

HEAT TREAT NEWSLETTER
Everything to do with heat treating



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INTRODUCTION

We welcome you to the first issue of “**The Monty**” for 2018, a year that we very confidently expect to be an excellent one for the heat treating industry. “**The Monty**” team looks forward to helping you with all your heat treating needs; *help wanted ads, selling your surplus equipment, appraising your furnaces, forging partnerships, making introductions* - if it has to do with heat treating we can help.

Warmest regards,
Gord

HEAT TREAT NEWS

Don Longennete/Certified Heat Treating

Mr. Don Longenette, formerly of Timken Bearings and Bodycote is part of the group that just acquired Certified Heat Treating earlier this week (scroll down to find the details). As acting General Manager what is one of his first jobs? Why filling up one of the delivery trucks of course. **January 5, 2018**



The ABCs of VAB (Vacuum Aluminum Brazing)

January 4, 2018, Meadville PA – SECO/VACUUM, North America's leading vacuum aluminum brazing equipment supplier, invites you to a short educational webinar on Vacuum Aluminum Brazing (VAB). The one-hour session features AeroSPC's long-time industry veteran and VAB specialist, Matt Orfe. Mr. Orfe will cover the basics of what you need to do to get started with vacuum aluminum brazing. Processes, materials, equipment, and markets will all be covered in this highly informative Webinar. Time will be reserved for Q&A following the presentation, so be prepared to bring your questions! **January 5, 2018**

When: Thursday, January 18, 2018, 2:00 – 3:00 pm EST

Where: <https://register.gotowebinar.com/register/7957334260703882753>



Calvert Street Capital Partners Buys Certified Heat Treating

This announcement reinforces the fact that Calvert Street Capital is very committed to becoming a major player in the commercial heat treating industry. Certified is a larger than average commercial heat treater with a number of large capacity batch IQ furnaces, vacuum furnaces up to 6 bar and Induction hardening equipment. You heard it first at “The Monty”.



“January 2, 2018 – Thermal Process Holdings, an investment vehicle formed by Calvert Street Capital Partners (“Calvert Street”), is pleased to announce its acquisition of Certified Heat Treating (“Certified”) based in Springfield, Ohio. Certified represents the second investment in our strategy to build a leading thermal processing company focused on value-added services. Central to this strategy is identifying and bringing together leading businesses that share a focus on world-class safety, quality, service, and advanced technology. John Hubbard, Chairman of Thermal Process Holdings, commented, “We are excited to announce the second acquisition in our strategy to build a best-in-class company that offers a range of advanced services. The Biehn family wanted to ensure the continued success of the business and to provide opportunities for their people. We are intent on carrying out those objectives.”

Don Longenette, who will serve as General Manager for Certified while we review our permanent structure and resources, remarked: "The operating history of Certified dates to 1959, and the company has a solid reputation in the broad spectrum of industries it serves. We look forward to building on that reputation and growing the business. I'm excited to work with Joe Biehn, who will immediately focus his full attention on driving additional sales. Our goal with Certified is to utilize the exceptional quality of the equipment, the expertise and experience of the employees, and to take advantage of the open capacity of the furnaces." As announced previously, Calvert Street has partnered with leading executives to build a meaningful thermal processing business. The team, which includes Mike Sobieski and Lewis Lance in addition to John Hubbard and Don Longenette, consists of highly experienced individuals who have spent their careers in thermal processing. This team has complementary skill sets and will be responsible for the day-to-day activities of Thermal Process Holdings.

*Calvert Street is a Baltimore, Maryland-based private equity firm focused on investing in industrial service businesses in the lower middle-market. Since its inception in 1995, Calvert Street's objective is to partner with skilled management teams of privately held businesses to drive profitable growth and organizational transformation. Thermal Process Holdings builds upon Calvert Street's experience in other high-value add industrial sectors, including testing and inspection and precision machining. For more information, please go to www.cscp.com." **January 4, 2018***



Business Opportunities

Please take a look at our most recent employment offerings. If you see anything you like don't hesitate to get in touch with us at jordan@themonty.com or 905-271-0033. **January 4, 2018**

Item # SE002 Manufacturing/Process Engineer Seeking position in Heat Treating Field (Seeking Employment)

Item # 0343 Account Manager, Surface Treatments & Metallurgical Coatings

Item # 0342 Induction Technician/Maintenance Person

Item # 0341 Maintenance Leader

Item # 0340 Heat Treat Metallurgist

Item # 0339 Welder / Assembler



NEW YEAR, NEW SERVICES ADDED TO SOLAR ATMOSPHERES OF WESTERN PA

"In a continuing quest to enhance customer service, Solar Atmospheres of Western PA has expanded its wings by adding another type of mechanical testing to its repertoire: tensile testing. Tensile tests are essential in determining and understanding the ultimate strengths of materials. Currently, many aerospace specifications demand at least one tensile test to be performed on each heat lot of material and/or for every furnace load of components being heat treated. Tensile testing is not only more prevalent today but is often the mechanical test of choice that supersedes all others for the acceptance of properties.

Solar Atmospheres has traditionally outsourced all tensile testing by utilizing excellent locally accredited independent laboratories. Due to shipping and transporting test specimens to these laboratories, a delay of 24 to 48 hours before the lab even received the specimens was normal. With a keen ear to our customers' needs of receiving tensile results faster and more efficiently, Solar Atmospheres of Western PA set out on a continuous improvement initiative to bring tensile testing in house. In the summer, Solar took delivery of a new Tinius Olsen 300SL Universal testing machine and installed it in a temperature controlled environment. In

addition, in order to custom machine test specimens, Solar Atmospheres of Western PA purchased a new Haas Model TL-1 CNC lathe. Both units are physically located in a brand new 10,000 square foot facility adjacent to its 75,000 square foot state-of-the-art vacuum heat treating production facility.

*Solar Atmospheres of Western PA has added room temperature tensile testing to the scope of their Nadcap accreditation. The Nadcap audit went extremely well and final approval was completed on December 20, 2017. As Bob Hill, President elaborated, "We at Solar listen to our customers very carefully. Our customer feedback was very definitive: they wanted faster turnaround on their heat treated components. By bringing this new destructive mechanical test in house we will be able to do just that." If your testing protocols would include tensile testing before, during, or after heat treatment, please call Mike Johnson 724-982-0660 x2223 or mike@solarwpa.com. He will be glad to discuss your requirements with you. For additional information about Solar Atmospheres, visit us www.solaratm.com." **January 4, 2018***



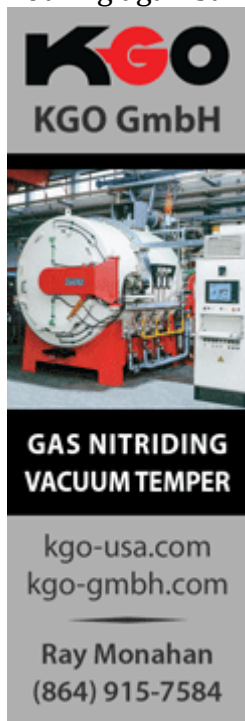
Bodycote Share Price

Well commercial heat treater Bodycote is certainly starting the year off on a high note. This graph shows how the company share price has risen over the past 5 years. **January 3, 2018**



Names in the News/HTA

A very prominent name in the commercial heat treating industry is surprisingly enough an Australian company, Heat Treatment Australia (HTA). We hasten to add that we have nothing against Australian companies but it is rather unusual for an Australian heat treater



to expand outside of Australia-as a matter of fact this is the only example we can think of. This article from the Brisbane's Courier Mail tells how the company has been so successful. **January 3, 2018**

"A WILLINGNESS to adapt and readiness to take a risk have transformed a small Brisbane mower blade producer into an international aerospace player. Heat Treatment Australia is a family-owned firm, started in the 1970s by Max Tucker. "We began as a traditional general manufacturing business," said his daughter Karen Stanton, now corporate and strategy director. "About 10 to 15 years ago, manufacturing in Australia began to decline. So we started contemplating where we needed to diversify." The firm invested heavily in research and development, and machinery , to position itself to become part of the multinational Joint Strike Fighter program. The Coopers Plains-based company makes heat-treated components for the fighter aircraft but has also sought "every opportunity available" to expand to related clients in aerospace, high-performance vehicles including Formula 1 cars and the renewable energy sector. HTA opened a facility in Los Angeles about 18 months ago, which Ms Stanton said was "ridiculously exciting for an Australian company like ours".

