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## INTRODUCTION

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Why it should always come as a surprise to me when we send out the last newsletter of the year I am not sure but as usual it is hard to believe 2017 is starting to wind down. If I was asked to summarize the year as it relates to the heat treating industry I would have to say it started off slowly but has ended with a bang - a bang which we expect to continue well through 2018. Merry Christmas and a Happy New Year.

Warmest regards,  
Gord

# FURNACES FOR FORGE AND HEAT TREATMENT

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# HEAT TREAT NEWS

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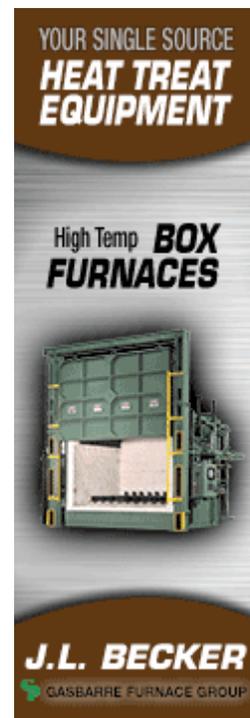
## Atmospheric Heat Treatment Equipment Market

All we can say is there must be money in doing market surveys since we seem to get a new sample report weekly. The most recent one we have been running across glories in the title “*Atmospheric Heat Treatment Equipment Market trends, Prospect, Growth trend Analysis and Forecast*” which certainly sounds impressive. Amongst the pearls of wisdom they share with us we have these “*Heat Treatment Equipment market to grow at a **CAGR of 5.30%** during the period **2017-2021**”.* (CAGR by the way stands for Compound Annual Growth Rate-we had to look it up). Other thoughts include the ones below. You can be the judge about these various reports.

***Atmospheric Heat Treatment Equipment Market Driver:*** – one of the major drivers for this market is Stable growth of automotive industry. Manufacturing in the automotive industry includes the use of components, such as mills, gears, pistons, and flywheels, made of metals, such as aluminum, steel, iron, and other alloys. Automobile manufacturing makes use of various types of heat treatment processes to enhance the performance of automotive components. These processes are necessary to improve the strength and hardness of these materials in order to increase the reliability and lifespan of the components made.

***Atmospheric Heat Treatment Equipment Market Challenge:*** – one of the major factors hindering the growth of this market is Lack of continuous support and maintenance. The use of a metal heat treatment equipment requires constant maintenance for effective calibration and improved productivity. Maintenance is an important part of deploying heat treatment equipment. In general, the maintenance cost increases exponentially with the increase in operating temperature and the severity of the process environment, for example, carburizing versus hardening of steel. These costs are a part of all heat treatment furnaces, though they are often operated below their maximum temperature settings. **November 30, 2017**

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## Heat Treat Central/Jose Antonio Ramirez Salvador

Alloy base tray supplier Heat Treat Central of Michigan is pleased to announce that they now have a representative covering the Mexican Heat Treat market. Jose Antonio Ramirez Salvador is based in the Queretaro area and represents companies such as South Tek (Nitrogen generating systems) and Procedyne (fluidized bed furnaces). He will be offering the full line of investment cast base trays from Heat Treat Central <http://www.heattreatcentral.com/> **November 30, 2017**

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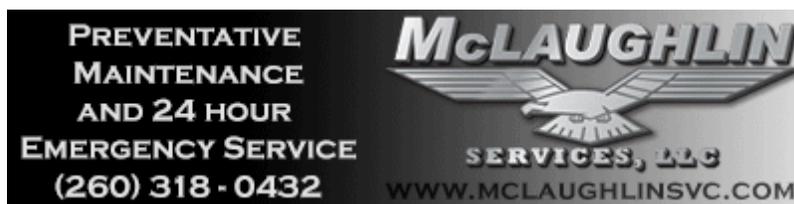


## Kanthal® Award

The Kanthal name is a well known one in the world of heat treating especially when it comes to heating elements. **November 30, 2017**

*“A climate protection organization with a focus on travel, atmosfair gGmbH, has received a donation of €5,000 from Sunfire GmbH after the latter company was appointed winner of the 2017 Kanthal® Award in October. Sunfire, based in Dresden, Germany, won the award for developing a process that converts regenerative power, carbon dioxide (CO<sub>2</sub>) and water into synthetic gas or a crude oil substitute (e-Crude). According to Sunfire, this innovative process has the potential to satisfy the key need for CO<sub>2</sub>-neutral transportation fuels in aid of the sustainable society of tomorrow. The Kanthal® Award was announced at a special ceremony in Stockholm, Sweden, in October and includes a prize of €5,000, a statuette and a diploma. However, the prize of €5,000 is not for the winner to keep, and was instead to be donated by Sunfire to a charitable organization that supports the same criteria upon which the Kanthal® Award is based: sustainability, health and safety. The Kanthal® Award is a yearly event and has now been awarded three times. The first winner in 2015 was the ArcelorMittal Desvres site, in France, for its use of furnace rollers without water cooling. In 2016, the winner*

was Proton Power Inc, USA for its green and clean energy supply. From the left: Dr. Dietrich Brockhagen, founder and CEO of atmosfair gGmbH, receives a donation of the 2017 Kanthal® Award prize from the winner, Sunfire, represented by Nils Aldag, CCO. (Photo: Andreas Dahlström, Siting)



## Kip Bailey Joins Bloom Engineering

Early this month, Bloom Engineering welcomed Mr. Kip Bailey as a full-time Field Service Technician. Mr. Bailey most recently worked for a furnace builder, so is intimately familiar with process and furnaces. He brings a wealth of experience in both combustion and specific process knowledge and is a welcome addition to the team. Bloom now has four (4) full-time technicians and six (6) part-time technicians. Led by Mrs. Kerry Henderson, the service team works on sites throughout North America with capabilities to handle trouble-shooting, commissioning, installation supervision, and controls tuning for combustion systems. Although they most commonly support the steel and aluminum industries, the service team can handle a wide range of combustion systems, regardless of the original manufacturer of the equipment.

Mrs. Henderson is excited to have him on the team. “Kip has a strong background in instrumentation which will complement the strengths of some of our other technicians. We have sent him on a few jobs, and he has already proven himself to be a valuable addition to the team.” 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. **November 29, 2017**



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## Business Opportunities

Please take a look at our most recent employment offerings. If you see anything you like don’t hesitate to get in touch with us at [jordan@themonty.com](mailto:jordan@themonty.com) or 905-271-0033. **November 29, 2017**

**Item # 0342** Induction Technician/Maintenance Person

**Item # 0341** Maintenance Leader

**Item # 0340** Heat Treat Metallurgist

**Item # 0339** Welder / Assembler

**Item # 0338** Service Technician

**Item # 0337** Product Manager

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## David Salerno joins SOLO Swiss as Head of the new group division “Standards& Services”.

*Member of the executive committee, he will be in charge of developing BOREL activities (furnaces and standard ovens for laboratories and industry) and services (after-sale services,*



*metallurgical training & consulting, management system and 4.0 Industry). David Salerno, materials science engineer, provided before the general direction of SAFED in Switzerland, Germany and France and has a long experience in sales and project management in the the automotive industry, particularly into MAHLE Motorkomponenten Switzerland and Federal Mogul in France and Germany. SOLO Swiss manufactures*

*atmosphere furnaces for metal heat treatment since 1924 which are sold worldwide ([www.solo.swiss](http://www.solo.swiss)). **November 29, 2017***

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## What's It Worth?

What you are looking at in these photos is an older Lindberg pusher furnace set up to do annealing. It has an operating temperature of 1750F, is gas fired and has nitrogen addition. It is complete, installed, in good shape and ready to go. It is also surplus to the owners needs-so what the heck is it worth? Well that is the question that was posed to us today and it is rather difficult to give a definite answer. A standard sized batch IQ furnace is simple in comparison because there are so many in use and there is always a high demand meaning any furnace dealer should be able to tell you within 10% what the probable sale price will be. The same holds true for a relatively standard vacuum furnace with 2 bar quenching-again the value can be estimated very easily based upon recent sales. In the case of a pusher annealer there is so little demand that there are few comparisons which can be made. Our estimate in this case would be an asking price of \$50,000 USD and at the end of the day take any offer. **November 28, 2017**



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## 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 [jordan@themonty.com](mailto:jordan@themonty.com) or 905-271-0033. **November 28, 2017**

**Item # T348** Car Bottom Tempering Furnace

**Item # I175** Inductoheat /Lepel Induction Power Supply

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

**Item # VF330** Surface 2-Bar Quench Vacuum Furnace

**Item # VF329** Abar Ipsen HR46 X 72

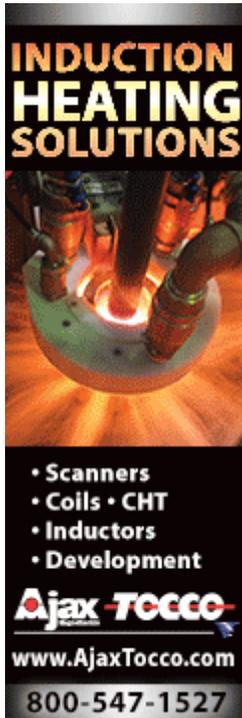
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## Monday Morning Briefing

With controls company **Atmosphere Engineering (AE)** being acquired by controls company **United Process Controls (UPC)** a couple of months back it is to be expected that there will be a lot of changes in titles and job descriptions. For instance **Daniel Panny** was Managing Director of AE in Germany for a few years (*before that he was with furnace*

builder Aichelin of Austria) his new title is Technical Sales & Support Manager, UPC, Austria. Speaking of titles **Dave Ochar** of commercial heat treater Bodycote is now Vice President



Aerospace Sales, North America, previous to that he was Director of Sales, North America, West. **Andrew Bassett** President of **Aerospace Testing & Pyrometry** (whose banner ad can be found on this page) is celebrating 10 years in business-a very impressive milestone indeed. **Mr. Chip Keough** of **Applied Process** has received the **George H. Bodeen Award** and you can read all about it here (by the way in the near future we are expecting to be able to present to you an interview with Chip). "At the ASM Heat Treating Society- Heat Treat 2017 Show in Columbus, Ohio (last month)- one of our Directors, John R. (Chip) Keough, was honored to receive their George H. Bodeen Award. Established in 1996, the Bodeen Award, recognizes distinguished and significant contributions to the field of heat treating through leadership, management, or engineering development of substantial commercial impact. The sentiment on the Keough award reads: "For advancing

business growth by emphasizing fundamental materials knowledge in the heat treating industry and for passionately supporting the next generation of engineers through materials education." Chip was overheard saying "I am truly grateful to my peers in the heat treating industry for awarding me with their highest honor, but it represents the hard work of a truly remarkable team, the people of Applied Process, who I have been honored to work with". In the photo below we see Chip and on his right **Steve Kowalski** of Kowalski Heat Treat in Cleveland, the immediate Past President of the ASM Heat Treating Society. **November 27, 2017**



**Sumeeko Industries Co Ltd.**, of Taiwan, a supplier of automotive parts and fasteners is getting into the heat treating business. To date the company has always outsourced their heat treat requirements, however they recently installed a large mesh belt furnace line at their facility in Pingtung, China. The stated reason? To be able to more carefully monitor quality. Quality and delivery are far and away the main reasons that manufacturers bring

heat treating in house-cost savings are surprisingly enough down the list a bit. **SECO/WARWICK** of Poland is about to install a second vacuum oil quenching furnace (pictured below) at an aviation company in Turkey. No details as to who the customer actually is.



**Ross Hill**, who was General Manager of the Bodycote facility in Newmarket, Canada parted ways with the company a few months back. Like most in the industry he elected to stay with heat treating and he is now working with **Jon Mathews**, founder and owner of **Atlantic Heat Treat** in Ajax, Canada. We caught up with Ross recently and were able to get this photo; from the left Gord and Jordan Montgomery, Jon Mathews and Ross Hill on the right.



To round things out today we have an interview with a fellow by the name of **Andres Bernal** of **Ion Heat** <http://ionheat.com/> who has a rather interesting story to tell. Not only does his family operate the largest commercial heat treats in Columbia and Peru but in

addition they manufacture Ion (Plasma) Nitriders (there banner ad can be found on this page). The company has been enjoying a great deal of success and their technology is one that should be considered by anybody looking at Ion Nitriding;

- Andres how did you get started in the heat treating industry?

*Gord.... My father Roberto started a heat treat shop in Medellín back in 83. During my school vacations he used to take me to the shop to get parts ready for processing. I do not think I was efficient in doing so, but heat treating did get into my blood. Before I graduated from mechanical engineering, back in 2001, I started working with him. I have heard that heat treatment is like the song Hotel California... "you can check out any time you like, but you can never leave...." That has happened to me so far.*

- You and your family operate both as a commercial heat treater and a new furnace builder-lets start with Ion-Heat who offers Ion (Plasma) Nitriders. Before we get into the details of the company though which is the most common phrase Ion Nitriding or Plasma Nitriding? I have always thought the two names were synonymous.

*They are..... I think Plasma Nitriding is more common in Europe... Ion Nitriding seems to me to be more common in America... **Continue Reading***



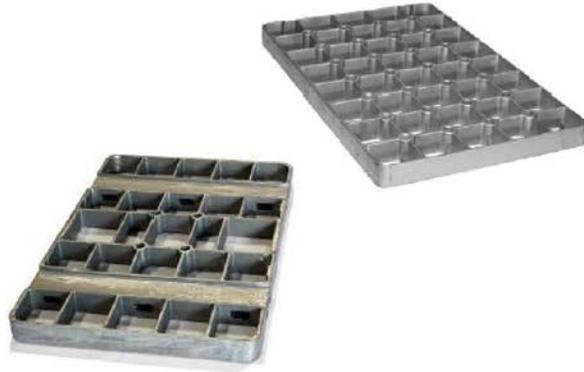
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<sup>1</sup> While supplies last.

<sup>2</sup> Applies to standard design trays only. Some restrictions apply.

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## Beijing Heat Treatment Show

As we speak the bi-annual Beijing Heat Treatment show the largest of it's kind in China is ongoing (Nov 22-24). While this is the largest show of it's kind it is dramatically smaller than it was just 10 years ago-estimates are 1/3 of the exhibition size. As most thermal processing suppliers in China are very busy the reduced size of the show is most likely due to consolidation within the industry. A reader who is in attendance sent us these photos. **November 24, 2017**



Possibly the two most influential people in the Chinese heat treating market; Mr. W M Zhu (chairman of Fengdong group) and Mr. Y F Sun (former general manager of Achelin China).



Robin Luo (Vice President of PowerMax)



## Hand Tool Manufacturer Boosts Production with Compact Tempering System

“SECO/WARWICK has partnered with a tool manufacturer in North America to custom design a unique pit type tempering furnace system to increase production capacity. This system will be utilized for heat treating power tool components and was specifically

designed to fit into a limited footprint within the existing facility layout. “At SECO/WARWICK, we understand that ‘one size fits all’ does not apply in the industrial environment,” stated Jonathan Markley, Managing Director, SECO/WARWICK, USA. **November 23, 2017**

*“We understand that customers often have to increase production capacity, but do not have the luxury of increasing their physical plant production area. Designing for efficient production requires technical expertise to ensure that we get our customer’s equipment online and performing beyond expectations in the shortest possible time,” he added. SECO/WARWICK’s atmosphere heat treating equipment is used both with and without protective atmospheres in a wide range of configurations for most heat treatments in use by tool manufacturers. Pit furnaces have the long track record for practical, economical heat treating. In addition, SECO/WARWICK offers material handling equipment, cooling systems, and protective atmosphere systems to create a complete manufacturing cell with both batch and continuous system options. The SECO/WARWICK Group provides equipment and new technologies to the world’s leading aerospace, automotive and power companies, enabling the production of lightweight and durable components. High efficiency, process reproducibility, process automation, modern control system with monitoring of each parameter, precise feed system are just some of the benefits of using vacuum metallurgy.”*



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## Twin Furnaces For Energy Savings

From French vacuum furnace builder BMI one of the largest manufacturers in Europe comes this idea. Our first impression is that this is either a very, very good idea or a very, very bad idea. We welcome your thoughts and look forward to hearing more about this idea. **November 23, 2017**

*“For several years now, BMI has been working on monitoring the energy consumption of its vacuum furnaces. The investment cost is an important criteria indeed, but nowadays customers are just as interested in the operating costs. That’s why at BMI, we work on improving our equipment by reducing the operating costs. Thus was born BMI’s first twin furnaces working on a single pumping station. Typically during a heat treatment cycle, the pumping phase lasts only 30 minutes. Therefore, it is smarter to use only one pumping group for two furnaces, working alternatively on one furnace or the other. This allows not only to reduce electricity consumption but to reduce also the maintenance costs of the pumps. The first set of B54R-TWIN furnaces has just been commissioned at a customer’s site.”*



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## Channellock Fire

*Luckily a small fire at captive heat treater Channellock in Meadville, PA turned out to be just that-a small fire. Channellock manufacturers hand tools and does mesh belt austempering in house. There were no injuries, and any structural losses were “fairly minimal” during a Monday night fire at Channellock, according to Meadville Central Fire Department Captain Patrick Wiley. Meadville Central received a call at 8:47 p.m. from Channellock, which reported a fire on the roof of the “heat treat” portion of Channellock’s Plant 1, which is located on South Main Street, Wiley said. The fire took place on the far south end of the building, he said. “Once we got there, smoke was coming around the base of a fan in a roof line of the heat treat,” Wiley said. “At that point, we requested a second alarm since we weren’t sure of the extent of the fire.” The heat treat area was evacuated. Firefighters believe a fan in the heat treat area shorted out, Wiley said. “We believe it’s an electrical issue with the fan itself,” he said. **November 22, 2017***



## Hi TecMetal Group, New Vacuum Furnace

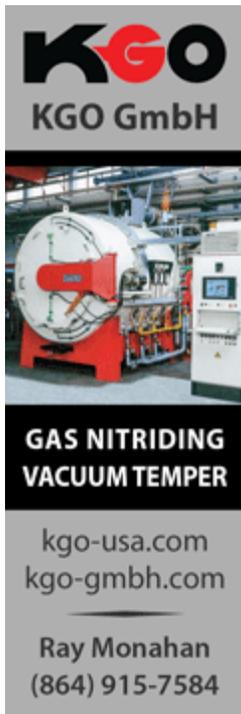
Commercial heat treater Hi TecMetal Group (HTG) has been around since 1943 and has several locations in the Northern US mainly around the Cleveland area. The SECO/WARWICK vacuum furnace you see in the photo below is destined for their Hi Tech

Aero location in Eastlake, Ohio. Judging from the photo we would say that the furnace is being manufactured at SECO/WARWICK in Meadville, PA. **November 22, 2017**



## Ipsen Granted US Patent

**“CHERRY VALLEY, IL** – Ipsen was recently awarded U.S. Patent No. 9,719,149 B2 for the development of a new load transport mechanism that can move a load within a multi-station



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heat-treating system. Chief Engineer Craig Moller, Director of Engineering and Supply Chain Kevin Woerner and Dr. W. Hendrik Grobler – the named inventors on the patent – began developing this design five years ago.

