest industrial plants. Our systems are capable of producing Nitrogen purities of up to 99.9995% (5 PPM and lower). Whether you are using nitrogen for vacuum quenching, inerting atmosphere furnaces or for required safety purge South-Tek Systems has your solution. For more information on PSA Nitrogen Generators and heat treating applications, please visit:

<http://www.southteksystems.com/>

Super Systems



Super Systems Inc. develops and manufactures products for the thermal processing industry. Our products include probes, analyzers, controllers, software solutions, flow control and engineered systems. We have extensive experience in addressing industry demands with technology to help our customers be more efficient and produce better quality products. Our state-of-the-art manufacturing facility in Cincinnati, Ohio, and offices around the globe give us the resources to address the instrumentation, software and technical needs of the industry.

<http://www.supersystems.com/>

EMPLOYMENT OPPORTUNITIES ADVERTISING

The cost is \$150.00 USD per month for a minimum of two months. Payment can be made by Visa or Check. Opportunities should be in the form of a “Word” document and e-mailed to jordan@themonty.com All “Employment Opportunity” ads can include your company logo and will automatically appear both on the website and in the monthly newsletter “The Monty”.

Employment Opportunities

Quick Jump To Items:

Item # 0346 Heat Treat Technician

Item # 0345 Multiple Positions Available

ITEM # 0346 HEAT TREAT TECHNICIAN

Heat Treat Technician 2nd and 3rd Shifts. Ability to work weekend overtime. McGard LLC is a well-established progressive WNY company & a world leader in specialized precision mechanical security devices. Our proprietary products are in high demand and & manufactured right here at our WNY facility. McGard offers a competitive salary & comprehensive benefits package: health, dental, life insurance, paid personal days, vacations, holidays, quarterly profit sharing, a 401(k) plan, plus more!

A Heat Treat Technician is responsible for controlling heat treating furnaces to alter the properties of selected materials. This individual will operate the furnaces, draw ovens, pit draws, and any other related equipment. A Heat Treat Technician is also responsible for performing hardness checks according to work instructions. The parts are quenched in oil/gas within the furnace and then removed after prescribed time.

We are looking for an individual with 3 years’ experience in Heat Treat Operations and with a strong mechanical aptitude and leadership qualities. This self-motivated, team player will gain experience in a fast-paced production environment, possess the ability to multitask, have problem solving skills and the ability to work well under pressure. A high school diploma is required.

You may send resumes to: Human Resources, McGard LLC, 3875 California Road, Orchard Park, NY 14127.

Click to apply

online: https://workforcenow.adp.com/mascsr/default/mdf/recruitment/recruitment.html?cid=e5aca532-3921-4cac-89e4-2780a5d9cb9f&jobId=148107&lang=en_US&source=CC2&ccId=19000101_000001

“We are an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status or other characteristic protected by law.”



ITEM # 0345
MULTIPLE POSITIONS AVAILABLE

Vesco-McLaughlin located in East Windsor, CT and McLaughlin Services located in Avilla, IN are looking to expand and hire people in the industry with any of the following experience:

- Hot Zone Design
- Vacuum and Atmosphere Furnace Design
- Vacuum and Atmosphere Furnace Service Experience
- Vacuum and Atmosphere Furnace Manufacturing Experience
- Electrical and Controls Experience

Please send all resumes and questions regarding positions to Ben Tackett, btackett@vacuumengineering.com, Main: (860) 627-7015, Fax: (860) 627-9964.

SEEKING EMPLOYMENT ADVERTISING

If you are looking for a job position ads are completely free! Simply send us a brief summary of your skills along with what you are looking for in a “Word” Document and e-mail to jordan@themonty.com Your ad will appear both on the website themonty.wpengine.com and in our monthly newsletter “**The Monty**”.

In Parting

We always enjoy comments, feedback and constructive criticism. Thanks for your feedback and don’t hesitate to let us know your thoughts. Don’t forget to visit us daily at www.themonty.com.

Gord Montgomery,

W.G. Montgomery Limited

Phone: 905 271-0033

Fax: 905 271-9324

Email: gord@themonty.com