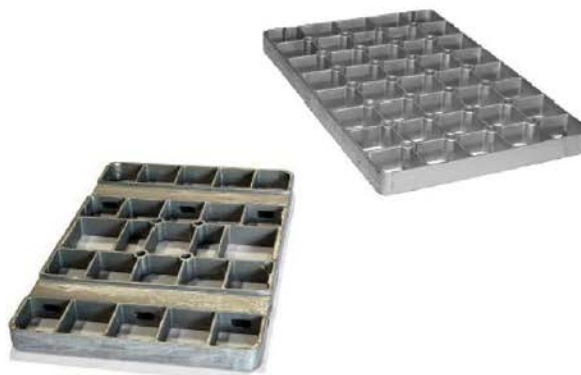
HEAT TREAT CENTRAL

High Quality Low Cost Base Trays

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905-271-0033



¹While supplies last.

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

© Heat Treat Central

Home Page Pictures

As our readers know on a regular basis we change our home page pictures, a collection of photos of heat treat installations and the people behind them. These pictures can cover a span of over 20 years now, our latest batch just posted mainly cover 2017 and are from locations as far afield as the US, Canada, France, China and South Africa. If you have an interesting heat treat photo we would be happy to post it for you. <https://www.themonty.com/> **January 2, 2018**

CIEFFE

We welcome our newest advertiser CIEFFE Furnaces of Italy one of the most diverse manufacturers of new furnaces in the world. Their banner ad can be found towards the top of this page and an interview with the owner of the company Mr. Peter Schweighofer can be found at <https://www.themonty.com/peter-schweighofer/> **January 2, 2017**



Happy New Year. January 1, 2018

Wishing you a healthy, happy, prosperous and spectacular New Year!

Top News Items of 2017

This news item from May of this year signalled the return to the heat treat industry of John Hubbard, former CEO of Bodycote and showed once again that commercial heat treating is a very attractive business. **December 29, 2017**

"Calvert Street Capital Partners Announces Initial Thermal Processing Acquisition. May 1, 2017 – Calvert Street Capital Partners ("Calvert Street") is pleased to announce an agreement to acquire Diamond Heat Treat ("Diamond") based in Rockford, Illinois. Diamond represents the initial investment in our strategy to build a leading thermal processing company focused on value-added services. Central to this strategy is identifying and bringing together leading businesses that share a focus on world-class safety, quality, service, and advanced technology. Mike Sobieski, CEO of the thermal processing strategy, commented: "Diamond represents our initial investment and we are delighted to partner with the Diamond team. The company, founded in 1996, has a long and well-deserved reputation for quality and service. We want to thank Bill Akre, Dan Neiber and Bill Denning and acknowledge their accomplishments. They have built an excellent company, and their priority has been to continue the success of the business and provide opportunities for their people. We are honored to continue – and hopefully build upon – their legacy." John Hubbard, Chairman, remarked, "I am excited that Diamond is our first step in building a best-in-class company that offers a range of advanced technologies. I believe that there is a tremendous opportunity to offer specialized services to address the evolving technological challenges in the marketplace. We look forward to announcing future acquisitions." As announced previously, Calvert Street has partnered with leading executives to build a meaningful thermal processing

business. The team, which includes Don Longenette and Lewis Lance in addition to Mike Sobieski and John Hubbard, consists of highly experienced individuals who have spent their careers in thermal processing. This team has complementary skill sets and will be responsible for the day-to-day activities of the thermal processing platform. Calvert Street is a Baltimore, Maryland-based private equity firm focused on investing in industrial service businesses in the lower middle-market. Since its inception in 1995, Calvert Street has focused on partnering with skilled management teams of privately held businesses to drive profitable growth and organizational transformation. The thermal processing partnership builds upon Calvert Street's experience in other high-value add industrial sectors, including testing and inspection and precision machining. For more information, please go to www.cscp.com. May 1, 2017"



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 or 905-271-0033. **December 29, 2017**

Item # B437 Ipsen Recirculating Box Furnace

Item # C331 Lindberg Pusher Furnace

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



Quenching Norwegian style.

From James Cross, SSI, Europe we see this rather interesting video about quenching in Norway. *"This was how we cooled our TUS fixture in order to reinstall all thermocouples after a couple broke during a survey. We managed to get passes (after tuning) with a uniformity of +/- 5 deg C at 560 deg C which is pretty impressive for large tempering furnaces. We used the SDS8120 Data Logger (of course) along with SDS Reporter to produce the AMS2750E compliant reports."* **December 29, 2017**

https://www.themonty.com/wp-content/uploads/2017/12/Norway.mp4?_=1

John Cote Correction

From ***"Pregl Services"*** we have this small correction about our recent post "Where are They Now".

"Dear Gord, To follow up on your "Where are they Now" post about John Cote, I would like to make a correction. As you know, yes, Pregl Services had our beginning in our first shop in Rock City, IL. We are now currently located in two places; the main office is in our 25,000 square foot manufacturing facility located at 5043 South Hwy 51 Janesville , WI and our second, newly opened facility is at 9 Moody Road Unit 2a, Enfield, CT, where Pregl will be supporting and servicing the East Coast with John as our East Coast Sales Manager. We have been truly blessed with John joining our team and look forward to a great 2018! What you may not know is that Pregl has vertically integrated our manufacturing to reduce costs of our aftermarket services. While giving our customers quality hot zones, replacement parts, moly products, and custom equipment, we have not forgotten our origins. My best to you and your family in the New Year! Andrew Pregl." **December 29, 2017**



Top News Items of 2017

We are digging through our news items of 2017 and this one from June is the most unfortunate one of 2017-it reminds us yet again that heat treating can be a dangerous business. **December 28, 2017**

“FAG Schaeffler Salt Explosion Germany; *We know nothing beyond this news report which would appear to be saying that an explosion happened in a salt quench tank in the heat treating department at FAG Schaeffler in Eltmann, Germany. Our experience with FAG Schaeffler tells us that the company is one of the most progressive in the world when it comes to heat treating, heat treating technology and safety which makes this a very unusual occurrence. May 16, 2017 “A large-scale deployment of fire brigade, police, rescue forces and technical aid organization (THW) had to be carried out on a large scale deployment at the FAG Schaeffler plant in Eltmann (district of Haßberge) on Monday. A total of 120 staff were on site. There had been an explosion in the Unterfrische factory. Several people were injured in some cases. Concerned citizens, members of the plant workers and, above all, media representatives stood in front of the works gates of FAG Schaeffler in Eltmann, on Monday morning, where a press conference had been announced by the police department under Unterfranken. “There was never a danger to the population at any time,” said Björn Schmitt, press officer of the police department Unterfranken, from Würzburg. Schmitt confirmed that during the explosion 13 employees were injured – four of them so hard that they had to be flown by helicopters. Schmitt did not want to comment on whether the injuries are life-threatening. Under the hand, however, there was talk that one of the victims of the accident is struggling with life. According to the first findings, the explosion occurred in the area of hardening furnaces, according to the police officer. Employees had wanted to clean the salt bath in which the rolling elements (produced by FAG Schaeffler) were hardened after annealing in the oven.”*

Metaltec software for cycle analysis and quality reports automatic validation

Metaltec software automatically analyses your heat treatment cycle and produces quality reports indicating cycle graphs, heat treatment process parameters, CCT diagrams automatically calculated and approved. Additionally, temperature uniformity survey can be monitored with temperature deviation automatically calculated and furnace class attributed.

System works with electrical cabinet equipped with devices in order to collect data from each furnace and send it to a SQL database. Metaltec will manually (version 1) or automatically (version 2) analyze the data and produce the respective reports.

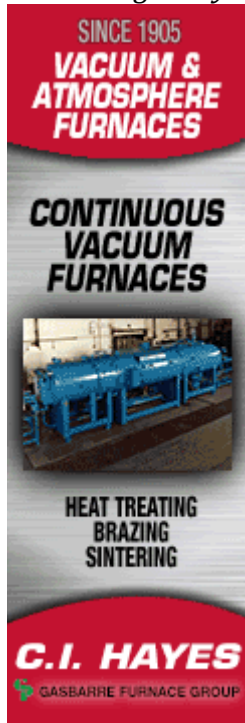


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Top News Items of 2017

This news item from February of this year we would consider to be worth mentioning again as so few new heat treat departments of this magnitude are started from scratch in any given year.

"OMG Inc. Invests \$15 Million USD In New Heat Treating Department; Now this is a very interesting story about a large fastener manufacturer bringing their heat treating in house.



To this story we will add that it appears the equipment is a mixture of mesh belt furnaces and batch IQ's all supplied by Williams Industrial in Bowling Green, Ohio. February 28, 2017."

