



# THE MONTY

*Everything to do with heat treating*

HEAT TREAT NEWSLETTER

If you would like the information contained in this newsletter daily instead of monthly, visit us at [www.themonty.com](http://www.themonty.com) daily & you don't have to wait for the most up to date, relevant Heat Treat News in the industry.

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## INTRODUCTION

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In late 2016 WG Montgomery Ltd., embarked on a project to update our website [www.themonty.com](http://www.themonty.com) and monthly newsletter “The Monty”. While the updates to the newsletter went fairly smoothly the updates to the website did not. After several months of intense effort we feel that we are getting to the end of our “trials and tribulations”. For almost 20 years we have prided ourselves on always having new content on the website every single work day and we feel badly that that has not always been the case recently. We apologize for the errors and hope that they have now all been corrected.

Best regards,  
Gord

# HEAT TREAT NEWS

## OMG Inc. Invests \$15 Million USD In New Heat Treating Department

Now this is a very interesting story about a large fastener manufacturer bringing their heat treating in house. To this story we will add that it appears the equipment is a mixture of mesh belt furnaces and batch IQ's all supplied by Williams Industrial in Bowling Green, Ohio. February 28, 2017.

“OMG Inc., Agawam, MA, USA. Look on the shelves at a hardware store or home center. If it's a warehouse-type place, also look up at the commercial roof covering the store. You'll see products from Agawam's OMG Inc. in both places. The 36-year-old company, originally known as Olympic Manufacturing, makes screws, washer plates, vents, metal edges, adhesives and construction equipment for commercial flat roofs like those over factories and big box retailers. OMG also makes FastenMaster, a line of screws for residential decks that contractors can hide, giving the finished deck a better appearance. OMG sells FastenMaster at lumber yards and hardware stores around the country, with contractors as the primary customers. It all adds up to about a billion screws a year. OMG is nearing completion on a \$15 million expansion

to add heat-treating equipment to its manufacturing operation in Agawam. The heat treating plant will go on top of manufacturing, warehousing and administrative capabilities already located on Bowles Road. The company even has a wind tunnel in Agawam for testing its roofs in simulated storms. The heat-treating equipment, \$10 million of which is already in place, will be able to harden about 80 percent of the 100,000 pounds of screws OMG makes in an average day. Those screws have to get up to 1,000 degrees and then get quenched in a bath of oil in order to take on the appropriate strength, said Kevin Walters, project manager for the heat treating operation. Today, OMG sends its screws out to be heat treated by other companies. That's several tractor trailers coming and going every day to plants up and down the east coast. "That is why it takes days to weeks to get our product processed," Walters said. The first of the new equipment will be up and running in about a month, after which OMG will do most of its own heat treating. Once completed, the line will have five heat-treating machines, plus machines for quenching in oil, tempering and washing. OMG has already hired nine full-time employees for the heat treatment unit. The company will need a total of 25

people to staff it. The nonsupervisory heat treatment positions typically pay in the range of \$16 to \$22 an hour. The Agawam plant has about 350 employees out of the company's total of 530.”



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**SOLAR**  
MANUFACTURING  
Keep your vacuum furnace running with  
spare parts from Solar Manufacturing

## Phoenix™ Supplies 'Hot Box' Oil Quench Monitoring System to Musashi Auto Parts Canada Inc.

"Phoenix™ have recently supplied one of their patented 'Hot Box' oil quench systems to Musashi Auto Parts Inc, a leading Canadian auto parts manufacturer. The system monitors the temperature of parts throughout the furnace and oil quench allowing data from the full process to be accessed, and will be used in their neutral hardening furnaces. The key feature that influenced the purchasing decision was the ability to monitor part temperature in the extremities of the product basket, throughout the complete austenitizing process including transfer into the oil quench, without the need discharge the system. For more information contact: [info@phoenixtm.com](mailto:info@phoenixtm.com)". **February 28, 2017.**



## Leybold Banner Ad

We welcome our most recent advertiser Leybold whose banner ad can be found on this page. We have no problem saying that Leybold is

one of the best known names in the world when it comes to just about any type of vacuum pump. **February 28, 2017.**

## Monday Morning Briefing

**Rockford Products Update.** To summarize fastener manufacturer Rockford Products in Rockford, Illinois closed down over a year ago. This story is of interest to us because of the large in house heat treating department which included cast link belt furnaces and batch IQ units. All of the equipment including the heat treating furnaces went to auction a few weeks back with the equipment being sold to a combination of scrap dealers and used equipment dealers. The twist to this story is that shortly after the auction (and after the buyers had paid their money) all of the buyers of the atmosphere heat treating equipment were informed that none of the equipment would be available due to environmental issues and that their money would be refunded. What will happen to all of the equipment we don't know but if I was one of the buyers I would be none to happy at having my time wasted this way. From **Vacuum Pump Services** we have this announcement; "Hatfield, PA, February 23, 2017 – Vacuum Pump Services Corp., our new company established on July 1, 2016, has appointed **Robert Sandora Sr.** as president effective February 2017. VPS is located in Hatfield, PA, and services general industry vacuum

pumps of the Rotary vane, Piston, and Roots blower types for use with high vacuum chambers and vacuum heat treating furnaces. The VPS market area is mid-Atlantic and nearby states. According to William R. Jones, owner of VPS, "Bob will direct all operations of the new company: sales, repair services, testing, and field service. Bob has 40 years' experience in vacuum technology and has an excellent background to head our new company." For more information, visit us at [www.vacpumpservices.com](http://www.vacpumpservices.com), or contact either Bob Sandora, [bob@vacpumpservices.com](mailto:bob@vacpumpservices.com) or Keith Reim, [keith@solaratm.com](mailto:keith@solaratm.com)."



We move to Australia now where we see that **Heat Treatment Australia** is announcing the official launch of their new dedicated **Aerospace & Defense facility in Brisbane, Australia.** New equipment includes a vacuum brazing furnace, a 25 bar vacuum furnace as well as a new testing laboratory, new CNC equipment, vapour degreaser, and more. Upcoming open house days will be held Tuesday March 6th and Wednesday March 7th. The photos below give you an idea about the new facility and include a photo of **Steve**



**Over & Sheila Davidson** of Lockhead Martin. "HTA Group is proud to announce the official launch of our new dedicated Aerospace & Defense facility. Located directly next to HTA-Brisbane at 32 Gay Street, Coopers Plains, this purpose-built factory will house numerous leading-edge pieces of equipment including Furnaces and Testing Facilities compliant with AS9100 & Nadcap Accreditations. We're excited, and we hope you will join us in celebrating the hard work and dedication that has gone into making this expansion possible - from our Staff, Suppliers and of course our Valued Customers. Visit us onsite during one of our open days, or make an appointment for any time that suits you! HTA is always open to discuss all your Heat Treatment requirements."

We have this press release from **Wall Colmonoy**. "Wall Colmonoy announces the appointment of **Nathan Stroud** as Commercial Director for its European Headquarters. Nathan joined Wall Colmonoy in February 2013 as Distribution Channel Manager and has enthusiastically taken on ever-expanding roles and responsibilities. In November 2013, he assumed the position of Sales Manager and in October 2014 Nathan joined the senior management team and took on the full duties and responsibilities of Commercial Manager."



What's Upcoming? We have a couple of very interesting interviews over the course of the next two weeks. The first is with Mr. Stephen Harris, CEO of commercial heat treating giant Bodycote. With the company releasing their latest financial reports this coming Tuesday it would appear that that this would be a perfect time to ask Stephen a few questions. The second interview is with Mr. Zhu Wenming, president of Fengdong Group, possibly the largest furnace manufacturer in the world. We look forward to presenting both to you along with our latest news items about the worldwide heat treating industry. **February 27, 2017.**



This is certainly an odd looking oven that **Wisconsin Oven** is telling us about; "Wisconsin Oven Corporation shipped an electrically heated drawer style batch oven for a global automotive supplier. The industrial oven will be used in the customer's lab to test and confirm production process on heating fiber blanket sheet prior to placement into a press. The fiber blanket will be used in automobiles for sound absorption backing on carpet and door panels. The work chamber of the batch oven is 5'0" W x 5'0" L x 1'0" H with an additional 1'0" available above the shelf surface. The maximum temperature rating for this batch oven is 260°C. The customer required guaranteed temperature uniformity of  $\pm 5^\circ\text{C}$  at 200°C which was verified through a five (5) point profile test."



**Super Systems Inc. Vacuum Control Retrofits at Spectrum Thermal Processing.**

"Spectrum Thermal Processing of Cranston, RI continues to update their "State-Of-The-Art Heat Treat" with Super Systems Inc (SSI) control technology. Building on the technology path and a partnership with SSI, Spectrum recently retrofitted SSI's Series 9220 Vacuum Controller on a CI Hayes Vacuum Oil Quench furnace. The new controls provide an easy-to-operate interface that reduces operator error while providing the most sophisticated furnace cycles with complete process traceability. The standard vacuum retrofit pack-

age from SSI includes recipe control, digital data recording, remote configuration/recipe building, touch screen interface and electronic connectivity to the existing SuperDATA SCADA package. "The vacuum oil quench furnaces are an important part of our operation," said Richard Houghton of Spectrum. "SSI has been great to work with as we upgrade our equipment. Our focus is delivering quality and repeatability throughout all our processes, and maintaining the latest controls and data acquisition technology provides the foundation for making that happen. This is the ninth furnace that we have upgraded using SSI controls, which has vastly improved our ability to automatically control all parameters of the process." For the last decade, Super Systems Inc., based in Cincinnati, Ohio, has been developing and manufacturing products for the thermal processing industry. SSI's products include probes, analyzers, controllers, software solutions and engineered systems. With over 100 years of combined experience, SSI continues to satisfy industry demands with innovative technology, enabling customers to be more efficient and to produce higher quality products.

Spectrum Thermal Processing is a specialty heat treating and brazing facility. Established in 2014 utilizing equipment manufactured by C.I. Hayes Inc., Spectrum Thermal Processing is Nadcap accredited, ISO 9000:2008 registered and AS-9100C registered. Spectrum supports the aerospace, automotive, electronic,

medical and machine tool industries. For more information on SSI's capabilities, visit SSI's website at [www.supersystems.com](http://www.supersystems.com). For more information on Spectrum Thermal Processing, visit <http://www.spectrumtp.com>.

February 27, 2017.



- Item # B424 Atmosphere Box Furnace
- Item # VF315 AVS Vacuum Furnace (Rebuilt)
- Item # VF314 Ipsen Bottom Load Vacuum Furnace
- Item # VF313 Top Loading Vacuum Furnaces (6 available)
- Item # C323 Aichelin Cast Link Furnace Line
- Item # T333 Composite Curing Oven
- Item # M402 Closed Loop Water Cooling System

### 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 [website@themonty.com](mailto:website@themonty.com) or 905-271-0033. **February 24, 2017**

- Process Developer Wanted
- Shift Supervisor Wanted
- Heat Treatment Metallurgist Wanted, New Zealand
- Sales Engineers Wanted

### Used Equipment

Please take a look at our most recent used equipment offerings. If you see anything you like don't hesitate to get in touch with us at [website@themonty.com](mailto:website@themonty.com) or 905-271-0033. **February 24, 2017**

### What's It Worth? Fluidised Bed Furnaces

This is how Wikipedia describes a Fluidised Bed Furnace; "A fluidised bed consists of a cylindrical retort made from high temperature alloy, filled with sand-like aluminium oxide particulate. Gas (air or nitrogen) is bubbled through the oxide and the sand moves in such a way that it exhibits fluid like behaviour, hence the term fluidised. The solid-solid contact of the oxide gives very high thermal conductivity and excellent temperature uniformity throughout the furnace, comparable to those seen in a salt bath." While they have never been a very common type of heat treatment furnace at one time they were reasonably well known and there were many predictions (generally from manufacturers of this type of equipment) that they were poised to see a great deal of growth. As we all know this growth



never materialized and many newcomers to the industry are probably not even familiar with the technology. However there are still a couple of companies around that promote the process and from time to time we are asked to list a used line and asked our opinion of the value. Our stock answer is whatever you can get for it and if you get nothing do not be surprised. It is unfortunate as the result from such a line are perfectly acceptable metallurgically but they are messy things (the sand gets everywhere) and at the end of the day it is not a technology which is going anywhere. So if somebody approaches you with a line for sale that is only 3 years old and that cost \$1 million then (as we were not that long ago) our recommendation would be to politely say no thanks and keep moving. **February 24, 2017**



### C&R Racing (USA) To Install SECO/WARWICK CAB Line

PWR Performance Products chose SECO/WARWICK Controlled Atmosphere Brazing Line to produce aluminum heat exchangers for automotive racing. The complete Controlled Atmosphere Brazing (CAB) will be installed in their C&R Racing (USA)

Performance Products. „We purchased our first SECO/WARWICK Brazing line 15 years ago for our facility in Australia as part of our overall manufacturing strategy to keep all operations in house for optimum quality control over all of our products. The SECO/WARWICK brazing technology has operated with the reliable performance that we demand to produce high quality product. SECO/WARWICK will provide a complete CAB manufacturing cell that will include an inline dry off oven and a radiation braze CAB furnace system equipped with patented Accubraze® process control technology. Installation is scheduled for the third quarter of 2017. Radiation Braze Technology; A SECO/WARWICK Radiation CAB System is an ideal method for brazing similar size products in a continuous flow environment. The furnace is designed to use a stainless steel muffle to contain the nitrogen atmosphere and provide uniform heating of the products. The heat input into the furnace chamber is proportionally controlled to heat the muffle which in turn heats the products. Product results are consistently high, and fully automated material handling provides maximum efficiency with minimal operator intervention. **February 24, 2017**

### Mario Fabián MÉNDEZ, Grupo Etsa, Mexico

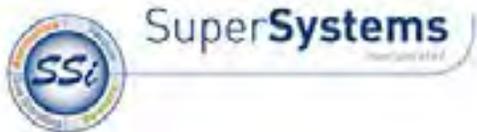
With Mexico being one of the fastest growing regions in the world for heat treating we had to interview

**Mr. Mario Fabián Mendez** operations manager of **Grupo ETSA** the largest commercial heat treater in Mexico. **February 23, 2017**

**Mario I believe you ended up in the heat treating industry for the same reason that many of us did namely that heat treating runs in your family. Can you please give us the background?**

“When my father founded ETSA in 1979, he was a former Plant Manger of a large German commercial heat treating shop in Mexico City; eager to cover a market opportunity for maintenance of captive furnaces meanwhile also starting commercial heat treat services with salt bath & shaker furnaces. The commercial division ended up to be much more active and finally covered the whole scope of the company. I started working as an occasional operator Saturdays and Summers since I was a kid; I was also driver and other small duties before starting my engineering studies, during my university studies; I was able to have a broader exposure into quality and maintenance, once I finish my college I began to add value in those areas where my father was not that much interested, such as quality, information technology, human resources and sales. I was easily engaged through my small successes in such uncovered company areas.”

**My impression is that your company is the largest commercial heat treater in Mexico-would you con-**



**sider this a fair statement?**

*“Yes we are; specially if you consider capacity and number of plants allocated in Mexico”*

**Maybe you can elaborate on your company, number of employees, sales, processes offered etc.?**

*“Our company has now 38 years on business, with 254 employees total, we have vacuum, integral quench, continuous & salt bath furnaces for nitriding, carburizing, neutral hardening and some other additional surface technologies; plus we have other value added activities such as assembling, cleaning, packing, measuring and transportation capacities. On the other hand, we are very pleased to announce that recently we had re-launched the maintenance and refurbishing services for heat treatment furnaces due to a very large contract we were awarded to bring, refurbish and reinstall, several furnaces currently in the USA that must be restarted in Mexico.”*

**What type of heat treating does ETSA concentrate on? I have seen very successful commercial heat treaters who concentrate on large volume small margin heat treating, I have also seen commercials which only go after very high end, high margin heat treating who are also successful-how would you describe ETSA?**

*“We have plants focused especially on automotive for larger volumes and some other plants focused on smaller markets for the tooling specialties, oil, appliance and aerospace industries; covering both markets but focusing plants to each specific market scale”.*

**I have to confess that as a Canadian I am rather jealous of the amount of new investment which Mexico is seeing these days-what sort of growth are you seeing in the heat treating industry both commercial and captive?**

*“For the last 10 years heat treating growth in Mexico has been tremendous, and will continue to be like that due to our worldwide competitiveness increase.”*

**The common perception is that the number one reason for growth in Mexico is the abundant supply of cheap, unskilled labor which is certainly not a real compliment. What do you have to say in response to this?**

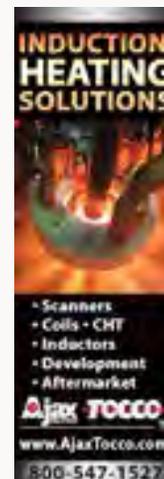
*“Mexican industrial growth could be divided within three main reasons: labor + agreements + proximity”*

*“As you mentioned, we have cheap labor costs but not always unskillful. In the last two decades Mexico has invested in having stronger polytechnic and technical institutions building young technicians and engineers eager to work on forging, casting, machining and some other “industrial environments” that are no longer interesting for young people in developed countries; so we also have very good technicians and engineers at lower costs.*

*Mexico is one of the countries with more international free trade agreements worldwide. We can import materials cheaper, manufacture and export with less duties than any country in the world. As an example if a US company wish to buy components in Asia or Europe, manufacture in Mexico and Export to Russia; the company could save more than 20% in duties comparing it to US manufacturing.*

*Finally, Mexico has a more easy-going working culture than some other developing countries. For instance if an American company has operations in Mexico, its working force or supplier base can definitely react faster and more effective to problems and new opportunities than its counterpart in India or China due to culture affinity and proximity”.*

**This question is very closely related to the one above and it has to do with costs.**



**Percentage wise what is your largest cost if it is not labor? What are energy costs like in Mexico?**

*“Mexican energy costs are 20% higher than US or Canada; and transportation costs 15% higher due to lack of infrastructure and higher highway tolls; so I will consider these two costs must be watch out at all time”*

**Correct me if I am wrong but my impression of the Mexican heat treating market is that it is mainly in house heat treating with a relatively small % being commercial. Have you ever run across any figures to back this up or do you have a “gut” feel about the relative percentages?**

*“I will consider that captive is 80% and 20% commercial, nevertheless probably 10 years ago it was 90/10, meaning that commercial heat treating infrastructure is growing at a faster pace due to higher confidence of customers on available commercial heat treating services reliability”*

**Recently there have been a few ‘foreign’ commercial heat treaters who have entered the Mexican market including ones from Germany, Japan, Canada and the UK. Do you feel that your very long presence in the market gives you an advantage over these newer competitors?**

*“Yes, in sports and in business, being local is always an advantage. We understand better the authorities and institutions, the working culture, the risks and the opportunities than a foreign company. The big advantage we acknowledge foreign commercial heat treaters have is that usually they come to attend big multinationals or follow companies they already service*

*in their countries; so in order to continue exploiting our local player comparative advantage we are working very hard to attract and be promptly informed of those international companies willing to be established in Mexico.”*

**Looking forward what new technologies do you see your company adding?**

*“We are adding more process and material tracking control into all our plants. As for new equipment, we want to continue our growth and expansion on aluminum heat treating, austempering salt bath quenching, continuous mesh belts and high pressure vacuum furnaces”*

**Mario you know I have to ask this question even if the whole world is asking the same question. Are you worried about a new administration in the US drastically slowing down the amount of business the US does with Mexico and if so will you be changing anything about the way you do business?**

*“No, I am not worried about Mr. Trump’s decisions against Mexico, I think his actions had gave our country worldwide exposure and awareness for the sole reason that the world will continue its trend of giving more and more recognition to color people, different religions, women and immigrants as a reality that boost the economy not the opposite. I think he will ultimately is going to do America and the world a service by becoming the vehicle that will finally take down extreme right-wing conservative politics, so that the world politics will continue its change to the left. On the other hand, changing current automotive supply chain inertia would be slow and difficult. Finally, European*

*and Asian companies had reacted on the opposite by recently accelerating its investment pace in our country”*

**In the short terms let’s say the next year what is going to change at your company care to give us a prediction or even a prediction about the Mexican heat treating for that time period?**

*“I think as any other mature industry the challenges we must continue to work this year are: One, we need to speed up our internet technologies coverage on process control, material tracking and marketing, to be more and more interconnected to the rest of our systems. Two, energy usage, its impact and our green consciousness must be day to day better and better. And three, we must get used to global competition”*



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## **Expanite Press Release Abrasive Wear**

*“Abrasion wear is an extensive problem for stainless steels. In the on-going effort to increase the knowledgebase on abrasion, Expanite requested Bud Labs to measure the dry abrasion characteristics of untreated and Expanite treated samples of austenitic AISI316L using the ASTM G 65 Procedure. The ASTM G 65 Procedure is a standard test method for measuring abrasion using the dry sand/rubber wheel apparatus where weight loss is used as indicator for the wear resistance; the less the better. The results*

are indisputable: The 316L with SuperExpanite is more abrasion resistant than the untreated sample approximately reducing abrasive wear by more than 60%.