This newest patent joins a long list of patents dating all the way back to the time of Ipsen’s founder, Harold Ipsen, in the 1950s. With nearly 100 U.S. granted patents, as well as numerous patents granted in countries around the world, the many advances and contributions Ipsen has made to the industry over the decades is clear. Today, Ipsen remains committed to innovation and finding new ways to improve heat-treating systems, ancillary equipment and modes of operation.

With many of Ipsen’s patents still used in some form or other, the advanced design and clever thinking behind each invention influences, and lives on in, everything Ipsen builds today. Ipsen is proud to add this newly patented loader design to its long list of reliable, innovative creations as they continue to engineer and manufacture advanced, highly technical equipment for unique or special applications. To see a full list of Ipsen’s U.S. granted patents over the years, visit [www.IpsenUSA.com/Patents](http://www.IpsenUSA.com/Patents).” **November 22, 2017**



## Northstar Aerospace

This is a rather good news/bad news story. Northstar describes themselves this way; *“Northstar Aerospace is a leading independent manufacturer of components and assemblies to the global aerospace industry. Principal products include gears and transmissions, accessory gearbox assemblies, rotorcraft drive systems and other machined*



*and fabricated parts for helicopters and fixed wing aircraft. In addition, Northstar provides maintenance and repair and overhaul (MRO) on these same platforms.”*The company has several manufacturing locations including Milton, Ontario, Canada and Bedford Park, Il (Chicago) both of whom have reasonably large inhouse heat treating departments. It was announced back in May of 2016 that the Bedford

Park location would be closing and the Milton plant remaining open. Well at the end of the day the exact opposite happened, Bedford Park has remained open and will be seeing a larger heat treat department while the Milton facility is closed with most of the equipment

gone. Northstar heat treating includes batch carburizing, annealing press quenching and several other related processes. The sign you see below will shortly be disappearing from the Canadian location. **November 21, 2017**

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## Home Page Pictures

Regular readers will know that we change our 10 home page pictures on a regular basis <https://www.themonty.com/> The batch we just added includes some old, some new but all having to do with heat treating from areas all around the world including the US, Germany, Mexico, Canada and China. Have a look at you might be surprised to see people or equipment that you are very familiar with. **November 21, 2017**

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## Pennsylvania Metallurgical Inc./Vacu Braze

It is reasonably widely known that commercial heat treater Pennsylvania Metallurgical Inc. of Bethlehem, PA was merging with Vacu Braze in Trumbauersville, PA. Both operations were and are owned by Ralph Puerta and over some period of time most of the equipment was consolidated in the new location (by the way most of what was surplus ended up in Texas). PMI is now closed and the photo below shows the empty building after it has been power washed for a week straight-which is a darn good thing since the location will now be used for some sort of food products. We mentioned Vacu Braze, our readers might be interested in these photos of the new plant which is very impressive. **November 20, 2017**



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## Listemann Technology AG, Liechtenstein

Commercial heat treater Listemann Technology was founded in 1990 by Peter Listemann and since then has grown to 3 locations in Liechtenstein, Switzerland and Poland. It would appear that the company is an active growing firm willing to invest in new technologies. We mention them today because as we speak the company is moving into a new 1,100m<sup>2</sup> building. Unfortunately the only photo we have so far is the one below which is a few months old now. **November 20, 2017**





Indiana. March knows his stuff but things change and recently he became a Temperature Technology Specialist at GEO Corp in Ohio. We wish him the best of luck. **November 17, 2017**

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## Paulo, Monterrey, Mexico

At the recent heat treat show in Columbus, Ohio we spent some time speaking with Ben Crawford, VP Operations for Paulo and one of the topics which came up was the new plant in Monterrey. While we can't share all the details we heard we can provide this



update. **November 16, 2017**

*"Paulo is excited to announce Aldo Rodriguez as General Director of our Monterrey, Mexico location. Aldo is an experienced leader with 20 years leading Mexico based manufacturing operations. His roles have included positions in Quality, Engineering, and most recently General Manager at international aerospace suppliers. He earned degrees in Mechanical Engineering and Business and has continued his education earning Quality and Leadership certifications throughout his career. Aldo has been a leader in several manufacturing organizations including AMT, SME, and FEMIA (Federacion Mexicana de la Industria Aeroespacial). Aldo is currently overseeing construction of the Monterrey facility and visiting other Paulo locations to learn our systems, including PICS, and sharing his experience. In addition to those responsibilities Aldo has also begun recruiting key personnel for his team. Aldo's focus on lean principles while*

*generating high quality and financially productive results will benefit not only Paulo's location in Monterrey, but all locations as his knowledge is shared.*

*Aldo reports to Ben Crawford, Vice President Operations, who comments "We are well into construction of Paulo's first facility outside of the US. Most excitingly Aldo Rodriguez has joined as General Director overseeing the Escobedo*



*facility. Aldo strengthens our experience in automotive, aerospace and doing business in Mexico. I'm thrilled to work alongside Aldo implementing our growth plans." Aldo added, "I*

*feel very proud and honored to be part of this team. Paulo is a model company with great systems, business philosophy and strong values. With the addition of this Mexico operation, the company establishes its presence in a growing market that is actively seeking qualified Special Process service providers; Paulo is the answer to that need.” Founded in 1943, Paulo is one of the largest providers of heat treating, brazing, and metal finishing solutions in North America. Headquartered in St. Louis, Paulo operates six divisions servicing the Midwest and Southeast regions of the United States and northern Mexico.”*



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## **Gabriel Giraldo Joins Solar Atmospheres Greenville, South Carolina**

*“Greenville, SC, November 14, 2017 – Solar Atmospheres Greenville, South Carolina facility announces that Gabriel Giraldo has accepted the position of Sales Engineer. As a Sales Engineer, Gabriel will be responsible for supporting relationships with our existing customers and developing new business within the region. Gabriel will be based in the Greenville location and report to Mike Harper, Regional Sales Manager. Solar Atmospheres Regional Sales Manager, Mike Harper says, “We are excited to have Gabriel as a part of the Solar Atmospheres team. I am confident with both a Mechanical Engineering*



*Degree and Bachelors in Physics from Rutgers that he is strongly qualified for this position in identifying the best thermal processing solutions for our customer base in addition to providing them with exceptional support.”*

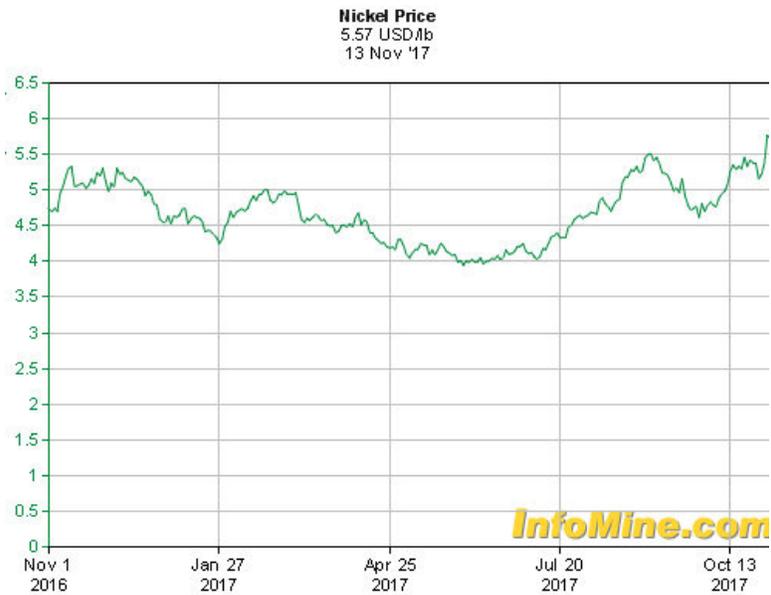
*Prior to accepting this position, Gabriel's career found him in the Heat Treat Industry as a Mechanical Engineer in which he had focus on technical support to both the company's customer base and their production environment. While there he obtained valuable knowledge thru serving a broad spectrum of metal working industry sectors including Aerospace and Defense that postures him for success with Solar Atmospheres. Please join us in welcoming Gabriel to our team. For more information about Solar Atmospheres Greenville, South Carolina facility and capabilities please contact either Mike Harper at [mikeh@solaratm.com](mailto:mikeh@solaratm.com) or Gabriel Giraldo at [gabriel@solaratm.com](mailto:gabriel@solaratm.com), or call 1-855-WE-HEAT-IT.”* **November 15, 2017**

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## Nickel Pricing

Mid June of this year nickel was priced at \$3.98 USD/pound and as of two days ago, November 13 it was priced at \$5.57USD/pound an increase of roughly 40% (this information is always available on the right side of this page and also below). Nickel being the main factor in fluctuating alloy pricing such as baskets and base trays means that end users have seen a reasonable price increase in the past few months-without a crystal ball we can't tell you whether this trend will continue or not. What we can tell you is that end users see price increases immediately which has been a bone of contention for many over the years. The reason is that the alloy fabricators and foundries do not sit on a vast stockpile of raw material, meaning that when an end user places an order the providers generally are buying the material at today's prices-not the pricing of 6 months ago. **November 15, 2017**



## Esco Limited Foundry, Port Coquitlam, BC

Way out in British Columbia, Canada you will have to move fast to bid on any of the items at Esco Foundry as the auction is Thursday of this week. For most heat treaters the only items of interest will be 4 very large, high temperature car bottom furnaces. A limited market for sure but we are firm believers that for just about every type of furnace there is a potential buyer out there somewhere. **November 15, 2017**



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## David Plester Phoenix<sup>TM</sup>

We very much regret to mention that David Plester of Phoenix<sup>TM</sup> passed away this past weekend. David spent most of his working career focusing on temperature profiling systems first with Datapaq before starting Phoenix<sup>TM</sup> with partners a number of years ago (their ad can be found on this page). We met David several times and formed a high opinion of him the first time we met. David was 68 when he passed away after a short illness. He will be missed. **November 14, 2017**

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## SECO/WARWICK Press Release

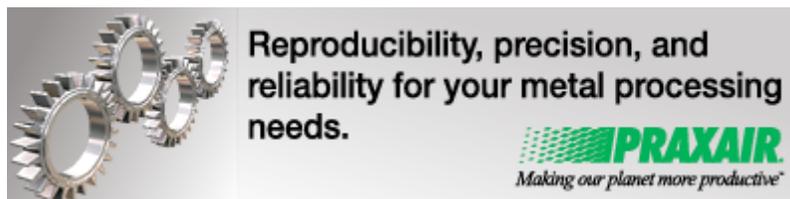
*“In France, specifically in Saint-Georges-de-Mons (Puy-de-Dôme), a European recycling and refining plant for titanium alloys dedicated to aviation solutions has been opened. This is the first titanium-producing plant in Europe to produce titanium ingots with scrap from major*

manufacturers of aircraft and their subcontractors. RETECH, part of SECO/WARWICK Group, has become the main supplier of advanced vacuum metal technology for that strategic French project, which assumes creation of a European titanium source.”

“With our complete and tailor-made solutions, our partners, including EcoTitanium, are gaining competitive advantage in the industry. It’s all thanks to our modern technologies and equipment in the field of vacuum metallurgy. This knowledge and experience enables us to meet the strictest requirements, passion and drive for innovation on the other hand – allow finding individual and optimal solutions, “commented Paweł Wyrzykowski, President of the SECO/WARWICK Group. For 50 years RETECH, part of the SECO/WARWICK Group, designs and implements vacuum metallurgy, conducts R&D projects, constructs, builds and tests equipment for customers in the global markets. “The device that our EcoTitanium partner has been equipped with consists of three metallurgical units: a plasma furnace (PAM) for melting plasma or plasma gas inert gas, and two VAR arc furnaces for titanium melting,” says Earl Good, Managing Director of RETECH. At the moment, the first arc furnace is installed. Construction and delivery of the second is planned in the next stage. **November 14, 2017**



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## **Monday Morning Briefing**

Recently we had a story to tell about how the **Watervliet Arsenal** in NY State, USA was in the process of updating their furnaces and we included a photo showing how the gun barrels were now heat treated. A furnace builder in Italy sent us a photo of what they would propose in this situation and if you compare the two photos below you can see that the newer design offers what appears to be a much more automated handling system. **November 13, 2017**



Agricultural supplier **John Deere**, a company which we are sure needs no introduction will be making a major investment in their heat treating department in Waterloo, Iowa. While details are scarce we do know that this is a multi million dollar investment for the company and that the order was placed within the past month. Speaking of new orders remember last week we mentioned a company in Sweden by the name of **LEAX Group** who were busy installing a brand new vacuum carburizing system (photo below)? We speculated at the time that this was an **ECM** system and sure enough it was.



While we are speaking about vacuum carburizing we should say that **Jata Auto Ancillaries** in India is pretty pleased with their **ALD-Dynatech** systems the second of which was installed just a few months ago. We had kind of forgotten about this, however we received an update from a friend in India this past week about how this system was performing. In the picture below from the right are Mr. S Gnanavel (Owner of JATA Auto), Mr. Hans-Juergen Hoehn ( ALD Vacuum Technologies) , Mr. S V Naik (ALD Dynatech Furnaces). ALD and ECM are the two giants in the industry when it comes to large capacity low pressure carburizing furnaces.



**Wisconsin Oven Corporation** (you know them-the oven guys) celebrated the opening of its new facility in East Troy, WI with a ribbon cutting ceremony. The new 130,000 sf facility located at 2056 Young Street was a necessary expansion to accommodate the Blue M laboratory oven product line and provide additional manufacturing space for their continued growth.



## Ipsen Press Release

*The last few months have proved to be yet another strong quarter for Ipsen USA with 14 vacuum furnaces shipped to seven states, as well as to Indonesia and Japan. This equipment will be used in support of the Additive Manufacturing, Aerospace, Automotive and Commercial Heat Treating industries. The shipments included:*

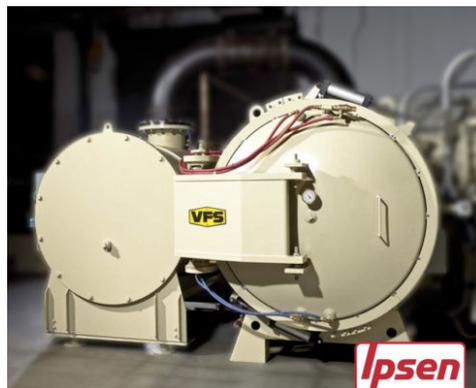
- *A vertical (bottom-loading) MetalMaster® vacuum furnace with an 84" (2,100 mm) diameter work zone and 8,000-pound (3,600 kg) load capacity.*
- *Four standard TITAN® vacuum furnaces with options ranging from spare parts kits and a thermocouple upgrade to the PdMetrics® predictive maintenance software platform.*

- Three HIQ (horizontal internal quench) and HEQ (horizontal external quench) furnaces from the VFS® product line that will process parts for the Aerospace and Commercial Heat Treating industries.
- Several custom-built, horizontal MetalMaster® and TurboTreater® vacuum furnaces.