"OMG Inc., Agawam, MA, USA. Look on the shelves at a hardware store or home center. If it's a warehouse-type place, also look up at the commercial roof covering the store. You'll see products from Agawam's OMG Inc. in both places. The 36-year-old company, originally known as Olympic Manufacturing, makes screws, washer plates, vents, metal edges, adhesives and construction equipment for commercial flat roofs like those over factories and big box retailers. OMG also makes FastenMaster, a line of screws for residential decks that contractors can hide, giving the finished deck a better appearance. OMG sells FastenMaster at lumber yards and hardware stores around the country, with contractors as the primary customers. It all adds up to about a billion screws a year. OMG is nearing completion on a \$15 million expansion to add heat-treating equipment to its manufacturing operation in Agawam. The heat treating plant will go on top of manufacturing, warehousing and administrative capabilities already located on Bowles Road. The company even has a wind tunnel in Agawam for testing its roofs in simulated storms. The heat-treating equipment, \$10 million of which is already in place, will be able to harden about 80 percent of the 100,000 pounds of screws OMG makes in an average day. Those screws have to get up to 1,000 degrees and then get quenched in a bath of oil in order to take on the appropriate strength, said Kevin Walters, project manager for the heat treating operation. Today, OMG sends its screws out to be heat treated by other companies. That's several tractor trailers coming and going every day to plants up and down the east coast. "That is why it

takes days to weeks to get our product processed,” Walters said. The first of the new equipment will be up and running in about a month, after which OMG will do most of its own heat treating. Once completed, the line will have five heat-treating machines, plus machines for quenching in oil, tempering and washing. OMG has already hired nine full-time employees for the heat treatment unit. The company will need a total of 25 people to staff it. The nonsupervisory heat treatment positions typically pay in the range of \$16 to \$22 an hour. The Agawam plant has about 350 employees out of the company’s total of 530.” **December 28, 2017**



Largest Captive Heat Treaters in North America

Recently we announced our intention of putting together a list of the largest captive heat treaters in North America, a task which at the end of the day we know will be almost impossible but still fun. Possible inclusions so far include **American Axle, Linamar, Fiat Chrysler, Acument** and **Pratt & Whitney**. What we haven’t touched on so far are the bearing companies who have some of the largest, most advanced and most secretive heat treat departments out there. As an example **Schaeffler Group** (which includes FAG, INA and LUK) has some tremendous heat treat departments in areas such as Irapuato, Mexico, Stratford, Canada, Joplin Missouri, Fort Mill, SC and Spartanburg, SC. Or how about their competitor **Timken Bearings**? Heat treat departments in Canton, Ohio (not new but certainly large), Cairo, Georgia, Lebanon, NH and Torrington, CT. We shouldn’t forget **Ford** with a very large vacuum carburizing installation in Sharonville, Ohio and another large in house heat treat in Livonia, MI. Aerospace people **Pratt & Whitney** with heat treating all over North American including Montreal, Canada, East Hartford, CT, West Palm Beach, Florida and Grand Prairie, Texas is also possible. Obviously we are just

touching on a few locations but we are going to keep plugging away. **December 28, 2017**

Where Are They Now-John Cote

For 34 years John worked for Vacuum Engineering Services (now Vesco-McLaughlin) of East Windsor, Connecticut. Vesco-McLaughlin does hot zone repairs and design, vacuum furnace servicing-pretty well anything to do with vacuum furnaces. John had a number of jobs including service technician and General Manager. Nothing lasts forever though and John recently became East Coast Sales Manager for Pregl Services, Inc., who are based out of Rock City, Illinois. It should come as no surprise that Pregl Services does pretty much the same thing as Vesco-McLaughlin which is servicing vacuum furnaces. **December 27, 2017**



Hauk Heat Treatment Sells Plant

Hauk Heat Treatment part of the Aalberts Group of the Netherlands and one of the largest commercial heat treaters in Europe and for that matter one of the larger ones in the world has just sold their facility in Zaragoza, Spain. The deal was concluded December 20th, this was one of four locations Hauk has in Spain. When you see the size of the plant you have to wonder whether it was just not large enough to be of much interest to Hauk.

"Today we would like to inform you that we sold our plant in Zaragoza, Spain on the 20th of December 2017. The company registered under the name Hauk Heat Treatment Zaragoza, S.A. was sold to the former minority shareholder S.A. Metalográfica de Barcelona and will most likely be rebranded back to Metasa – a name they already wore in the past – after a short transition phase. The company and its 10 employees will stay in business and keep on

providing Batch, Vacuum and Salt Bath Heat Treatment services to their customers. We wish our friends and colleagues in Zaragoza all the best for the future!" **December 27, 2017**



Merry Christmas!

Regular news updates on "The Monty" will resume Wednesday, December 27th. **December 25, 2017**

Our Favorite Stories of 2017

A number of interesting news stories came up over the course of 2017 but one of our favorites is this one. We can't even conceive of a heat treat either captive or commercial with a total of fifty six (56) 30" X 48" X 30" batch IQ furnaces in one location! Auto parts maker Linamar does have one plant in North America with 25 batch IQ's, commercial heat treater SHU in Ulm, Germany has row upon row of batch IQ's and Hyundai in Korea has a mammoth captive heat treat but none have this many batch furnaces in one location. Amazing.

Enormous Commercial Heat Treatment Plant Planned; Commercial heat treater and furnace builder Fengdong (the largest furnace builder in China) will be building a brand new commercial heat treating facility in Yantai, China. The total investment is estimated to be \$80 million USD and the plant size will be 52,000 square metres. Phase one of this project includes 56 Sealed Quench (batch IQ) furnaces each with a capacity of 1 ½ tons (3,000 pounds). When this project is completed it will be one of the largest heat treat facilities on the planet. The photo below shows Mr. Xiao Jun Zhu, General Manager of Fengdong Heat Treatment Group signing the contract with the Fusan District Governor. **December 22, 2017**



Dana Glasgow, Kentucky

Now this isn't much of a Christmas present-details below. At one time this plant had quite a large heat treating department which included an ALD vacuum carburizing Modultherm system and several pusher furnaces but this has been whittled down over the years. The ALD system was sold to ALD Thermal Treatment in Port Huron, Michigan several years ago and the rest of the equipment has gradually been moved. We believe at this point only a couple of pusher furnaces remain. **December 22, 2017**

"GLASGOW — The last day of production at the Dana Inc. plant in Glasgow will be Monday, December 18/2017 according to a spokesman for the company. "Dana has met directly with its employees in Glasgow to discuss severance, outplacement services, and other human resource matters," stated Jeff Cole, senior director of corporate communications for Dana, in an email to the Daily Times on Thursday. "We are working with the Kentucky Career Center

on outplacement assistance programs and we provide employees with help in completing their TAA Training Benefit forms.”



Severance is being paid to employees and some may also be eligible for unemployment benefits, Cole added. “Some employees have accepted positions with Dana in other locations,” he said. The closure will affect about 110 employees. Dana announced to workers at the Glasgow facility in April of

2016 that the plant would be closing, and the original estimate was that it would shutdown by June of this year. At the time, about 200 people were employed at Dana, as the company phased out the workforce. Most of those employees were hourly workers, with 17 listed as salary positions in 2016.

Officials blamed “prolonged deterioration of the commercial vehicle market in North America” for the plant’s closure. The Glasgow facility’s workload included producing gear sets, shafts and secondary gearing components for commercial vehicles. The plant operates in a 479,000 square-foot facility that sits on a 44.7-acre-lot at 1320 W. Main St. It was built in 1972, and Dana acquired the facility in 1998. No announcements have been made about future plans for the facility. A message left for Dan Iacconi, executive director of the Barren County Economic Authority, Thursday afternoon hadn’t been returned as of press time.”



SECO/WARWICK Press Release

The Sky is not the limit: 2017 has been the year of aerospace technology for SECO/WARWICK. 2017 has truly been the year of aerospace technology for the global SECO/WARWICK Companies with continuous improvements in manufacturing, engineering and customer service. Aerospace and aircraft components require precision heat treatment, not only to meet vendor specifications, but to assure the longevity and safety of the components in the final assembly. SECO/WARWICK has successfully exceeded those requirements by improving control over the heating and cooling of work throughout the entire cycle in multi-chamber furnaces.

Not too low, not to high. SECO/WARWICK develops new way of temperature control. The patented solution, designed to meet the highest AMS standard, addresses the inclusion of thermocouples during the heat treatment cycle, which move between chambers attached to the tray. Temperature control is achieved based on a special construction that allows the operator to monitor the temperature in both chambers. "This method provides full temperature control of the processed parts in a multi-chamber vacuum furnace during the entire process. The solution has already been successfully implemented in a two-chamber vacuum furnace CaseMaster Evolution® used for vacuum case hardening for aerospace components. This system can achieve remarkable results for components for automotive, wind energy, transmission and commercial heat treat facilities", said Paweł Wyrzykowski, CEO SECO/WARWICK Group.