Expanite was founded in 2010 by three scientists from The Technical University of Denmark. Expanite is based in Hillerød, Denmark, has a treatment facility located in Twinsburg, Ohio and the company recently opened a treatment center in Frickenhausen, Germany website: [www.expanite.com](http://www.expanite.com)." February 23, 2017



### Paulo Products Hires Regional Sales Manager

"Paulo is proud to announce the addition of Alex Janeway to the Paulo team, effective Monday, February 20th. As Regional Sales Manager Alex will be responsible for growing new business in the Southeast region of the United States. He is based in Tennessee and reports to William Rassieur, Vice President Sales. Alex commented "I have received nothing but warm welcomes and wish to thank everyone at Paulo for making my transition such an easy one. I am excited for this opportunity, and look forward to developing relationships with our customers." Alex has a

variety of sales experience including luxury vehicles and software. Most recently he worked in compliance for an international financial services company. The common thread has been his focus on customer success and satisfaction while driving improvement. Alex also plays the guitar and is involved in the vibrant Nashville music scene. William said, "We are very excited to add Alex to the team. He has worked in a variety of sales and customer focused roles in both small and large companies. I know this diverse background will serve him well and bring new ideas to our department."

About Paulo; 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 five divisions servicing the mid-west, great lakes, and southeast regions of the United States. Paulo's customers include leaders in a variety of industries." February 22, 2017



### BELAZ Buys SECO/WARWICK Roller Hearth Furnace Line

"BELAZ, Belarusian manufacturer of heavy-duty trucks, chose a SECO/WARWICK heat treatment system utilizing a roller hearth furnace line

for press hardening large diametrical bearing rings used in heavy duty truck production. Huge trucks, used for transportation of cargo in open-pit mines, constitute the main pillar of the production of BELAZ, including the iconic model – 75710 - the largest dump truck in the world with payload capacity of 450 tons. "As a manufacturer of the world's most powerful vehicles, operating under the most difficult field conditions, BELAZ must guarantee the reliability and longevity of machines. Therefore, the materials and components used in the production of vehicles are of the highest quality. We are pleased that we have found both solution and partner that meet our specific needs and demands on the highest quality of products and materials used in automotive industry. The purchase of technology from such an experienced partner like SECO/WARWICK is a step towards the implementation of these requirements," says a representative of BELAZ company."

"SECO/WARWICK will provide OJSC BELAZ with the technology for precision heat treatment of bearing rings based on a continuous production system. The entire technology will be delivered by the end of 2017. SECO/WARWICK established the cooperation with the number one producer of high-tonnage dump trucks a few years ago by providing a pusher furnace production line for hardening forgings. BELAZ haul trucks, i.e. off-highway, rigid dump trucks by BELAZ, are specifically engineered for transporting cargo at open-pit

Eurotherm.  
by Schneider Electric



- Energy
- Control
- Data
- Systems



Custom Designed  
Heat Resistant  
Castings & Fabrications

mining sites, under different climatic conditions, where the temperature can range from -50 to plus 50 Celsius degrees. Consequently, each vehicle component must meet the highest standard of quality. "SECO/WARWICK is a pioneer of modern technologies for the heat treatment of metals. The innovative design of the complex technological SECO/WARWICK system for hardening large bearing rings, that BELAZ will be equipped with, will provide the highest strength, structural and geometrical parameters for the processed materials and will ensure repeatability of these results," states Jarosław Talarzak, Vice-President, Atmosphere Business Segment at SECO/WARWICK." **February 22, 2017**



### Ajax TOCCO Expands Aftermarket Sales Resources

Induction Company Ajax TOCCO sent us this press release about expanding their aftermarket sales resources. Ajax TOCCO is one of the largest best known providers of induction heating equipment in the world.

"Ajax TOCCO Magnethermic®, a subsidiary of Park-Ohio Holdings Corporation®, designs and manufactures world-class induction heating and melting equipment for various industries and applications throughout the world. In addition, the company provides a range of services including laboratory process development, preventive maintenance, equipment repair and parts, coil repair facilities and installation services." Email: [sales@ajaxtocco.com](mailto:sales@ajaxtocco.com) Website: [www.ajaxtocco.com](http://www.ajaxtocco.com) **February 21, 2017**

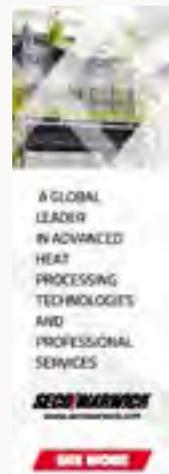
Emil Weatherbee. Ajax TOCCO Magnethermic welcomes Emil Weatherbee as an Aftermarket Sales Engineer responsible for Wisconsin, Minnesota, Illinois, Iowa, Missouri, Kansas, and Nebraska. Weatherbee has spent several years within the foundry industry including a lengthy tenure as Regional Sales Manager for Lectrotherm in North Canton, Ohio. Weatherbee is a graduate of Kent State University and resides in Delafield, Wisconsin with his four children. He is based out of our Brookfield, Wisconsin facility.



William McArthur. Ajax TOCCO Magnethermic welcomes William McArthur as an Aftermarket Sales Engineer responsible for Arkansas, Louisiana, Oklahoma and Texas. McArthur has spent over twenty years within the metals industry with EMSCO, Inc. McArthur is a graduate of Louisiana State University – Shreveport and later earned an MBA from Louisiana State University. William and his wife Sheryl reside in Bossier City, Louisiana. He is based out of our Longview, Texas facility.



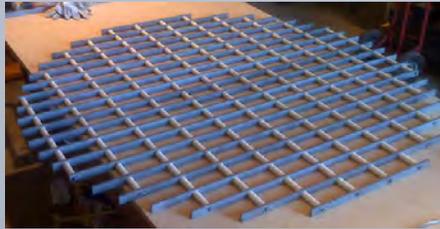
Joe Angilella. Ajax TOCCO Magnethermic welcomes Joe Angilella as Aftermarket Sales Engineer responsible for Kentucky, Tennessee, Virginia and North Carolina. Joe has



# ***GVT*** *Grammer Vacuum Technologies, Inc.*

In beautiful Coeur d'Alene, Idaho

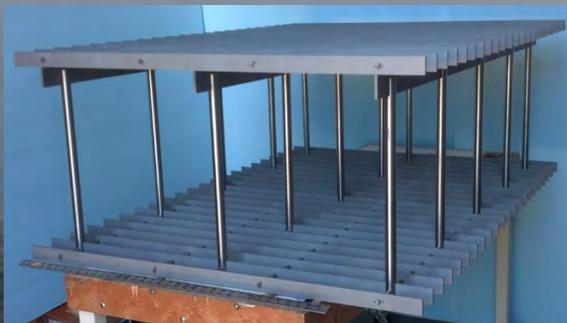
An established source for Moly and Moly Fixtures



## **US-based Moly Stock Inventory**

Established Low Cost Supply Chain  
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Rapid Quote Response

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- Round Bar
- Plate
- Allthread Rod
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- Hex Nuts
- Washers
- Moly Tie Wire
- Fabrications
- Grids



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**Grammer Vacuum Technologies, Inc.**  
*Over 40 years in vacuum furnace materials experience.*  
[www.gvtinc.com](http://www.gvtinc.com)

spent the past 18 years in the foundry industry as a Sales Engineer with Allied Mineral Products, and most recently with Fire Brick Engineers. Angiella attended Purdue University and resides in Louisville, Kentucky with his wife Emily and their two children.



### Accurate Steel Treating, Southgate, CA

Commercial heat treater Accurate Steel Treating in Southgate, CA (the LA area) has been busy over the past couple of years with a number of different projects. When it comes to industry accreditations and customer approvals all of this has taken place since 2015;

- Enhanced our technical capability by hiring a staff metallurgist – February 2015
- Expanded Nadcap “Heat Treatment” approval to include Gas Nitride & Carburize – April 2015
- Parker Hannifin approval – June 2015
- UTC Aerospace Systems (Wolverhampton) – January 2016
- Enhanced our customer relations support by hiring a sales force – February 2016
- Expanded Nadcap “Heat Treat-

ment” approval to include Ion/Plasma Nitride – May 2016

- Nadcap AC7004 “Aerospace Quality System” – May 2016
- Honeywell approval – June 2016

The following new equipment was purchased and installed:

- Integral Vacuum Oil Quench furnace
- 3 Temper/Draw furnaces (Age/Precipitation, Temper/Draw, Stress Relieve)
- Automated Gaseous Controlled Nitride furnace
- Straightening press
- Metallurgical Laboratory Equipment

In cooperation with Thermal-Vac Technology (Orange, CA) the company recently announced the formation of our new strategic alliance known as Accurate Thermal Solutions. This powerhouse new company will provide customers with the premier single source solution for the full spectrum of heat treating and brazing services. [www accuratesteeltreating.com](http://www accuratesteeltreating.com) The photo below shows part of the investment. **February 21, 2017**



**Monday Morning Briefing.** It is with great regret that we mention the passing of Steve Braddock of commercial heat treater Braddock Metallurgical.

“BRADDOCK, Stephen Ray, of Amelia Island, Florida passed away on February 16, 2017 at the age of 69, surrounded by family. He was the son William Ray and Helen Good Braddock, who preceded him in death. Steve was raised in Martinsville, NJ and served as a medic in the United States Navy before joining his father and brother Bill at Braddock Heat Treating. Steve and bill grew the business into Braddock Metallurgical, which now has 8 locations in New Jersey, North Carolina, Georgia, Florida, and Puerto Rico. Steve and his wife of 46 years, Sue, resided in Flemington, NJ before relocating to Amelia Island, FL in 2001. After undergoing surgery for Liposarcoma in 2006, Steve and Sue were able to travel the world and enjoy time with family and friends. No matter the circumstances, he always managed to bounce back with a smile to play golf, drink wine, and travel. He was a role model to all who knew him, and confronted adversity with humor and grace. His quick wit and generous spirit will be missed by all who had the opportunity to know him. Steve is survived by his loving wife Sue, sons Clayton (Valerie), Griffith (Mary Margaret), and grandchildren Blair Ann, Mary Elyse, and Kellis Stephen. Steve is also survived by siblings William (Sheila), Judi Andrews (George), Robert (Carolyn), and numerous

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ers, please consider a donation to the Mayo Clinic, Center for Individualized Medicine. Department, 200 First St. SW, Rochester, MN 55905; Amelia Plantation Chapel, 36 Bowman Rd., Amelia Island, FL 32034; or a charity of your choice ."



**Rockford Products Auction.** As you can see going back a bit we had a news item about fastener manufacturer Rockford Products closing down with the equipment including all of the heat treating equipment going to auction just last week. It was no surprise to us to learn that the ovens and batch IQ equipment was all sold at reasonable prices with the large cast link lines going for virtually nothing to scrap dealers-our understanding is that one sold for \$1,000. However there appears to be a bit of a twist on this story. At least one used equipment dealer who bought some items was subsequently told that due to environmental issues none of the heat treating equipment would be removed and that it would not become available again ever. We have no idea what this means but if we hear we will let you know.

*"Rockford Products. Going all the way back to August of last year one of our news items concerned fastener manufacturer Rockford Products closing their plant in Rockford, Illinois. We had assumed that all of the heat treating equipment had been sold or scrapped since then, however it would appear that it has all remained in place and rusting away but that assumption would have been wrong according to this rather grandiose announcement. "NORTHBROOK -- The largest auction of fastener manufacturing equipment in 30 years is scheduled for Feb. 14-16 in Rockford with the sale of*

*assets from Rockford Products. Founded in 1929, Rockford Products became one of the world's leading manufacturers of fasteners and cold form components, including large diameter fasteners used on earth moving and construction equipment. The 500,000 square foot plant at one time employed 650 people. In 2007, private equity firm Black-Eagle Partners LLC bought the company for \$23.2 million in a bankruptcy auction. Former CEO Dave Richeson said "a significant part" of Rockford Products' business was with heavy off-road equipment manufacturers. Soft sales in that sector led to a loan default that forced the company to seek a change in ownership or liquidation. After its restructuring efforts were unsuccessful, it closed down in September 2016."*

Out in Saskatoon, Canada; **Mitsubishi Hitachi Power Systems Canada, Ltd.** is selling off everything after the plant closed in 2016. Included in the equipment are some heat treating furnaces including a carbottom furnace used for stress relieving. From **Premier Furnace/Beavermatic** in Michigan we have this press release; "February 3rd, 2017. An existing Premier Furnace/BeaverMatic customer purchased its first Double Pallet Forge Furnace. The furnace will be used for pre-heating and heat treating rolled rings. It is capable of processing two (2) 5.5 feet (1.68 meters) wide by 5.5 feet (1.68 meters) deep by 2.75 feet (0.838 meters) high workloads with a gross weight of 9,000 pounds (4,086 kg) each"



**PAS Technologies/Hillsboro, Ohio** expansion. PAS is a specialized provider of cost-effective original equipment manufacturing (OEM) and maintenance, repair, and



overhaul (MRO) products, services and solutions for the commercial and military aerospace, industrial gas turbine, and oil and gas markets with 6 locations including one in Hillsboro, Ohio. The company recently was awarded a new OEM contract with a major aerospace engine manufacturer. As a result of this expanded scope of work, the company anticipates bringing on 20 new employees at the Hillsboro facility-this new hiring wave on the heels of adding 21 people to its Hillsboro workforce in 2016. The new contract, expanding the company's capability to provide specialized, complex machining processes, also could lead to a building expansion which would be the second for the Hillsboro location in recent years. Currently, the facility occupies 100,000 square feet, an increase from its previous footprint of 55,000 square feet. The PAS Hillsboro campus meets all OEM/MRO requirements of component parts for aircraft engines as well as other types of industrial engines. We don't know for sure whether this expansion will mean more heat treating equipment but the photo below shows what they currently have.



And to round things out we have this

photo of a friend of ours **Mr. Mark Reutsch** of AFC-Holcroft in Europe. *"Recently, AFC-Holcroft participated in a Trade Mission to Poland and Romania, led by the Conference of Great Lakes and St. Lawrence Governors and Premiers. Participants were invited to a reception hosted by Mr. Hans Klemm, the U.S. Ambassador to Romania. The photo shows Mr. Marc Ruetsch, Managing Director of European Operations for AFC-Holcroft on the left, being welcomed by Ambassador Klemm at the ambassador's residence."* **February 20, 2017**



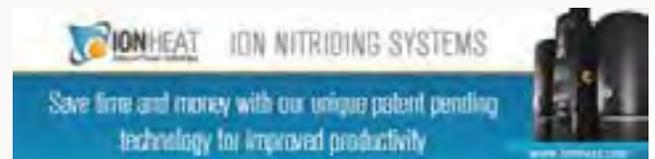
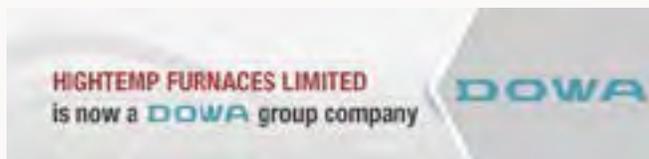
### General Electric Bromont, Quebec

Is the General Electric facility in Bromont, Quebec adding to their vacuum furnace capacity? Well we would give you good odds on that. *"General Electric Co. said it will spend \$238-million to modernize its aircraft engine parts plant in Bromont, Que., the latest move by the U.S. industrial giant to expand operations in Canada. GE's aviation unit confirmed Thursday that it would make the five-year investment in the Bromont facility, which specializes in making compressor components and*

*other engine parts. The company said in a statement that it would hire 115 new workers as part of the overhaul, bringing total employees at the facility to about 945. Boston, Mass.-based GE has been growing its aerospace presence in Canada. This investment comes after a separate \$26-million upgrade for its engine-testing facility in Winnipeg announced in 2015. The company also produces engine hardware at a site in Orillia, Ont. GE said the Bromont modernization involves three separate projects, including retooling processes and adding new equipment to build engine parts for the Boeing 737 Max, Comac C919, and Airbus A320neo aircraft. Quebec is kicking in \$12-million to help the company with the effort."* **February 17, 2017**

### Ipsen Expands Controls Retrofit Options with CompuCore

*Ipsen is introducing a new, competitively priced option for controls retrofits in the form of CompuCore™. Available for installation on most brands of vacuum heat-treating systems, these newly enhanced controls reduce the potential for human error and maximize uptime, allowing users to achieve greater efficiencies. This controls software package is a cost-effective option for those that want to automate their manual system with the latest technology. It helps users gain comprehensive control of all furnace functions while also achieving repeat-*



able throughput and results. CompuCore features five main screens, which allow operators to monitor and control operations – including viewing and editing an entire recipe – while it monitors and controls vacuum levels and temperatures. A streamlined solution, the CompuCore controls upgrade helps companies increase their capabilities while maximizing their equipment's potential. To learn more, contact Steve Hartenberger at [Steve.Hartenberger@IpsenUSA.com](mailto:Steve.Hartenberger@IpsenUSA.com), or visit [www.IpsenUSA.com/CompuCore](http://www.IpsenUSA.com/CompuCore). February 17, 2017



### Ipsen Hires New Sales Engineer

Furnace builder Ipsen based in Rockford, Illinois has just hired a new sales engineer for the US north-east, southeast and central territories. Jamie Kuriger is his name and we are not exaggerating when we say just hired, the fellow probably doesn't even have his desk organized yet. Jamie comes from a heat treating background having been Sales Manager for Toyo Tanso the graphite furnace insulation people. Jamie seems to know his stuff and will be a good addition to Ipsen. February 16, 2017

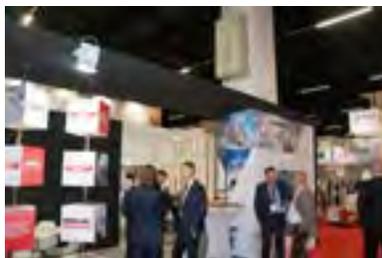
### Heat Treating Exhibitions 2017

The three largest heat treating exhibitions for 2017 are Härtereikon-gress 2017 (HK17 for short) which is

held annually in Cologne, Germany, the 24th IFHTSE Congress to be held in Nice, France June 26 to 29 and the ASM show Heat Treat/17 to be held in Columbus, Ohio. All well and good but at least two of these groups were not communicating. As it turns out HK17 is being held October 25th to the 27th and the ASM show is October 24th to 26th. Generally these latter shows are close together but this is the first time we have ever known them to be at the same time which is going to cause a few people some problems. Companies such as Ipsen, SECO/WARWICK, Rhode, SSI, Nitrex, AFC and many others have typically been in attendance at both and will probably do some again, it will just require a good allocations of resources. February 15, 2017



ASM, Detroit, Michigan 2016



HK16, Cologne, Germany

### “The Monty” Photos

Since we started “The Monty” 18

years ago-1999 to be exact we have accumulated thousands of pictures from captive and commercial heat treaters on 5 continents. These can be found on our home page <http://themonty.com/> in a rotating batch of 10 pictures. To give you an idea we have this photo taken a few years back at a brand new Chromalloy facility in Thailand. The individual on the right is Randy Simmons who unfortunately left us way too soon. February 15, 2017



### Bodycote To Consolidate Canadian Operations

Bodycote Newmarket, Ontario. While we mentioned this yesterday here is the official press release from Bodycote.