Of these customers, over half also ordered one or more spare parts kits to help minimize future downtime. Ipsen's global ICS (Ipsen Customer Service) Team provides many comprehensive aftermarket offerings, making it easy for customers to rely on them for ongoing support throughout their equipment's life span (for any brand of furnace). This includes facilitating system installations, as well as providing startup assistance, expert training, spare parts and maintenance programs.

You can learn more about the extensive support and training they offer at [www.IpsenUSA.com/ICS](http://www.IpsenUSA.com/ICS). For immediate technical support, to order parts, schedule service and more, call the Aftermarket Support Helpline at 1-844-Go-Ipsen (1-844-464-7736).

**About Ipsen.** Ipsen designs and manufactures integrated heat treatment solutions for a wide variety of industries, including Aerospace, Automotive, Energy and Medical. With an extensive network of global locations in America, Europe and Asia, we continue to provide expert-driven solutions that strengthen heat treatment throughout the world. Learn more at [www.IpsenUSA.com](http://www.IpsenUSA.com). **November 10, 2017**



## ASM Heat Treat Conference & Gear Expo

Heat Treat 2017, the biennial show from the ASM Heat Treating Society was held October 24-26 in Columbus, Ohio, USA in conjunction with Gear Expo 2017. In our opinion ASM always does a good job of organizing these events and are feeling was that as usual this was well done. However quite a number of the exhibitors felt that attendance was down a reasonable amount. Well the numbers are in and attendance was down. We have been told that the Gear Expo numbers were down roughly 10% with the Heat Treat side of the show being down more than twice that amount. With the industry as a whole doing well it is puzzling why this should be so but a common theory is that Columbus was not the best venue. We believe that this was the first time it has been held in Columbus so perhaps there is some truth to this theory. **November 10, 2017**

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## Real Heat Treating?

On a light note a captive heat treater who is a regular reader of "The Monty" sent us this photo and suggested that this be entitled "real heat treating". This would be considered real as opposed to wimpy heat treating which does not involve smoke, flames, panic and general chaos. **November 9, 2017**



# NEWS Bulletin



## Isostatic Toll Services Expansion

Isostatic Toll Services (ITS) has expanded! In response to the market's high demand for quality toll HIP services, we have installed a new HIP system at our site in Olive Branch, Mississippi. The new HIP system reaches temperatures up to 2300F and pressures up to 20,000 psi. This exciting expansion has increased our max pressure from 15,000 to 20,000 psi while also increasing our production capacity.

We are dedicated to meeting the industry's high standards for quality and recently passed our NADCAP recertification audit to include our new system expansion. After an exhaustive onsite quality audit, we have also been approved by MTU Aero Engines to run toll HIP parts. Contact us today to reserve your spot on the production schedule and discover how our quality services can meet your needs and budget!



## Quality at its Best

Isostatic Toll Services (ITS) holds multiple Quality certifications for various industries:

- NADCAP AC7102/6:HIP (Aerospace)
- ISO 9001 (General Quality)
- AS9100C (Aerospace)
- ISO 13485 (Medical)

ALSO, approval by **MTU Aero Engines** to run Toll HIP parts after an exhaustive onsite quality audit!

## Growing Family

Isostatic Toll Services is part of a larger family in the isostatic industry, and we are all growing! It all started with American Isostatic Presses (AIP) in 1991; a company supplying hot, warm and cold isostatic pressing units to companies worldwide. AIP expanded with two sister companies, Isostatic Toll Services (ITS) and Isostatic Pressing Services (IPS), both offering high quality toll HIP services. ITS and IPS both have the unique advantage of gaining the industry's latest technological improvements through AIP as well as having their units expertly maintained by engineers who have been in the business for over 25 years!

With ITS in Mississippi, and sister companies, AIP in Ohio, and IPS in Oregon, we can truly offer high quality nationwide isostatic services at the industry's best prices!!!  
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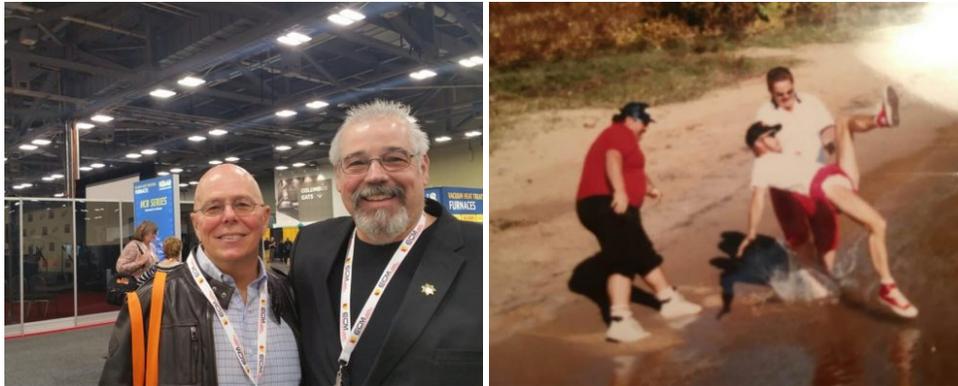


Isostatic Toll Services, LLC  
9120 Yahweh Road Olive Branch, MS 38654  
Phone: 662-890-6786 Fax: 662-890-6796  
Email: [bflcak@isostatictollservices.com](mailto:bflcak@isostatictollservices.com)



## Mr. John Hubbard

Even though it is a number of years since Mr. John Hubbard former CEO of commercial heat treating giant Bodycote retired his name is still a well recognized one and John remains very active in the heat treating industry. Marty Keylon a former Bodycote General Manager spend some time with John at the recent heat treat show in Columbus, Ohio and sent us these two photos. The first is John and Marty Keylon two weeks ago, the second photo dates back to the “Hinderliter” days in the 1980’s before Hinderliter became part of Bodycote. In it we see Marty and Gary Gall throwing John into a lake, the result was a broken ankle for John. **November 9, 2017**



## Nutec Bickley Acquires Olson Industries

In the world of new furnace manufacturing this ranks as a very interesting news item. These are two quite large furnace builders and the combination of the two will certainly have an effect on some parts of the industry. We have two photos to go with this news item, one provided by Olson Industries, the second showing the carbottom furnace is from a visit we made to Nutec in Mexico not that long ago. **November 8, 2017**

*“Nutec Bickley (Monterrey, Mexico), the international leader in the design and manufacture of innovative and efficient industrial furnaces, ovens, ceramic kilns, and combustion systems, has announced the key asset acquisition of Olson Industries (Burgettstown, PA, USA). This major*



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*move will see Nutec Bickley complement its existing product range to offer more complete packages for the steel, aluminum, and alloy industries. As with the previous acquisitions of Bickley, GFC Kilns, and Dragon Kilns in the company's Ceramics Business Unit, bringing the Olson Industries' line of equipment on board will enable the Metals Business Unit to consolidate its position in the North American market and, at the same time, secure access to larger projects. To consolidate the acquisition and to maintain good strands of continuity, it has also been announced that, as part of the transaction, Bryan Kraus (President and Owner of Olson Industries) will be engaged in Nutec Bickley's Metals BU, providing guidance and assistance in related activities such as technical sales and engineering.*

*Olson has been supplying industrial furnace and process heat-treating equipment to manufacturers throughout the world since 1945, and enjoys a strong reputation for engineering and combustion design. “We are very excited about Olson Industries and Bryan Kraus joining the Nutec Bickley family,” said Nutec Bickley President, Daniel Llaguno. “Olson’s name and proven technology for the forging and heat treating of steel and alloys will perfectly complement our current range of products. We aim to make great strides as a result of this acquisition.” Olson’s breadth of expertise encompasses everything from car bottoms, box, rotary hearth, steckel and roller hearth furnaces, in applications such as forging, heat treating, continuous reheating, hot dip galvanizing, recirculation, and preheating. Great success has been achieved in major user industries such as steel, heat treatment, aerospace, automotive, and oil and gas.*

*“Applications such as large rotary-hearth furnaces, and peripheral equipment such as quenching systems, manipulators, robots, and conveyors will now be a standard offering from us,” confirmed Daniel Llaguno. “If you couple that with Nutec Bickley’s state-of-the-art facilities, highly experienced staff, and constant focus on customer satisfaction, you can see that there is indeed a very powerful value proposition on offer to both existing and new customers.”*



## Super Systems, Inc. Receives ISO9001:2015 Registration from PRI Registrar

*“PRI Registrar recognizes Super Systems, Inc. for its commitment to continual improvement in their quality management system and becoming certified to the current ISO9001:2015 international quality standard. Super Systems, Inc. announces that it has received ISO9001:2015 registration for manufacturing, calibration, and servicing of sensors, analyzers, control systems, and SSI product support services used in heat-treating organizations. In addition, SSI has received its ISO/IEC17025:2005 calibration accreditation while expanding their scope of accreditation. “Our company and our customers benefit from our commitment to a solid quality management system and we are proud of our ISO9001:2015 and 17025 accreditation. This is a company-wide effort and every one of our employees plays a part in our continuous improvement plan,” said Steve Thompson, President of Super Systems, Inc. Super Systems, Inc.*



received ISO9001:2015 registration for demonstrating its ongoing commitment to quality by satisfying customer requirements and industry specifications. "Super Systems, Inc. has demonstrated its commitment to world class quality management by implementing and becoming certified to the ISO 9001:2015 standard. They have joined an elite number of organizations worldwide who have achieved certification to this globally recognized quality standard," said Randy Daugharthy, Director of the Registrar Program at the Performance Review Institute (PRI) Registrar. Additionally, the SSi team renewed its ISO/IEC17025:2005 Accreditation with its accreditation body, ANSI-ASQ National Accreditation Board (ANAB). During the renewal audit, the SSi Production/Calibration team demonstrated technical competence in the field of Calibration that resulted in expanding its Scope of Accreditation in addition to reducing measurement uncertainties, which improves quality for SSi and its customers." **November 8, 2017**

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## Watervliet Continued

As part of our Monday Morning Briefing of October 30th/2017 we mentioned how the Watervliet Arsenal in NY State, USA is making a very large investment in their long standing heat treating department. We can give you a bit of an update on this in the form of this abbreviated story; *"The U.S. Marine Corps' artillery support for U.S.-backed forces fighting in the Syrian city of Raqqa was reportedly so intense that units on the ground "burned out" the barrels on two of their M777 155mm howitzers during the effort to liberate the city, rendering them unsafe to use. The unprecedented use of the M777 in Iraq and Syria in particular might be part of why both the U.S. Army and Marine Corps are looking to refit their guns with full-bore chrome-lined cannon tubes. In August 2017, the Army said that the Watervliet Arsenal in New York was working on a 100 of these new barrels for each service.*

*The refitted howitzers will reportedly have almost 50 percent greater barrel life over weapons with the original all-steel types. The Marines first tested the modified design in 2016 and Watervliet expects there will be more orders in the future. "Given that there are more than 1,000 of these gun systems in the Army and Marine*



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inventory,” George Roach, the product manager for the chrome barrel program at Watervliet, said in August 2017. “There is potential for the arsenal to receive more orders for full-bore chrome barrels as these orders only reflect about 20 percent of the inventory.” **November 7, 2017**



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## **New helium leak detector PHOENIX 4 from Leybold**

*“After 15 years, Leybold is launching the PHOENIX 4, a new family of helium leak detectors to meet the increasing quality requirements. This innovative product is equally suited to the demands of research and development as for those of industrial applications – from securing the ultra-high vacuum demands in CERN’s particle accelerator, to industrial applications such as leak detection in the Hyperloop vacuum transport system or for semiconductor production. **Functional design concept:** With its ergonomic design and improved measuring characteristics, the fourth generation PHOENIX sets new standards – especially in terms of operating comfort, response times, helium sensitivity and reliability. Moreover, the stationary and mobile models are easier to handle and maintain than their predecessors. For example, it is now possible to change the filter without removing the housing. This compact, versatile helium leak detector is available in three classes, the PHOENIX Vario, PHOENIX Quadro, and PHOENIX Magno, which are designed for various customer applications with their different pumping speed configurations.” **November 7, 2017***



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## Monday Morning Briefing

For something different we are going to start off in Sweden today where **LEAX Group** is announcing that they are in the process of installing a Low Pressure Carburizing (Vacuum Carburizing) system at their Brinkmann plant. The system is their first foray into vacuum carburizing and marks a departure from their older style, oil quenching furnaces. LEAX Group manufactures a number of different products including gears and the company is also installing new induction hardening equipment at their plant in Falköping, Sweden. While the supplier of the LPC equipment was not named our guess would be that **ECM** is the builder. While the Swedish heat treating market is not large it is as advanced as any and more advanced than most (and a darn nice country by the way).



Steel making is not an area that **"The Monty"** generally mentions as we much prefer to keep our focus on what we truly know which is heat treating. However **Timken** seems to have flooded news outlets with their press release about a new quench and temper line at their location in Canton, Ohio so we will slip in a quick mention; *"Timken Steel brought its newest heat-treatment asset, an advanced quench-and-temper facility, online and has started*

processing customer orders. The addition of the \$40 million facility, located at the company's Gambrinus Steel Plant in Canton, Ohio, increases TimkenSteel's existing quench-and-temper capacity by 50,000 tons, or 45%, and brings the company's total annual heat-treatment capacity to 500,000 process tons. According to TimkenSteel, it is the largest of its four heat-treatment facilities." In our humble opinion one of the most high profile people in the Induction world is **Dr. Valery Rudnev** of **Inductoheat** however this high profile can also cause problems. The good doctor was not in attendance at the recent ASM show in Columbus, Ohio due to some other engagements which resulted in some people wondering if he was OK. He is happy and healthy and tells us what he has been up to; "In the third week of October 2017, Dr. Valery Rudnev, FASM, Director of Science & Technology at Inductoheat Inc., has conducted a number of induction heat treatment seminars in Europe. This includes a two-day technical seminar per invitation of Fiat Chrysler Automobiles Group (FCA-Italy) at Tech Center in Torino, Italy (photo below). This was the second technical seminar conducted by Dr. Rudnev for FCA Group this year. In March, 2017 he conducted technical seminar for FCA-USA, which took place at the Tech Center in Auburn Hills, MI."

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Lets move on to "People" news where we start in Kentucky, USA. **Russ Bell** who was Sales Manager for commercial heat treater **National Metal Processing** down in Richmond, Kentucky has just retired. Commercial heat treater **Bodycote** has appointed **Anne Quinn** as non-executive chairman with effect from 1 January 1. Bodycote announced in March that Alan Thomson intended to step down as chairman and retire as a director once a successor had been identified. **Eric Reamer** who has been with commercial heat treater **Phoenix**

**Heat Treat** in Arizona, USA very recently became Production Manager-congratulations to Eric. **Mary McKerrell** has just become Regional Sales Rep for commercial heat treater **Applied Process** in Michigan. **Mr. Tomasz Pawlaczyk** is the new Production Manager at **MB Aerospace Technologies** (Poland) plant in Kalisz replacing **Mr. Wojciech Matczak**. This was a Vac Aero facility until it was sold to MB Aerospace about a year ago and this is what it looked like the last time we saw the plant.