SECO/WARWICK with the International Mark of Safety & Quality. Continuous improvement is the ethos that enables SECO/WARWICK to invest in the development of new technologies and in quality manufacturing. While most vacuum heat treatment furnace manufacturers purchase pressure vessels from outside vendors, SECO/WARWICK is pleased to announce that it has earned ASME certification. "ASME Certification enables SECO/WARWICK to reduce delivery times and assure the finest quality of vacuum vessels as well as providing customers with the proper documentation to protect their equipment investment" according to P. Wyrzykowski, "we believe that taking this step not only reduces costs and delivery time, it assures the safety of plant employees."

70% of the equipment is designed for the above-the-cloud applications. *SECO/WARWICK specializes in end-to-end heat treatment solutions for the aerospace industry, with up to 70% of the Group's equipment portfolio dedicated to aerospace applications. SECO/WARWICK furnaces are installed worldwide providing heat treatment for a wide range of airplane components including jet engine parts, turbine blades, aluminum coatings, landing gears and brakes.*

There is one more thing. *Included with each SECO/WARWICK system purchase is a professional service package. SECO/WARWICK understands how the equipment works and their service technicians increase uptime with the help of automated process maintenance that supports equipment architecture and technology solutions including renovation, modernization and relocation services. SECO/WARWICK carries out preventive inspections and the subsequent preventive measures using advanced tools in the field of metering and reporting. [Learn more here about SECO/WARWICK Technology and Services](#) **December 22, 2017***



Bodycote/Doncasters Group

Commercial heat treater Bodycote has always been very open about the fact that they like to enter into long term agreements with their customers to take over all of their heat treating requirements. We congratulate them on this obvious success. **December 21, 2017**

“(ShareCast News) – Bodycote, a provider of heat treatment and specialist thermal processing services, has entered into a long-term agreement to provide Doncasters Group with its hot isostatic pressing and heat treatment requirements in the UK. As part of the agreement, Bodycote has acquired the thermal processing assets, including hot isostatic presses and vacuum furnaces, at Doncasters’ site in Blaenavon, South Wales and the associated employees

have transferred to the group. Hot isostatic pressing is a form of heat treatment that uses high pressure to improve material properties.”



Advanced Heat Treat Corp.

(AHT) is pleased to announce the recent promotion of several individuals. Adam Dehl and Adam Kane were recently named Plant Managers for the Burton Avenue (Waterloo, Iowa) AHT location. Together, they have combined experience of 35 years at AHT! Both Kane and Dehl have been valuable assets since they took dual operations leadership roles in 2016. They have positively overcome challenges and have successfully met added responsibilities. As Plant Managers, their expertise will be utilized to focus more on visibility and deeper relationships

An advertisement for Leybold DRYVAC Systems. It features a photograph of a large industrial vacuum chamber. Above the photo, the text reads "Driving Vacuum Solutions for demanding heat treatment application". Below the photo, it says "DRYVAC Systems". At the bottom, the Leybold logo is displayed, along with the phone number "1 800 764 5369" and the website "www.leybold.com".

with existing and prospective customers, while continuing to lead their team to exceed customer's expectations.

We are also pleased to announce the appointment of Assistant Operations Manager for the Cullman, Alabama facility to Tim Garner. The Alabama facility was opened in 2006 and Tim came on board shortly thereafter in 2007 as an equipment operator. Over the last ten years, he was promoted into a manufacturing foreman position and has been a key player in leading the operations of the plant. Tim brings a great skill set of technical, operations and communication abilities. We are excited to see him take on his next leadership challenge within the organization as he develops other employees within his team and helps grow our customer base.

Advanced Heat Treat Corp. (AHT) is a recognized leader in providing heat treat services and superior metallurgical solutions to companies across the globe. Their UltraGlow® family of processes includes Plasma Ion Nitriding, Ferritic Nitrocarburizing (FNC), Gas Nitriding, UltraOx®, Through Hardening, Carburizing, Carbonitriding, Induction Hardening, and many more. Established in 1981, AHT is committed to exceeding customer expectations with "UltraGlowing" results. From the person who answers the phone to Dr. Glow, you'll feel like family with AHT. When you work with the AHT

team of surface treatment experts, we don't assume. Anything. AHT customers follow our proven process: The UltraGlow® Difference—from the R&D/design phase, all the way to production—to ensure the surface treatment and material choice have “UltraGlowing results”! We welcome you to come visit it us—any time! **December 21, 2017**



Adam Dehl



Adam Kane



Tim Garner



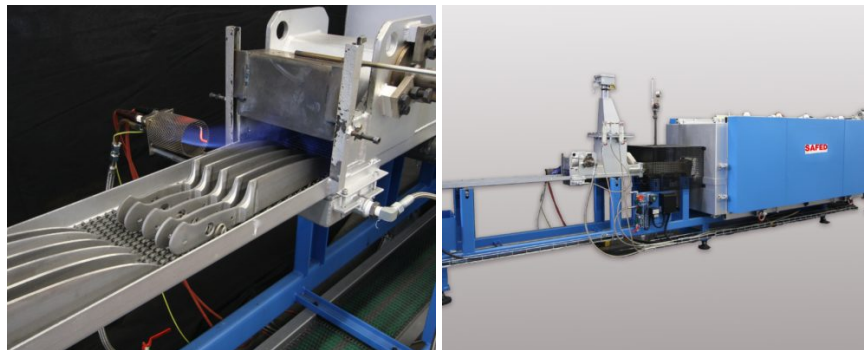
SAFED Laboratory Convinces Industry Leaders

Mödling – The SAFED laboratory that opened last year in Mödling has spurred the interest of numerous businesses within the European heat treatment industry. The test plant is already contributing to the continued advancement of thermal processes, says Dr Herwig Altena, head of development and applications engineering at AICHELIN Holding in Mödling. AICHELIN, a subsidiary of the Berndorf Group ranges among the worldwide leaders for the production of industrial furnace plants. <http://aichelin.com> “We are very happy about the numerous inquiries and the exciting and informative experiments that we are now conducting together with our customers. This way, we can test processes individually under real-life conditions and work on solutions tailored to our customers’ needs,” Dr Altena says, satisfied.

Valuable tests for international customers; Visitors to the laboratory are mostly European companies and leaders of the screw, fastenings, and coin industry. In most cases, they come

with very clear ideas but want to gain valuable knowledge before making a definitive decision to buy, or they want to test critical precision adjustments and clarify detailed issues in practice. AICHELIN also benefits from these manifold tests. The company can enhance their profound know-how and will thus be able to use the added value gained in product development and process optimization to the advantage of their customers.

Universal applications, real-life conditions; The test plant is a cast link belt furnace, which is ideally suited for bright annealing, hardening under protective gas atmosphere, carburization or case-hardening, artificial aging as well as tempering. At temperatures of up to 1,100 degrees Celcius, steel components can be treated under any desired composition of protective gas atmosphere. The gas supply panels of the SAFED plant enable the supply of nitrogen, endogas, hydrogen, propane, natural gas, and air. At a maximum loading of 30 kilograms per running meter, the cycle time is between 7.5 and 60 minutes. The plant also has a rapid cooling device, enabling cooling down to under 100 degrees within 2 minutes. When working with thin-walled components such as razor blades, customers are also able to use gas cooling in order to reach their desired results. **December 21, 2017**



Largest Captive Heat Treaters in North America

Recently when referencing automotive parts supplier and captive heat treater **American Axle & Manufacturing (AAM)** we suggested that the company which has several heat

treating locations in areas such as Three Rivers, MI and Mexico might be one of the larger captive heat treaters in North America. This prompted us to start considering who the 10 largest in house heat treaters in North America might be-the basic criteria being that this will include any and all plants in Canada, Mexico and the US who have heat treating capabilities. Possible candidates might include **Fiat Chrysler** with their enormous transmission heat treating capacity in Kokomo, Indiana, **Linamar Gear** with the largest batch IQ installation in North America, vacuum carburizing capacity in Mexico and their growing plants in North Carolina. Or how about **Pratt & Whitney** with probably the largest number of vacuum furnaces for any one company in North America? Perhaps fastener manufacturer **Acument Global Technologies** who just might have more mesh belt lines than any other company on the continent? We are going to do our best to try and pick the 10 largest. **December 20, 2017**