*“Bodycote, the world’s largest thermal processing services provider, announced its intention to consolidate its Canadian operations in to the Burlington and Kitchener, Ontario plants in order to improve quality and service to its customers. The process to transfer operations from the Newmarket, Ontario plant to these sites is underway and expected to be completed by February 2018. About Bodycote; With more than 170 accredited facilities in 21 countries, Bodycote is the world’s largest provider of thermal processing services. Through heat treatment, metal joining, surface technology and Hot Isostatic Pressing (HIP), Bodycote improves the properties of metals*

and alloys, extending the life of vital components for a wide range of industries, including aerospace, defense, automotive, power generation, oil & gas, construction, medical and transportation. Customers in all of these industries have entrusted their products to Bodycote's care for more than 30 years. For more information, visit [www.bodycote.com](http://www.bodycote.com)"

**February 14, 2017**

## DUNGS® Combustion Controls

KARL DUNGS INC., USA, KARL DUNGS GmbH & Co. KG, Germany, and TECPROPRO, Brazil, signed a project agreement for the future development of the Latin American markets. DUNGS® is already active with representatives on the major markets in Latin America and has considerable sales in the region. The goal of the terminable project is to improve both the market share and customers' awareness level of DUNGS®. The attached snapshot shows Karl Dungs, CEO and partner of KARL DUNGS GmbH & Co. KG, together with Erik Tate, Managing Director of Karl Dungs Inc., who will lead this project in the Americas and Thomas Detlef Kreuzaler, Managing Partner of TECPROPRO, who will conduct the project works for DUNGS® after the agreement signature on the DUNGS® booth on the AHR 2017 exhibition in Las Vegas, USA, end of January 2017.



DUNGS® is a leader in innovative systems for controlling, metering and modulating air and gas for safe and clean gas combustion. DUNGS® offers single valves, complete gas trains, single burner controls and multiple

burner management systems. TECPROPRO is a consulting company in São Paulo, Brazil, and represents a portfolio of advanced technologies companies to improve the competitiveness and rentability of clients in the Latin American markets. **February 14, 2017.**

## Monday Morning Briefing

We start in Canada where we see that the **Bodycote** (commercial heat treating) facility in Newmarket, Ontario will be closing their doors by February of 2018. We are very familiar with this plant and it's impressive history going back over 25 years to when it was built by auto parts giant **Magna**. At the time no expense was spared and it was truly a state of the art facility. When Magna decided to exit the heat treating business it changed hands and eventually ended up becoming part of Bodycote with an emphasis on batch IQ processing and mesh belts. Several reasons entered into the decision to close the plant including encroachment of residential development around the plant. This point basically means a subdivision of million dollar homes is being build immediately adjacent to the plant and the homeowners were starting to complain-rather like buying a house next to an airport and then bitching about the noise of the planes-we digress though. Operations will be transferred to other Bodycote plants including two fairly close, Burlington, Ontario and Kitchener, Ontario. Remaining in Canada we have a rumor about commercial heat treater **Metex Heat Treating** in Mississauga, Ontario. Metex is far and away the largest commercial induction shop in Canada and not that long ago installed a multi million dollar completely automated induction system for heat treating automotive components. What we are hearing is that this system proved to be such a success that the company is on the verge of buying another sim-

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ilar system although we don't know whether from the same supplier. We will keep you posted.

The site of **Industrial Heat Treating** in Quincy, MA will soon be the home of a 6 story building housing 72 apartments. We have mentioned this before and no we can't tell you what will happen to Industrial but approval was granted for the new construction just the other day. Having said that though construction will not commence until the site has been cleared of contamination mainly in the form of trichloroethylene which most likely came from vapor degreasers sometime in the past 70 years. We are saddened to hear of the sudden passing due to a heart attack of **Steve Mooney**, Maintenance Manager at **East Carolina Heat Treating** in Raleigh, NC.

In people news we have these items. Furnace rebuilder **Hotface Mechanics** in North Carolina recently hired **Tony Davis** as a sales rep. Tony brings 25+ years of experience in refractories to HMI. His expertise lies in refractory materials, installation, project estimating and management. In the UK another furnace rebuilder **Vacuum and Atmosphere Services** has a new engineer; *"After an extensive search VAS management are delighted to announce **Luke Simms** has joined the VAS engineering team! Luke's previous experience was as part of a maintenance team, working on heat treatment equipment from vacuum furnaces, to mesh belt fur-*

*naces. We are delighted with the way Luke has settled in & become part of the VAS engineering team so quickly."* In Scotland **Eric Rennie** formerly Engineering Manager for vacuum furnace builder **Consarc Engineering** has retired and is being replaced by **Allan Kay** who now has the role of Managing Director of Consarc Engineering Ltd. Induction company **Ambrell Corporation** has a new European Sales Manager; Ambrell Corporation, a leading source of innovative induction heating solutions worldwide, is pleased to announce the appointment of **Scott Miller** into a new role as Pan-European Sales Manager. He will be responsible for Central and Eastern Europe and the southern portion of the United Kingdom and will have an office in Ambrell's Cheltenham, United Kingdom facility.

Commercial heat treater **Modern Industries** in Erie, PA recently upgraded their furnace controls. **Conrad Kacsik Instrument Systems** recently finished a plant-wide control-system upgrade for Modern Industries, a Pennsylvania-based commercial heat treater. The project consisted of the replacement of the controls on over 30 furnaces and pieces of equipment within the facility. This included vacuum furnaces, integral-quench lines, tempers, nitriders, cast belts and generators. The system consists of Honeywell HC 900 controllers as well as Specview HMI (human machine interface). Captive heat treater **Regal Beloit** in Monticello, Indiana recently made a very large investment in their captive heat treating department, an investment which should be in production in the fairly near future. And to round things out we have this picture of the brand new EFD (Induction Heating Equipment) facility in Bangalore, India. **February 13, 2017.**

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### Cambridge Heat Treat New Furnace

Cambridge Heat Treating has installed a **SECO/WARWICK** Vacuum Purge Retort Furnace System equipped with ZeroFlow® Nitriding and Ferritic Nitrocarburizing capabilities in their Cambridge, Ontario Canada facility. Cambridge selected the gas fired heating option for the multi-purpose system to be used for Tempering and Aging as well as Nitriding. Peter Robbins, Cambridge Heat Treating commented, We are very happy with this furnace and all the processes we can run. Our gas nitriding is very exact and we can also clean Temper. The gas fired heating has been excellent. In addition to our plasma nitriding capabilities, we are now a full service nitriding facility located convenient to Detroit/



Windsor and Toronto.” SECO/WARWICK Managing Director Jonathan Markley added, “We are pleased to deploy another solution that runs with our advanced gas nitriding process – ZeroFlow®. This technology can not only help with saving time and money but achieve extraordinary results with lower operating costs.” Cambridge Heat Treating Inc. is a one-stop shop for custom heat treating. Cambridge Heat Treating offers a variety of metallurgical processes to countless industries, and has the ability to provide for parts varying in size from under a pound up to 180,000 pounds. The VTR Retort Nitriding Furnace incorporating SECO/WARWICK’s signature vacuum technology is a unique system ideal for Tempering, ZeroFlow® Nitriding and Ferritic Nitrocarburizing applications. Since 2012, SECO/WARWICK has commissioned dozens of ZeroFlow® installations worldwide. Customers using the ZeroFlow® technology report savings in ammonia consumption over traditional methods on average while achieving better metallurgical results. **February 13, 2017.**



tional machines to be installed in the future. Chad Wright, President/CEO of Wirco, Incorporated stated: “Our customers are constantly requesting that we improve our speed from design concept to product realization. Improving our pattern making capabilities with this state of the art facility, world class engineering stations, high end equipment and most importantly, incredibly talented people will achieve this request. This is in line with our strategic objectives to be more vertically integrated to serve our customer’s ever-changing needs.” **February 8, 2017.**



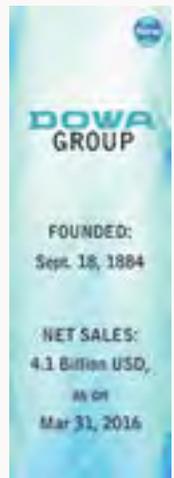
Pictured from left to right are Adam Hull - Patternmaker, Scott Teders - Patternmaker, Tim Laur - Pattern Shop Lead, Aaron Fisher - Avilla Plant Manager.

## New Wirco Avilla Pattern Shop

Wirco, Incorporated is pleased to announce the opening of a new Pattern Machining Center located in Avilla, Indiana to support Wirco foundry and pattern-making operations in Champaign, Illinois. The new machining center was brought on-line in the fourth quarter of 2016 and features two new large platform Haas(r) gantry CNC milling centers in combination with two new Haas(r) CNC mills. The four CNC mills are fully staffed with adequate spacing for addi-

## David Quaglia

David Quaglia, Bennett Heat Treating. It is with regret that we mention the recent passing of David Quaglia, President of commercial heat treater Bennett Heat Treating in Newark, NJ. “David John Quaglia, age 61, passed away on Tuesday, January 24, 2017 at Robert Wood Johnson University Hospital. He was born in Camden, raised in Warren and was a long time resident of Readington, NJ before moving back



to Warren one year ago. Mr. Quaglia received his Bachelor's Degree in Industrial Technology from Kean College. He was President of Bennett Heat Treating in Newark, NJ and Ivyland, PA. a company which his father started. He was a past member of Metal Treating Institute (MTI) and a Past President of the local Chapter of the American Society of Materials (ASM). He was also a member of the Washington Valley Fire Company. He coached his children in softball, baseball and basketball. Mr. Quaglia proudly supported his son's traveling hockey team, Lehigh Valley Thunder by attending all of the games. He participated in the annual "Dancing Dad's" routine at Broadway Bound Dance Center to support his daughter. Mr. Quaglia enjoyed all forms of racing, especially NASCAR. He also enjoyed fishing and boating at his shore house but most of all, he loved spending time with his family. Surviving are his son, David Quaglia and his wife, Kerri; his daughter, Gina Quaglia; his grandchildren, Anthony and Abigail Quaglia and his sister, Toni Munzipapa." **February 8, 2017.**

### ALD SyncroTherm

For those of you not familiar with the ALD SyncroTherm it is a thermal processing system designed for "one piece flow" or small batches. The basic idea behind the system is that it easily fits into a continuous manufacturing operation. While this

type of system is very much in the minority in the heat treating world it is attracting a lot of attention and certainly represents a real change of thinking when it comes to heat treating.

"ALD Vacuum Systems is happy to announce the completion of the installation and commissioning of the 1st aerospace dedicated SyncroThermR system. This unit is now operating in production and supporting the NADCAP requirements of its owner. And now we can announce the 2nd aerospace dedicated SyncroTherm system will depart for the USA this week. Both of these systems are deployed to maintain a factory takt time in lieu of multiple single chamber vacuum furnaces. **February 7, 2017.**



### Major US Aluminum Extrusion Plant Orders Phoenix™ 'Hot Box' System

Phoenix™ Press Release. "A major southern US aluminum extrusion company has ordered a Phoenix™ 'hot box' system to monitor the temperature profile of billet and extruded sections during various heat treatment processes including homog-

enization and aging. A custom built thermal barrier is required for these processes, using evaporative technology to keep the data logger at a safe working temperature. This is the most efficient cooling method as in some heat treatment cycles the system needs to be in the furnace with the product for an extended time period, and the space available is limited. The 20 channel data logger will be equipped with 2 way RF telemetry so the temperature profiles can be followed in real time throughout process, with the ability to download and reset the data logger without removing it from the furnace." **February 7, 2017.**

### Machine Tool Builders Furnace Manufacturing

"Based on a Rockford, IL OEM closing its doors 1-1/2 years ago, MTB aka Machine Tool Builders (a company that rebuilds, recontrols and repairs gear equipment) absorbed its employees and others who have retired or moved on from OEMs of heat treating equipment. Due to the success of selling furnace parts and services at MTB, many companies (very large and established) asked MTB to be their preferred supplier. Upgrading IQF furnaces and building new furnaces of various types based on customer's requesting these additional services has helped MTB to separate the heat treating aspect and create Diablo Furnaces LLC. Diablo Furnaces LLC will launch a landing page (website), logo, product fliers and other in March/April 2017. The com-



pany will maintain its same functions although now have a separate entity to be known within the Heat Treat Industry. MTB will continue to provide the sales support for Diablo Furnaces LLC, acting as its sales representative. February 1, 2017... Diablo Furnaces LLC is a new start-up company manufacturing, retrofitting, upgrading, servicing and supplying parts for atmosphere heat treating equipment. Operating under the name Diablo LLC, the infrastructure has been in place for 1-1/2 years working with Machine Tool Builders (aka MTB). Separately launching its own company, Diablo LLC has a plethora of thermal processing knowledge as many employees have worked within the industry for commercial heat treaters and OEMs. As its sales representative, Machine Tool Builders will be handling the sales and marketing aspects of Diablo. Machine Tool Builders was chosen as the official sales representative for Diablo equipment because of its reputation for excellence. [www.machinetoolbuilders.com](http://www.machinetoolbuilders.com)" **February 6, 2017.**



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### Ian Griffin

Today we offer to you an interview with Mr. Ian Griffin, Site Director of commercial heat treater Wallwork in Bury, UK. February 6, 2017.

#### 1. Ian lets start off with your background-how did you end up in the heat treating business?

I joined Wallwork as an engineer and trained and qualified as a metallurgist while working at Wallwork Heat Treatment. Rising from engineer to works manager and then to site director, I consider myself very fortunate to be involved in an industry that I enjoy and with a company that is developing and growing.

#### 2. Could you please give us a good idea about Wallwork? The history, size, divisions etc?

Wallwork HT was started in 1959 by Robert Wallwork, unfortunately Robert died a few years ago but the company is still owned by the Wallwork family who are active in the business. The company now operates out of 4 sites, two sites in Manchester, a site in Birmingham and a site in Cambridge. One of the sites in Manchester is Wallwork Cast Alloys who make high temperature resistant alloy fixtures for the heat

treatment industry. The other site in Bury is some 60,000 square feet of commercial and aerospace heat treatment. The site in Birmingham is slightly larger and operates similar heat treatment processes and the Cambridge site is mainly focused on Vacuum heat treatment, vacuum brazing and PVD coatings. The company is forecast to turnover £19 million this coming financial year, we have over 250 employees many of which are graduates, we operate 24 hours per day and 7 days per week. We try where possible to service our customers with our own transport so across the group we operate 39 trucks.

#### 3. Wallwork is a rather unusual name for a company-where did it come from?

The Name Wallwork comes from the Wallwork family who own the company, the current Chairman is Hamish Wallwork

#### 4. What types of heat treating does Wallwork specialize in?

Wallwork operate 23 vacuum furnaces and 18 sealed quench furnaces and associated temper furnaces so carries out carburising, vacuum carburising, vacuum brazing, harden and tempering, solution and aging. We have drop bottom furnaces to do aluminum and magnesium; we carry out nitriding and nitro carburising (in plasma, gas and in salt). We also operate molten salt baths for neutral hardening. Most of the processes are accredited to NADCAP and one of the sites is on two yearly audits so on the enhanced merit program with PRI. In answer to your question we specialise in providing a high qual-

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### Alexander Montgomery Parkes

On a very personal note and at the risk of boring our readers we are ecstatic to announce the birth of Alexander Montgomery-Parkes, first child of Caitlin Montgomery Parkes and Andrew Parkes and first grandson of Dale and Gordon Montgomery and nephew of Jordan Montgomery. We have no doubt but that one of these days the new baby will represent the fourth generation of Montgomery's in the heat treating industry. **February 3, 2017.**

ity time efficient processing option to the engineering and aerospace sectors.

**5. Out of all the processes you offer do you have a favorite? As an example does one offer substantially higher margins than others or do some give you far more headaches than others?**

10 years ago our first aerospace accreditation was gained and we thought that this sector would provide higher margin work that could be carried out with fewer time pressures than the commercial work. We were wrong on both counts! However what it does provide is higher quality environment in which all the other work benefits so in that respect it is my favourite. Due to the technical aspects of aerospace work and sometimes the protracted contract review process I would say that aerospace type work does provide the most headaches.

**6. Would you consider Wallwork a production shop or a job shop?**

Wallwork had its roots firmly in jobbing, today it accounts for approximately 1/3 of what we do across the group, however we still actively seek it out as you cannot forget where you came from.

**7. I have to ask this questions Ian-you are in the backyard of the world's largest commercial heat treater Bodycote. Do the two companies compete most of the time or do you each have a different focus?**

Wallwork and Bodycote started around the same time in the Manchester area, Bodycote went the PLC route and are as you say are now the largest heat treater in the world. Wallwork is still and always will be a private Ltd company. The two companies have competed in specific markets and on specific customers, aerospace processing

now being an increasing area of competition.

**8. What is your largest single expense?**

People / our employees are our largest expense but without retaining good people we wouldn't have the business that we have today. The next largest expense is energy.

**9. Would you consider commercial heat treating to be a growing industry in the UK?**

The size of the commercial heat treatment market depends on so many external factors, I don't believe it is growing but the sectors within it such as aero, oil and gas, automotive, tooling do fluctuate and our market share also fluctuates but as a company we are growing. So if the market is consistent and our market share is growing we must be succeeding at the expense of our competition.

**10. If you had to add one new technology and only one what would it be?**

We are continually looking at new PVD coatings at our R and D facility but one specific technology would be a current project we are involved in which is improving the surface finish on additive manufactured (3Dprinted) metal parts. If successful this would provide a new technology and so potentially a new process for the Wallwork group.

**11. What keeps you awake at night worrying? Safety? Costs? Competition?**

I feel that we are in control of safety as you are aware heat treatment can be dangerous the knowledge that good training is in place helps with sleep. However one of our biggest concerns at the moment is the spiralling cost of energy, our government's



solution to not being able to produce enough energy to satisfy demand is to increase the cost. This is a big concern when energy is one of your biggest costs.

**12. Has Wallwork ever seriously considered expanding into markets outside of the UK?**

The short answer is yes. We have always been of a view that heat treatment doesn't travel but in the last few years we have seen work come to us from Europe and the USA and this has prompted us to find out why. We feel that our brand of processing would fit in well in Europe and the USA so maybe one day we will expand our horizons. We have in the past had a joint venture with a French company and also looked at setting up in India

**13. I realize I am veering off into politics but I am very curious about this. In your opinion how much effect is the UK leaving the European Union going to have on your business and manufacturing in general?**

This whole Brexit situation and its consequences is at the moment unknown, we can speculate but can only say for sure that it will depend on the negotiations between the UK and the European Union. We still need to be able to access this large market; automotive, aerospace and people. One consequence of leaving the European Union might be stron-

ger trade ties with the USA, which I personally would be in favour of. The situation seems to change day by day though!

**14. This might be an unfair question as I don't know how much you have seen of heat treating outside of the UK but I am going to ask it anyway; Do you see any substantial differences between commercial heat treating in the UK and other parts of the world?**

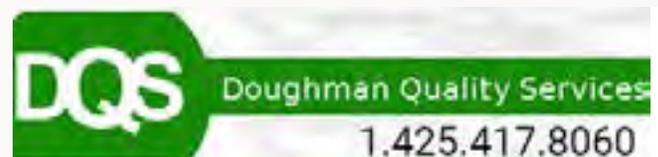
Not really. With globalization heat treaters tend to use the same furnaces from the same manufacturers. We all treat the same types of metal and within limits, the same types of engineering components. There are mixtures of jobbing shops, production shops and aerospace facilities in most countries. The big mistake to avoid is thinking that low cost economies such as China and India are not technically advanced, they are.