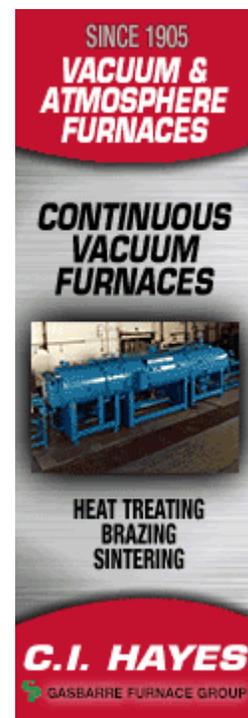
Captive heat treater **Parker Hannifin** in Greeneville Virginia have been upgrading all their control panels and flow scopes to **Atmosphere Engineering** products recently. “The Monty” recently announced how Atmosphere Engineering had been acquired by **United Process Controls**. And to round things out we have this note from furnace builder **Abbott Furnace Company**; “Abbott Mexico, the Abbott Furnace Company division serving Mexico and South America was established in early 2017. In May, Abbott Mexico completed its first industrial furnace installation at an automotive parts manufacturing company in Mexico. The installation was challenging because the industrial furnace is a very large piece of equipment that needed to be installed in a tight space. Pictured at right with the first automotive part to come through the furnace is Abbott Mexico team members Alan Tellez, Jeff Carlson, and Scott Lovenduski.” **November 6, 2017**



## SAF-Holland

Truck parts manufacturer SAF issued this press release earlier this year about closing their Holland, Michigan plant by the end of October. Sure enough October 31 was the last day for the plant. The in house heat treating department was part of this closure with the equipment being moved to other locations. **November 3, 2017**

*“HOLLAND, MI – European-based SAF-Holland announced it will close its operations on the city’s West Side by the end of October, putting 97 employees out of work. The announcement, made public in a notice filed with the state of Michigan last week, said the layoffs will begin on May 19 through June 2 and will be completed by Oct. 31. Based in Luxembourg, SAF-Holland — formerly Holland Group and Holland Hitch — designs, manufactures and distributes engineered components, systems and services for the heavy-duty commercial vehicle industry. SAF-Holland, whose American offices are headquartered in Muskegon, announced in January it will begin consolidating its North American operations in response to weak sales. In Holland, the company operates from offices at 467 Ottawa Avenue and a production facility across the street at 430 W. 18th Street.”*





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## ASM Photos

While we at “The Monty” always thoroughly enjoy trade shows as we did the ASM exhibition in Columbus, Ohio last week you can have too much of a good thing and with that statement we present our last photos from the show last week; **November 3, 2017**



*Gasbarre Furnace Group of Companies. From the left; Ben Gasbarre, Paul Chamberlain, Eric Buchanan, Jeff Schlais, Patrick Weymer, Matt Marzullo*



*Gord Montgomery, Bill St. Thomas*



*Scott MacKenzie, Houghton, Jordan Montgomery*



*Minimox*



*Greg Steiger, Andre Wilkerson, Idemitsu Lubricants America, Jordan Montgomery*



*The Kanthal Team*

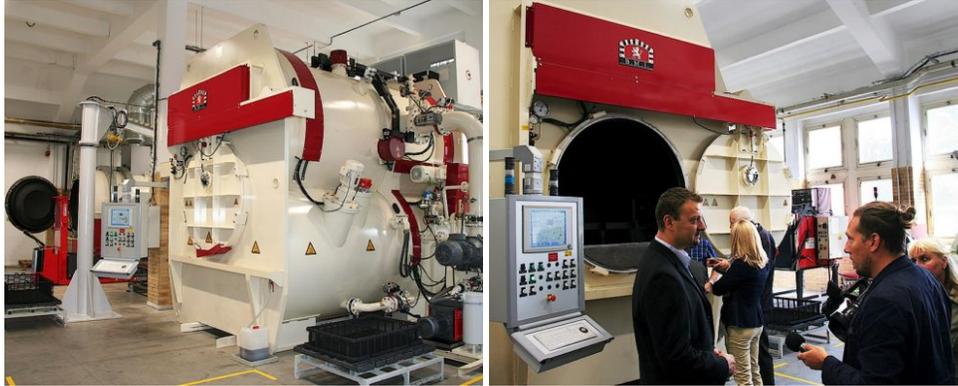


*Furnace Builder SECO/WARWICK*

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## **BMI Installs Furnace at Medin**

*BMI a manufacturer of vacuum furnaces based in France recently installed a vacuum oil quenching furnace at Medin in Nové Město na Moravě, Czech Republic. The furnace has working dimensions of 900mm X 1200mm X 900mm and a load capacity of 1200kg making it a pretty big unit. Other thermal processing equipment at the plant was provided by Tenova Group who is the parent company of BMI and one of the largest furnace builders in the world. Interesting looking furnace isn't it-doesn't look like most of the vacuum oil quenches we have seen over the years. Medin is a manufacturer of medical instruments and implants and this furnace is part of their new heat treat department. **November 2, 2017***



## Solar Atmospheres Press Release

*“Solar Atmospheres successfully processed the first FAA Certified structural additive manufactured Ti-6Al-4V parts that were produced by Norsk Titanium AS destined for installation on a Boeing airplane. The vacuum stress relief was compliant with the stringent AMS 2801 and other OEM specifications. Norsk Titanium’s printing technology of these aft galley supports, along with other flight critical components, signals the ancillary cost benefits that customers may realize with additive manufacturing: lead time reduction, lower inventory requirements, and future spare parts continuity assurances. Solar Atmosphere processed the initial production components for Norsk in March. Norsk’s US facility in Plattsburgh, New York will produce multiple 3-D printed components for the world’s premier commercial aircraft OEMs. The company is also exploring other applications in the defense sector including the next generation aircraft, naval vessels, and land-based vehicles. **November 1, 2017***

*Bob Hill, President of Solar Atmospheres of Western PA states, “We are extremely proud to partner with innovative additive manufacturing companies such as Norsk Titanium. Today, we can clearly see how this revolutionary manufacturing process has departed from the hype realm and is entering into everyday reality.” For additional information about Solar*

Atmospheres, contact Mike Johnson at 866.982.0660, ext. 2223, or [mike@solarwpa.com](mailto:mike@solarwpa.com), and visit [www.solaratm.com](http://www.solaratm.com).

**About Norsk Titanium AS.** Norsk Titanium AS is the world's pioneering supplier of aerospace-grade, additive manufactured, structural titanium components. The company is distinguished in the aviation industry by its patented Rapid Plasma Deposition™ (RPD™) process that transforms titanium wire into complex components suitable for structural and safety-critical applications. Norsk Titanium is a tier-1 supplier to Boeing and is committed to cost-reducing aerostructures and jet engines for the world's premier aerospace manufacturers. RPD™ is the world's first FAA-approved, 3D-printed, structural titanium, delivering substantial lead-time and cost savings for aerospace, defense, and commercial customers. [www.norsktitanium.com](http://www.norsktitanium.com)



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## Lindberg Ships Batch IQ Furnaces

*“Lindberg/MPH announced the shipment of two electrically heated Pacemaker integral quench furnaces. The Pacemaker IQ furnaces will be used for carburizing and hardening applications. These integral quench furnace systems provide a total solution for your heat-treating processes. The Pacemaker furnaces have maximum temperature ratings of 1850°F, work chamber dimensions of 24” W x 36” D x 24” H, and feature upper atmosphere cooling chambers. A programmable control system provides full automation of the load and carbon control. The programmable logic controller also performs all data collection functions for process variables. Atmosphere carbon potential is controlled with automatically adjusting flowmeters and an oxygen probe. The equipment status screens are visible on the HMI screens.”* **November 1, 2017**



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**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 FOR SALE

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  - Item # B432 Atmosphere Box Furnace 36" X 48" X 24"
  - Item # B431 Air Atmosphere Box Furnace 2,000 F
  - Item # B430 Ipsen Recirculating Box Furnace
  - Item # B428 Carbottom Furnace 1800 F
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  - Item # B424 Atmosphere Box Furnace 80" x 96" x 60"
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  - Item # B418 Lindberg High Temperature Oven 36" Cubed
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  - Item # B397 "Lift-Off" Atmosphere Box Furnaces (2)
  - Item # B388 Hydrogen Atmosphere Furnace 8" x 8" x 8"
  - Item # B386 High Temperature Tube Atmosphere Furnace
  - Item # B374 Atmosphere Box Furnace 2100 F
  - Item # B371 Sauder "Auto-Tilt" Car Bottom Furnace
  - Item # B352 Pacific Scientific Box Furnace
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## ITEM # B436

### 36" X 60" PIT GAS NITRIDER

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

**Asking Price \$75,000 USD.**



## ITEM # B435

### CODERE SWITZERLAND SYSTEM 250 42/60

**CODERE Switzerland System 250 42/60.** This installation was manufactured in 2001 and is situated in Switzerland. Due to the reduction of in-house heat treatment, customer decided to sell this line and outsource material, which arrives already heat treated. Austenitizing, carburising and carbonitriding furnace with operating temperature of 1000°C. The main voltage is 3 x 400V – 50Hz. The maximum weight per load is 150 kg with loading dimensions consisting of 420 mm x 600 mm. System consists of a Salt quench tank – Water quench tank- Gas cooling unit (0.2 bar) – 2 x Austenitizing furnace – 2 x Tempering furnace under protective atmosphere – Washing machine 2 with Salt recuperator – Semi automatic manipulator with gas cabinet – Loading/ Unloading table (Suitable for 2 loads). Carbomanagement software recording all history and cycle parameters with the necessary controllers. Possibility of changing water tank to oil quench. Codere confirm this installation will undertake retrofit of retorts before dispatch and overall inspection of line. Well maintained and has been shut down since August 2017.

**Asking Price: 595,000 CHF**



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## ITEM # B434

### HOLCROFT BATCH IQ FURNACE

**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 carburizing and nitriding. New in 1998. Excellent condition!

**Asking \$55,000 USD.**



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## ITEM # B433

### CAR BOTTOM 74" X 84" X 84"

**Car Bottom 74" x 84" x 84"**. Electrically heated with a maximum temperature of 1500F.

**Asking Price: 8,250 USD**



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## ITEM # B432

### ATMOSPHERE BOX FURNACE 36" X 48" X 24"

Lindberg Atmosphere Box Furnace. Model G-364824-A, S/N 20063. Working dimensions of 36" wide X 48" long X 24" high. Electrically heated 480/3/60 @ 95KW. Maximum operating temperature of 2500F. Air operated vertical lift door with water cooled faceplate, ceramic multipiece hearth, 20 Globar elements above and below the hearth. Tap style transformer. Digital control and overtemp. Very good condition.

**Asking \$49,500 USD.**



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## ITEM # B431

### AIR ATMOSPHERE BOX FURNACE 2,000 F

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

**Asking \$65,000 USD.**



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## ITEM # B430

### IPSEN RECIRCULATING BOX FURNACE

Ipsen Recirculating Box Furnace 38" high x 43" wide x 48" deep. Gas fired, 1,000,000 BTU/hr with a max temperature: 1400 deg.F. Model Number: DL-3036. Serial Number: 60459. Updated controls, Honeywell indicating controller and overtemp. High temperature tempering furnace. Vertical lift air operated door with overhead air cylinder. Fiber board insulation. Alloy roller rail hearth. 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.

**Asking Price: \$39,500.00**



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## ITEM # B428

### CARBOTTOM FURNACE

Carbottom Furnace. Working dimensions of 30' X 10' X 9", gas fired, 15 zones of control. Manufactured by the JL Becker Company. Operating temperature of 1800F. This was completely rebuilt in 2015 and has new ICS controls and new fire brick. Complete and in good condition. Currently installed but not in use.

**Asking \$150,000 USD or best offer.**



## ITEM # B426

### PLASMA NITRIDING UNIT 1000 KG CAPACITY

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

**Asking 98.000 Euro.** Located in Turkey.



## ITEM # B425

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

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

**Asking \$85,000 USD.**

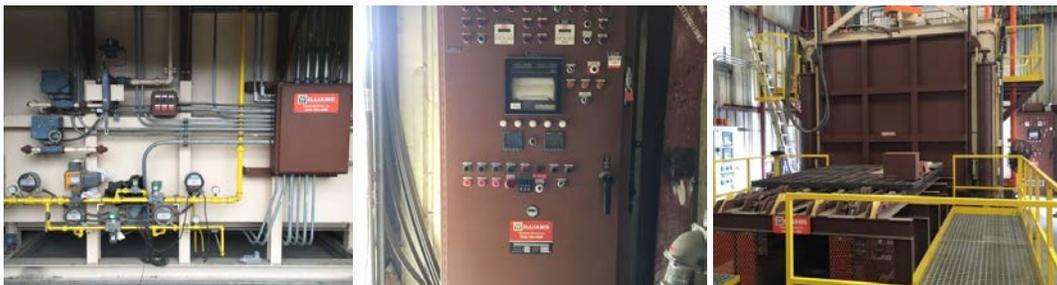


## ITEM # B424

### 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 # 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 600 kg. 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. 1500 CFH. Can be easily upgraded to produce 2000 CFH. Dewpointer, industrial scales and portable hardness tester also included.

**Asking Price £95,000.00**



## ITEM # B421

### SURFACE COMBUSTION "SUPER 36" ALLCASE

**Surface Combustion "Super 36" Allcase.** Working dimensions of 36" X 48" X 30" high, 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 # B418

### LINDBERG HIGH TEMPERATURE OVEN

**Lindberg High Temperature Oven.** Model 41-MT-363636-2. Serial number 949223. Working dimensions of 36Wx36Lx36H. Manufactured in 1994. Maximum operating temp of 2050F. 240V, 3-phase 60hz. Honeywell Truline round chart recorder, model DR45AT and Watlow F4 digital control. Air operated vertical lift front door. Heating is provided by Lindberg MPH heating elements. Recirculating fan is mounted in the bottom. Furnace can be used for hardening, carburizing, carbo-nitriding, normalizing, and annealing. Includes retort box measuring 34x34x32 with gas connection. Excellent condition. Only used in the jet aviation industry by 1 owner. The retort was purchased with the furnace but was not actually used. Retort is brand-new. Unit has been well taken care of. Also included is a Clark Hardness Tester, Model CPT.

**Asking \$21,000 USD for both.**



## ITEM # B415

### J.L. BECKER CAR BOTTOM

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

**Asking Price: \$95,000.00 USD.**



## ITEM # B414

### IPSEN BATCH IQ INSTALLATION

**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 # B400

### SURFACE COMBUSTION SUPER 30 ALLCASE

**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

### CAR BOTTOM FURNACE

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

**Asking \$85,000 USD.**



## ITEM # B398

### SAUDER BATCH IQ LINE

**Sauder Batch IQ Line.** Serial Number 881978-83. Electrically heated 480/3/60/150kW total load. Maximum operating temperature of 1850F. Working dimensions of 24" Wide X 24" high X 36" long. Controls; Mounted and wired in an enclosure attached to the right

hand side of the furnace includes a Marathon 10 Pro digital temperature controller, Marathon Carbpro digital carbon controller, Barber Colman analog high limit and a Honeywell digital strip chart recorder. Three power meters are face mounted to the same enclosure which monitor power in each zone of the furnace. A Halmar "SCR" power controller controls power to the heating elements. Two (2) Allen Bradley PLC controllers are mounted in the same enclosure. Standard In/Out Integral Quench Furnace w/Top Cool. This line consists of IQ furnace with top cool, heated quench tank, charge car, dunk & spray washer, temper furnace, SBS oil cooler, scissors table, atmosphere flow panel and several spare parts. Very good condition. Asking \$125,000 USD for the complete line. Shipping

Dimensions:

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

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

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

Quench: 106" x 10'H x 72"

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

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

Misc. skids, flow panel, SBS, spare parts

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



## ITEM # B397

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

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

were used prior for tempering/normalizing wire rod and bar stock. Both of these have top mounted recirculating fans and are “atmosphere capable”, good for FNC work.

**Asking \$325,000 USD each.**



## ITEM # B388

### HYDROGEN ATMOSPHERE FURNACE

**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 # B386

### HIGH TEMPERATURE TUBE ATMOSPHERE FURNACE

**High Temperature Tube Atmosphere Furnace.** Manufacturer: Blue-M. Type: Atmosphere Vertical Tube Furnace. Max. Temperature: 2500°F. Work Zone Size: 2"

Diameter x 12" High. Heating: Electric, Globar elements. Tube: Ceramic. Atmosphere: Air or Any Suitable Purge Gas. Last Use: Thermocouple Calibration.

**Price: \$2,500 USD.**



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**ITEM # B374**

### **ATMOSPHERE BOX FURNACE**

**Atmosphere Box Furnace.** Manufacturer: R&G Services, Inc. Inside Dimensions: 18" high x 32" wide x 36" deep. Heated: Electric, 230/3/60, 60 KW. Temperature: 2100 deg. F Model Number: EB-183236 Serial Number: 77021 Temperature Controls: Updated indicating controller and overtemp. Description & Features: Air operated vertical rising door. Slanted face plate. Brick lined with silicon carbide hearth. Heated by heavy Nichrome ribbon heating elements. Atmosphere inlet and burn-off. Flame curtain with controls and safeties. Condition: Very good. Furnace will be cleaned & painted, repaired as necessary, checked out & test fired prior to shipment.