Lindberg/MPH Growth

Lindberg/MPH has experienced steady growth year after year and 2017 was no exception with another year of great performance. At the beginning of the year, Lindberg/MPH invested in the future by purchasing an Emrak Press Brake and Hydraulic Swing Beam Shear to maximize their production capabilities. These equipment investments were key resources as Lindberg/MPH experienced considerable increases in equipment sales. Throughout the year, Lindberg/MPH shipped several integral quench furnace systems (IQ), box furnaces, pit furnaces (both nitriding and steam), along with several cyclone pit and cyclone box furnaces to a variety of industries such as automotive, foundry, marine, and mining. Not only has the heat treat side of the business grown significantly, the non-ferrous melting side of the business has also seen impressive gains this year. Light Industrial and laboratory furnaces continue on the growth path in the R&D and education markets. 2017 was a strong year for Lindberg/MPH and the growth trend is expected to continue in 2018. "Lindberg/MPH has

shown strong increases over the past couple years in both their heat treat furnace sales and non-ferrous melting equipment sales. Their strategic planning for future growth has laid the ground work for continuing this trend in the years to come.” Dave Strand, CEO **December 19, 2017**



Alloy Heat Treatment/UK

“Alloy Heat Treatment has announced it has been successful in achieving Nadcap re-accreditation for heat treatment. The aim of the Nadcap program is to assess process capability for compliance to industry standards and customer requirements. Nadcap is an industry-managed approach to conformity assessment that brings together technical experts from both Industry and Government to establish requirements for accreditation, accredit suppliers and define operational program requirements.

This results in a standardized approach to quality assurance and by achieving Nadcap accreditation, Alloy Heat Treatment has demonstrated their compliance. Quality manager Steve Roberts commented: “I’m delighted with the achievement of Nadcap re-accreditation and to again be awarded Merit Status. This means that, instead of having our next Nadcap audit in 12 months, we have been granted an accreditation that lasts until January 2020.” “Compliance via Nadcap accreditation is a milestone in demonstrating manufacturing excellence.” said Joe Pinto, executive vice president and chief operating officer at the Performance Review Institute. “By obtaining Nadcap in heat treating, Alloy Heat Treatment have proved to the industry that they are committed to quality and aerospace safety.” **www.alloyheat.co.uk” December 19, 2017**



John (Chip) Keough, Applied Process

We are very pleased to have this interview with Chip Keough of Applied Process in the USA. Chip tells us about the history of Atmosphere Furnace Company, Applied Process, the advantages of the ADI process and about how it can be applied to gearing. **December 18, 2017**

“About Applied Process Inc. My father, Bob Keough, started Atmosphere Furnace Company in 1962 with a couple of his brothers. Business was slack, so with a couple other partners he started a commercial heat treat called Controlled Atmosphere Processing on Idaho Street in Detroit. In 1962 there was a heat treat on every corner in Detroit, so he needed a niche....the niche he picked was Austempering of 1050 steel clips and clamps. Between CAPCO and AFC they developed the first continuous atmosphere-to-salt furnace which greatly reduced the cost of Austempering steel clips and clamps. Both companies leaned on each other and grew slowly and steadily. Along the way, Bob bought out his partners at both AFC and CAPCO and AFC relocated to Troy, Michigan Bill joined the business in the late 1960's and set about working on the systems. He was an early integrator of computerized process and financial tracking systems. He focused on job-based pricing and greatly improved the economic performance of the heat treat. An oil fire destroyed CAPCO in 1968 and that was the last time the Keough family employed oil in any of our plants. Out of the ashes, in 1968 AFC developed the first mesh-belt atmosphere-to-salt furnace that allowed CAPCO to hand load complex, stamped and four-slide parts. In 1972 AFC developed an atmosphere-to-salt pusher furnace that was a whole 'nother learning experience, later to be deployed, for a time in the Wixom location (where AFC had relocated to in 1973)". **Continue Reading**

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SECO/WARWICK, Meadville, PA

Just in time for the New Year furnace builder SECO/WARWICK cuts the ribbon on their just renovated offices in Meadville, PA. **December 18, 2017**



Heat Treat Mexico 2018

It was back in 2016 that ASM organized their first heat treat event in Queretaro, Mexico “Heat Treat Mexico” and it proved to be a very successful event. At the time it was billed as a bi annual event and ASM is sticking with this schedule with the next one being held September 25-28, 2018. *“Heat Treat Mexico 2018, powered by the strength of the Heat Treating Society and the organizers of Heat Treat North America, showcases heat treating resources and technology for emerging markets in Mexico. The conference will attract Maintenance Supervisors, Metallurgists and Production Engineering Staff and will provide a bridge for relevant new technology for thermal processing and how it is applied to the*

production environment in Mexico.” We attended the event in 2016 and have these two photos from 2016. **December 18, 2017**



Pat Torok and the UPC Team



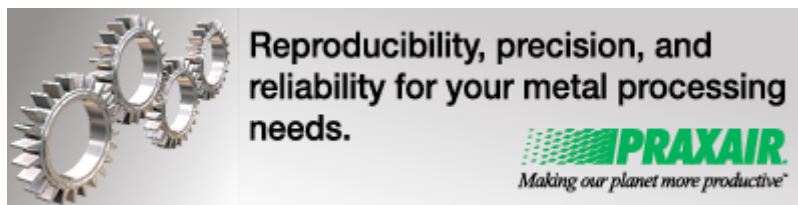
Jorge Gonzalez, Mattsa, Arturo Arechavaleta and Manuel Montez, Nutec Bickley and Carlos Torres, Mattsa



Southern US Heat Treating

The Southern US states which include Texas and Louisiana has always had one of the largest concentrations of captive and commercial heat treaters in the world largely because of the oil and gas industries. Being dependent upon oil and gas has meant that it is either “feast or famine” - as one of the larger heat treaters in Texas once told us “in the good times we make lots of money, in the bad times we give some of it back.” Well for the past few

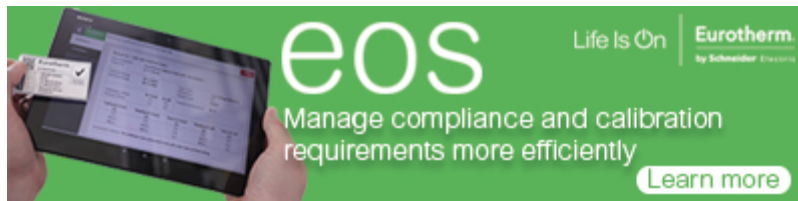
years they have been doing a lot more giving than taking but there are now numerous signs that that is changing and changing quickly. One of our favorite barometer of how business is doing is how many furnaces are being installed and heat treaters in Texas are now starting to add furnaces. Last week we ran across what is becoming a fairly typical example, two really nice used batch IQ furnaces with working dimensions of 36" X 48" X 32" at a captive heat treater in Mason, Michigan were sold to a commercial heat treater in the Dallas/Fort Worth area, this particular heat treater has bought several batch IQ furnaces this year. We expect to see this trend continue and indeed grow in the near future. **December 15, 2017**



Caterpillar, Danville, Kentucky

It is old news that Caterpillar announced the closing of their Danville facility back in November of 2015 as you can see in this original announcement;

"Caterpillar will close its plant in Danville, Kentucky impacting 75 jobs, according to a release from the Danville-Boyle County Economic Development Partnership. The company said that 25 of the jobs will be moved to headquarters in East Peoria, Ill. The Danville plant makes undercarriage components for track-type tractors used in construction and mining. That production will shift to other Caterpillar locations and strategic suppliers. The transition is expected to be completed by 2017." Cat did follow through and the plant was shuttered in July of 2017 (if you care it has been taken over by a plastic injection molding company). What we did not know was where the heat treating equipment ended up. As it turns out the 6 pit carburizing furnaces were purchased by a heat treater in the Detroit area who has installed them and has either just started them up or is about to. At the start of the new year we will give you some more details and hopefully have a few pictures to show you. **December 14, 2017**



Thermetco Acquires National Tool Hardening

(Editors note; Thermetco is one of the largest commercial heat treaters in Quebec, Canada offering most heat treating processes. National Tool Hardening is a long established heat treater specializing in salt bath heat treating).

"Montreal, Quebec, Canada December 11, 2017-Thermetco's team is pleased to announce the acquisition of National Tool Hardening. This union of two industry leaders will increase our capacity, offering and the diversity of our heat treatment services al under one roof. Since it's creation in 1969, National Tool Hardening has acquired a solid experience and incomparable skills in the salt bath field and endothermic treatments. This know-how will be preserved as its director Sam Cerro, as well as his team, will join us to offer this services as of January 18th at 217 Industriel Boulevard, Chateauguay. Convinced that the addition of our expertise will allow our respective customers to benefit from the synergy between our two companies, we remain at your disposal to answer any question. We are proud to act as a partner in the realization of your metallurgical projects.