**15. What does the future hold for Wallwork and Ian Griffin?**

We have just attained Nadcap and Rolls Royce approval for vacuum brazing so this process will be part of our 2017 strategy. We are also open minded to expansion by acquisition. Personally the expansion of the business provides exiting new challenges, the current board of directors are directors of all the current sites so the diverse nature of the group constantly throws up good and sometimes troubling problems.

**Mr. Michael Binni, Bloom Engineering**

*"Recently, Bloom Engineering has been winning more complete combustion system package orders. In order to handle the bigger project load, Bloom has expanded its Project Management Department. Former Vice President of Sales, Mr. Michael Binni will now lead the team. Binni explains his vision for the Project Management Department: "When fully implemented, I expect the Project Management Department will be able to manage significant numbers of complex projects through the project life cycle, including planning, execution, monitoring and closure." Bloom is excited to use this opportunity to improve customer relations and to make the process of completing projects smoother for both Bloom and for its customers. Mr. Binni has spent his entire career at Bloom Engineering and has ably filled roles in the Research and Development, Applications, Engineering, and Direct Sales departments before becoming Vice President of Sales. Under his leadership, Bloom's sales team has shown significant quarter by quarter growth over the past year. Michael holds an engineering degree from Pennsylvania State University, as well as a Pennsylvania PE (professional Engineer) license. To fill the Vice President of Sales & Marketing position, Bloom Engineering hired Mr. Michael Black. Mr. Black has worked for several divisions of Instron (domestically and internationally) over the last 20-plus*



years. He brings a wealth of experience in sales, marketing, and management to his new role. Michael holds a business degree from Grove City College and an MBA from Open University Business School. Bloom Engineering designs quality industrial burners and combustion systems supporting many markets worldwide. With extensive experience in many industries, on-site research and development facilities, and customizable product lines, Bloom Engineering has provided solutions tailored to a customer's specific needs for over eighty years. Bloom's products can be used for a variety of applications and can be operated with a wide array of fuels and capacity ranges." **February 2, 2017.**

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### **Héroux-Devtek Inc. Buys SECO/WARWICK Vacuum Furnace**

*Héroux-Devtek Inc. What makes this news item very interesting is the fact that Héroux-Devtek Inc., does not currently do any heat treating in house (at least at their Canadian locations). The fact that they are buying a new vacuum furnace indicates a change of philosophy. "Héroux-Devtek Inc., an international company specializing in the design, development, manufacture, integration, testing and repair and overhaul of landing gear and actuation systems and components for the Aerospace market, has purchased a 2.0 Bar High Vacuum Brazing System from SECO/WARWICK for their Scarborough, ON Canada facility. SECO/WARWICK offers efficient solutions, providing total value over the lifetime of the equipment. With ad-*

*vanced and robust technologies and many years' experience in vacuum heat treating technology, there is a constantly growing interest in SECO/WARWICK products. So far, the company has provided hundreds of high vacuum furnaces worldwide and its solutions are well-known globally, especially in the American market. Jonathan Markley, SECO/WARWICK Managing Director in US remarked, "We are pleased to supply equipment specifically designed to meet the stringent specification of the Aerospace industry with furnaces in operation all over the world producing high quality work over a long service life." **February 1, 2017.***



# USED & NEW EQUIPMENT

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At “**themonty.com**” you are guaranteed of finding the best priced used equipment in the industry due to the fact that we do not buy and resell and have no associated costs. Instead we put buyers and sellers together on a small commission basis meaning that at the end of the day you are paying what equipment is worth-not equipment with a huge mark up attached! In addition you generally can see the equipment installed, running and talk to the actual operator far better than seeing a used furnace in the back of a dingy warehouse.

- **LISTING USED EQUIPMENT**
- **BATCH**
- **CONTINUOUS**
- **DRAW/TEMPER**
- **GENERATOR**
- **INDUCTION**
- **LAB EQUIPMENT**
- **MISCELLANEOUS**
- **SALT**
- **VACUUM**
- **NEW EQUIPMENT**

## LISTING USED EQUIPMENT

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Want to get true market value for your used heat treating equipment? "**themonty.com**" is the only way to do this! Unlike used equipment dealers we work on a commission basis meaning no high overheads, no buy and resells, no high expenses which means that you as a seller get what your equipment is worth-not what a used equipment dealer will pay you for it. Not sure what your equipment is worth or how saleable it is? Let us know and we can give you a free appraisal and an honest answer about market conditions-no BS. Before listing we will require a signed copy of the "**Terms and Conditions**". Please email Jordan at [jordan@themonty.com](mailto:jordan@themonty.com) all pertinent information including asking price (which we strongly recommend) age, condition and if possible photos. When selling please keep in mind that we do NOT ask for an exclusive sales agreement - if we don't sell it we don't get paid - PERIOD. You can't lose by listing with themonty.com we sell your equipment or we don't get paid-period.

Notice: We have attempted to describe all equipment accurately from the information we have available. Any mistakes are unintentional. We do not guarantee the accuracy of the information, nor can we guarantee the performance of the equipment or suitability to your application. The equipment is sold as-is, where-is. We strongly encourage your personal inspection of the equipment before purchase.

# BATCH

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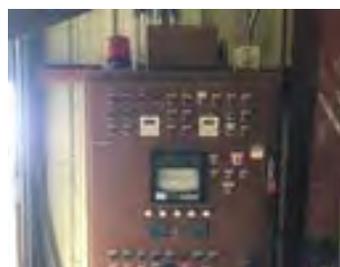
See something you need, click on the link or scroll through all the items for sale. Searching for something we don't have listed, fill out our [Contact Form](#).

- Item # B425 Box Furnace
- Item # B424 Atmosphere Box Furnace
- Item # B423 Grieve High Temperature Oven-  
UNUSED
- Item # B422 Ipsen Sealed Quench Line
- Item # B421 Surface Combustion "Super 36"  
Allcase
- Item # B420 Lindberg Batch IQ
- Item # B419 Klockner Plasma Nitrider
- Item # B418 Lindberg High Temperature Oven
- Item # B417 Fluidised Bed Furnace Line
- Item # B416 Car Bottom Furnace
- Item # B415 J.L. Becker Car Bottom
- Item # B414 Ipsen Batch IQ Installation
- Item # B413 Batch IQ Installation
- Item # B410 Box Furnace
- Item # B409 Nabertherm Kilns (5 Available)
- Item # B406 Carbottom Furnace
- Item # B405 Surface Combustion "Super 30"  
Allcase
- Item # B402 Holcroft Batch IQ Furnace
- Item # B401 Carbottom Furnace Hayes High
- Item # B400 Surface Combustion Super 30  
Allcase
- Item # B399 Carbottom Furnace
- Item # B398 Sauder Batch IQ Line
- Item # B397 "Lift-Off" Atmosphere Box Furnaces (2 available)
- Item # B391 Ipsen T-11 Batch IQ Furnace
- Item # B388 Hydrogen Atmosphere Furnace
- Item # B385 Lindberg electric pit type cyclone furnace / nitriding furnace
- Item # B378 Batch IQ Line
- Item # B374 Atmosphere Box Furnace
- Item # B371 Sauder "Auto-Tilt" Car Bottom Furnace
- Item # B367 Atmosphere Box Furnace
- Item # B352 Pacific Scientific Box Furnace
- Item # B349 Beavermatic Batch IQ Furnace

**Item # B425 Box Furnace** 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 Ni-chrome 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 # B423 Atmosphere Box Furnace** Atmosphere Box Furnace. Manufactured by Williams Industrial Services. Natural gas, 1.8 MBTU's. Working dimensions of 80" wide x 96" high x 60" deep. Radiant Tube Box Furnace. S/N 18932. Maximum temperature of 1750F. Voltage 480/3/60. Controls; Mounted & wired in a free standing enclosure includes a Honeywell digital controller/recorder, Eurotherm high limit. Mounted in the same enclosure includes "Fireeye" flame safety. All necessary pushbuttons, signal lights, relays, motor starters etc. are included. Standard front loading box furnace with vertical lift air operated door. A water cooled roof mounted fan circulates the heated air for good temperature uniformity. There are twelve (12) vertical radiant tubes in this furnace, six (6) on each side. Each burner has spark ignition and there is a flame safety system for flame curtain. There is a Endo flowmeter to control atmosphere. Furnace also has a water cooled breast plate & a stationary powered loader for charging the furnace. Excellent condition. **Asking \$125,000 USD.**



**Item # B423 Grieve High Temperature Oven-UNUSED**

Grieve High Temperature Oven-UNUSED. Model HD-243624-HT-ATM. Operating temperature of 2200F. 73Amps, 480volts, 60Hertz. Working dimensions of 24" X 36" x 24". Capable of nitrogen addition. 7 years old and never used or installed. Like new condition. New this was \$75,000 USD. Best offer.



**Item # B422 Ipsen Sealed Quench Line**

Ipsen Sealed Quench Line. Located in Europe this line is currently installed but shut down very recently. Used for hardening and carburizing. Condition generally good. Asking Price £95,000.00. Does not include, dismantling, export packing and delivery. Line consists of the following items:

Ipsen TQF-7-EM Sealed Quench furnaces built in 1975. Electric heating. Load size 600kg. Forced cool fan in vestibule. Chamber size: 760 wide x 1220 long x 510 high mm.

Ipsen TQF-8-GRM Sealed quench furnace built in 1983. Gas heating with Recuperative burners. Load size 600kg. Forced cool fan in vestibule. Chamber size: 760 wide x 1220 long x 610 high mm.

Ipsen Tempering Furnace DAC-8-GR built in 1983 Gas heated by indirect radiant tubes. Can be used with an atmosphere with internal forced cooling. Load size 600kg: Chamber size: 760 wide x 1220 long x 610 high mm.

Ipsen Tempering Furnace DLRC-7-E built in 1976. Electrically heated with spiral wound elements. Load size 600kg. Chamber size: 760 wide x 1220 long x 510 high mm

Ipsen Parts Washer Model WPD-4-G Gas Fired. Ipsen Loader. Ipsen Unloader. Ipsen Endo Gas Generator Model G-1500-G built in 1983. Gas fired. 1500CFH. Can be easily upgraded to produce 2000CFH. Dew pointer, industrial scales and portable hardness tester also included.



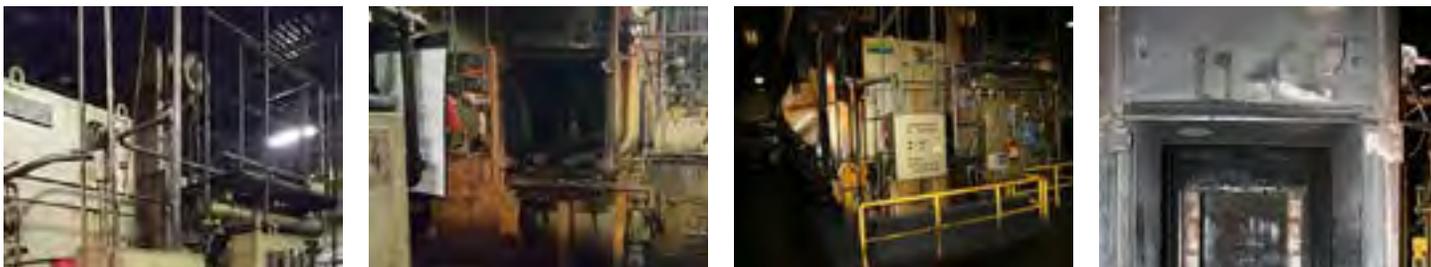
**Item # B421 Surface Combustion "Super 36" Allcase**

Surface Combustion "Super 36" Allcase. Working dimensions of 36" X 48" X 36", gas fired. Currently undergoing a rebuild and will be in "like new" combustion in 12 weeks. Gas fired, top cool option and hot oil. Vertical U tubes with safety platforms, ladders, all new motors, wiring, components and comes with new control cabinet with SSI controls and flow scopes. **Asking Price: \$353,825 USD.**

**Item # B420 Lindberg Batch IQ.**

Model 13-304823-SER-18AQ-1. Working dimensions of 36" wide X 48" deep X 30" high. Gas fired, single ended recuperative burners, 1,000,000 BTU's per hour. Operating temperature of 1850F. Top Cool. Built in 2000. Allen Bradley SCL PLC 540 controls. Honeywell flame safety. New radiant tubes, charge car included. Excellent condition.

**Please call for pricing.**



**Item # B419 Klockner Plasma Nitrider.**

Working dimensions of 24" diameter by approx 60" high—vessel made in 1985. Power supply was made in 2006 and is a 160KW unit. System is in good overall condition and is currently installed however there are issues with the control system which will have to be corrected by the buyer. Comes with built in gas station that allows the use of H2, N2, CO2, and CH4. Best offer.



**Item # B418 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 \$29,000 USD for both.



### Item # B417 Fluidised Bed Furnace Line.

A complete fluidised bed heat treatment line only 6 years old, consisting of three fluidised bed furnace, a cooling fluid bed, plus auxiliary equipment. All furnaces are sized with a 600mm diameter x 1200mm deep work space (24" diameter x 48" deep) and are electrically heated, with SCR control.

- Furnace 1 – 1080 deg C max temp, 19" colour touchscreen, with Windows based control system. Process gases include air, nitrogen, ammonia, propane, carbon dioxide. All gas flows are computer controlled through electronic flowmeters
- Furnace 2 - 1080 deg C max temp, 19" colour touchscreen, with Windows based control system. Process gases include air, nitrogen. All gas flows are computer controlled through electronic flowmeters
- Furnace 3 - 680 deg C max temp, Standard temperature controller, Process gases include air, nitrogen. Gas flows are controlled manually from the flowmeter

Auxiliary equipment included in offer - cooling fluid bed, work platform, stairs and handrails, piping and wiring, fluidising air system, water cooling system with air cooled heat exchanger, various work jigs & mesh baskets, ammonia vaporiser. Current power supply is 415V / 3 phase / 50hz, but equipment can be modified to suit any power supply. Originally manufactured by Applied Heat Technologies 2010, furnace line ceased operation in 2014, and has been in storage since. All equipment is in excellent condition. Prior to sale, the equipment will be fully tested to ensure it is operational, and any faulty parts will be replaced, and a warranty will be offered. The equipment can be packed into containers for delivery anywhere in the world. Assistance with shipping, installation, commissioning and conversion to an alternate power supply available if required. **Asking price is USD \$180,000.00.**



### Item # B416 Car Bottom Furnace.

Manufactured by Sauder this is a gas fired 6-burner car bottom style furnace. Serial Number: 751546 (1975). Working dimensions of 15' D x 10' W x 7'. Completely rebuilt and relined with 4" thick fibre in 2012 by Onex Inc. Dual Blowers. 6 North American burners model 4422-5 capable of 4.5 million BTU's. Was operating at 1200F but capable of much high temperatures with additional lining. Very good overall condition although the car needs minor repairs (repair materials included). **Asking \$49,500 USD for quick sale.**



**Item # B415 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: \$125,000.00 USD.**



**Item # B414 Ipsen Batch IQ Installation.**

This 5 year old installation consists of 2 Ipsen carburizing furnaces with working dimensions of 36" X 48" X 36", both gas fired. Four (4) gas fired Ipsen tempers 36" X 48" X 36" capable of 1400F, an Ipsen dunk/spray washer and 2 charge cars. Carburizing furnaces are a "flow through design" using endothermic atmosphere. Atmosphere control is through an oxygen probe/Siemens 3 gas IR system. The entire installation is designed for "lights out operation" meaning it is completely automated. Included is over \$100,000 worth of spare parts along with 15 base trays and baskets. The equipment has just been removed and is in immaculate condition. New the system was \$3.5 million USD, **Asking Price is \$1.25 million USD.** Vendor will consider selling individual items.



**Item # B413 Batch IQ Installation.**

We have available a very impressive complete heat treat department consisting of the following; Six (6) batch IQ furnaces all gas fired with working dimensions of 36" X 48" X 32" and capable of 1750F. Eclipse burners. Half of these were manufactured by Holcroft the others build by Ipsen. All have top cools and five of six have 3,000 gallon quench tanks (the sixth has no quench tank). All are set up for Nitrogen/Methanol atmosphere. Also available are tempers, washers, charge cars, brand new alloy components and mountains of spare parts. Cast and fabricated baskets, base trays and fixturing are also available. Quench oil is also available Houghton 3440. Very recent UPC controls-all top of the line with 15" screens. Everything is in excellent condition and currently in operation. Vendor will consider selling components individually. **Asking price for each furnace is \$125,000 USD. Please inquire about individual pricing for other items.**



**Item # B410 Box Furnace.**

Manufactured by Systems West this unit has working dimensions of 60" high x 60" wide x 60" deep. Electrically heated 480/3/60, 100 KW. Operating temperature of 1650F with a maximum temperature rating of 2000F. Model Number: SW-555-B. Temperature Controls: Honeywell UDC 2000 controller & overtemp, model DR-4200 circular chart recorder. SCR power controller. Free standing NEMA 12 panel. Air operated vertical rising door. Fiber lined with solid fire brick hearth. Hoskins #875 coiled wire heating elements on three walls and door. 330 alloy recirculating fan mounted in the roof. Furnace can be operated at 2000 deg. without fan. Excellent condition. **Asking \$42,500 USD.**



**Item # B409 Nabertherm Kilns (5 Available).**

2013 Nabertherm model H3630/HS lift top shuttle kiln made in Germany for use in the USA. Requires 200 KVA at 480/3/60 with an operating temperature of 1340 °c in air or inert atmosphere. Furnace open on each side, with hydraulic lift, air induction system for force cooling or volatile evacuation and heating on all six sides including the hearth. Includes manual hearth size 67" x 114" and load size approximately 48" x 80" x 48" high with 10' of track. Control Panel with Siemens Simatic Multi Touch Panel. Unit is in EXCELLENT condition and only turned on to test never used in production. Full operating manuals with equipment purchase. Approximate outside Exterior dimensions approximately 8 x 15 x 16.5 Feet. New cost was \$350,000 each. **Asking Price: \$95,000 each.**



**Item # B406 Carbottom Furnace.**

Working dimensions of 7' wide X 7' high X 12' long. Manufactured by North American Manufacturing. Natural gas heated. Ceramic fibre lined. Very good condition. **Asking price and more details to come.**



**Item # B405 Surface Combustion "Super 30" Allcase.**

Surface Combustion batch IQ furnace with working dimensions of 30" X 48" X 30". 1980's vintage with dual quench cylinders. Currently electrically heated but vendor has a complete gas combustion system and is willing to convert the furnace to gas. To convert to gas heating the vendor is willing to quote the installation of the combustion system and adding U tubes. Good overall condition. **Asking \$39,500 USD** for the furnace and combustion system.



**Item # B402 Holcroft Batch IQ Furnace.**

A Holcroft Model GPM batch IQ furnace with working dimensions of 36" wide X 48" deep X 30" high. Gross load capacity of 3,000 pounds. Gas fired with four 8" diameter U-Tubes and Hauck burner with recuperators. BTU input 1,350,000 BTU's. Maximum operating temperature of 1800F. Uniformity from 950F to 1650F +/- 10F. Quench tank 3400 gallons. Quench oil temperature 160F. Nitrogen Top Cool. Allen Bradley PLC 1400. SBS quench oil cooler which has never been used. Also included is a spare pusher head. Currently set up for nitriding but capable of carburizing. Installed and in good condition. **Asking \$55,000 USD.**



**Item # B401 Carbottom Furnace.**

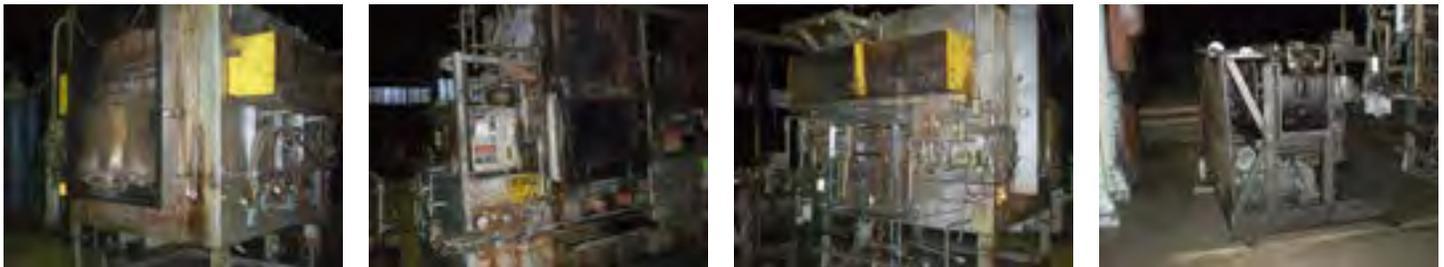
Gasfired recuperative, jet recirculating, annealing, normalizing, stress relieving cart type furnace. Manufactured by Johnson, Serial number 1667. Working dimensions of 30' wide X 40' long X 15' high. Maximum operating temperature of 1800F. Utility requirements; 480 volts, 3 phase, 60 hertz. Natural gas; 1000 BTU/cubic foot. 4 PSIG maximum pressure. Honeywell controls with Allen Bradley SLC 503 PLC. Krom-Schroder flame safety management. Footprint 46' wide X 50' long X 36' high. Furnace has doors at both ends, fiber lined. 4 zones of control. Self propelled car.