**Asking Price: \$18,000.00 USD.**



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**ITEM # B371**

### **SAUDER "AUTO-TILT" CAR BOTTOM FURNACE**

**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.



## ITEM # B352

### PACIFIC SCIENTIFIC BOX FURNACE

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

**Asking \$70,000 USD.**



# CONTINUOUS FOR SALE

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## ***Quick Jump To Items:***

- Item # C330 Mesh Belt Furnace Line
- Item # C329 CI Hayes Atmosphere Belt Furnace
- Item # C328 CI Hayes Atmosphere Belt Furnace
- Item # C327 Rogers Engineering Continuous Brazing Furnace
- Item # C325 Sinterite Mesh Belt Furnace 1180 C
- Item # C324 C.I. Hayes Mesh Belt Furnace 12" Wide Belt
- Item # C323 Aichelin Cast Link Furnace Line 750 lbs/hr
- Item # C322 Surface Combustion Rotary Hearth Line
- Item # C321 Austempering System 500 lbs/hr
- Item # C319 CI Hayes High Temperature Pusher Furnace
- Item # C317 CI Hayes High Temperature Pusher Furnace
- Item # C314 Roller Hearth (Atmosphere) 4800 lbs/hr
- Item # C312 Surface Combustion Roller Hearth Line
- Item # C308 AFC Mesh Belt Furnace 54" Wide Belt
- Item # C301 Cast Link Belt Line 4000 lbs/hr
- Item # C296 C.I. Hayes High Temperature Tube Furnace
- Item # C283 Rotary Hearth Furnace System
- Item # C269 CI Hayes Mesh Belt Furnace 12" Wide Belt
- Item # C265 Sunbeam Pusher Carburizer 3000 lbs
- Item # C219 Abbott Furnace

## ITEM # C330

### MESH BELT FURNACE LINE

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

**Best offer.**



## ITEM # C329

### CI HAYES ATMOSPHERE BELT FURNACE

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

**Asking Price \$15,000 USD**



## ITEM # C328

### CI HAYES ATMOSPHERE BELT FURNACE

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

**Asking Price \$15,000 USD**



## ITEM # C327

### ROGERS ENGINEERING CONTINUOUS BRAZING FURNACE

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

**Asking \$250,000 USD.**



## ITEM # C325

### SINTERITE MESH BELT CONVEYOR FURNACE

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

**Asking \$70,000.00 USD or best offer.**



## ITEM # C324

### C.I. HAYES MESH BELT FURNACE

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



## ITEM # C323

### AICHELIN CAST LINK FURNACE LINE

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

**Best offer.**



## ITEM # C322

### SURFACE COMBUSTION ROTARY HEARTH FURNACE LINE

**Surface Combustion Rotary Hearth Furnace Line.** This system was designed for heat treating and straightening crankshafts and consists of a rotary hearth furnace, 2 Gleason straightening presses and a robot for loading/unloading. The furnace is S/N CC11590-1 with an outside diameter of 17' 3", inside 15', inside height of 2' 11" with an overall height of 8' 6". Built August 1979. Gas fired with 8 trident tubes. Atmosphere is Endo/Natural gas. Nominal tray size is 5" X 21", number of tray positions 60, tray loader/unloader length 10' 6". Hearth has ceramic tray support and guide tiles and embedded in 12" thick insulating firebrick. Sidewalls consist of 9" of insulating firebrick backed with 4 1/2" of insulating block. Alloy and brickwork are both excellent. System is complete, installed but not in operation.

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



## ITEM # C321

### AUSTEMPERING SYSTEM

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

**Asking \$20,000 USD or best offer.**



## ITEM # C319

### CI HAYES HIGH TEMPERATURE PUSHER FURNACE

**CI Hayes High Temperature Pusher Furnace.** C.I. Hayes model MY-040848-94PH high temperature pusher furnace. 4" opening above the hearth, 8" tray width. Max. Temp: pre-heat 1100 C, High Heat 1700 C. 94" long preheat, 1 control instrument/1 zone, 15 KW@440/3/60, metallic heating elements. 48" high heat, 1 instrument, 3 control zones, 45 KW@440/3/60, molybdenum heating elements. 48" metallic front tunnel with nitrogen curtains and burn off. 3 cooling sections. each 36" long, 1 section is insulated and all are

water jacketed. Rear tunnel with nitrogen curtains and burn off. Multiple atmosphere inlets, for hydrogen/dissociated ammonia with nitrogen purging. Pusher screw drive. Atmosphere bubbler. High heat chamber recently rebuilt. Overall Dimensions; 6'H x 4'-6"W x 39'L (Approx.)

**Asking \$100,000 USD.**



## ITEM # C317

### CI HAYES HIGH TEMPERATURE PUSHER FURNACE

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

**Asking \$110,000 USD.**



## ITEM # C314

### ROLLER HEARTH FURNACE (ATMOSPHERE)

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

**Asking \$225,000 USD.**



## ITEM # C312

### SURFACE COMBUSTION (PIFCO) ROLLER HEARTH LINE

**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 waulkeetronic flow meters. Must be removed within the next few months.

**Asking Price: \$450,000 USD.** All Offers Considered.



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## ITEM # C308

### AFC MESH BELT HARDENING FURNACE

**AFC Mesh Belt Hardening Furnace.** Manufactured by Atmosphere Furnace Company this furnace has working dimensions of 6" high x 54" wide x 12' long (heated section). Gas fired with radiant tubes. Operating temperature of 1800F. S/N 6948. Temperature Controls: Free standing enclosed panel. Honeywell solid state digital readout indicating controllers, L&N overtemps. L&N strip chart temperature & carbon recorder. Marathon Monitors Carb-Pro carbon control. Description & Features: Fiber lined. Heated by (9) North American 4724-2-E burners firing into recuperated U-tubes. Two zones of control. Rear zone has a roof mounted recirculating fan. Cold belt return. Furnace has a flame curtain and complete combustion controls and safeties. Includes quench tank and conveyer.

**Asking \$75,000 USD.**



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## ITEM # C301

### CAST LINK BELT QUENCH AND TEMPER LINE

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

Tempering/Anneal Furnace: 60"W mesh belt with support rollers. Furnace has a 35'L heating section. Four (4) zones of control with four (4) roof mounted fans. Maximum

operating temperature is 1700°F. Total BTU's for the tempering/annealing furnace 3,790,000 BTU/HR. Please note that this furnace has two (2) different modes of operation. Click on 'PDF" below for more information on the different modes of operation.

The sequence of this furnace is as follows:

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

Includes:

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

Very good condition, available immediately.

**Asking \$650,000 USD.**



**ITEM # C296**

## **C.I. HAYES HIGH TEMPERATURE TUBE FURNACE**

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

**Asking Price \$21,000 USD / OBO.**



## ITEM # C283

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

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

**Asking price: \$29,000 USD.**



## ITEM # C269

### CI HAYES MESH BELT FURNACE

**CI Hayes Mesh Belt Furnace.** Working dimensions of 5" over belt, 12" wide X 120" of heated length. Electrically heated 230/3/60, operating temperature of 2100F. Model LAC. Temperature controls are new state of the art, control panel with Honeywell sold state

digital readout controller and overtemp for each of three zones, includes volt and amp meters. Full alloy muffle in hot zone. 20' long sealed water jacketed cooling. Globar heating elements over and under the belt. (3) zones of control. (4) argon flowmeters. Dayton AC inverter provides adjustable belt speed. Updated SCR controls. Muffle and belt are new. Very good condition.

**Asking \$39,000 USD.**



## ITEM # C265

### SUNBEAM PUSHER CARBURIZER

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

**Asking \$40,000 USD.**



## ITEM # C219

### ABBOTT MODEL 6ZSCR-18-432HH6-VC-2150

**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 FOR SALE

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## ***Quick Jump To Items:***

- Item # T348 Car Bottom Tempering Furnace
- Item # T346 Despatch Oven 72" X 48" X 48"
- Item # T345 Surface Combustion Temper Furnaces (4 Available)
- Item # T343 Batch Temper 36"W X 36"H X 96"L
- Item # T342 Recirculating Walk In Oven 72" X 48" X 120"
- Item # T341 Temper Furnace
- Item # T340 Safed/Borel Annealing Furnace
- Item # T339 Box Tempering Oven
- Item # T336 Mesh Belt Temper Furnace 48" Wide
- Item # T335 Batch Oven 37"H X 37"W X 25"D
- Item # T333 Composite Curing Oven / Heat Treat Oven
- Item # T329 Guspro Heat Cleaning Oven
- Item # T325 3-Station Despatch Temper Furnace
- Item # T321 Grieve Conveyor Oven
- Item # T320 Pifco Conveyor Oven
- Item # T318 Temper 48" W X 48" D X 36" H
- Item # T303 Pifco Temper Furnace
- Item # T301 Lucifer Furnace
- Item # T290 Tempering Ovens 36" X 48" X 36" (2 available)
- Item # T286 Tempering Ovens 36" X 48" X 36" (2 available)

## ITEM # T348

### CAR BOTTOM TEMPERING FURNACE

**Car Bottom Tempering Furnace.** Gas fired this unit has an operating temperature of 1250F. Working dimensions of 42" wide X 96" long X 48" high. Charge capacity of 20,000 pounds. Built in 2002 by Park Thermal. Overall dimensions of 108" wide X 144" long X 120" high, 575 Volts, 3 phase, 60Hz. Control power 120 Volts, 1 phase, 60Hz. Honeywell 3300 Temperature controller, Watlow Series 94 High Temperature Controller, Honeywell DR4300 Chart Recorder, idec GT3A Process Timer. Comes with complete manuals and drawings. Currently not in operation.

**Asking \$9,000.00**



## ITEM # T346

### DESPATCH OVEN 72" X 48" X 48"

**Despatch Oven 72" X 48" X 48".** Manufactured by Despatch this is an electrically heated oven with working dimensions of 72" high X 48" wide X 48" deep. 230/3/60 40 KW. Operating temperature of 850F. Serial Number: 76414. Temperature Controls: New solid state digital readout indicating controller and overtemp. Side mounted control cabinet. Description & Features: Double swing open doors, Vertical air flow. Provisions for shelves, one shelf included. Top mounted circulating fan forces air over heating elements, located in the rear wall, and up through the work load resulting in good uniformity. Oven has been checked out and test fired and is ready for immediate shipment. Condition: Very Good.

**Asking \$14,900.00 USD.**



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### ITEM # T345

### SURFACE COMBUSTION TEMPER FURNACES (2 AVAILABLE)

**Surface Combustion Temper Furnaces (2 available).** Manufactured by Surface Combustion, Model HFC-36-54. All are gas fired units with an operating temperature of 1250F. Standard Guillotine style door. Working dimensions of 36" wide X 48" deep X 30" high. Alloy and brickwork in good condition.

**Asking \$29,500 USD Each.**

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### ITEM # T343

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

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

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

**Asking \$49,900.00 USD.**

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## ITEM # T342

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

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

**Asking \$16,500 USD.**



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## ITEM # T341

### TEMPER FURNACE

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

**Asking \$91,000 USD.**



### **ITEM # T340**

#### **SAFED/BOREL ANNEALING FURNACE**

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

**Price on request.**



### **ITEM # T339**

#### **BOX TEMPERING OVEN**

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

Overall dimensions of 13'2" Wide x 23' Long x 17'8" High (includes Door Structure).  
Approximate weight of 32,000 pounds. Excellent condition.

**Asking price is \$55,000 USD.**



## ITEM # T336

### MESH BELT TEMPER FURNACE 48" WIDE

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

**Asking \$29,500 USD.**



## ITEM # T335

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

**Batch Oven 37"H X 37"W X 25"D.** Batch type recirculating oven manufactured by Despatch, Model V-29-STD. Inside dimensions of 37" high X 37" wide X 25" deep. Electrically heated 480/3/60, 12 KW. Serial number 126552. Temperature Controls: Partlow indicating controller and Honeywell overtemp, timer. Double swing open doors. Side mounted recirculating fan. Adjustable horizontal air flow. Provisions for 12 shelves, 4

shelves included. Powered exhaust blower. Oven has been checked out and test fired and is ready for immediate shipment. Excellent condition.

**Asking \$8,000.00 USD.**



### ITEM # T333

#### COMPOSITE CURING OVEN / HEAT TREAT OVEN

**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 # T329

#### GUSPRO HEAT CLEANING OVEN

**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 # T325

### STATION DESPATCH TEMPER FURNACE

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

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



## ITEM # T321

### GRIEVE CONVEYOR OVEN

**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

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

**Asking Price: \$59,000 USD.**



## ITEM # T318

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

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

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

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

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

**Asking Price: \$72,500 USD each.**



## ITEM # T303

### PIFCO TEMPER FURNACE

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

**Asking Price: \$38,000 USD.**



## ITEM # T301

### LUCIFER FURNACE

**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: \$9,950.00 USD as is, where is.**



## ITEM # T290

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

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

**Please call for pricing.**



## ITEM # T286

### LINDBERG BOX TEMPER

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

**Asking Price: \$65,000 USD**



# GENERATORS FOR SALE

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## ***Quick Jump To Items:***

**Item # G201** Ammonia Dissociator 250 SCFH

**Item # G200** Endothermic Generators 1500 CFH (2 available)

**Item # G198** Endothermic Generator 3000 CFH

**Item # G197** Ammonia Dissociator 1000 CFH

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

**Item # G189** Surface Combustion 2400 CFH Endo Generator

**Item # G178** Ammonia Dissociators 3000 CFH

**Item # G176** Surface "Multi-Bottle" Endo Generators

**Item # G173** Lindberg Endo Generator 4500 CFH

**Item # G169** Gasbarre Endo Generator 3000 CFH

## ITEM # G201

### AMMONIA DISSOCIATOR 250 SCFH

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

**Best Offer**



## ITEM # G200

### ENDOTHERMIC GENERATORS 1500 CFH (2 AVAILABLE)

**Endothermic Generators 1500 CFH (2 available).** Manufactured by SECO/WARWICK these are Model Eng-15 Endo Gas Generators. Each is heated by natural gas with a capacity of 1500 CFH. 220V, 3 phase, 60hz. Manufactured in the US these have UPC controls and air cooling. Excellent condition. Both retorts were replaced within the last 3 years.

**Asking \$20,000 USD each or \$30,000 USD for both.**



## ITEM # G198

### 3,000 CFH ENDOTHERMIC GENERATOR

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

**Asking \$22,500.00 USD.**



## ITEM # G197

### AMMONIA DISSOCIATOR

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

**Asking Price \$11,500.00 USD.**

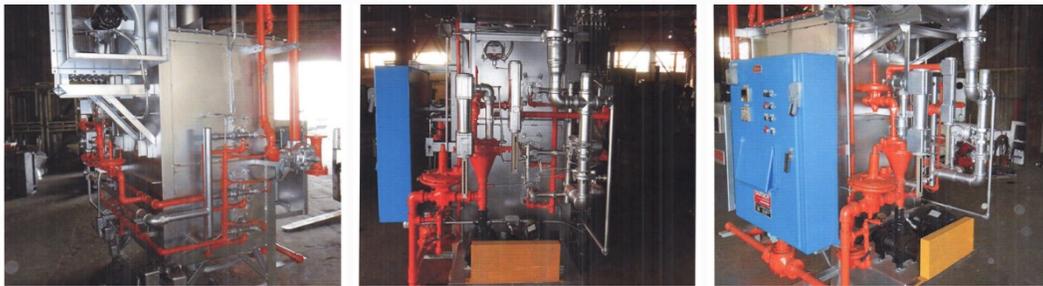


## ITEM # G196

### SURFACE COMBUSTION 5000 CFH ENDO GENERATOR

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

**Asking \$31,500.00 USD.**



## ITEM # G189

### SURFACE COMBUSTION 2400 CFH ENDO GENERATOR

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

**Asking \$59,000 USD.**



## ITEM # G178

### AMMONIA DISSOCIATORS (4 AVAILABLE)

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

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

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

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

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

**Asking \$29,500.00 USD each.**



## ITEM # G176

### SURFACE "MULTI-BOTTLE" ENDO GENERATORS

**Surface "Multi-Bottle" Endo Generators.** Manufactured by Surface Combustion. Natural gas heated 675 CFH/HR. Model # RX 35-75-3V. Maximum temperature 1950F. 7500 CFH capacity. Controls are complete, water cooled. SSi atmosphere controls and Atmosphere Engineering "Endo Injector". Very good condition, ready to go.

**Asking \$75,000 USD.**



## ITEM # G173

### LINDBERG ENDO GENERATOR

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

**Asking \$17,500.00 USD.**



## ITEM # G169

### GASBARRE/SINTERITE FURNACE DIVISION ENDO GENERATOR

**Gasbarre/Sinterite Furnace Division Endo Generator.** 3000 CFH, electrically heated 460/3/60/63 Amps/50kW. New in 2006. External dimensions of 106" wide x 75" deep x 116" high. Controls are enclosed in a panel attached to the side of the generator. Honeywell UDC 3200 digital temperature controller and Honeywell UDC 2500 digital high limit safety. Control switches with indicating lights are flush mounted in the enclosure. Flange mounted fused disconnect switch for control power. Separate non fused disconnect for the main power. Waukee flow meters are manifold mounted for incoming and outgoing gases. Flow meters include: Natural Gas 0-1000 CFH, Air 0- 2500 CFH, (3) Mixed Gas 0-1500 CFH and Endo 0- 3500 CFH. Step down transformer for reduced voltage to the heating elements. Electrically heated 3 retort generator. Refractory lined shell with vertically mounted retorts. Total of twelve (12) silicon carbide heating elements, 6 on each side are mounted through the chamber for good uniform heating of the alloy retorts. The natural gas and air pass through a Waukee "mixor" valve then into the Waukee gas pump. Mixed gas enters the 3 "mixed gas" flow meters, through the Selas fire checks and enters the top of the retorts. The gas travels through the catalyst filled heated retorts and exits at the bottom. The exiting Endothermic gas passes through water cooled chambers then finned cooled air heat exchangers then through the Endothermic flow meter. A pressure regulator is supplied on the exiting gas piping. Good condition.