Thermetco Contact; Xavier Kauza, 514 934-4684

*#229 **xavier.kauza@thermetco.com** Traitement Thermique National Contact; Sam Cerro, 514 325-3300 **sam.cerro@nthi.com**" December 14, 2017*

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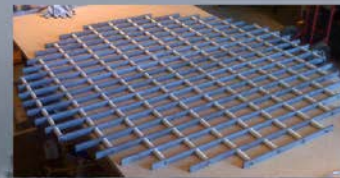
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Rex Heat Treat Expansion

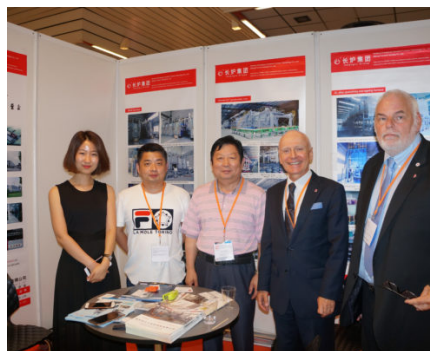
With 3 locations, Lansdale, PA, Bedford, PA and Aniston, Al Rex is one of the largest family owned commercial heat treaters in North America and is now into it's third generation. Rex offers most commercially available processes including vacuum heat treating, carburizing, Nitriding, austempering, marquenching and a host of other processes. With that background out of the way we move on to the reason why their name comes up today. The bland news summary below tells us that Rex is in the process of making a very large investment into their original location Lansdale but it doesn't give many details. For the time being this will have to suffice but we can say we are looking forward to a very interesting press release from the company in the very near future. **December 13, 2017**

"Lansdale Officials have signed off on financing that will allow Rex Heat Treat on West 8th street to expand its operation in the Borough. The four million dollar bond is being issued by the Souderton Industrial Development Authority and will be used by the company to acquire equipment needed for a new product line. Borough Council President Denton Burnell is

excited about the prospect of growth for a long time Lansdale business but says the Borough is not on the hook should Rex Heat Treat be unable to make payments on the bond. "We're in no way liable related to this. It's a formality because the expansion is taking place in the Borough. The law is related to the authority itself and we have to approve that, but we hold no liability." Officials at Rex Heat Treat expect the expansion to eventually create about 25 new jobs."

Scott MacKenzie, IFHTSE

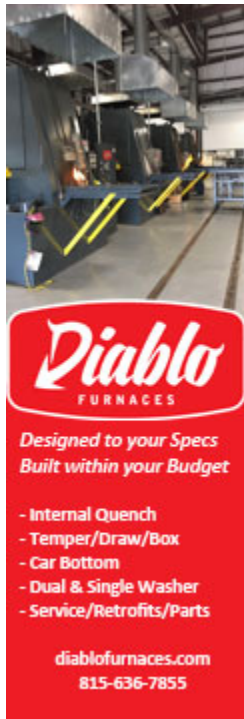
The International Federation for Heat Treatment and Surface Engineering (IFHTSE) is an excellent worldwide organization for the heat treating industry. Over the past few years they have made a real effort to be a truly global organization with a stronger presence and they have been quite successful at it. If we have one complaint about the organization it is that in our opinion it is more theoretical than "hands on" a comment which will probably attract some criticism but we do emphasize that we have a very high opinion of IFHTSE. We mention them today because the outgoing President, Mr. Patrick Jacquot will shortly be replaced by Mr. Scott MacKenzie who will be the new President. We went through our files and found this picture of Scott taken earlier this year at an IFHTSE event in Nice, France. We have no doubt but that Scott will do a top notch job. **December 13, 2017**



Flame Hardening Ain't What it Used To Be

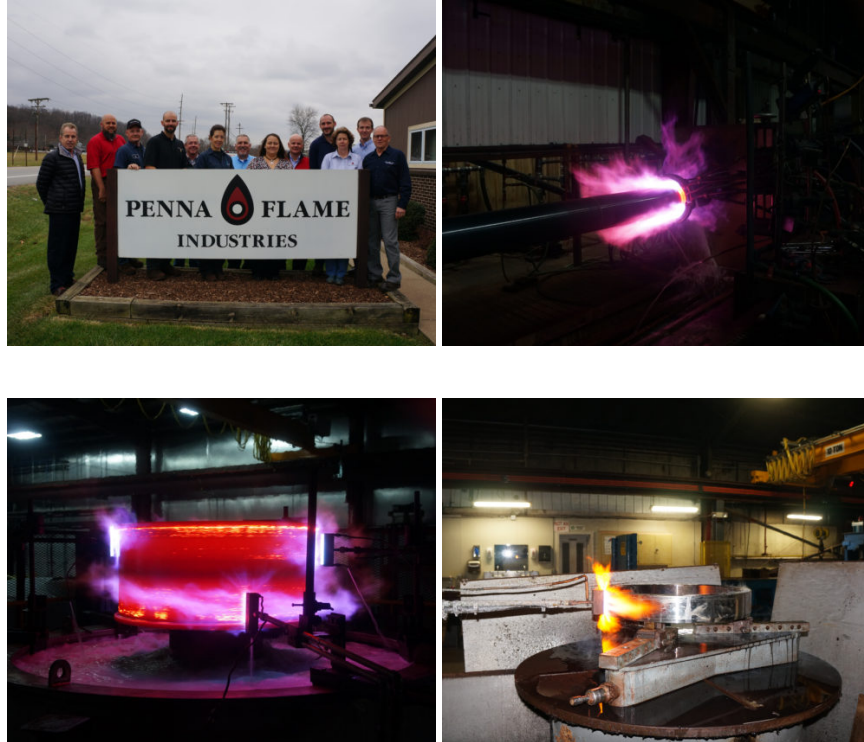
October 26th of this year we posted these comments and are we ever glad we did as it opened our eyes a whole new world of Flame Hardening; *"Flame Hardening-The End of the Line? Flame Hardening is a form of heat treating which involves heat being applied to a part by using oxy-acetylene or another gas. It is heated to the upper critical temperature before*

the steel is quenched with water. It is a surface hardening process used on medium carbon mild or alloy steels such as 1045, 4140 and 4340 such as crane wheels, cable sheaves and rollers. This is an older technology and very basic with little control over the end result. We mention it today because over the past few years we have seen a number of companies both captive and commercial heat treaters discontinue the process with the most recent one that we have run across being Thermex Metal Treating. There is nothing inherently wrong with the process but it is gradually being relegated to the fringes of the heat treating world along



with technologies such as shaker hearth furnaces and Fluidized beds. October 24."

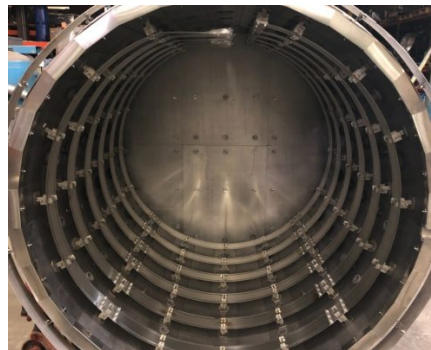
As a result of these comments we were approached by a very friendly and knowledgeable fellow by the name of Andrew Orr of PENNA FLAME in Zelienople, PA who offered to show us how the technology has changed over the years. It turns out that Andrew's grandfather Garrett Orr founded a commercial heat treat facility back in 1968 that guess what? Specializes in Flame Hardening, not only specializes by the way as they are probably the largest single flame hardening facility in North America with roughly 30 employees. As a result of this meeting we at "The Monty" visited PENNA FLAME this past week and it turned out to be a fascinating experience. What the company has done is to take an older technology, flame hardening and then combine it with robotic loading/unloading, computer controls and the latest in temperature monitoring and control with the end result that they have ended up with a process completely repeatable with very tight quality control all at a very competitive price (it is worth mentioning that the company themselves build and design the equipment on their own). They have been so successful over the years that earlier this year they added a substantial addition to their building with a number of new flame hardening systems. PENNA FLAME does business all over North America with parts coming from as far away as California and are able to heat treat parts up to 20,000 pounds and 80" in diameter. If you ever find yourself in the Pittsburgh area the Orr's are a very friendly family and they would be more than happy to show you what they have to offer. These photos give you an idea about what they are capable of. **December 12, 2017**