**Please call for pricing.**



**Item # B400 Surface Combustion Super 30 Allcase.**

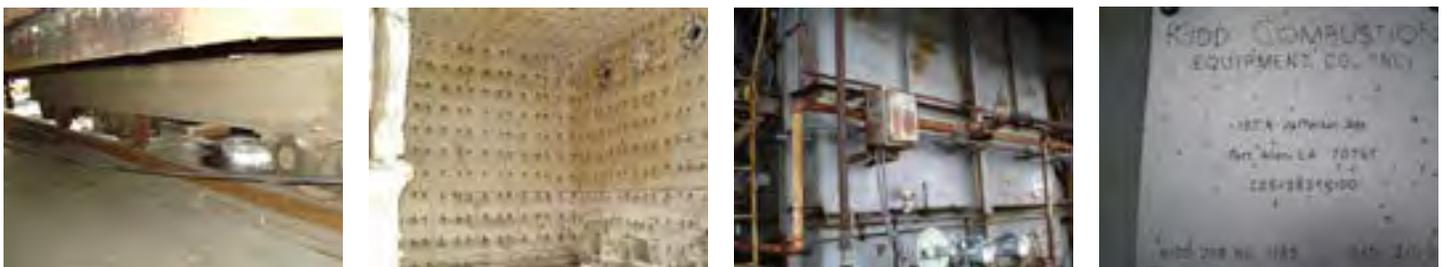
Surface Combustion Super 30 Allcase with working dimensions of 30" wide 48" deep X 24" high. S/N BC-41088-1. Electrically heated 480v/3ph/60cyle. Operating temperature 1350F to 1750F. Newer style with dual quench cylinders and top cool. Controls are in a free standing panel with Eurotherm digital controllers and over-temp. Multi-pro data logging and carbon control. Includes charge car. Good condition. **Asking \$60,000 USD.**



**Item # B399 Carbottom 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.**

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



**Item # B397 "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 # B391 Ipsen T-11 Batch IQ Furnace.**

Model T-11 gas fired batch IQ furnace with an operating temperature of 2000F. Working dimensions of 36"W x 24"H x 48". Voltage 460/3/60. External dimensions of 9'W x 14'7"H (Assembled) x 22'L – Approx. Standard T-11 Ipsen batch type atmosphere furnace with integral hot oil quench. Furnace has "Waukee" flow meters for Ammonia, Endo, Air and Natural Gas. There are a total of twelve (12) Eclipse (SER) single ended recuperative burners with Kanthal APM (Advanced Powdered Metallurgical) vertical radiant tubes. Controls mounted and wired in an enclosure attached to the right hand side of the furnace includes the following a Yokogawa digital temperature control, Yokogawa digital over temp control, Yokogawa digital oil temp control, Yokogawa digital over temp (oil) control, three (3) A.C. Amp meters, one for each quench agitator and all necessary pushbuttons, signal lights, etc. Quench tank is gas fired with an Eclipse burner package. This furnace includes a stationary loader, gas fired Dunk & Spray washer, manuals & drawings. Good condition, just moved to indoor heated storage. **Asking \$75,000 USD.**



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**Item # B388 Hydrogen Atmosphere Furnace.**

Manufacturer: CM Furnaces. Type: Hydrogen Atmosphere Box. Work Zone Size: 12" x 12" x 12" furnace work zone with 8" x 8" x 8" inside retort work area. Max. Temperature: 2000°F. Uniformity: Full work zone, prob. +/- 50°F. Lower 6": prob. +/- 20°F. Atmosphere: Wet or Dry Hydrogen or Nitrogen Purge. Controls: PLC - Automatic with Proface touch screen. **Price: \$5,000 USD.**



**Item # B385 Lindberg electric pit type cyclone furnace / nitriding furnace type:**

12-ec-1620-12, 480 volts, 27 kw, 3 phase, 1-1/2 h.p. fan motor, max operating temp: 1250 f, working dimension: 16" dia. X 20" deep, aprox. Weight: 1700 lbs., heating elements: helical coil type nichrome v, this furnace is equipt with a sealed retort and fan assembly for gas nitriding. **\$9,800.00 USD.**



**Item # B378 Batch IQ Line 36" X 48" X 32"**

This is a complete line consisting of the batch IQ, Model FC-364830, dunk/spray washer Model FCW-364830, temper Model FCT-384830, charge car, load table, 2,000 CFH endo generator and control cabinet. All items are electrically heated. Manufactured by CEC in 2007. Working dimensions of the batch IQ, temper and washer is 36" wide X 48" deep X 32" high. Batch IQ is electrically heated and uses Moly-D (molybdenum disilicide) heating elements. Note that many of the elements will need to be replaced as they were broken during a recent move. High heat is set up for endothermic atmosphere. Power supply for the entire line is 480/3PH/60Hz – 600A Panel. All the equipment is in excellent condition and virtually unused. Located in the US northwest. New this was over \$1 million USD. **Asking \$200,000 USD**



**Item # B374 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. **SALE PRICE: \$18,000.00 USD.**



**Item # B371 Sauder “Auto-Tilt” Car Bottom Furnace.**

Working dimensions; ID: 8' wide x 30' long x 5' high, electric, 480/3/60, 325kw; 1400F, complete with ceramic fiber lining, 3 zones of control each with top mounted alloy recirculating fan, powered car with cast deck and 60,000# load capacity, hydraulic pump set for lifting cylinders, control panel with digital controls. Super clean and in operation.

**Asking \$179,000.00 USD including disconnecting and loading onto trucks.**



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**Item #B367 Atmosphere Box Furnace.**

Manufactured by McLaughlin Services. S/N MS-11-604-01. Natural gas heated-2.8 MBTU's/hour. Maximum operating temperature of 2000F. Voltage 480/3/60/100 Amps. Work area 166"W x 20"H top of piers to door arch, 32"H opening x 120"L. External dimensions; 16'W x 13'H x 14'L - Approx. Controls; Mounted and wired in a free standing panel includes an "Super Systems, Inc." (SSi) control system with HMI touchscreen interface. Front loading box furnace with an air operated vertical lift door. Furnace lining consists of ceramic fiber modules on the walls, roof and door. The floor is insulated with "IFB" Industrial Fire Brick. The furnace hearth consists of HT alloy rails and is designed to handle 4000 pounds @ 2000°F. There are two (2) roof mounted fans in this furnace to circulate heat and atmosphere. This furnace is equipped with two (2) Waukeg Flo-Tronic Nitrogen Flowmeters. There are a total of ten (10) Kromschröder pulse firing recuperative burners that fire into "P" type radiant tubes. There are four (4) zones of control in this furnace. Excellent condition-like new. **Asking \$165,000 USD.**



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**Item #B352 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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**Item #B349 1995 Beavermatic Atmosphere Integral Quench Furnace with 45" Tall Parts Capability, Model: 64-45E1.** Condition: Overall - Fair to Good (Brick needs to be replaced, Radiant Tubes good.) Work Zone: 36"W x 54"L x 45"H Atmosphere: Endothermic (generator not included) Carbon Control System (Honeywell UDC Controller, Probe is SSI Gold Probe Max. Temperature: 1850°F Uniformity: +/- 25°F from 1300°F to 1750°F OEM Load Rating: 4,000 Pounds Gross Wt. (Discuss with owner for history of loading) Heating: Electric Elements, 460V/3Ph/60Hz, runs approx. 100 kW at 70% power setting Breaker Size: 400 Amp for elements, 150 Amps for controls Quench Heater and Quench Cooler Included Air-cooled fan bearings Footprint: 13ft W x 19ft L x 15ft H Pit Required: Currently in pit of 13ft W x 13ft L x 22in D, but could be only 11-12ft L Distance Between Roller Rails: 21" Centers Hearth Height above Shop Floor: 49.5" Load Cart and Grids: Not included with furnace This furnace is now in storage, but it's companion is still in in operation and can be demonstrated on your parts. Available for inspection in Pacific Northwestern U.S. **Immediate Availability. Price: \$25,000**



# CONTINUOUS

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- Item # C324 C.I. Hayes Mesh Belt Furnace
- Item # C323 Aichelin Cast Link Furnace Line
- Item # C322 Surface Combustion Rotary Hearth Furnace Line
- Item # C321 Austempering System
- Item # C320 Lindberg Pusher Line
- Item # C319 CI Hayes High Temperature Pusher Furnace
- Item # C317 CI Hayes High Temperature Pusher Furnace
- Item # C314 Roller Hearth Furnace (Atmosphere)
- Item # C312 Surface Combustion (Pifco) Roller Hearth Line
- Item # C311 Ipsen Pusher Line P-12
- Item # C308 AFC Mesh Belt Hardening Furnace
- Item # C302 Mesh Belt Austemper Lines (2 available)
- Item # C301 Cast Link Belt Quench and Temper Line
- Item # C299 Sunbeam Rotary Hearth Furnace
- Item # C296 C.I. Hayes High Temperature Tube Furnace
- Item # C283 Denton Thermal Systems 2150°F Rotary Hearth Furnace
- Item # C269 CI Hayes Mesh Belt Brazing/Sintering Furnace
- Item # C265 Sunbeam Pusher Carburizer
- Item # C219 ABBOTT

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**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. **Asking price \$50,000 USD.**



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**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.**

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.**



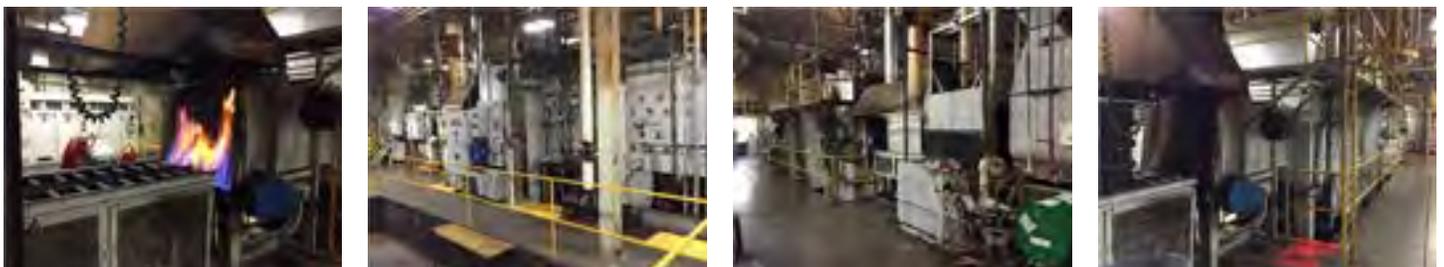
**Item # C321 Austempering System. Ipsen Model SG500, S/N52822.**

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.**



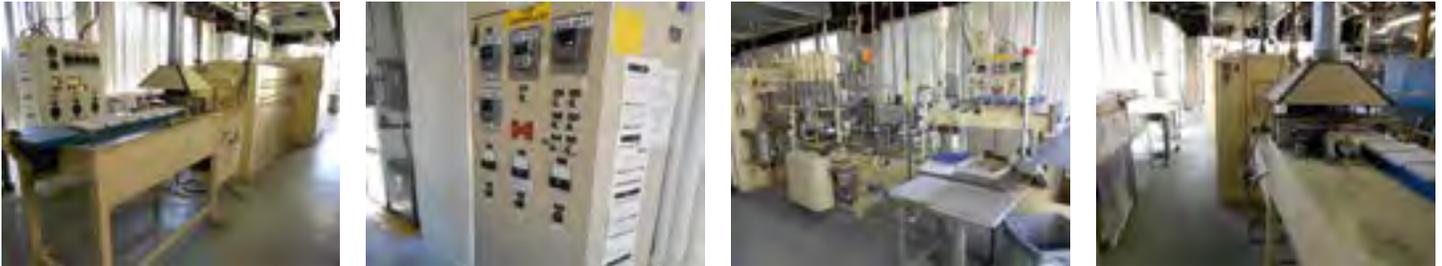
**Item # C320 Lindberg Pusher Line.**

Line consists of a 170F prewash, purge, 1500F pre-heat, 1550F high heat, 350F oil quench, air cool, 170F hot water wash, cold air quench, 375F three zone temper and 460F draw temper. Built and installed in 1976, electrically heated. Designed for martensitic heat treating of 52100 bearing steel. 10 trays in system each 46" X 28". Working height of 24". Each tray is capable of 700 pounds. Controls have been updated recently with a new SSI MCA6010 three gas analyzer. Currently installed and in production. Very well maintained and in excellent condition. **Very attractive asking price.**



**Item # C319 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.**

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).**

Manufactured by Wellman in 1982. Model #AL-81-180 RH, S/N 180. Working dimensions of 60" Wide x 42' Long x 14" High – 480#/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 # C312 Surface Combustion (Pifco) Roller Hearth Line.**

60" x 60" Trays capable of 4000 lbs per tray. This line is gas fired and includes an SSi datalogging system. Also includes SBS Heat Exchangers and has waukeetronic flow meters. Asking Price: \$450,000 USD. **Must be removed within the next few months All Offers Considered.**



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**Item # C311 Ipsen Pusher Line P-12.**

Rebuilt by JL Becker Company. This is a complete line which includes; a Pre-wash, Hardening Furnace, Oil Quench, Post Wash, and Temper. It's setup for endothermic atmosphere and is currently installed and operating. Hardening furnace is capable of 1750 F and has 5 zones of control. Gross load 1000 pounds. 460 Volts/3 Phase/60Hertz. 3,000,000 BTU/hr heat input, gas fired, tray size 30" x 30" x 29" overall with loading. Good overall condition. **Asking Price \$250, 000 USD. Must be removed within the next few months All Offers Considered.**



**Item # C308 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 conveyor. **Asking \$75,000 USD.**



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**Item # C302 Mesh Belt Austemper Lines (2 available).**

Built by AFC-Holcroft these are mesh belt, gas fired austemper lines. Parts to be processed are metered on to the variable speed, 30" wide mesh belt, travel through an 8" long high heat zone, drop into an electrically heated salt quench tank then are carried on a conveyor out of the quench tank and into a washer. A circulating fan distributes heat and atmosphere evenly though the heating area. Heat is supplied by two U shaped radiant tubes that are recuperated. SSI controls monitor and control the atmosphere gases. Furnaces were in operation until March 2015. One furnace is 1989 vintage the other is a 2000 vintage. Both are complete, in very good condition and currently in storage. **Please contact us for pricing.**



**Item # C301 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 # C299 Sunbeam Rotary Hearth Furnace.**

Working diameter of 6', 8 station hearth, each station is 12" wide x 18" deep x 12" high. The door opening is 1'-6" wide X 10" high. Gas fired, 620,000 BTU's, 3 radiant tubes and an operating temperature of 1750F. Built in 1977 and used for neutral hardening. Also included is a robotic arm for loading/unloading. The furnace is installed and in running condition, brand new radiant tubes and a rebuilt fan. All manuals and drawings are included. Good overall condition. **Asking \$40,000 USD.**



**Item # C296 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 \$21,000.00 OBO**



**Item # C283 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: **\$29,000.00 USD.**



**Item # C269 CI Hayes Mesh Belt Brazing/Sintering 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.**

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**



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**Item #C219 ABBOTT MODEL 6ZSCR-18-432HH6-VC-2150.**

18" wide belt, 3"+ opening over the belt, 432" heating chamber (silicon carbide muffles), six zones, 36" long vari-cool with 162" of additional cooling including two curtain boxes. 2150 deg.F. max temp., piped for dissociated ammonia atmosphere and nitrogen purge, 335 kw @ 480/3/60, Honeywell UMO 800 controller/programmer, OAD: 84" w x 90" h x 720" l. Currently used for annealing knife blades but with a little effort a metallic muffle in the front half of the heating chamber could be added for debinding and sintering of PM parts. **Asking price: \$77,000 USD OBO.**



# DRAW/TEMPER

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- Item #T334 Draw Furnace
  - Item # T333 Composite Curing Oven / Heat Treat Oven
  - Item # T330 AGF Rotary Temper Furnace
  - Item # T329 Guspro Heat Cleaning Oven
  - Item # T327 AOV Aluminum Drop Bottom Oven System
  - Item # T326 Aluminum Drop Bottom Dual Oven System
  - Item # T325 3-Station Despatch Temper Furnace
  - Item # T324 Ipsen Temper Furnace
  - Item # T323 Box Temper
  - Item # T321 Grieve Conveyor Oven
  - Item # T320 Pifco Conveyor Oven
  - Item # T319 Temper 48" W X 48" D X 36" H
  - Item # T318 Large Box Tempering Ovens (4 available)
  - Item # T316 Grieve Model# HX-1000 Electric Oven
  - Item # T315 Electric Oven
  - Item # T312 Recirculating Walk-In Oven
  - Item # T303 Pifco Temper Furnace
  - Item # T301 Lucifer Furnace
  - Item # T290 Tempering Ovens 36" X 48" X 36" (2 available)
  - Item # T286 Lindberg Box Temper
- 

**Item #T334 Draw Furnace** 38" high X 43" Wide X 48" Deep. Recirculating box type draw furnace. Manufactured by Abar Ipsen. Working dimensions of 38"high x 43"wide x 48"deep. Gas heated 1,000,000 BTU/hour. Maximum temperature of 1400F. Model DL-3036, S/N 60459. Temperature Controls: Updated controls, Honeywell indicating controller and overtemp. Description & Features: High temperature tempering furnace. Vertical lift air operated door with overhead air cylinder. Fiber board insulation. Alloy roller rail hearth. Rear located combustion chamber with high velocity roof mounted circulating fan. Top mounted package burner. Complete combustion controls and safeties. 460/3/60 power. Test fired prior to shipment. **Excellent condition. Asking \$39,500 USD.**



**Item #T333 Composite Curing Oven / Heat Treat Oven.**

Manufactured by Epcon this unit has working dimensions of 30'L x 12'W x 12'H and overall dimensions of 31'3"L x 17'4.5"W x 22'4.5"H. Electrically heated with an Inconel 900 KW heater and an operating temperature of 800F. Two recirculating fans type; Two N.Y.B. Size 40 Plug Fans, capacity: 33,000 CFM Each. Motor HP: 30 HP-Each (480V/60HZ/3PH). Exhaust fan; type N.Y.B. Series 20 GI, Size 224DH, capacity 4,000 CFM, 5 HP motor. Interior is 18 Ga. Aluminized Steel and exterior is 18 Ga. Carbon Steel. Insulation: 8# Density Mineral Wool, 7" thickness. Control Panel: NEMA-12. Power Supply: 480V/60HZ/3PH. Double swing doors. Excellent condition, virtually unused. New this was \$811,000 USD. **Asking \$130,000 USD.**



**Item #T330 AGF Rotary Temper Furnace.**

Model RCTP5-5D-3618 manufactured by American Gas Furnace Company. Retort diameter 36", 16' long. Gas fired capable of 1200F. Eclipse burners. Overall length 23.5', width 64.5", height 10' 11". Very good overall condition.