**Asking \$29,500.00 USD.**



# INDUCTION FOR SALE

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

[Contact Us](#)

## ***Quick Jump To Items:***

**Item # I175** Inductoheat /Lepel Induction Power Supply

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

**Item # I173** 125 Kw Ajax Induction Generator

**Item # I172** Vertical Induction Scanner

**Item # I171** 50 Kw Lepel Generator

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

**Item # I160** Ajax Tocco Power Supply Unused

**Item # I158** Induction Power Supply 335 kW

**Item # I153** Raydyne Induction Heating System 40 kW

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## ITEM # I175

### INDUCTOHEAT /LEPEL INDUCTION POWER SUPPLY

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

**Asking \$19,500.00 USD**



## ITEM # I174

### AJAX/TOCCO INDUCTION HEATING POWER SUPPLY & HEAT STATION

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

**Asking \$139,000 USD.**



## ITEM # I173

### 125 KW AJAX INDUCTION GENERATOR

**125 Kw Ajax Induction Generator.** Output is 125 Kw, Frequency 300KHZ, 460 Volt, Line Current 352 Amps. Foot Print 48" x 80" x 78". PLC operated, Optical Infrared Pyrometer Temperature Control. Approximately 100 Induction Coils. Spare Load Coil Transformer. Lepel Heat Exchanger Lift and Rotate Fixture. Good Operating Condition.

**Asking Price: \$15,250.00 USD**



**ITEM # I172**

## **DUAL SPINDLE INDUCTION SCANNER**

**Dual Spindle Induction Scanner.** Manufactured by Inductoheat this is an Inductoheat Statiscan II 200 Kw, 30khz vertical Induction scanner. This is a moderately used piece of equipment. It was used in a machine shop operation for a variety of parts. It appears to be in very good condition with some minor maint. required. Power Supply is IGBT type. This was in operation until a couple of weeks ago when it was replaced with a newer scanner. It has a 24" scanning capacity. (Replacement value est. \$200,000)

It is available with;

- Dual Output Bus with shorting bar for single coil operation. (replacement value est. \$4,000 +/-)
- Nine (9) MIQ (machined integral quench) Coils, 1 - 5/8" bore, 1- 7/8" bore, 1 - 1 ¼" bore, 2 - 1 ½" bore (need repair), 2 - 2" bore, 2- 2 - 2 ½" bore. All are in good or like new condition except the 1 ½". (Replacement value est. \$15,000 +/-)
- Spare Durant Counter (Replacement value est. \$2,000). This model is a little simpler and less complex than more recent PLC or PC controls. I believe it would lend itself to a shop with less experienced operators or with frequently changing operators.
- Some (if not all) Documentation.

**Asking Price: \$75,000.00 USD**



## ITEM # I171

### 50 KW LEPEL GENERATOR

**50 Kw LepeL Generator**, 350 KHZ,460V, 160 amps. LepeL heat exchanger included. PLC controlled processing, Optical Infrared Pyrometer controller for heating each part to the same temperature. Parts are then removed from the coil and immersion quenched in the appropriate media. Tempering follows.

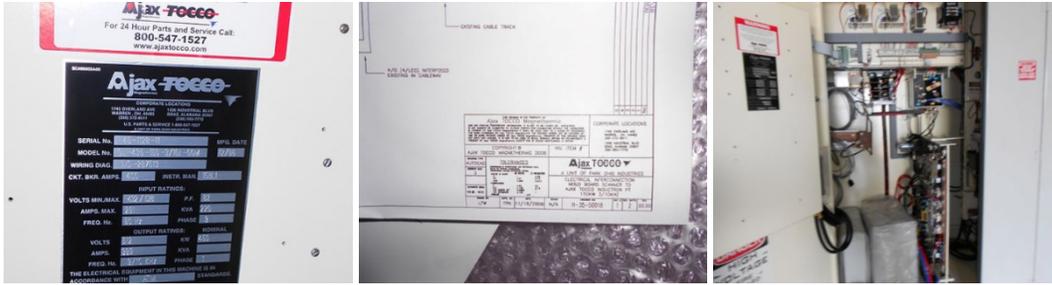


## ITEM # I164

### AJAX TOCCO INDUCTION POWER SUPPLY

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

**Asking \$33,000 USD.**

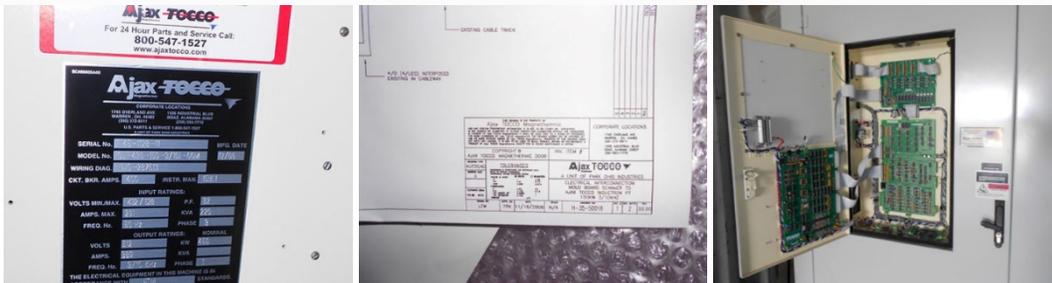


## ITEM # I160

### AJAX TOCCO POWER SUPPLY (UN-USED)

**Ajax Tocco Power Supply (un-used).** Ajax Tocco Inductron PT power supply, capacity: 450kW. Frequency: 3-10 kHz. Output Voltage: 400 \*. Year of manufacture: 2006. This unit was never installed and is unused. \*Price quoted from Ajax Tocco to convert output voltage from 400 to 800 including parts and labor is \$15,230. New this unit was \$86,000 USD, [http://www.ajaxtocco.com/applications/documentlibrary/Inductron%20PT\\_092003.pdf](http://www.ajaxtocco.com/applications/documentlibrary/Inductron%20PT_092003.pdf)

**Asking \$39,000.00 USD.**



## ITEM # I158

### INDUCTION POWER SUPPLY

**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 # I153

### RAYDYNE INDUCTION HEATING SYSTEM

**Raydyne Induction Heating System.** 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 FOR SALE

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## ***Quick Jump To Items:***

**Item # L8** Clark Micro Hardness Tester

**Item # L7** Leco Micro Hardness Tester

**Item # L3** Laser Diffraction Particle Size Analyzer

**Item # L1** Detroit Testing Brinell Hardness Tester

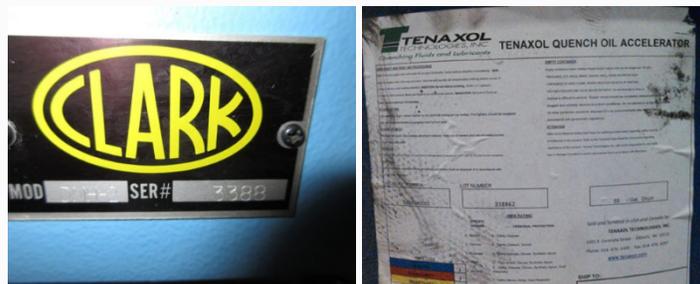
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## ITEM #L8

### CLARK MICRO HARDNESS TESTER

**Clark Micro Hardness Tester.** Model DMH-2, Serial number 3388. Good operating condition.

**Asking \$6,500.00 USD.**



## ITEM #L7

### LECO MICRO HARDNESS TESTER

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

**Asking \$7,000.00 USD.**



## ITEM #L3

### LASER DIFFRACTION PARTICLE SIZE ANALYZER

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

**Asking \$20,000** for complete system.



**ITEM # L1**

**SPECTRA-TECH 0044-003 INFRARED MICROSCOPE**

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

**\$6,500.00 USD.**



# MISCELLANEOUS FOR SALE

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

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## ***Quick Jump To Items:***

- Item #M410 Magnaflux MPI Inspection
  - Item #M409 Graymill Aqueous/Solvent Parts Washer
  - Item #M408 Surface Combustion Power Loading Table 30" Wide
  - Item #M406 Surface Combustion Parts Washer
  - Item #M400 Nitrogen Generating System 99.999 Purity
  - Item #M399 Eclipse Burners, Recuperators, Spark Igniters
  - Item #M396 Surplus Cast Link Belt HT Material
  - Item #M394 Hi Tech Weighing System
  - Item #M385 Giant Finishing Machine
  - Item #M381 Water Cooling System
  - Item #M380 Bronco Wheelabrator 36" Meshbelt
  - Item #M378 1 Surface Combustion Radiant Tube
  - Item #M370 SBS Quench Airs 3 Fan Units
  - Item #M366 Wheelabrator Rubber Belt Tumblast
  - Item #M365 Dual Lane Conveyor Washer
  - Item #M363 SBS Large 3 Fan Unit
  - Item #M348 Ipsen Dunk/Spray Washer 36" x 48" x 24"
  - Item #M346 SBS Quench Air Single Fan Unit
  - Item #M341 AFC Charge Car 36" x 48" Tray
  - Item #M334 Berg Water Chiller Nearly New
  - Item #M314 Holcroft Dunk/Spray Washer 24" x 24" x 36"
-

## ITEM #M410

### MAGNAFLUX MPI INSPECTION

**Magnaflux MPI Inspection**, with Magnaglo hood. Type H720 Special, Serial Number 70465. 120" Base, 600 Amps DC continuous, 6000 Amps intermittent, 24" Ring. Maximum part length is 92". Instruction Manual included. Unit is designed for semi-automatic inspection of various parts using Magnaglo continuous or residual wet method of fluorescent magnetic particle inspection. Unit features both circular and longitudinal magnetization over a wide range of parts.

**Asking Price: \$11,750.00**



## ITEM #M409

### GRAYMILL AQUEOUS/SOLVENT PARTS WASHER

**Graymill Aqueous/Solvent Parts Washer**. TR-Series 795-92561 12-11. Tank Size 47" x 26 3/4" x 24" D, Heater to 180 F. No Platform in this equipment. Oil Separator OSEP-5. Rinse tank, RP tank, Containment. Good Operating Condition

**Asking Price: \$1250.00 USD**



## ITEM #M408

### SURFACE COMBUSTION POWER LOADING TABLE 30" WIDE

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

**Asking Price: \$1,000 USD**



## ITEM #M406

### SURFACE COMBUSTION PARTS WASHER

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

## ITEM #M400

### NITROGEN GENERATING SYSTEM

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

**Asking \$82,500.00 USD.**



## ITEM #M399

### ECLIPSE BURNERS, RECUPERATORS AND SPARK IGNITERS

**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 (CH<sub>4</sub>), Air Supply: P – Preheated Air, Burner Input: 04 – 201k-300k Btu/h (59-88 kW), 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

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

**Please call for pricing - Gord: 905.271.0033**



## ITEM #M394

### HI TECH WEIGHING SYSTEM

**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 \$6,000 USD.**



## ITEM #M385

### GIANT FINISHING MACHINE

**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 lapsed time 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.**



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## ITEM #M381

### WATER COOLING SYSTEM

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

**Asking \$7,500.00 USD.**



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## ITEM #M380

### WHEELABRATOR – BRONCO

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

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



## ITEM #M378

### 1 SURFACE COMBUSTION RADIANT TUBE AND 4 SUPPORTS

**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 #M370

### SBS QUENCH AIRS (2 AVAILABLE)

**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 TUMBLAST

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

**Asking: \$55,000.00 USD.**



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## ITEM #M365

### DUAL LANE CONVEYOR WASHER

**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.**



## ITEM #M363

### SBS UNIT

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

**Price: \$15,500.00.**



## ITEM #M348

### IPSEN AUTOMATIC DUNK/SPRAY WASHER

**Ipsen Automatic Dunk/Spray Washer.** Model #WRD-11, Serial Number 57690. Working dimensions of 36" wide X 48" deep X 24"+ high, 2200 pound capacity. Electrically heated, 72KW. Companion washer-In/Out or straight through design. Door each end, Cal Rod element bundle. 12" wide belt oil skimmer, air operated-full width elevator rack for

submerged oscillation, overhead spray rinse. Overall dimensions of 7' 5" wide X 5' 4" long X 11' 8" high. Rebuilt,

**Excellent condition asking \$35,000 USD.**



### ITEM #M346

### SBS "QUENCHAIR"

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

**Asking \$5,500.00 USD.**



### ITEM #M341

### AFC CHARGE CAR

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

**Asking \$28,500.00 USD.**



## ITEM #M334

### BERG WATER CHILLER

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

**Asking \$5,500.00.**



## ITEM #M314

### HOLCROFT DUNK/SPRAY WASHER

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

spray cycle timer. A Honeywell UDC 2000 digital temperature controller controls wash temperature. Good condition. **Asking \$18,500.00 USD.**



# VACUUMS FURNACES FOR SALE

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## ***Quick Jump To Items:***

- Item # [VF330](#) Surface 2-Bar Quench Vacuum Furnace
- Item # [VF329](#) Abar Ipsen HR46 X 72
- Item # [VF328](#) Abar Ipsen Model HS-26 Vacuum Furnace
- Item # [VF327](#) Surface Combustion Vacuum Temper Furnace
- Item # [VF326](#) Ipsen 924 Vacuum Furnace
- Item # [VF323](#) 150 Ton Vacuum Hot Press (2 Available)
- Item # [VF322](#) Vacuum Sintering Furnace, 2,000 C
- Item # [VF321](#) Ipsen Vacuum Furnace
- Item # [VF320](#) High Temperature Vacuum Furnace
- Item # [VF319](#) Vacuum Induction Melting System
- Item # [VF317](#) Twin High Temperature Vacuum HT Sintering Furnaces
- Item # [VF316](#) AVS Vacuum Furnace 24" x 24" x 48"
- Item # [VF315](#) AVS Vacuum Furnace (Rebuilt)
- Item # [VF314](#) Ipsen Bottom Load Furnace 60" x 96"
- Item # [VF313](#) Top Loading Vacuum Furnaces 2100 C
- Item # [VF312](#) Vacuum Furnace 2400 C
- Item # [VF311](#) Vacuum Furnace 6 Bar Quenching
- Item # [VF307](#) Bottom Loading Vacuum Furnace 48" x 60"
- Item # [VF301](#) Vac Aero 2 Bar Vacuum Furnace
- Item # [VF299](#) Sunbeam Vacuum Furnace 36" x 120"
- Item # [VF294](#) Vacuum Annealing Furnace 8" x 90"
- Item # [VF289](#) Ipsen Vacuum Temper 12" x 16" x 24"
- Item # [VF282](#) AVS Vacuum Debinding/Sintering Furnace
- Item # [VF271](#) Sintering/De-Wax Furnace 1400 C
- Item # [VF267](#) Semi-Continuous Titanium Diffusion Bonding Hot Press
- Item # [VF266](#) Kinney 75 CFM Vacuum Pump

Item # VF255 Roots Gas Blower

Item # VF254 MD Blower, 350 CFM

Item # VF243 35" Diffusion Pump

Item # VF242 35" Diffusion Pump

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## ITEM # VF330

### SURFACE 2-BAR QUENCH VACUUM FURNACE

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

**Asking Price: \$119,000**



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## ITEM # VF329

### ABAR IPSEN HR46 X 72

**Abar Ipsen HR46 X 72.** Manufacturer: Abar Ipsen. Model: HR 46x72. Condition: Rebuilt in 2015. Very good condition. Hot Zone: 36"W x 24"H x 72" deep, Moly, New in June 2015. Elements: Moly. Controls: New Ipsen control panel, new in 2015. Temperature: 2400F. Diffusion Pump: 32" Varian Diffusion Pump (new in 2015). Current configuration

has a 4-5' deep pit for the diffusion pump. Pumps: 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. Power: 480 Volts, 3 Phase, 60 Hz. Loader Included, 10' Long x approx. 3.5' Wide. 2-Tier TZM Moly Grid Fixture, 36" Wide x 72" Long x 18.5" Tall. Cold Trap: Liquid N2 fed Cold Trap. Status: Furnace was in production until January 1st, 2017.

**Asking Price: \$350,000**



## ITEM # VF328

### ABAR IPSEN MODEL HS-26 VACUUM FURNACE

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

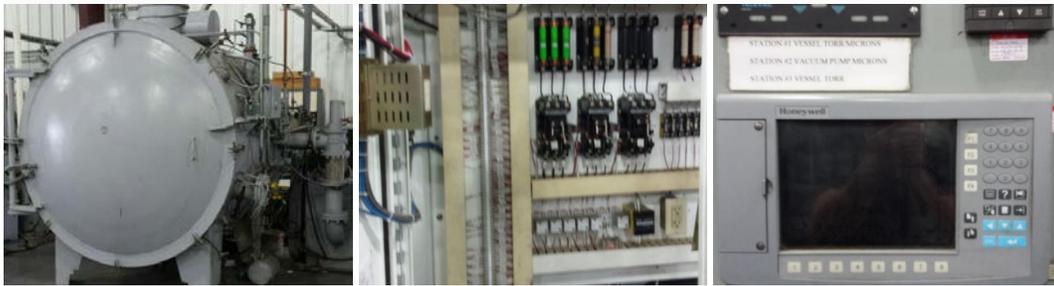


## ITEM # VF327

### SURFACE COMBUSTION VACUUM TEMPER FURNACE

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

**Asking Price: \$85,000 USD**



## ITEM # VF326

### IPSEN 924 VACUUM FURNACE

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

**More details and asking price available upon request.**



## ITEM # VF323

### 150 TON VACUUM HOT PRESS (2 AVAILABLE)

#### (2) 150-Ton Vacuum Hot Presses

- Maximum Temperature: • 2000o C / 3632o F (Optional 2200o C / 3992o F operation available)
- Power Requirements: • 480 volts, 60 hertz, 3 phase (Optional 380 volt, 50 hertz operation available)
- Hot Zone Dimensions: • 16" high x 19" wide x 20" deep element-to-element (41cm x 48cm x 51cm)
- External Dimensions: • 99" high x 82" wide x 74" deep (251cm x 208cm x 188cm)
- Atmosphere: • High vacuum, rough vacuum, partial pressure, and atmosphere operation
- Features: • Standard one-year warranty. • This is a compact, packaged, and assembled unit. • Graphite hot zone and four-sided graphite heating elements for optimum uniformity. • Upper ram is moveable with 6" stroke. Bottom ram is fixed. • 16.3" daylight between rams (41.4cm) • Fully automatic operation with PLC programmer/controller with alphanumeric display to indicate hot press processing cycles. • Programmable closed-loop temperature/pressure control. This system will consist of a Yokogawa UP750 two-loop programmable temperature/pressure controller with 300 programs and 3,000 segments. The UP750 will control the temperature and the pressure on the hydraulic ram on the same timeline. • Mechanical vacuum pump.