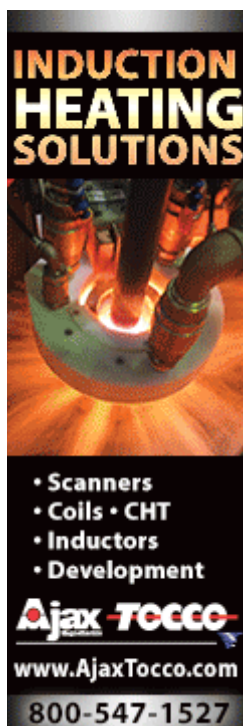
Monday Morning Briefing

From the ***"Where are they Now"*** file we have this; **Al Manriquez** who used to be with commercial heat treater **Nitrex** in San Jose, California is now with **Bell Helicopter** in Grand Prairie, Texas. Bell Helicopter certainly needs on introduction, this particular location has a number of batch IQ furnaces amongst other equipment. **Vesco McLaughlin**, a vacuum furnace rebuilder in East Windsor, CT, USA sent us this summary about how they are doing under their new ownership; *"In In a brief amount of time Vesco-McLaughlin, Inc. has made many improvements to a small company with plenty of potential. Starting with the staff, Vesco has hired 3 new employees: John Schweir and Andrew Saez for service and production and Jessie McGuinness in office staff. Vesco's capabilities include servicing, rebuilding, and manufacturing of vacuum pumps, hot zones, furnaces, and controls. They continue to service*

*the vacuum processing industry from coast to coast with a rapidly expanding customer base. Many new technology upgrades have allowed Vesco to more efficiently expedite their customers' needs. Vesco is excited for what 2018 has in store. " **December 11, 2017***



In Mississauga, Canada captive heat treater and spring manufacturer **Commercial Spring** will shortly be adding another mesh belt austemper line. This will compliment the two the company already has. We now go to Germany for this news. **Wolfram Wiech** was a Plant Manager for commercial heat treater **Bodycote** before moving to another commercial heat treater **HÄNDLE** in Tübingen, Germany earlier this year where he is Managing Director. The HÄNDLE company which is part of the HALEX Group has been involved in heat treating for 37 years now. One of the reasons we mention them today is that they will be adding equipment and increasing their case hardening capacity by 20% in early 2018 followed by another similar increase the middle of 2018. **IVA Schmetz** a German manufacturer of vacuum furnaces has received a real nice order from a company in Taiwan; "*Recently IVA Schmetz was awarded a new order from Taiwan for five vacuum hardening furnaces, the order comes from a steel distributor in the country who is a long time IVA customer. It will include five vacuum gas quenching furnaces and is part of a larger order which includes seven vacuum tempering furnaces, which will be supplied by our sister-company BMI from France. The total project for 12 vacuum furnaces reached 2.5M€.*"





Friday of last week we had a photo of a very large captive heat treating plant which featured a number of pit carburizing furnaces and invited readers to guess who it was. We had a number of guesses most of which were guessing Bodycote in Arlington, Texas of all places however the correct answer was **Brad Foote Gearing**, Pittsburgh, PA., and the person who guessed it correctly was **Jim Oakes** of controls company **SSI**, in Cincinnati, Ohio. Brad Foote has approximately 20 furnaces including 13 large pit carburizing units at this plant. The largest has working dimensions of 90" x 150" which makes it one of the larger ones in operation. These photos show the new lab, the control room and the actual plant and in the photos we see our good friend **Rich Baker**, Plant Manager and **Jim Senne** of MetalPro Resources LLC another friend.





Ipsen Announces 2018 Schedule for Heat Treatment Training

"Ipsen will host another series of Ipsen U classes throughout 2018. Designed to teach heat treatment fundamentals while also sharing best practices and new methods, Ipsen U is a three-day course where attendees can gain hands-on experience. Courses are available April 3-5, June 5-7, August 7-9 and October 2-4. Throughout the course, attendees are able to:

- Learn about an extensive range of topics – from an introduction to vacuum and atmosphere furnaces to heat treating, furnace controls, subsystems, maintenance and more*
- View the different furnace components firsthand while learning how they affect other parts of the furnace and/or specific processes*
- Take part in one-on-one discussions with Ipsen experts*
- Participate in a leak detection demonstration*
- Tour Ipsen's facility*

*A forum where all levels of experience are welcome, Ipsen U instructors believe in using the participants' specific questions and interests to shape the hands-on class. Past attendees have appreciated the instructors' "incredible amount of knowledge, hints, tips and real-world advice." The Ipsen U classroom features comfortable seating for up to 36 attendees, as well as integrated technology with a large smartboard and two additional monitors for interactive presentations and demonstrations. Register today for an upcoming 2018 Ipsen U course at www.IpsenUSA.com/IpsenU." **December 8, 2017***



So Who Is This?

This is a captive/commercial heat treater in North America with almost 20 furnaces including one of the larger pit carburizing furnaces on the continent—a gas fired unit with a diameter of 90" and a working depth of 150". We will have a more complete profile next week but if anybody would like to take a guess we will be glad to give you a free mention on "The Monty" **December 8, 2017**



Rexnord/Downers Grove Illinois, USA

You do of course know why we are mentioning this new Rexnord facility and yes you are correct. Part of this project will include a new and improved heat treat department. Currently the heat treat department (which is not real large) includes batch IQ and vacuum furnaces. **December 7, 2017**

"Downers Grove, Illinois has landed a massive aerospace development with the announcement Thursday that Rexnord Corp. is staying put in the western suburb. Milwaukee-based Rexnord is planning to build a 248,000-square-foot manufacturing facility and aerospace headquarters, which is expected to be completed by 2019. After conducting a national site search, Rexnord decided to replace its existing 200,000-square-foot facility in the Ellsworth Business Park, which was built in 1956. "It's a win not only for Downers Grove but for the state of Illinois because it's a manufacturing project that could have left the state," said Michael Cassa, president and CEO of the Downers Grove Economic Development Corp. About 310 employees work at the facility, Cassa said.



Rexnord, a 125-year-old manufacturer across multiple industries, was offered several financial incentives to stay in Downers Grove, with Community High School District 99 and Downers Grove Grade School District 58 both agreeing to provide a 10-year property tax abatement, Cassa said. In addition, the village is scheduled to vote next week on a proposal to reduce Rexnord's building permit fees by 50 percent. Cassa said the village incentive would be worth about \$100,000. Rexnord's aerospace division provides bearings, seals, gears and electrical components that are used in everything from a plane's rudder to its landing gear. "We are building a new facility at our current manufacturing site to continue to meet and exceed the needs of our customers," a Rexnord spokeswoman said in a statement. "The new facility will feature additional capacity and upgraded technology."

AFC-Holcroft Reports Robust Earnings For 2017

*"Robust bookings in 2017 are leading to a strong order backlog at AFC-Holcroft for the foreseeable future. Of special note were a large number of complete UBQA (Universal Batch Quench Austemper) lines, with orders distributed among different customers serving a variety of industries. AFC-Holcroft is well known as a leading furnace supplier for equipment used for austempering and marquenching. Metal components subjected to the austempering process are shown to have improved mechanical properties such as strength and toughness along with improved distortion control during processing. **December 6, 2017***



Additionally, sales of the company's flagship UBQ (Universal Batch Quench) integral batch quench systems were strong, as were the popular EZ™ endothermic gas generators, rotary hearth furnaces, pusher furnaces and mesh belt equipment. Also a Flexiclean system provided by AFC-Holcroft's sister division AICHELIN Heat Treat Systems is also significant. Additionally, many customers chose 2017 as the time to upgrade and/or retrofit existing equipment, and a number of orders were received to modernize facilities with the latest IoT technology.

Sales globally include a high number of deliveries into the USA, Canada and Mexico as well as new equipment installations in Australia, Eastern Europe and Asia. "It's been a very good year

with strong global bookings from both existing customers as well as a number of new customers. This is a testament to the many hard working team members here at AFC-Holcroft who continue to strive for excellence,” said Tracy Dougherty, Sales Manager at AFC-Holcroft. “We look forward to the future with excitement and optimism as we expand our product offering through a continued technology exchange with the AICHELIN Group.”

AFC-Holcroft has responded to the increased order bookings by extending working hours, adding experienced personnel to its staff, adding new technology and continually improving processes to keep promised delivery dates. The company remains optimistic for 2018 to also present a strong order book.