**Asking Price: \$10,000.00 USD.**



**Item #T329 Guspro Heat Cleaning Oven.**

Model G0484039ED51P354N, S/N C366. Working dimensions of 54" wide X 48" deep X 45" high. Process chamber has an operating temperature of 1,000F. Oxidizer chamber has an operating temperature of 1200-1600F. Complete and installed but not in use. Reasonable condition. **\$2,000 or best offer.**



**Item #T327 AOV Aluminum Drop Bottom Oven System.**

Model: DBF-3X3-E. Electric Heat, 480V/3Ph/60Hz Work Zone: 3ft Dia. x 3ft H. Includes Quench tank. Temperature Rating: 1200°F. Controls are included but need to be replaced. **Asking Price: \$ 45,000 USD. Offers Considered**



**Item #T326 Aluminum Drop Bottom Dual Oven System:**

Wisconsin Oven, Dual Oven Aluminum Drop Bottom Solution Treating System, 2 Ovens, Quench Tank, Rinse Tank, Platforms, Doors, Chiller, Power Supplies, Controls, Work Zone: 60"W x 84"L x 90-3/4"H each oven, Temp. 800-1200°F, 30 H.P. Recirculation Fan, Electric, 288 kW each, 346 Amps each. **Asking Price: \$ 145,000USD for all Offers Considered**



**Item # T325 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 # T324 Ipsen Temper Furnace.**

Standard Ipsen design tempering furnace with vertical lift door, full width roller hearth and ceramic fiber board insulation. Door jambs are brick. Bottom mounted recirculating fan distributes the heated air. Gas train and combustion system is mounted to the right hand side of furnace. Manual load/unload table is included. Mounted and wired in a free standing enclosure attached to the furnace includes Honeywell UDC digital controllers and process timer etc. Heated: Natural Gas - 250,000 BTU's. Model Number:DLR-11-G. Serial Number:57904. Max. Temperature:1200°F. Voltage:230/3/60/20 Amps. Work Area:36"W x 24"H x 48"L. External Dimensions:6'W x 10'H x 8'L. **Asking Price: \$19,500 USD.**



**Item # T323 Box Temper.**

Manufactured by Despatch Industries this is a Model WB73, S/N 119895. Working dimensions of 42" wide X 72" long X 42" high, Overall dimensions are 97" wide X 103" long X 148" deep. Weight 11,500 pounds. Electrically heated 480V/120KW/3 Phase, maximum operating temperature 1350F. Digital temperature control and high limit control with a circular chart recorder. Air operated vertical lift door. Heated air is circulated by 2 roof mounted belt driven fans. Power to the elements is through SCR control. Air safety switches monitoring both fans will terminate power to the elements in the event of fan failure. There are provisions for two shelves, but no shelves are included. Tested and complete. **Asking Price: \$29,500 USD.**



**Item # T321 Grieve Conveyor Oven.**

Electrically heated 460/3/60/160kW/235 Amps. Maximum operating temperature of 650F. Working dimensions of 24" wide X 14" high X 42' long. Controls; A Barber Colman 560 digital programmable temperature controller and a Barber Colman high limit safety. All control switches with indicating lights are flush mounted in the enclosure. SCR power controllers, high limit contactors, motor starters, fuses, relays etc. are mounted and wired inside the enclosure. Main power disconnect circuit breaker with panel mounted operator handle. Standard conveyor oven design with a flat wire conveyor belt. Three foot long charge table followed by a 42 foot long heating section divided into 2 zones of control. Each zone has separate heating elements and circulating fan located above the work chamber. Heated air is circulated down over the top of the belt for good uniform heating. Exhaust vents located on the top of each chamber. Access doors on the side for entrance into each zone. 4' long discharge table is included with this oven. Very good condition. **Asking Price: \$42, 000 USD.**



**Item # T320 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 # T319 Temper 48" W X 48" D X 36" H. Manufactured by Williams in 1999.**

Gas fired, burner box, operating temperature of 1500F. Fan included but needs to be installed. Some misc., components missing and minor repair required. **Asking Price: \$29,000 USD.**



**Item # T318 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 (20HP-13,000CFM), Rear-Mounted Heater Box with Eclipse Burner System, Alloy Skid Hearth, Forced Cool Down Fan System (7,333CFM), 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 # T316 Grieve Model# HX-1000 Electric Oven. Max.**

Temp: 1000°F, +/- 10°F Uniformity. Circulated Air: 1000 CFM, 3/4 H.P. Fan Motor. Insulation Thickness: 8". Single door. Rated Work Zone: 38"W x 20"D x 26"H (Measures 36"W x 19"D x 25"H). Power Rating: 20 kW. New Upgraded Controls: Temperature - SSI Series 7 7EK (Super Systems, Inc.) Hi-Limit - SSI 7SL. Outside Dimensions: 62"W x 40"D x 61-1/2"H (new dim.). Approx. Shipping Wt.: 2740 lb. **Asking price: \$8,900 USD.**





**Item # T303 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 # T301 Lucifer Furnace,**

Model Number 46GT-R36, Serial Number 6418, Working Dimensions of 24" w x 36" d x 24" h. Insulation and elements are in good shape. Front lift door with a foot actuator. Controls: Honeywell round chart recorder, Honeywell overtemp, No controller. Power: 460/3/60 28 Kw 35 Amps, Temperature: Max 1650° F. Nitrogen Atmosphere. **Asking Price: \$12,500.00 USD as is, where is.**



**Item #T290 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.** 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

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See something you need, click on the link or scroll through all the items for sale. Searching for something we don't have listed, fill out our [Contact Form](#).

- Item # G198 3,000 CFH Endothermic Generator
- Item # G197 Ammonia Dissociator
- Item # G196 Surface Combustion 5000 CFH Endo Generator
- Item # G195 Surface Combustion 2400 CFH Endo Generator
- Item # G194 Endothermic Generator 9,000 CFH
- Item # G193 Pacific Scientific Endothermic Gas Generator
- Item # G189 Surface Combustion 2400 CFH Endo Generator
- Item # G178 Ammonia Dissociators (4 available)
- Item # G176 Surface "Multi-Bottle" Endo Generators
- Item # G173 Lindberg Endo Generator
- Item # G169 Gasbarre/Sinterite Furnace Division Endo Generator

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## Item # G198 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.



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## Item # G197 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.



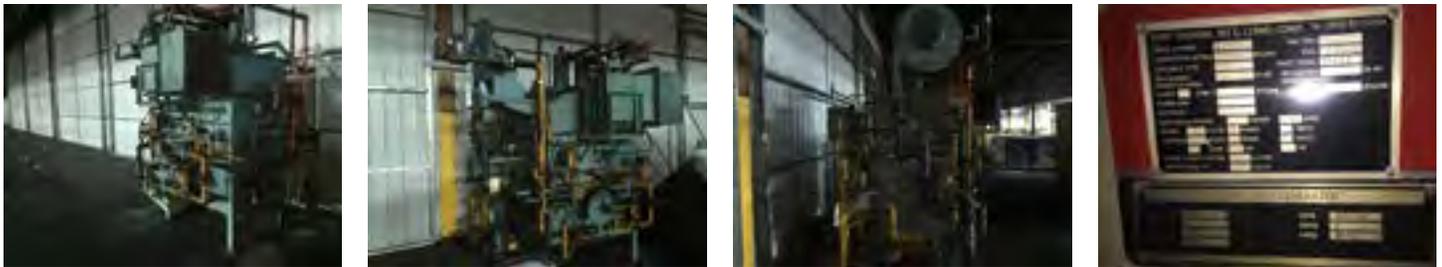
**Item # G196 Surface Combustion 5000 CFH Endo Generator.**

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 # G195 Surface Combustion 2400 CFH Endo Generator.**

Manufactured by Surface in 1990 this unit was rebuilt by Park Thermal. Two retorts, gas fired with an operating temperature of 1950F. Air cooling. SSI Atmosphere controls. Complete and in good condition. **Currently in storage. Asking \$25,000 USD.**



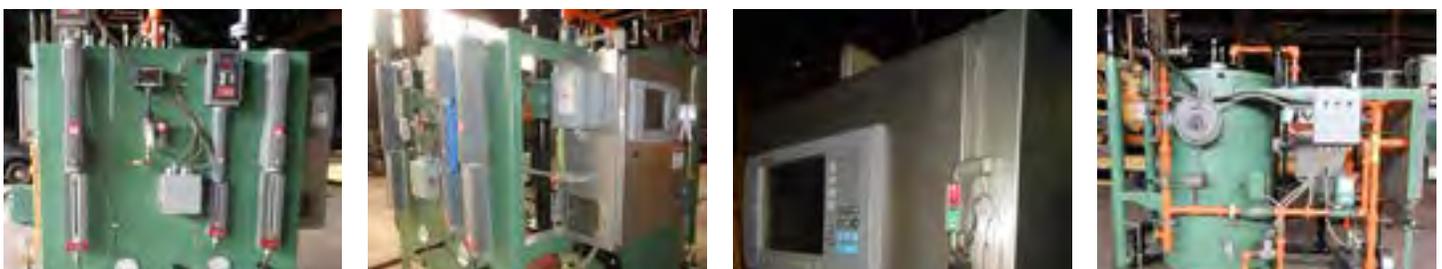
**Item # G194 Endothermic Generator 9,000 CFH.**

Manufactured by the JL Becker company this is a 3 retort, 9,000 CFH endothermic generator. Designed so that each retort can be shut down independent of the others. Air cooling. Control via PLC with touch screen interface. Currently installed but not in operation. Complete, in good shape and ready to operate. **Asking \$75,000 USD.**



**Item # G193 Pacific Scientific Endothermic Gas Generator.**

Natural gas, Model # PGF 3000-EN, Serial #416417, Max Temp 1950°F, Voltage 460/3/60, Work Area 3000 CFH, Dimensions: 42"W x 86"H x 106"L - Approx. Standard "Pacific Scientific" design Endothermic Gas Generator with water cooled shell & tube heat exchanger, Waukee vane pump, Waukee flow meters, atmospheric type ring burner. Generator just removed from service on 4/2015. Controls: Mounted and wired in an enclosure attached to the generator includes a Honeywell programmable logic controller (PLC) which controls all functions of the generator. The PLC also monitors/controls temperature, dewpoint and flow. There is a Honeywell digital high limit mounted in the same enclosure. This generator has a "Waukee" rotary vane pump and "Waukee" ratio tronic digital flow controls. This generator is also equipped with a "Nova" dewpoint system. Available immediately and in very good condition FOB East Chicago, IN. **Please call for pricing.**



**Item # G189 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.**



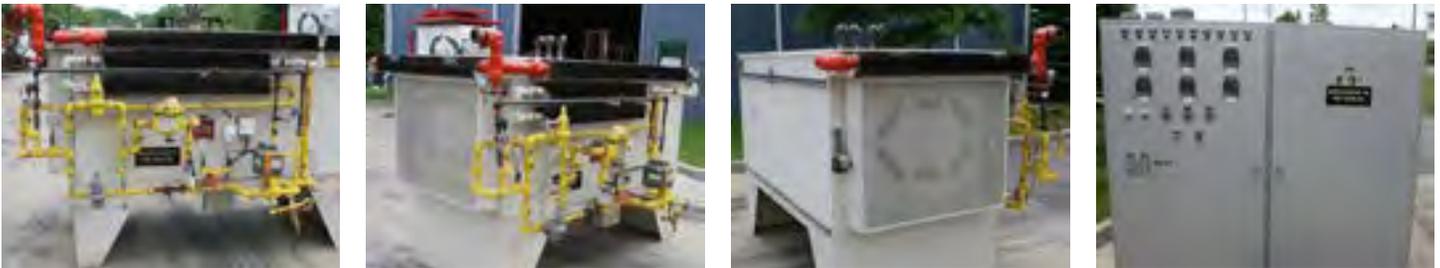
**Item #G178 Ammonia Dissociators (4 available).**

Built by Sargeant & Wilbur, 4 electrically heated Ammonia Dissociators. Model GAD3000E. 3,000 CFH capacity. Maximum temperature 1759F. Voltage 480/3/60/60kW. External dimensions of 5'Wx6'Hx8'L. Controls: Mounted and wired in a freestanding 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.

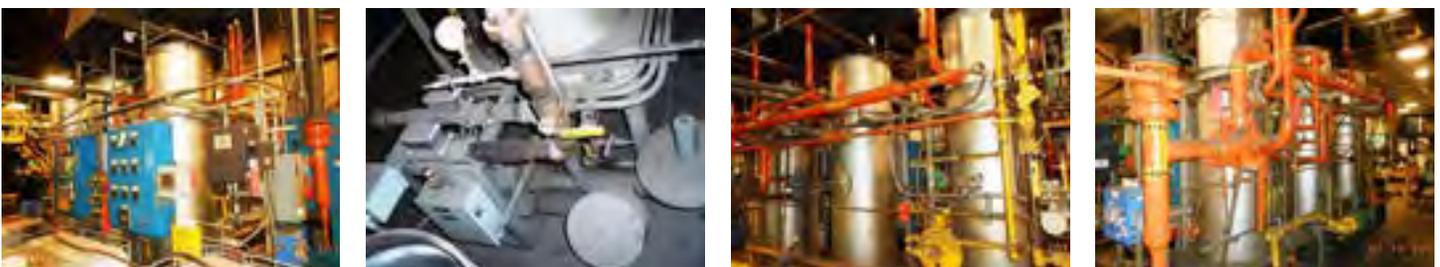
Mounted in the same control cabinet are three (3) SCR's. Two (2) "Halmar Robicon" and one (1). "Ametek". One is for dissociator heating elements and the other two are for vaporizer lower/upper zone heaters.

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.**

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 "Endojector". Very good condition, ready to go. **Asking \$75,000 USD.**



**Item #G173 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.**



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**Item #G169 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 "mixer" 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

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See something you need, click on the link or scroll through all the items for sale. Searching for something we don't have listed, fill out our [Contact Form](#).

- **Item # I170 Lepel/ Inductoheat SP5-40 kW**
- **Item # I169 Induction Power Supply**
- **Item # I164 Ajax Tocco Induction Power Supply**
- **Item # I162 Induction Press Quench System**
- **Item # I160 Ajax Tocco Power Supply (unused)**
- **Item # I158 Induction Power Supply**
- **Item # I153 Raydyne Induction Heating System**

**Item # I170 Lepel/ Inductoheat SP5-40 kW,**

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). The Heat Station appears to be arranged for use with multi-turn induction coils. It is in very good condition and is available for **\$6,000.00 or "Best Offer"**. There is no warranty but it is sold with the assurance it is in good working order. Start up and training service is available at extra cost by an experienced induction heating service engineer. We can also offer circuit board repairs for Lepel/Inductoheat Power Supplies. A number of other Lepel/Inductoheat SP-11 units are available in the range of 30 to 60 kW, 200 kHz.



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**Item # I169 Induction Power Supply.**

Pillar Mark 11 100 kW, 10 kHz Induction Power Supply. Manufacturer: Pillar. Input Voltage: 480/3/60/133 Amps/111 KVA/.95 P.F. Output:100 kW, 10 kHz. Output Voltage: 440V or 800V . Model: AB7104-108/MK11. Serial Number: 6414 IAT. Includes a full set of spare boards. Good condition and ready to go. **Asking \$19,500.00 USD.**



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**Item # I164 Ajax Tocco Induction Power Supply.**

Model#OL-426-150-3/10-00M.Manufactured12/06.SerialNumber:46-1128-11.WiringDiag.: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 #1162 Induction Press Quench System.**

EDMS Industrial Induction Heating and Die Quench, New in 2003, 400kW Output Supply, 3kHz Frequency. This machine is currently being used to reheat and die quench spiral bevel ring gears up to 500mm in diameter. Installed to replace the rotary furnace and isolated die quench processes. This machine is designed with an automatic conveyor and loading system to continuously heat, die quench, and temper 500mm rings. This unit has an EFD 400kW output supply with a 1.7-3.0kHz frequency designed for deep and fast heat penetration which allows rings to be heated and die quenched in just minutes. This system has an added setup to convey quenched parts to and through a continuous Apar IPSEN tempering and preheat electric furnace with a 36" x 48" opening with a 3,000lb load capacity. This unit also comes complete with its own outside cooling system and monitoring to ensure flow, min/max pressure, and min/max temperature. This fully integrated system allows the flexibility to handle parts from 125mm to 500mm diameter. The transfer time is presently 5-6 seconds from induction to quench. The pick and place system can be upgraded by purchasing and utilizing a robot to allow for faster transfer time, for thin wall parts. Thus allowing the induction and quenching of bearings, cones, and cups, as well as, outer rings and end rings.

Conversion available to make this unit a Heat and Quench station with variable high frequency independent of the Die Quench.

**MACHINE SPECIFICATIONS:**

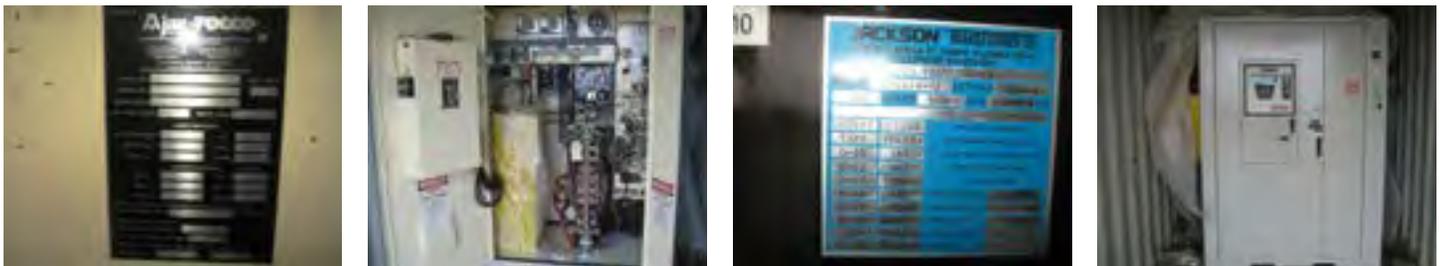
* Output Supply	400kW
* Frequency	1.7-3kHz
* Max Diameter	500 mm
* EFD Power Supply	
* Power Requirements	3 x 480v - 60Hz - 570KVA
* Dimensions (L x W x H)	1790mm x 1200mm x 1730mm
* Weight	15500 kg

Customer paid over \$1,500,000.00 in 2003



**Item #1160 Ajax Tocco Power Supply (unused).**

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. [http://www.ajaxtocco.com/applications/documentlibrary/Inductron%20PT\\_092003.pdf](http://www.ajaxtocco.com/applications/documentlibrary/Inductron%20PT_092003.pdf) New this unit was \$86,000 USD, **asking \$39,000.00 USD.**



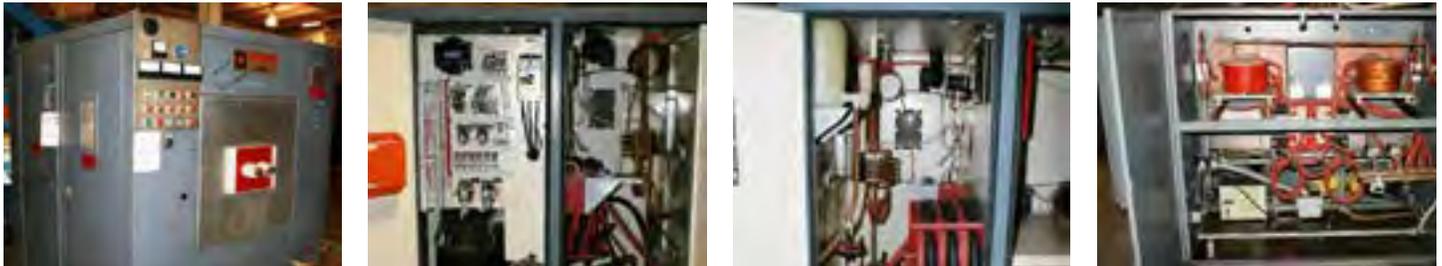
**Item #1158 Induction Power Supply.**

Manufacturer Inductoheat/Elphiac. Model Number: DC18T+HF08. S/N 2177DC. 335 kW, 200 kHz, 750V Output. Input Voltage: 460/3/60/448 KVA/562 Amps. Output Voltage: 335 kW/750V/200 kHz. Very good condition. **Asking \$39,500.00 USD.**



**Item #1153 Raydyne Induction Heating System. I**

Input Voltage: 480V/3 Phase/60 Cycles/110 Amps, Output Voltage: 40 kW, 450 kHz, Year Built: 1985, Model of Power Supply: EI-40, Serial Number of Power Supply: 41408901-B. Please note the RF Tube is missing. Includes a dual heat station with quench. Model of Heating/Quench Station: 10228201, Serial Number of Heating/Quench Station: 10228201B. This system is Government Surplus and appears to be fairly clean inside power supply cabinet. The power supply has a "Control Concepts" SCR power controller. **Asking \$7,500.00 USD.**



# LAB EQUIPMENT

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See something you need, click on the link or scroll through all the items for sale. Searching for something we don't have listed, fill out our [Contact Form](#).