**Asking \$450,000 USD Each**



## ITEM # VF322

### VACUUM SINTERING FURNACE, 2,000 C

**Vacuum Sintering Furnace, 2,000 C.** Horizontal Vacuum Sintering Furnace System for processing graphite and ceramics. Manufactured by AVS, Model HGF-22-21-62-2000. Work zone is 22" wide x 21" high x 62" deep. 12 cubic feet, maximum load of 350 kgs. Temperature: 2000 °C maximum operating temperature. Temperatures above 1700 °C

require partial pressure or positive pressure. Maximum heat rate is 10 °C/min ramp rate for room temperature to 1600 °C, ± 10 °C uniformity @ up to 1600 °C in vacuum. Rotary piston roughing pump. Evacuates chamber to 20 micron in 10-15 minutes, empty (5 X 10<sup>-3</sup> Torr Ultimate vacuum) 5 u/hr. leak rate. Process Gasses – Argon, Nitrogen, 1% Methane in Nitrogen. Controls Fully automatic operation with ACE™ control/ Data Acquisition System.

**Chamber;** HORIZONTAL JACKETED CHAMBER – nominal 56” diameter x 82” long flanged, on legs. All stainless-steel chamber, interior jacket and flange water-cooled. Two door containing hinges and manual door clamps. The chamber includes a 4” flanged bottom port designed for future applications and flexibility. Two site ports are included and set up with gas purged pyrometer sight port assemblies. Two load carts with battery operated hydraulic lift and roller top are provided with the furnace for use with the two hearths that are provided for the hot zone.

**Hot Zone;** HORIZONTAL GRAPHITE FURNACE – Furnace is heated by graphite elements (no CFC) and insulated by rigidized graphite felt faced with graphoil. Includes heart rails with rollers for easy loading.

**Gas Cooling;** GAS RECIRCULATION COOLING SYSTEM – 10 HP Cooling fan and heat exchanger mounted in rear door of the chamber. Includes automatically operated front and rear door shutter fans for gas circulation. System is 9 years old, installed and in excellent condition. Almost \$600,000 USD.

**Asking \$180,000 USD.**



**ITEM # VF321**

## **IPSEN VACUUM FURNACE**

### **Ipsen Vacuum Furnace:**

- Manufacturer: Ipsen
- Model: VFC-524
- Temperature: 2400F
- Moly-faced hot zone
- Graphite heating elements
- 18” Ipsen Diffusion Pump
- Stokes 412H-10 (old style) mechanical pump
- 50 kVA power transformer

- Top-mounted cooling fan with 15 HP Motor
- Had a new control Panel with Athena AT25 Digital Temp Control, Hastings Series 310 Digital Vacuum Controller, and L&N strip chart recorder.
- Currently in storage in San Diego, CA area

**Price: \$58,000 USD.**



**ITEM # VF320**

## **HIGH TEMPERATURE VACUUM FURNACE**

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

**Asking \$100,000 USD for everything.**



## ITEM # VF319

### VACUUM INDUCTION MELTING SYSTEM

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

**Asking \$285,000 USD.**



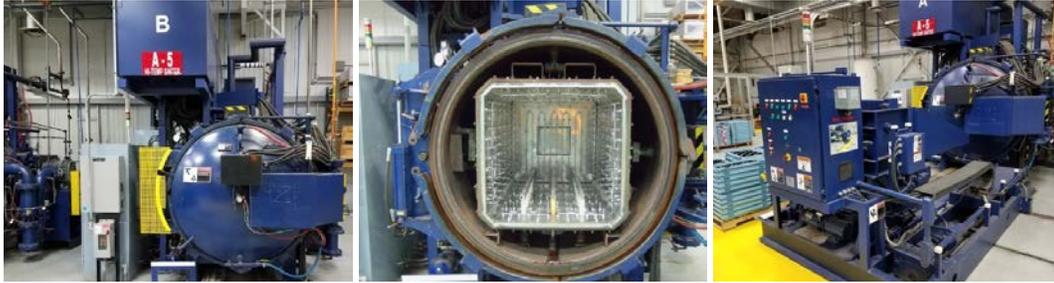
## ITEM # VF317

### TWIN HIGH TEMPERATURE VACUUM HT & SINTERING FURNACES

**Twin High Temperature Vacuum HT & Sintering Furnaces.** Two each Seco/Warwick Model V40-35/48 Vacuum Furnaces, 1500C (2732 F) Max. operating temperature, 1600C (2912F) burn-out temperature, Work Zones: 600mm x 650mm x 1200mm (23.6" x 25.6" x 47.2"), Design uniformity +/- 10C, but with elements on all 6 sides we would expect much better uniformity, One furnace hot zone is in excellent condition and the other is nearing time for replacement, All-Metal Hot Zones (Layers: 1 Tungsten, 7 Moly, 1 Stainless Steel), Low voltage Tungsten Heating Elements, Moly hearth, Load Rating: 2850 lb. (1300 Kg), Power: 480V/3Ph/60Hz, 390 kW SCR Heating Input with 3-zone control, 420 kVA total power, Stainless steel chamber, water jacket and hot zone plenum, Controls are CompactLogix PLC with computer, touch screen and SCADA software, Leybold TTR91 pirani vacuum sensor, Edwards (Stokes) 212J mechanical pump with Edwards 607 booster

pump, Gases set up for Argon cooling and hydrogen purge, Hydrogen mass flow controller, Gas quench pressure rating is 1.05 Bar absolute. Mezzanine-mounted power supplies for minimal floor space requirement. Both furnaces (2), factory loader and existing spare parts are included at this price. Disassembly and Loading: Buyer's responsibility. Built in 2010 these furnaces were only used for 1 year. Excellent condition!

**Asking \$275,000 USD for Both.**



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### ITEM # VF316

### AVS VACUUM FURNACE

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

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



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### ITEM # VF315

### AVS VACUUM FURNACE (REBUILT)

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

**Asking \$195,000 USD.**



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**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

**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  $8 \times 10^{-2}$  mbar with rotary vane pump and roots pump. 380-220V-50HZ-3 phase. Excellent condition.

**Asking 155.000 Euro.**



## ITEM # VF307

### BOTTOM LOADING VACUUM FURNACE

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

**Please call for pricing.**



## ITEM # VF301

### VAC AERO 2 BAR VACUUM FURNACE

**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 # VF299

### SUNBEAM VACUUM FURNACE

**Sunbeam Vacuum Furnace.** Model # 40236, Serial Number F-170-82. Working dimensions of 36" wide X 120" long X 36" high. Maximum operating temperature of 2552F (1400C). 460 volts, 400Kw, 3 phase. Honeywell digital program control, Honeywell digital overtemperature control, Honeywell strip chart (inoperative) and Granville-Phillips 375 Convectron vacuum controller in enclosed panel. Double walled water cooled horizontal load vessel. Interior has a molybdenum liner with graphite heating elements on both walls, roof and floor. 20 HP cooling fan mounted in rear. Pumping system consists of a Stokes 412-11 mechanical pump with Roots booster. Power to the heating elements is through

VRT's. A battery powered loader is included. Some of the heating elements were damaged during shipment and will need to be replaced by buyer.

**Asking Price: \$95,000 USD.**



**ITEM # VF294**

## **VACUUM ANNEALING FURNACE**

**Vacuum Annealing Furnace.** Manufactured by Thermionics this is a custom designed vacuum annealing furnace designed to heat treat wire up to 210 cm long. The vacuum chamber has an 8" Dia. X 90" effective working length. The operating temperature was developed for a maximum operating temp of 1200° F, The vacuum nominal level (continuous) duty was developed as  $1 \times 10^{-6}$  Torr. Maximum vacuum level to operate in continuous duty is  $5 \times 10^{-8}$  Torr. The unit was designed to use N<sub>2</sub> 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**

**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 USD**



**ITEM # VF289**

## **IPSEN VACUUM TEMPER FURNACE**

**Ipsen Vacuum Temper Furnace.** Built in 1981. Working dimensions of 280 mm high X 420 mm wide X 590 mm deep (11" X 16.5" X 23.2"). Maximum load 100kg (220 pounds). Minimum operating temperature 150C, maximum operating temperature 700C. Input power 94 KVA, heating 71Kw, 575 volts, 60Hz. Type K T/C's, Honeywell controls. Vacuum contact point 1.0 X 10<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.**



## ITEM # VF282

### AVS VACUUM DEBINDING/SINTERING FURNACE

**AVS Vacuum Debinding/Sintering Furnace.** This is a horizontal graphite vacuum debinding sintering furnace for steel MIM parts completely rebuilt from top to bottom by AVS in 2010. Working volume – approximately 18 cubic feet, 28” wide x 26” high x 42” long graphite retort, 1500# capacity. Temperature – rated for continuous operation at 1400°C ±10°C in vacuum, 1450°C burn-out. 50μ ultimate vacuum; leak rate <10μ / hour, CEDORT (Clean, Empty, Dry, Outgassed, Room Temperature). De-bind system - nitrogen or argon sweep gas, 0 - 100 torr differential pressure controlled by PLC and automatic I-to-P modulating vacuum valve, binder trap, condenser assembly; options available for hydrogen gas and burn-off. De-bind lines heated to keep vapor from condensing in vacuum lines. Fast cooling with circulation fan and automatic gas re-circulation ports. Control system - AVS ACE™ control/data acquisition system. Estimated cold-to-cold cycle time of 16 to 20 hours with AVS “Fast Cool” option. Horizontal jacketed chamber - 60” dia. x 80” long, nominal dimensions, flanged, on legs. SA-516-70 mild steel construction on water jackets and door + body flanges. Stainless Steel inner jacket & dished head plus all power ports Front-loading chamber with 2 doors - both doors on adjustable hinges, with buna o-rings, manual clamps, for operation from 50 millitorr vacuum to 3 psig positive pressure; rear door opens for service. Ports - rough line on side of chamber, delube line from bottom, fan housing flange on rear door Additional PORTS added to the system to accommodate future system modifications for processing ‘sinter-hard’ P/M materials – a total of up to 7 additional ports ranging from 18” in diameter down to 1” in diameter will be added. Further details available upon request. Currently installed and in excellent condition.

**Asking Price: \$169,000 USD.**



## ITEM # VF271

### SINTERING / DE-WAXING FURNACE

**Sintering / De-Waxing Furnace.** Horizontal sintering furnace with wax condenser 1470°C operating temperature. Water cooled 304 stainless steel chamber with mild steel flanges.

Graphite hot zone – 24” wide x 18” high x 36” deep, with hearth rails. Graphite retort – 4 to 5 cubic foot work space, shelves, graphite rollers, de-wax tube and -cooling. 5 HP recirculation cooling fan system – cooling flaps in insulation and retort. Wax condenser assembly with hot water circulation system and removable wax receiver pot. Power supply – transformer-type, low voltage secondary, nominal 250 kW. Vacuum pumps – Stokes 212-H, 150 cfm rough pump, Roots 615, 1600 cfm booster. Dynamic partial pressure gas system. Unit can be seen in operation and is available for immediate delivery.

**Asking Price: \$299,000 USD.**

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## ITEM # VF267

### SEMI-CONTINUOUS TITANIUM DIFFUSION BONDING HOT PRESS

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

Preheat Chamber. 35” diffusion pump / 100 CFM holding pump Moly Pin walking system rated for 2720 kg load 44” w x 54” d x 6.5” high product size in semi continuous mode Stokes 300 CFM mechanical pump 5 x 10<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.

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

**As is \$890,000.00 USD**



**ITEM # VF266**

### **KINNEY 75 CFM VACUUM PUMP**

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

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



**ITEM # VF255**

### **ROOTS GAS BLOWER**

**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

**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.



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## ITEM # VF243

### 35" DIFFUSION PUMP

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

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



**ITEM # VF242**

### **35" DIFFUSION PUMP**

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

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

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



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- High Quality Low Cost Base Trays
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905-271-0033

<sup>1</sup>While supplies last

<sup>2</sup>Applies to standard design trays only. Some restrictions apply.

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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.

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## NEW EQUIPMENT

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



### **AFC-Holcroft 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 Re-frigerated. 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.



### **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.

# EMPLOYMENT OPPORTUNITIES ADVERTISING

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

## Employment Opportunities

### *Quick Jump To Items:*

**Item # 0342** Induction Technician/Maintenance Person

**Item # 0341** Maintenance Leader

**Item # 0340** Heat Treat Metallurgist

**Item # 0339** Welder / Assembler

**Item # 0338** Service Technician

**Item # 0337** Product Manager

**Item # 0336** Account Manager

**Item # 0335** Inside Sales DTR

**Item # 0334** Planning Technician

**Item # 0333** Process Engineer

**Item # 0332** Sales Representative

**ITEM # 0342**  
**INDUCTION TECHNICIAN/MAINTENANCE PERSON**

**Induction Technician/Maintenance Person.** Looking for a person with experience in the Induction Heat Treating Equipment operations and maintenance. Candidate must have electrical experience, hydraulic and pneumatic knowledge and plc programming and troubleshooting knowledge. Brazing and welding experience is a plus. Compensation based on skills and knowledge. Excellent benefit package. Pay commensurate with skills and knowledge.

We are located in the Northeast Ohio. We are a full service heat treating company with integral quench batch equipment, continuous equipment, vacuum heat treating equipment, and induction equipment. In business 72 years. This is a "Hands On Job" at a fun place to work. [johnv@euclidheattreating.com](mailto:johnv@euclidheattreating.com)

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**ITEM # 0341**  
**MAINTENANCE LEADER**

**Maintenance Leader.** Summary: Medium sized MTI member batch heat treatment company located in Southeast Pennsylvania. Company serves a national market, providing atmosphere and vacuum heat treatment services. Successful candidate will lead preventive and routine maintenance of all equipment used in the plant. Responsibilities include the troubleshooting of combustion and electrical systems, leading the maintenance team in maintaining the heat treat furnaces. Must be capable of organizing activities to minimize production interruptions. Works with shop personnel and contractors on projects.

Education:

Must be at minimum a high school graduate with a trade related program. Experience or continuing education credits in maintenance practices, from an accredited training school or manufacturers' training program would be a plus.

Experience:

Five years minimum experience in a heat treat environment, with demonstrated knowledge of burners, electrical heating and process controls. Must be able to understand and interpret mechanical drawings and technical information, and to independently solve problems with electro mechanical devices.

Competitive Compensation based upon skill sets and experience. This is a full-time position with a competitive wage and benefit package that includes medical, disability, and life insurances, 401(k) plan. Please submit resume to: [Tmckeown803@gmail.com](mailto:Tmckeown803@gmail.com)

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## **ITEM # 0340**

### **HEAT TREAT METALLURGIST**

#### **Heat Treat Metallurgist**

Summary: Medium sized MTI member batch heat treatment company located in Southeast Pennsylvania. Company serves a national market, providing atmosphere and vacuum heat treatment services. Successful candidate has a ferrous based metallurgy core, has knowledge of all equipment and processes in plant. Experienced with heat treat job shop techniques, familiar with quality standards and methods. Position requires management of direct reports, interaction with other supervisors. Team leader, practical, hands on, ability to communicate. Takes charge.

#### Education:

Degreed metallurgist preferred, or equivalent experience, core competency in ferrous metals

#### Experience:

Three years minimum in a heat treat company, with working knowledge of heat treat equipment and controls for atmosphere and vacuum furnaces. Working knowledge of heat treat processes with a heavy focus on carburizing and nitriding.

Familiar with standards, quality systems, understands testing, metallography

#### Skills:

Ability to write and interpret instructions, develop written plans and instructions

Ability to analyze and solve problems Ability to communicate and lead others

Team leader, ability to communicate and work under pressure

Competitive Compensation based upon skill sets and experience. This is a full-time position with a competitive wage and benefit package that includes medical, disability, and life insurances, 401(k) plan. Please submit resume to: [Tmckeown803@gmail.com](mailto:Tmckeown803@gmail.com)

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## **ITEM # 0339**

### **WELDER / ASSEMBLER**

We are seeking a Full-Time, Highly experienced, Metal Working, Machine Tool Builder / Assembler candidates. As a Welder / Assembler, you will be responsible for assembling components according to blueprints, manuals, and engineering requirements. Responsible for construction, rebuilding, product fit up, system assembly and tryout, and adhere to customer specifications for Heat Treating Equipment.