- Item # L11 ATA Rubin Polisher
- Item # L10 ATA Brilliant Cut Off Saw
- Item # L8 Clark Micro Hardness Tester
- Item # L7 Leco Micro Hardness Tester
- Item # L6 Detroit Testing Brinell Hardness Tester
- Item # L5 Air-O-Brinell Hardness Tester
- Item # L4 Behringer Vertical Plate Saw
- Item # L3 Laser Diffraction Particle Size Analyzer
- Item # L1 Spectra-Tech 0044-003 Infrared Microscope

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## Item #L11 ATA Rubin Polisher

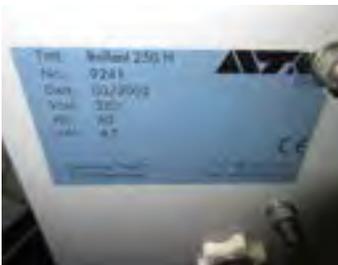
Type "Rubin 500". Number 9187, manufactured 03/2002. 220 Volts, 60 Hz, Kw 0,17. Very good condition. **Asking \$1,000 USD.**



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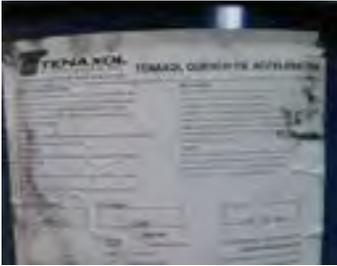
## Item #L10 ATA Brilliant Cut Off Saw

Type: Brilliant 250H, #9241, Built 03/2002, 220Volt, 60Hz, 4.5 kW. Excellent condition. **Asking \$1,500.00 USD.**



**Item #L8 Clark Micro Hardness Tester.**

Model DMH-2, Serial number 3388. Good operating condition. **Asking \$6,500.00 USD.**



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**Item #L7 Leco Micro Hardness Tester.**

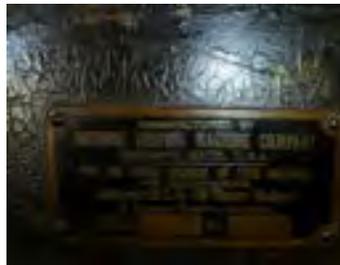
Complete and in good condition. Unit has become surplus to the vendors organization. **Asking \$7,000.00 USD.**



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**Item #L6 Detroit Testing Brinell Hardness Tester. Manufacturer:**

Detroit Testing. Model: PHL2. Serial: 190. Range: 0 - 4500 kg. Footprint: 24"W x 37"L x 62"H (84"H with cart). In working condition. Last calibrated April 2016. **Asking Price: \$7,000 or best offer.**



**Item #L5 Air-O-Brinell Hardness Tester. Manufacturer:**

Tinius Olsen "AIR-O-BRINELL". Range: 0 - 3000 kg. Serial: 66990. Footprint: 15"W x 29"D x 44"H (68"H with table). In working condition. Last calibrated April 2016. **Asking Price: \$5,500 or best offer.**



**Item #L4 Behringer Vertical Plate Saw. Model LPS-60-T.**

Longitudinal-cutting hydraulic drive vertical plate saw for cutting aluminum, low alloy and high tensile profiles or solid materials with bi-metal or carbide-tipped saw blades. Cutting capacity; Length, 49.6", width 28.3" height 23.6". Saw blade dimensions 17.9" X 1-1/2" X .050". Excellent condition. **Asking \$20,000 USD**



**Item #L3 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,**

Model WHK 10X 201, Reflected & Transmitted light, multiple objectives, Polaroid 4x5 attachment. **\$6,500.00 USD.**



# MISCELLANEOUS

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See something you need, click on the link or scroll through all the items for sale. Searching for something we don't have listed, fill out our [Contact Form](#).

- Item # M403 Houghton Aqua Quench 3699 Polymer (4)
- Item # M402 Closed Loop Water Cooling System
- Item # M401 Tenaxol Quench Oil Accelerator
- Item # M400 Nitrogen Generating System
- Item # M399 Eclipse Burners, Recuperators and Spark Igniters
- Item # M396 Surplus Cast Link Belt
- Item # M394 Hi Tech Weighing System
- Item # M393 AGF Rotary Washer
- Item # M391 Cryogenic Stainless Twin Tank
- Item # M385 Giant Finishing Machine
- Item # M384 Surface Combustion Washer
- Item # M383 Spray Washer
- Item # M381 Water Cooling System
- Item # M380 Wheelabrator
- Item # M379 Georg Fischer Shot Blast System
- Item # M378 1 Surface Combustion Radiant Tube and 4 supports
- Item # M377 Marley NC Cooling Tower with SPX Cooling Technology
- Item # M373 Gibson Tumbblast
- Item # M372 Pangborn Rotoblast
- Item # M371 Dry Coolers Pumping Station
- Item # M370 SBS Quench Airs (2 available)
- Item # M366 Wheelabrator Rubber Belt Tumbblast
- Item # M365 Dual Lane Conveyor Washer
- Item # M363 SBS Unit
- Item # M348 Ipsen Automatic Dunk/Spray Washer
- Item # M346 SBS "QuenchAir"
- Item # M341 AFC Charge Car
- Item # M336 Cryogenic Unit. NU-BIT Cryomersion Model 1500
- Item # M334 Berg Water Chiller
- Item # M314 Holcroft Dunk/Spray Washer

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## Item #M403 Houghton Aqua Quench 3699 Polymer (4).

Available for sale are four (4) Totes of Houghton Aqua Quench 3699 Polymer Quenchant. Material has never been used. Total amount available is 1,000 Gallons. **Asking Price is \$2,500.00.**

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## Item #M402 Closed Loop Water Cooling System.

Manufactured by Dry Coolers in 2010. Model #CDX-150-120-ST. 480V/227V/30/60Hz. Closed loop system with air cooled heat exchanger, model AVR-35-15. S/NJ-4720. 15GPM. Controls: Mounted and wired in an enclosure attached to the pumping system includes digital temperature control, disconnect switch etc. Excellent condition. **Asking \$7,950.00 USD.**



**Item #M401 Tenaxol Quench Oil Accelerator.**

Available are 6 new, unopened 55 gallon drums of Tenaxol Quench Oil Accelerator for use with Park AAA quench oil. New this was \$900.00 USD/drum, asking \$450.00 USD/drum.



**Item #M400 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 #M399 Eclipse Burners, Recuperators and Spark Igniters.**

All of these items are in "like new" condition and still in the original boxes. Vendor will sell as a complete package or as individual items.

Recuperators; Eclipse Bayonet Ultra Recuperator, Assembly 101849-24 (5BU, 24" tube length, low pressure drop model). S/N 07-27834580-8 45 units in inventory. Asking \$1840 USD each.

TFB Burners; Eclipse Therm Thief V2.3, Model TFB23.030NP04NA9NXXR. Model: 030-Burner Model 030, Fuel Type: N-Natural Gas (CH4), Air Supply: P-Preheated Air, Burner Input: 04-201k-300k Btu/h (59-88kW), Gas Piping Connection: N-NPT Gas Inlet Connections. Gas Orifice: A9-9.1mm. Air Pipe Connection: N-NPT Air Inlet. Air Orifice: XX - No orifice (for preheated air). Tube Length: R-20 in. (507 mm). Cone Setting: C-9.5mm. Flame Supervision: X - No Flame Safety. Gas Piping Orientation: 0 - Gas Inlet at 0 Degrees with Air Inlet at 0 Degrees. S/N 10S0101049-0001-6. Manufactured June/2012. 40 units in inventory. \$695 USD each.

Spark Plug Igniters. Model # 100640-11. 40 units in cardboard tubes with bubble wrap. **\$100 USD each.**



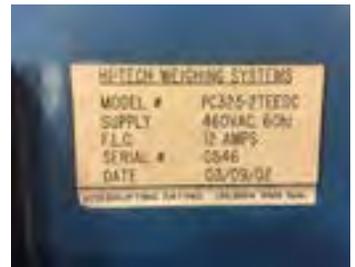
**Item #M396 Surplus Cast Link Belt.**

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.**



**Item #M394 Hi Tech Weighing System.**

Excellent condition Hi Tech vibratory loading system suitable for a continuous furnace. Model PC 325-2 TEEDC, 460 VAC 60Hz, S/N 0546, built 03/09/02. **Asking \$10,000 USD.**



**Item #M393 AGF Rotary Washer.**

Model RCW-W-R 23-2.5-4-4 gas fired rotary washer manufactured by American Gas Furnace Company. 23" diameter retort with 48" of washing and 48" of rinsing. Operating temperature of 150F-180F. Overall size is 13' long X 7.5' wide X 7' 10". Very good condition. **Asking \$10,000 USD.**



**Item #M391 Cryogenic Stainless Twin Tank.**

Manufactured by NDA Engineering in 2006. Operating temperature to -346F. 240 Volt. from Internal dimensions left hand side 70cm x 65cm x 80 cm deep (364 litres), right hand side 70cm x 100cm x 80cm deep (560 litres) **Asking Price \$6,500 USD.** Located in New Zealand.



**Item #M385 Giant Finishing Machine.**

Manufactured by "Giant", Model GB-10 Spiral bowl with Internal Separation Vibratory Deburring and Finishing Machine. 10 cubic foot process capacity with 5 hp motor. Maximum load capacity 2,000 pounds. Bowl diameter 65", unload height 39". NEMA 12 control panel including 0-6 hour process timer and lapse timer recorder. Control panel is JIC approved and U.L. listed. Standard voltage; 460/3/60 cycle. This is a brand new, unused tumbler. New this was \$45,000 USD, **asking \$30,000 USD.**



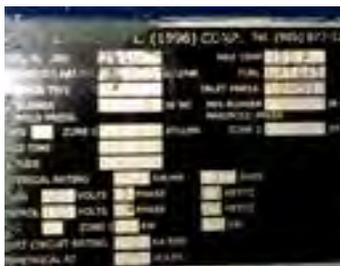
**Item #M384 Surface Combustion Washer.**

Model WG 30-48-30, S/N BC-39290-1. This is a spray only style with working dimensions of 30" wide X 48" deep X 30" high. Overall dimensions of 72" wide X 110" high X 88" long. Gas fired, maximum temperature 200F. Good condition. **Asking \$12,500 USD.**



**Item #M383 Spray Washer.**

Manufactured by Park Thermal. Working dimensions of 30" X 48" X 30". Gas heated with a maximum temperature of 150F. Good condition and still in operation. **Asking \$15,000 USD.**



**Item #M381 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.**

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: \$45,000 USD. (Includes loading at the facility)**



**Item #M379 Georg Fischer Shot Blast System.**

This unit is currently installed and in very good condition. Included are \$10,000 worth of spare parts. **Asking \$20,000 USD.**



**Item #M378 1 Surface Combustion Radiant Tube and 4 supports.**

Brand New the cost was \$1,844 for the tube and \$448 each for the supports for a total of \$3,636 in 2014. The radiant tube is Surface Combustion inventory # 850628 and the support is part # 70R64/L. They are a set for a Standard Allcase furnace. One leg of the tube is 3/12 inches in diameter and 62 inches long. The other is 4 ½ inches in diameter and 60 inches long.

**Asking \$3,000 USD.**



**Item #M377 Marley NC Cooling Tower with SPX Cooling Technology:**

Two cell unit SPX NC8400 (each cell has 540 Tons of cooling for a total of 1080 Tons of cooling). Marley is the premium brand in the cooling tower industry. Very good condition with only two years of operation, and were sold when the furnaces it was supporting were sold. The Marley Cooling towers are currently ready for immediate delivery. Priced to sell. **Sale price for one cell unit: \$22,500. Sale price for both units: \$40,000**



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**Item # M373 Gibson Tumblast. 6 Cubic Feet Rubber Belt Tumblast.**

No loader or dust collector. Good condition. **Asking \$15,000 USD. Must be removed within the next few months All Offers Considered.**



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**Item # M372 Pangborn Rotoblast.**

Pangborn® Rotoblast® Barrel Model 12GN. 12 Cubic Feet Rubber Belt Tumblast w/Loader & Dust Collector. Good condition. **Asking \$30,000 USD. Must be removed within the next few months All Offers Considered.**



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**Item # M371 Dry Coolers Pumping Station.**

Medium sized Dry Coolers closed loop water cooling system. Installed and complete. More details to come. **Asking \$7,500 USD. Must be removed within the next few months All Offers Considered.**



**Item # M370 SBS Quench Airs (2 available).**

Manufactured by SBS Corp., these are air/oil quench oil coolers. Each is a 3 fan unit with disconnect and 480 volt. Suitable for a large continuous line. Installed indoors. Very good condition. **Asking \$12,500 USD each. Must be removed within the next few months All Offers Considered.**



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**Item # M366 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.**



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**Item # M365 Manufacturer: Grapar. Type:**

Dual Lane Conveyor Washer. Heated: Natural Gas. Dual Lane Washer Serial Number: 08-010 (2008). Max Temperature: N/A. Voltage: 480/3/60. Work Area: 11"W x 7"H. Each Lane External Dimensions: 8"W x 10'6H x 30'L - approx. Controls: Mounted and wired in an enclosure attached to the washer. Includes an Allen Bradley MicroLogix 1200 PLC and an Allen Bradley "Powerflex 4" VFD to control conveyor belt speed. Description: This washer has three (3) stages, wash/rinse/blow-off. This washer is gas fired using Eclipse burner and gas train with a Honeywell UDC digital temperature control. Spray nozzles are located on top, both sides and bottom. Condition: Very Good. **Asking: \$39, 500.00 USD.**



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**Item # M363 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: \$17,500.00.**



**Item # M348 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 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.**

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 # M336 Cryogenic Unit.**

NU-BIT Cryomersion Model 1500, S/N 9911119. This is a liquid nitrogen cryogenic unit used for treating material to -310 degrees Fahrenheit. Working dimensions of 40" X 30" high X 30" wide. Maximum load 1500 pounds, normal load 800 pounds. 230 volts AC-20 amps., 3 phase, 60 HZ. Overall dimensions 14' long X 11' wide X 13' high. Manufactured in 1999. Good operating condition with all manuals and drawings included. **Asking \$10,000 USD.**



**Item # M334 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.**

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.**



# SALT

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- **Item # S001 Mesh Belt Austemper Lines (2 available)**

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## **Item # S001 Mesh Belt Austemper Lines (2 available).**

Built by AFC-Holcroft these are mesh belt, gas fired austemper lines. Parts to be processed are metered on to the variable speed, 30" wide mesh belt, travel through an 8" long high heat zone, drop into an electrically heated salt quench tank then are carried on a conveyor out of the quench tank and into a washer. A circulating fan distributes heat and atmosphere evenly through the heating area. Heat is supplied by two U shaped radiant tubes that are recuperated. SSI controls monitor and control the atmosphere gases. Furnaces were in operation until March 2015. One furnace is 1989 vintage the other is a 2000 vintage. Both are complete, in very good condition and currently in storage. **Please contact us for pricing.**



# VACUUM

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See something you need, click on the link or scroll through all the items for sale. Searching for something we don't have listed, fill out our [Contact Form](#).

- Item # VF316 AVS Vacuum Furnace
- Item # VF315 AVS Vacuum Furnace (Rebuilt)
- Item # VF314 Ipsen Bottom Load Vacuum Furnace
- Item # VF313 Top Loading Vacuum Furnaces (6 available)
- Item # VF312 2400C Vacuum Furnace
- Item # VF311 Vacuum Furnace 6 Bar Quenching
- Item # VF310 Abar Ipsen HR 46 X 72 Vacuum Furnace
- Item # VF309 Abar Ipsen Vacuum Furnace
- Item # VF308 Vacuum Pumping Package
- Item # VF307 Bottom Loading Vacuum Furnace
- Item # VF306 Edwards Stokes 1722-J Skid
- Item # VF305 Vacuum Hot Press
- Item # VF304 AVS Vacuum Sintering Furnace
- Item # VF303 Surface Combustion Vacuum Temper
- Item # VF301 Vac Aero 2 Bar Vacuum Furnace
- Item # VF300 Stokes Microvac Pump
- Item # VF299 Sunbeam Vacuum Furnace
- Item # VF297 Remanufactured Stokes 412H-11 Piston vacuum pump
- Item # VF296 Remanufactured Stokes 212J Piston vacuum pump
- Item # VF295 Varian/Agilent HS-20, Diffusion Vacuum Pump
- Item # VF294 Vacuum Annealing Furnace
- Item # VF291 Small Top Load Vacuum Furnace
- Item # VF289 Ipsen Vacuum Temper Furnace
- Item # VF285 20" Right Angle Poppet Valves (4 available)
- Item # VF282 AVS Vacuum Debinding/Sintering Furnace
- Item # VF281 Surface Combustion Vacuum Furnace
- Item # VF271 SINTERING/DE-WAX FURNACE
- Item # VF267 Semi-Continuous Titanium Diffusion Bonding Hot Press
- Item # VF266 Kinney 75 CFM Vacuum Pump
- Item # VF265 Stokes 149H-11 80 CFM Vacuum Pump
- Item # VF255 Roots Gas Blower
- Item # VF254 MD Blower, 350 CFM
- Item # VF253 Vacuum Induction Furnace
- Item # VF243 35" Diffusion Pump
- Item # VF242 35" Diffusion Pump

**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. **Asking \$115,000 USD.**



**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. Very good condition. Rebuilt July 2015. Asking \$200,000 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 # VF311 Vacuum Furnace 6 Bar Quenching (Located in Turkey)**

Vacuum Furnace 6 Bar Quenching (Located in Turkey). Working dimensions of 600 X 900 X 600 mm. 800 KG load capacity. Maximum operating temperature of 1350C. 6 bar quenching, nitrogen. 140kW heating capacity. Temperature uniformity of +-5C above 850C with convection. Hard graphite felt insulation hot zone. Ultimate vacuum level of 8 X 10-2 mbar with rotary vane pump and roots pump. 380-220V-50HZ-3 phase. Excellent condition. **Asking 155.000 Euro.**



**Item # VF310 Abar Ipsen HR 46 X 72 Vacuum Furnace**

Abar Ipsen HR 46 X 72 Vacuum Furnace. Model HR 46 X 72, Serial # BM392. Completely rebuilt in 2015, excellent condition. Hot zone dimensions of 24" X 24" X 72" deep, moly construction new in June of 2015. Moly elements. Ipsen control panel new in June 2015. Operating temperature of 2400F. 32" Varian Diffusion Pump (new in 2015). Current configuration has a 4-5' deep pit for the diffusion pump. Stokes 212 mechanical pump was rebuilt in early 2016. Welch 1398 holding pump was rebuilt in 2015. Stokes 615 blower recently rebuilt. Spare Rebuilt Stokes 212 mechanical pump and Welch 1398 holding pump available. Current footprint: 21' Wide (+ water surge tank which could be relocated 4'x10'x6'H). 24' Deep (+10' deep loader). 12' High. 5'x9'x5' deep pit for diffusion pump. 480 Volts, 3 Phase, 60 Hz. Loader Included, 10' Long x approx. 3.5' Wide. 2-Tier TZM Moly Grid Fixture, 24" Wide x 72" Long x approx. 18" Tall. Cold Trap: Liquid N2 fed Cold Trap Status: Furnace was in production until January 1st, 2017. **Asking price \$350,000 USD** but offers will be considered. • Flexible vacuum hose included.



**Item # VF309 Abar Ipsen Vacuum Furnace**

Abar Ipsen Vacuum Furnace. Model HR 34 X 36. Hot zone 24" X 24" X 36", moly construction with moly elements. Eurotherm 2704 & 92HL controls. Operating temperature of 2500F. 20" Diffusion Pump with Stokes 212 mechanical pump in sound-reducing enclosure. Spare Rebuilt Stokes 212 mechanical pump available. Current footprint: 24' Deep x 18' Wide x 12' High. Power: 3 zone control, 55 KVA each = 165 KVA Total Heating Power. Loader included and 2 tier moly Grid Fixture. H2 purge. Good condition, was in production until January 1st, 2017. Vessel was new in 1990. **Asking \$85,000 USD.** • Flexible vacuum hose included. **Asking \$7,500 USD.**



**Item # VF308 Vacuum Pumping Package.**

Vacuum Pumping Package. This system has barely been used and is in excellent condition. United Vacuum Pumping Package with one (1) 7.5 HP UNI-VAC 200 Rotary Piston Pump and one (1) UNI-VAC 607 Booster Pump with direct drive 7.5 HP motor. Rated for rated for 800 CFM. Serial number 2040373 / 6070822. Oil Mist Separator model 900-291-025. System is skid mounted to permit transport via fork lift. Includes NEMA panel with vacuum switches and water miser. Pushbutton type on/off controls. Wired with plug connector for 480v/3ph/60hz. Flexible vacuum hose included. **Asking \$7,500 USD.** • Flexible vacuum hose included.



**Item # VF307 Bottom Loading Vacuum Furnace.**

Manufactured by VacAero. 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/ air coil. Yokogawa paperless chart recorder. Honeywell DCP550 Setpoint programmer. Edwards vacuum gauge controller. Furnace is installed and presently in operation. Customer responsible for removal. Complete and in good overall condition.



**Item # VF306 Edwards Stokes 1722-J Skid.**

Warranty rebuilt Stokes 1722-J Skid. Stokes Model 900-412-014 Mechanical Pump (Newer Style), S/N: 069034482. Date: 2006-11. Motor: 10 H.P. Stokes 615-1 Blower. S/N: 813770X0898 Lot: 78315-38. Motor: 7.5 H.P. Skid Mounted. Interconnecting Pipe and Fittings. Stokes Demister. Immediate Availability. **Asking Price: \$ 23,500** in rebuilt condition with Rebuilder's



**Item # VF305 Vacuum Hot Press.** Max Temp 1000C/1830F. 6" x 6" x 15" work zone. Metal hot zone model 6615-1000 moly rod elements, moly & stainless steel shields w/ moly retainers. Three (3) sided heating. T/C control, DCP700 HONEYWELL two (2) channel controller. 15 KVA power supply - 208 volts/1pH/60Hz. 4" diffusion pump / 17.1 cfm mechanical pump. Granville Philips vacuum controller #91-270. Fan cooling 3/4 HP pin spitter mounted on the rear of the chamber. T/C control for overtemperature protection controllers.

Diffusion Bonding Hot Press. Series 3520 Model 6-1315 Diffusion Bonding Hot Press, stainless steel interior cold wall chamber with full opening door, water cooled rams, ram seals, power feedthru ports, thermocouples, shuttered site ports & supported on the press frame. This system is designed to deliver up to 60,000 lbs of force to a compact in the furnace. The hydraulic cylinder is mounted on the upper horizontal section of the press frame. Force from the cylinder is transferred into the vacuum chamber by two (2) water-cooled ram extensions, which pass thru sliding vacuum seals at the top and bottom of the chamber. The bottom ram is stationary. The hydraulic cylinder has a 6" bore, so that full rated force will be applied at a hydraulic pressure of 2125 psi.

Utility Requirements: 15 KVA power supply - 208 volts/1pH/60Hz. Total connected load 120 Amps. Water 8 gpm, 30-40 psi, 60-70F. Compressed air 1 scfh, filtered, lubricated and regulated at 60-80 psig. Inert gas 10 psig regulated. Hot zone almost new. Always operated on closed loop cooling water. Unit was fully operational when removed from service. Includes (2) new feedthroughs and spare parts. **Asking Price: \$49,500 USD.**



**Item # VF304 AVS Vacuum Sintering Furnace.**

Model No. : 1-HMF-10-10-10-2350. Serial No.: 4-1368-07-86. Work Zone Size: 10" x 10" x 10" (actual opening is larger). Power: Electric, 80 KVA main transformer plus 2 ea. transformers 10-15 KVA front and back. Max. Temperature: 2450C / 4440F. Description: Metal Hot Zone, six moly shields & one stainless steel plenum layer. Moly elements & hearth. 6" Diffusion Pump. Welsh 1398 50 CFM Mechanical Pump, recently rebuilt. All fab. & electrical drawings available. Temp. Uniformity +/- 5C. Three zones of temperature control (front door, main, back panel). Moly retort included. Instrumentation: Waukee flowmeters N2 (100 CFH) & H2 (50 CFH). 301 Honeywell Programmable temperature controller with two slave Honeywell 2500 controllers & one 2500 high limit controller. GE Fanuc 9030 PLC with safety interlocks for Ar/N2. Terranova vacuum gauge. Condition: Good condition, working & operable. Overall Footprint: 10' Deep x 13' Wide x 7.5' Tall (could be 9' Wide with smaller transformers that are available). Approx. Wt.: ~3500 lbs. **Asking Price: \$ 50,000 USD. (obo)**



**Item # VF303 Surface Combustion Vacuum Temper.**

Manufactured by Surface Combustion Model HVT 36-48-24, S/N BO 40016-1. 220Volt, 3 phase, 60Hz, 220Kw. Working dimensions of 36" wide X 24" high X 48" deep with a weight capacity of 2,500 pounds. Not in use or installed. Most components are included but this unit should be regarded as a "project". **Asking Price: \$5,000 USD or best offer.**



**Item # VF301 Vac Aero 2 Bar Vacuum Furnace.**

Model #VAH 4848-HV2. Working dimensions of 48" X 48", rated for 1500 pound loads. Serial #BM 981, built in 1998. Stokes vacuum pump #615-1. Serial number 915240E0498. Updated Allen Bradley controls. No diffusion pump but it does have a port for one. Good condition. Currently installed and in use for approximately 6 more weeks. **Asking Price: \$150,000 USD.**



**Item # VF300 Stokes Microvac Pump.**

Model #212H-11 150 CFM 5HP motor. Roots Rotary Lobe Booster Pump. ID #839 697 020. Designation #38-RGS. Skid Mounted 1896 lbs. **Asking Price: \$6600 USD or best reasonable offer.**



**Item # VF299 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 # VF297 Remanufactured Stokes 412H-11 Piston vacuum pump,**

300CFM pumping speed, 4" ASA Inlet / 3" NPT Exhaust connection, 10HP, 230/460V, 50/60 Hz, 3-phase operation, water cooled, prepared for hydrocarbon oil. 12 Month Warranty. Part Number: ED-412H11-R. Pump Model: ED-A900412011. Price New: \$24,927.00. **Asking Price: \$14,950.00.**



**Item # VF296 Remanufactured Stokes/Edwards 212J Piston vacuum pump,**

150 CFM pumping speed, 3" ASA Inlet / 2" FNPT Exhaust connection, 7.5 HP, 230/460V, 60 Hz, 3-phase operation, water cooled, prepared for hydrocarbon oil. 12 month warranty. CSA marked. Part Number: ED-212J-R. Pump Model: ED-900212014. Price New: \$16,150.00. **Asking Price: \$9,750.00.**



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**Item # VF295 New Surplus Varian/Agilent HS-20,**

Diffusion vacuum pump with ASA flanges, with a Standard Cold Cap, 17,500 l/s pumping speed, rated for 480V, 3-phase operation. 12 Month Warranty CE marked. Part Number: V84341309-R. Pump Model: V84341309. Price New: \$20,950.00.

**Asking Price: \$16,500.00**



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**Item # VF294 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  $1 \times 10^{-6}$  Torr. Maximum vacuum level to operate in continuous duty is  $5 \times 10^{-8}$  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 # VF291 Small Top Load Vacuum Furnace.**

Brew Top Load Vacuum Furnace, Condition: Rebuilt by Pathways Thermal Technology. Work Zone: 10" Dia. x 10"H. Max. Temp.: 2000F. Hot Zone: All Molybdenum. Vacuum: Diffusion Pumped. Power: 480V/3Ph/60Hz, 75 Amps.

**Asking Price: \$10,000**



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**Item # VF289 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<sup>-1</sup> mbar, operating pressure 1000 mbar. Maximum vacuum level 5.0 X 10<sup>-2</sup> 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.**



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**Item # VF285 20" Right Angle Poppet Valves (4 available).** 20" Right Angle Poppet Valves to mate to Varian HS-20 Diffusion Pumps. Removed from service in good operational condition by a company converting to cryo pumps. Offered in As-Is or Standard Rebuilt As-Is Price: \$ 1,800.00 (working, but no warranty, 30 Day Return). **Std. Rebuilt Price: \$ 3,150.00 (1 year warranty).** Valves are awaiting rebuild now. (2-3 weeks required ARO). Photo shows another representative RAV prior to rebuild.



**Item # VF282 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: \$209,000 USD.**



**Item # VF281 Surface Combustion Vacuum Furnace.**

Model: IHVP-364830-2, S/N: VC-42202-1. WorkZone Size: 42”Wx60”Lx30”H. HotZone: All graphite, including hearth and elements. Vacuum System: Requires Stokes 1722 Skid (412H mechanical pump and Stokes 615-1 vacuum blower. Both are missing), 16” Port for diffusion pump, but no pump. Power Supply: 250kW 460V/3Ph/60Hz. Max. Temp.: 2400F. Max. Load: 3000lb at 1900F. Cooling Gases: Nitrogen, Argon, Helium. Gas Quench Capability: +12PSI positive pressure. Cooling Fan: Top mounted. Controls: Honeywell DCP-7700 Temp. Controller. Eclipse EMC-560 Hi-Limit. Honeywell Strip Chart Recorder. Philips Model 316 Vacuum Controller. Control Thermocouple: Ni/Ni-Mo. Fair condition. Location: Southern California. **Asking Price: \$29,000 USD.**



**Item #VF271 SINTERING/DE-WAX 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.**

System consists of; Load Chamber. Rated for 2720kg load Moly Pin walking system rated for 2720kg load 44"wx54"dx6.5" 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<sup>-5</sup> 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<sup>-5</sup> 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. **As is \$890,000.00 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.



**Item #VF266 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 F.O.B. West Coast U.S.**



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**Item #VF265 Stokes 149H-11 80 CFM Vacuum Pump:**

Rebuilt Stokes Model 149H-11, Lot# CD-81004 Mechanical Vacuum Pump, Rebuilt by Evey Vacuum in 2002 and stored in heated, dry area since then. **Asking Price: \$ 5,500.00 USD with 30 Day Right of Return if not satisfied.**



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**Item # VF255 Roots Gas Blower:**

Rebuilt (per owner), Roots Model 2510J Whispair Max gas blower, 372 CFM, Roots I.D. 847-485-20, S/N 76 54846 with 5 H.P. Motor mounted on skid. Location: Pacific North-western U.S.

**Asking Price: \$3,500.00 USD. 30 Day Right of Return, if unhappy.**



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**Item # VF254 MD Blower, 350 CFM:**

Rebuilt (per owner) M.D. Pneumatics 350 CFM gas blower, Model 11-3210, S/N 1735R A23, on skid but needs motor. Location: Pacific North-western U.S. **Asking Price: \$3,000.00 USD. 30 Day Right of Return, if unhappy.**



**Item # VF253 Vacuum Induction Furnace.**

Built by GH Induction Atmospheres in 2008. Model VF-40. Working dimensions of 12" diameter X 17" high. Overall dimensions of 86" wide X 86" long X 96" high. S/N 018/VF-40/173. 2100F. 400-480 Volts, 200 amps., 3 phase, 50/60 HZ. Honeywell UDC Digital temperature control, hi-limit control and strip chart recorder along with GE Fanuc Quick panel and Televac vacuum gauge. SS vessel mounted vertically above load platform. Interior of vessel has induction coil, 15" diameter. Ceramic sleeve and 14" diameter graphite susceptor. Parts to be heated are loaded on the work platform and raised (hydraulically) into hot zone. Needs new power supply. Vacuum pump is a Pfeiffer Model DUO35 21 CFM (36 cubic metres/hour). At completion of heat cycle furnace is back filled with Argon and cooled by external blower and heat exchanger. Water chiller is available and will be quoted upon request. Excellent condition. **Asking \$49,500 USD.**



**Item #VF243 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.) Location: Coeur d'Alene, Idaho 83814



**Item #VF242 " 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.)



# NEW EQUIPMENT

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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 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.



## **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.



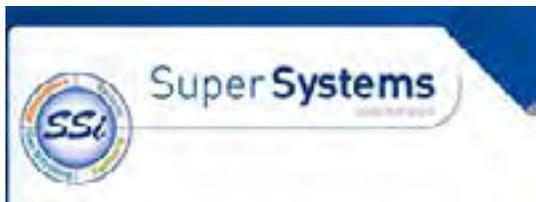
## **Custom Electric Manufacturing**

(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, Sales@customelectric.com.



## **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.



## **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.



## **Wirco.**

Manufactures a full line of fabrications including baskets, fixturing, furnace fans (new and rebuilt), furnace rolls, muffles, corrugated boxes, wrought and cast radiant tubes and retorts. We design fixturing to specific customer requirements, and also rebuild furnace components such as fans and fan housings and most recently, cast U and W tubes. Our services and products provide lower operating costs and ease of use so our customers can focus their energy on their core business.



## **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.

# MOLY

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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](mailto:Sales@gvtinc.com) Phone: 208 765-6854.



ALLTHREAD



FURNACE GRIDS



ROUND BAR



SHEET & PLATE



STUDS



WASHERS & NUTS



WIRE

# BUSINESS OPPORTUNITIES

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We at "[themonty.com](http://themonty.com)" are very proud of the fact that since 1969 we have been putting heat treaters around the world together. The links below cover several areas where we can help your company such as finding a buyer for your heat treat plant, finding a commercial heat treat company for sale, posting free ads for individuals looking for a new position within the heating industry and a listing of companies looking to hire. Remember-if it has to do with heat treating we can put you in touch with the best people!

- [EMPLOYMENT OPPORTUNITIES](#)
- [INDIVIDUALS SEEKING EMPLOYMENT](#)

# EMPLOYMENT OPPORTUNITIES

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**PROCESS DEVELOPER WANTED**

**SHIFT SUPERVISOR WANTED**

**HEAT TREATMENT METALLURGIST WANTED, NEW ZEALAND**

**SALES ENGINEERS WANTED**

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## **Process Developer Wanted**

Tri-City Heat Treat Company located In Rock Island, Illinois seeking a Process Developer with Quoting Responsibility. Requirements: Heat Treat Experience in Carburizing, Carbo-Nitriding, Annealing, Normalizing, Induction Hardening, Solution & Aging of Aluminum, Solution treating, support areas to include Selective Painting, Straightening, and Cleaning. Equipment ranges from, Batch, Belts, Vacuum, Pits, and Induction. Quench mediums are typical oil, water, and air. Bachelor's degree preferred. Minimum two years quoting experience and process setup in a commercial heat treat environment. Cornerstone/Visual Shop software experience desirable.

### Key Competencies:

- Excellent written and oral communication skills
- Detailed, organized, self-motivated and task oriented
- Comfortable working in a shop environment
- Excellent problem solving and analytical skills
- Ability to communicate effectively with customers while work effectively in a team environment
- Must be proficient in Excel and Microsoft Word

Please forward resumes to [Lacey1@tcht.com](mailto:Lacey1@tcht.com)

### **Shift Supervisor Wanted**

MPC, a growing automotive based heat treater, is looking for a results oriented Shift Supervisor. Must be comfortable dealing directly with automotive prime and tier one customers. We offer an opportunity to grow with us. Responsibilities include all aspects of quality reporting and Customer interface. Familiar with Heat Treat operations and comfortable with shop floor environment. Must be focused on continuous improvement.

- Experience in industrial production supervision.
- Mechanical aptitude required.
- Ability to direct & supervise plant operations.
- Sound communication skills.
- Ability to work overtime on weekends.
- Understanding of Automotive Quality Systems.
- Knowledge of heat treating operations a plus.
- Knowledge of Industrial Health & Safety Standards.
- Must be able to report for work on time.
- Must be able to pass Physical and Drug Test.

Contact information:

Metallurgical Processing Co (MPC)

23075 Warner Ave

Warren, MI 48091

Website: <http://www.metallurgicalprocessing.com>

Please submit resumes to [info@mpc-mi.com](mailto:info@mpc-mi.com)

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### **Heat Treatment Metallurgist**

Heat Treatment Metallurgist Wanted, New Zealand. This position is responsible for the metallurgical integrity of products heat treated in our commercial works. Support of the operation through process control & improvement initiatives, and establishing & maintaining customer relationships are part of the role. We are a commercial Heat Treater and a specialised metal part Manufacturer. Our heat treating includes batch Vacuum, Integral quench, and Gaseous nitriding processing, Induction hardening, Cryogenic treatment, as well as various non-ferrous processing equipment and laboratory services. Applicants will have:

- a recognised qualification in Materials Science or Metallurgical Engineering
- a minimum of 5 years heat treating metallurgical experience; preferably in a commercial heat treating works.
- excellent written and spoken English
- good mechanical aptitude and skills to provide hands-on technical plant maintenance and product support.
- good people and teamwork experience, to support and coach our heat treating processing team.
- the ability to relate and build rapport with our broad range of manufacturing and engineering related customers.
- familiarity with Quality standards and Health & Safety regulations applicable in a heat treat works.
- the preparedness and ability to apply to legally work in New Zealand

If interested in discussing this opportunity please contact me on [fergust@heat-treat.co.nz](mailto:fergust@heat-treat.co.nz)

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### **Sales Engineers.**

Induction Ajax TOCCO Magnethermic is seeking experienced regional field Sales Engineers for our Capital Equipment and Aftermarket sales team in the Midwest USA. Multiple positions are available to join the Ajax TOCCO team. The successful candidate will preferably have direct experience in one or a combination of the following fields: • Induction Heating or Melting • Heat Treatment, Forging, Foundry • Thermal processing or metallurgy • Repair and maintenance of capital equipment A Engineering / technical degree or relevant experience is preferred. To learn more about this position visit [www.ajaxtocco.com](http://www.ajaxtocco.com) or send resume to [HR@ajaxtocco.com](mailto:HR@ajaxtocco.com).

# INDIVIDUALS SEEKING EMPLOYMENT

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- **DEGREED METALLURGIST**

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## **Degreed Metallurgist**

Looking for consulting opportunities in the heat treating industry. I have forty years of experience in senior level management at commercial heat treats. Offering hands on plant floor training in systems and procedures to improve your operating results. I will help you develop or improve production scheduling, inspection and quality methods, CQI-9 compliance, process flow diagrams, PFMEA, written instructions and customer service essentials. I will come to your facility and work with you to improve and enhance the performance of your heat treat. Please contact me at: [jry2252@att.net](mailto:jry2252@att.net) or 248-909-0038.

## IN PARTING

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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](http://www.themonty.com).

**Gord Montgomery,  
W.G. Montgomery Limited**

Phone: 905 271-0033

Fax: 905 271-9324

Email: [gord@themonty.com](mailto:gord@themonty.com)