#### **Responsibilities/Duties:**

-Read, understand and follow engineering prints, shop orders, and standard work documents to accomplish the assembly, rebuild, and plumbing of machines.

- Knowledge and skills to assemble units and complete tools to design specifications
- Able to work with other personnel and customers in a professional manner
- Rework, repair, and rebuild any used or existing tooling to be remanufactured
- Able to fit product to tooling to achieve repeatability and dimensional quality
- Travel up to 50%
- Perform all other duties, as assigned

**Job Skill Requirements:**

- 5+ years recent experience at OEM with mechanical assembly and machine building
- Knowledge of manufacturing Heat Treating Equipment
- Some Electrical Experience and troubleshooting
- Ability to read and interpret blue prints, schematics and engineering drawings
- Able to operate overhead cranes and fork trucks
- Must have own tools
- Be eligible to work in the U.S.
- Valid Driver's License

**Educational Requirements:**

- High School Diploma or GED

**Physical Requirements:**

- Standing

We are proud to offer a work environment where people can do their best. We offer an excellent compensation package including a competitive base salary, comprehensive health, life, dental and disability insurance. Equal Opportunity Employer  
Minorities/Females/Veterans/Disabled Welcome.

NOTE: \*\*Reasonable relocation assistance is open for discussion.

[SHarrod@diablofurnaces.com](mailto:SHarrod@diablofurnaces.com)

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**ITEM # 0338**  
**SERVICE TECHNICIAN**

**Service Technician.** Position Title: Combustion and Controls Technician. Position Status: Hourly. Report To: Service Manager. Revision Date: October 2017.

Company Information. Armil CFS, Inc. is a progressive manufacturing and service company specializing in high temperature process equipment, including furnaces, kilns, incinerators and related products; located southeast of the Chicago metropolitan area in South Holland, IL. Industries served include, Investment Casting, Heat Treating, Forging, Incineration, Human and Animal Cremation.

General Position Summary. This position is responsible for the timely assessment and repair of existing thermal process equipment and/or the startup of new systems built by Armil CFS. The Combustion/Controls Technician utilizes verbal and written communication skills to maintain a close relationship with the client from the installation to the completion phase, confirm that the client receives the products described in the contract. When in the shop, this position will receive direction from Shop/Production Manager to work on other project related tasks

#### JOB RESPONSIBILITIES

1. Work in industrial plant environment
2. Read blueprints, wiring diagrams, schematic drawings
3. Startup, commissioning and troubleshooting of combustion and control systems
4. Perform preventative maintenance and calibration of equipment and system
5. Familiar with PLC and HMI basic functions
6. Testing , adjustment and replacement of defective or improper functioning circuitry and electronic components
7. Assembly and installation of control panel systems
8. Fabrication of electrical, pneumatic, gas and hydraulic pipe/conduit assemblies
9. Maintain service reporting and documentation as required

#### PREREQUISITES FOR POSITION

- High school diploma and 5+ years of relevant experience
- Understanding of industrial combustion and thermal control systems
- Excellent interpersonal and communication skills
- Knowledge of NFPA 86 (Standard for Ovens and Furnaces)
- Knowledge of NFPA 70E (Electrical Safety in the Work Place)
- Knowledge of basic computer functions
- Out of town travel (as required)
- Valid driver's license

COMPENSATION. Competitive Compensation based upon skill sets and experience. This is a full-time position with a competitive wage and benefit package that includes medical, disability, and life insurances, employer funding to H.S.A., employer matched 401(k) plan, paid holidays and vacation.

Armil CFS is an Equal Opportunity Employer.

Please send resumes to [jeffp@armilcfs.com](mailto:jeffp@armilcfs.com)

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## ITEM # 0337 ACCOUNT MANAGER

Job Title: **Product Manager** – Metalworking Lubricants  
Exempt-Nonexempt: X Exempt Non-Exempt  
Location: Detroit Office (Southfield, MI)

Reports to: Senior Regional Chief Engineer

Position Summary: Charged with a product line contribution as a business unit. This extends from increasing the profitability of existing products to developing new products for the company. Markets and develops products based on industry experience and contact with customers and prospects. Possesses a unique blend of business and technical savvy; a big-picture vision, and the drive to make that vision a reality. Spends time in the market to understand their problems, and find innovative solutions for the broader market.

### **Essential Functions/Examples of Duties:**

- 1) Identify and develop new sales opportunities and/or products based on market needs.
- 2) Manage the product line from strategic planning to tactical activities. Working closely with all divisions, supports the development of marketing strategy including; finding new markets for current products, developing new products to meet market needs and setting strategies to improve profit margins.
- 3) Specify market requirements for current and future products by conducting market research supported by on-going visits to customers and non-customers
- 4) Drive a solution set across development teams (primarily Development/Engineering, and Marketing Communications) through market requirements, product contract, and positioning.
- 5) Analyzing potential partner relationships for products
- 6) Cross Sell. Gain approvals and sell current products to additional ILA sales markets. (IE. OEM to After Market, Passenger Car to Heavy Duty market, etc.).
- 7) Network with and grow industry contacts by consistently attending association meetings, joining technical committees, presenting papers to symposiums, industry meetings etc..
- 8) Conduct product training for Customers and ILA associates
- 9) Gain OEM written approvals for IKC / ILA products
- 10) Communicate information about new technologies, product developments and industry requirements to customers and appropriate associates within ILA / IKC and IKC Affiliates
- 11) Communicate customer information to appropriate coworkers within ILA / IKC and IKC following company policies and procedures.
- 12) Help to develop product specification sheets and marketing literature.
- 13) Maintains professional and technical knowledge by attending educational workshops; reviewing professional publications; establishing personal networks; participating in professional societies.
- 14) Maintains subordinates job results by leading, coaching and disciplining employees; planning, monitoring, and appraising job results.

The preceding functions are examples of the types of work performed by associates assigned to this job classification. Management reserves the right to add, modify, change, or rescind work assignments and to make reasonable accommodations as needed.

### **Minimum Requirements:**

Education Preferred: BS/BA. Technical Bachelor's degree preferred (Mechanical/Chemical Engineering, Chemistry, Marketing).

Experience: Must be able to research new markets and help develop new business strategies

Product Specific: Min.4-5 years of appropriate lubricant and industry knowledge as well as proven sales experience.

Special Skills: Strong lubricant sales background

Working/Networking relationship with Equipment OEMs

Marketing Strategy Planning experience

Project Management

Metalworking Lubricant knowledge

Familiarity of competitive product lines

General knowledge of product formulation

Complete understanding of product applications

Outstanding communication skills including presentations and public speaking.

Strong computer skills including Microsoft Office and Dynamics CRM

**Additional Information:**

Travel required 40 to 60%

**Please send resumes to :**

[awilkerson@ilacorp.com](mailto:awilkerson@ilacorp.com)

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**ITEM # 0336  
ACCOUNT MANAGER**

Job Title: **Account Manager**

Exempt-Nonexempt: X Exempt Non-Exempt

Incumbent:

Location: Southeast -Reports to Detroit Office

Reports to: Division Manager/Deputy Division Manager

Position Summary: Responsible for implementing action plans to support division market strategy. Establishes, maintains and expands accounts in assigned territory, providing a high level of customer service and building customer relations through mutually rewarding partnerships.

**Essential Functions/Examples of Duties:**

1) Accomplishes sales goals by implementing action plans to support division market strategy as directed by Division Manager/Deputy Division Manager

2) 1. Identifies and qualifies potential new accounts.

3) 2. Initiates sales process by scheduling appointments, making initial presentations and understanding account requirements.

4) 3. Closes sales by building rapport with potential accounts, explaining product and service capabilities, overcoming objections and preparing quotes.

- 5) Achieves a high level of customer service and support with an emphasis on partnership building. Works with customer to create partnerships that are mutually rewarding.
- 6) Works with resources to expand sales by introducing new products or supporting the development of new applications.
- 7) Works with Deputy Division Manager/Division Manager on business developments/promotions as required to meet sales goal under the direction of Division Manager
- 8) Reports activities, problems, and results to Division Manager and appropriate Technical & Marketing Chief Engineer / Product Manager. Follows company policies and procedures.
- 9) Communicates pricing and product changes to the customer as required
- 10) Supports the collection of past due customer accounts
- 11) Supports Technical & Marketing team's market research including the development of new strategies to expand the business as well as brand image/awareness
- 12) Maintains current customer/industry knowledge through educational opportunities such as; professional publications, industry events and networking.
- 13) 4. Uses resources, creativity and knowledge to find new ways to increase volume sales, support customer needs and elevate ILA recognition in the market.

The preceding functions are examples of the types of work performed by associates assigned to this job classification. Management reserves the right to add, modify, change, or rescind work assignments and to make reasonable accommodations as needed.

#### **Minimum Requirements:**

Education: BA/BS (technical degree preferred) or equivalent experience

Experience: 4 to 8 years sales direct, industrial sales experience preferred

Product Specific: Automotive and/or Industrial Fluids/Metalworking background preferred. Knowledge of and experience with OEMs, Tier 1 and Tier 2 suppliers a HUGE plus

#### **Special Skills:**

Strong sales drive

Prospecting

Outstanding communication skills including presentations and public speaking.

Closing

Goal setting

Disciplined

Sales training helpful

Strong computer skills including Microsoft Office and Dynamics CRM

#### **Additional Information:**

Travel required: 50 to 70%,

**Please send resumes to :**

[awilkerson@ilacorp.com](mailto:awilkerson@ilacorp.com)

## **ITEM # 0335**

### **INTERNAL SALES CONSULTANT**

Job Title: **Internal Sales Consultant**

Exempt-Nonexempt: Exempt X Non-Exempt

Location: Detroit Sales Office

Reports to: Area Accounts Manager Division: B2B sales

Position Summary: Responsible for executing internal sales activities for designated B2B customers. The position will establish, maintain, and expand ILA customer services and is responsible for servicing our geographically diverse customers, virtually from the Detroit office. Services will include follow-up with customer inquiries, price quotations and follow up as well as technical product support. This person will be expected to continually build strong communications with both external and internal customers.

Territory: Open

#### **Essential Responsibilities/Examples of Duties:**

1. Manage and maintain active communication with designated customers.
2. Utilize ILA resources to fulfill customer requirements.
3. Utilize ILA tools (such as CRM) to keep sales force aware of the activities.
4. Prepare daily, weekly, and monthly planning / sales reports as assigned.
5. Capture relevant information and report to management.
6. Provide recommendations to ILA management to increase effectiveness, and streamline processes.
7. Support I-LAS customers as needed. (I-LAS stands for Lubricants Analysis Services).
8. Provide the highest level of customer support and assist with resolving customer issues.
9. Meet with customers when deemed appropriate by management. Occasional travel required.

The preceding functions are examples of the types of work performed by associates assigned to this job classification. Management reserves the right to add, modify, change, or rescind work assignments and to make reasonable accommodations as needed.

#### **Minimum Requirements:**

Education: College degree or equivalent experience is preferred.

Experience: Two years or more of customer relations and/or sales experience

A working familiarity of social media tools.

Previous experience of customer relation management system (CRM) is a huge plus.

#### **Special Skills:**

- Strong organizational traits and the ability to work independently.
- Desire to learn and grow
- Ability to provide highly detailed, accurate reports.
- Working knowledge of Microsoft Office including Excel, Word, and Outlook.
- Excellent command of the English language both verbal and written.
- Able to work effectively with ILA managers/leadership.
- Outstanding customer service attitude (service DNA)
- Professional business demeanor.
- Ability to develop and maintain excellent customer relationships.

**Additional Information:**

Travel: Up to 10% travel is required for this position.

**Please send resumes to :**

[awilkerson@ilacorp.com](mailto:awilkerson@ilacorp.com)

## ITEM # 0334 PLANNING TECHNICIAN

**Planning Technician.** Summary: This position works under the direction of the Engineering Manager and Planning Engineer to perform contract review, write planning and disposition of orders received for processing.

**Essential Functions:**

1. Review incoming documents for contract review.
2. Document and request information from customers to enable process orders to be released.
3. Write instructions and revise process masters for processing without direct supervision.
4. Create sketches and visual instructions to supplement and attach to process masters.
5. Take pictures of hardware as needed.
6. Provide daily updates of requested information regarding customer orders.
7. Perform engineering dispositions when the Engineering Manager, Planning Engineer and/or Process Engineer are not available.

**Knowledge, Skills and Abilities:**

1. Exceptional computer skills in a variety of programs including, but not limited to Outlook, Excel, Word, PowerPoint and proprietary company software programs
2. Ability to adapt to a changing technology environment.
3. Be able to review a specification or blueprint to determine process and inspection requirements.
4. Be able to manufacture a mount for micro-hardness testing, perform testing & evaluate results.
5. Ability to effectively communicate in English.

6. Ability to work under time constraints to meet internal and external customer demands.
7. Basic math skills.
8. Excellent written communication skills in English.

**Supervisory Responsibilities:** None at this time.

**Working Conditions:** Normal office environment.

**Minimum Qualifications:**

1. High school diploma or GED.
2. ITAR (US Citizen)

**Success Factors:**

1. Experience in the aerospace/ defence industry.
2. Education or experience in engineering/quality.
3. Have the ability to work well with others in a team environment.
4. High attention to detail.
5. Self-starter.
6. Be able to use hand inspection tools.

Please send resumes to: [heather@thermalvac.com](mailto:heather@thermalvac.com)

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## ITEM # 0333 PROCESS ENGINEER

**Process Engineer.** Summary: This position works under the direct supervision of the Engineering Manager, performing contract review, process planning, evaluation and disposition of orders. In addition the Process Engineer aids the Engineering Manager by assisting and leading in the development and implementation of new jobs and oversees special process development.

**Essential Functions:**

1. Review incoming documents for contract review.
2. Write instructions for a process master without direct supervision.
3. Develop and train team members in novel processes.
4. Responsible for disposition of Non-Conforming product (NCR's) and investigation of root cause. (Based on experience and/or qualifications described herein.)
5. Responsible for administering the document change request system (DCR).
6. Provide daily updates of requested information regarding customer orders.
7. Maintain Engineering electronic operating system.
8. Work within the team environment to meet internal and external demands for continuous improvement.
9. Request additional information to enable non-conforming orders to be released.

**Knowledge, Skills and Abilities:**

1. Ability to troubleshoot in a variety of situations.
2. Meticulous attention to detail in repeated tasks.
3. Exceptional computer skills in a variety of programs including, but not limited to Outlook, Excel, Word, PowerPoint and proprietary company software programs.
4. Ability to adapt to a changing technology environment.
5. Excellent communication skills.
6. Be able to review a specification or blueprint to determine process and inspection requirements.
7. Ability to manage time, resources and projects and prioritize effectively.
8. Ability to assemble customer parts based on written instructions.
9. Ability to work under time constraints to meet internal and external customer demands.
10. Be able to use hand inspection tools.
11. Read, write and speak the English language.

**Supervisory Responsibilities:** None at this time.

**Working Conditions:** Normal office environment, limited (less than 50%) exposure to shop environment.

**Minimum Qualifications:**

1. Bachelors Degree in STEM field: (Mechanical Engineering, Materials Science, Chemical Engineering, Physics, Chemistry or a related field).

**Success Factors:**

1. Experience in the aerospace/defense industry.
2. Ability to work well with others within a team environment committed to continuous improvement by paying high attention to detail.
3. Driven by fast paced environment and able to self-manage multiple tasks.

Please send resumes to: [heather@thermalvac.com](mailto:heather@thermalvac.com)

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## ITEM # 0332 SALE REPRESENTATIVE

North American Cronite is seeking a **Sales Representative** in Texas and Oklahoma. Direct employment would also be an option if preferred to a representative agreement. North American Cronite is a world leader in the manufacture of fixtures and furnace parts in refractory alloys for heat treatment, steel, incineration, power generation, automotive, and aerospace industries. SAFE Cronite, our parent company, is present throughout the world, with 700 employees based at 9 production, design and R&D facilities in the United States, Mexico, France, Great Britain, Germany, Czech Republic, China and India. Please address your inquiries to [jim.demarest@safe-cronite.com](mailto:jim.demarest@safe-cronite.com)

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## SEEKING EMPLOYMENT ADVERTISING

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

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### ITEM # SE 001 MANUFACTURERS REP LOOKING FOR LINES TO ADD

**Manufacturers Rep Looking for Lines to Add.** I have been a Manufacturers Representative in the US Midwest for 30+ years and I am looking for a few lines to represent on a commission+ basis. The lines have to compliment the Thermal Processing Industry. Please contact me for more information at [216 217- 7769](tel:2162177769) [rosannemccay@gmail.com](mailto:rosannemccay@gmail.com)

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## In Parting

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

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**Wishing you a Merry Christmas and a  
Happy New Year!**



**Gord, Dale and Jordan**