About AFC-Holcroft: *Founded in 1916, AFC-Holcroft, is one of the US market leaders in the production of industrial furnace equipment for ferrous and non-ferrous metals. The company manufactures turn-key heat treating systems for applications including commercial heat treating, bearings, automotive, aerospace, mining, aluminum heat treatment, gear manufacturing, fastener manufacturing, and alternative energy industries.*

Headquartered in Wixom, Michigan, AFC-Holcroft operates its own subsidiaries in China and Switzerland and has a global presence through a network of partners located in Australia, Brasil, China, India, Mexico, Poland and Spain. For more information, contact media@afc-holcroft.com.

About AICHELIN Holding: *AICHELIN Group, as part of BERNDORF Group, is a manufacturer and provider of after-sale-services of industrial furnace plants for different industry segments. AICHELIN Group operates in the field of induction heating and in the manufacturing of industrial gas burner systems. The group operates production sites in Austria, Germany, Switzerland, Slovenia, the US, China, and India. AICHELIN Group employs 1,100 employees worldwide and thus ranges among the largest producers of heat treatment plants. <http://aichelin.com>”*



Heat Treating “Issues”

If you don’t think heat treating is a crucial part of the manufacturing process these two examples point out what happens when somebody doesn’t get it right. **December 6, 2017**

*“Honda will recall over 5,000 model-year 2017 Civic 2-door and 4-door vehicles equipped with 1.5-liter engines and automatic (CVT) transmissions in the United States to inspect, and, if needed, replace the right driveshaft, free of charge. Honda has received no customer reports related to this issue, which was discovered during routine quality checks at the factory. Due to an **improper heat treating process** at a supplier, the right driveshafts in these vehicles may break if they are from affected production lots. If a driveshaft breaks, the vehicle will lose drive power when driving or may roll away when parked without the parking brake engaged, each increasing the risk of a crash.*

*More than 400 Hyundais have been recalled due to concerns about defective crankshaft assemblies. In May 2017, Hyundai Motor America (HMA) received a report from a customer about a knocking sound during operation of his 2017 Santa Fe sport utility vehicle and initiated an investigation. An inspection of recovered engine assemblies revealed that engine bearings had seized due to improperly produced crankshaft pin surfaces, a condition traced back to a **crankshaft heat treatment coil** that was improperly positioned during production in January 2017.”*



Enormous Commercial Heat Treatment Plant Planned

Commercial heat treater and furnace builder Fengdong (the largest furnace builder in China) will be building a brand new commercial heat treating facility in Yantai, China. The total investment is estimated to be \$80 million USD and the plant size will be 52,000 square metres. Phase one of this project includes 56 Sealed Quench (batch IQ) furnaces each with a capacity of 1 ½ tons (3,000 pounds). When this project is completed it will be one of the largest heat treat facilities on the planet. The photo below shows Mr. Xiao Jun

Zhu, General Manager of Fengdong Heat Treatment Group signing the contract with the Fusan District Governor. **December 5, 2017**



The 18th International Exhibition on Heat Treatment/Beijing, China

This 18th International Exhibition on Heat Treatment was held the 22th to 24th of November in Beijing, China. AFC-Holcroft and Aichelin China had a joint booth at the show. In the first photo below we see from the left Ms. Cui Yanfei & Mr. Du Shengyong, both with Aichelin China, Mr. CJ Zhou, AFC-Holcroft, and Ms. Shen Yuzhu, Aichelin China. The second photo shows the AFC-Holcroft/Aichelin China team in front of their booth at the end of the 2nd day of the show. **December 5, 2017**



Monday Morning Briefing

November 20th we informed you how commercial heat treater **Listerman** based in Liechtenstein was moving into a brand new building and promised a photo when one was available. Well here is the picture along with a few more details. **December 4, 2017**

"In 2016, the decision was made to look for a new location for the headquarters in Liechtenstein due to a lack of space and inadequate soil resilience. Consequently in 2017 we moved production and administration into a brand new building with a production area of 1,200 m2."



In North America we see that manufacturers reps **Lohn and Associates** based in Cleveland are now representing **Alcon Industries** in Ontario. Lohn and Associates are long time reps selling furnaces, alloy components and other heat treat related products. *"J. L. Becker, a Gasbarre Furnace Group Company, announces the hiring of Michael Harrison as a Sales and Metallurgical Engineer. Mr. Harrison has an MBA from Walsh College and a BS in Materials Science and Engineering from the University of Michigan. He has over 10 years of thermal processing experience which includes metallurgical process engineering, quality management, and operations management. His core competencies and expertise are an excellent addition to J. L. Becker's business. Harrison was previously employed at Bodycote and American Axle and Manufacturing. Going forward, Michael will support J. L. Becker's sales efforts with his broad range of professional and practical experience. He will be in an application engineering role, designing solutions to meet a wide range of customer needs. J. L. Becker is proud to announce him as an employee and fellow team member. Please congratulate Michael Harrison in this new journey. The company custom designs and manufactures thermal processing equipment to meet customer's specific needs. For more information on how J.L. Becker can provide custom engineered solutions to meet specific*

thermal processing requirements, Michael can be reached by telephone at (734) 656-2000 or via email at mharrison@gasbarre.com. You can also visit www.jlbecker.com

We see that there is a new heat treater in Chattanooga, Tennessee, USA. "As of September of this year **TS USA** is now operating a brand new **Liquid Nitriding** facility in Chattanooga, TN. This is a 35,000 square foot facility which will offer state of the art liquid nitriding (salt bath nitriding) which will offer the largest operating equipment in North America capable of handling parts up to 8' long (13' with flipping) and weights up to 4,000 pounds. The equipment is fully instrumented, computer controlled and capable of remote monitoring. Batch-to-batch traceability and process recording. Designed to treat parts using the Quench-Polish-Quench (**QPQ**) process (originally developed by **HEF Durferrit**); and other Liquid Nitriding variations including HEF trademarked **ARCORR/MELONITER** treatments. The facility is equipped with a variety of post-nitriding surface finishing processes to ensure a customer and application specific surface finish can be achieved after nitriding. sales@hefusa.com"



Diablo Furnaces has a new COO, a very competent individual by the name of **Sue Harrod**. "Diablo Furnaces LLC Appoints Sue Harrod as C.O.O. As of November 29, 2017 Sue Harrod is appointed to C.O.O. of Diablo Furnaces LLC, a company manufacturing, refurbishing, upgrading, servicing and supplying parts for atmospheric heat treating equipment. Sue Harrod has worked within the thermal processing industry for 25 years in supporting and leading roles at BeaverMatic, Ipsen International, and Diablo Furnaces. With her passion and exemplary leadership capabilities, Mr. Ken Flowers and Mr. Ron Peiffer, owners of Diablo Furnaces LLC and Machine Tool Builders (MTB) have appointed Sue to this position. Please congratulate and support Sue Harrod in this expanded role in the heat

treating industry. For additional information, please contact Anne Miner at 815-636-7502 (extension 223) or log onto www.diablofurnaces.com or www.machinetoolbuilders.com



Did you hear the one about the **Moron** who decided to heat treat parts after watching a TV show and burnt half of a New York State town to the ground?

“COHOES, N.Y. – An inferno that destroyed or damaged nearly two dozen buildings in a city in upstate New York was sparked by an amateur bladesmith who apparently was trying to imitate something he saw on TV, officials said. The blaze broke out Thursday afternoon in downtown Cohoes, just north of Albany, and was stoked by 20 to 30 mph winds. The Times Union of Albany reported that three buildings were destroyed, 18 others were damaged and at least 20 people were displaced. The city is under a state of emergency. “It is the worst disaster the city has ever seen,” Mayor Shawn Morse told reporters at an evening news conference. Morse said John Gomes, of Cohoes, apparently was trying to heat treat metal in an attempt to imitate the History Channel television series “Forged in Fire” when he started a barrel fire in his backyard that quickly spread. The TV series is about bladesmiths competing to create “history’s most iconic edged weapons.” Gomes, 51, was charged with felony reckless endangerment and misdemeanor arson. He pleaded not guilty at his arraignment Thursday night and was jailed on \$15,000 bail, the newspaper reported. A preliminary hearing was scheduled for next Tuesday.



Alyssa Kumfer/Wirco

Friday Morning Update. As it turns out Alyssa is now a Technical Services Engineer at Nucor, Fasteners Division in St. Joe, Indiana. We have always had a very high opinion of Alyssa and have no doubt but that she will do well at Nucor.

Alyssa Kumfer who was Engineering Manager with alloy company Wirco left the company earlier this month. We are not sure why she left or where she has gone but we don't believe Alyssa is staying in the industry. We are sure Wirco will miss her tremendous experience. **December 1, 2017**

AAM Sees Continued Sales Growth Through Business Diversification

The financial results of American Axle & Manufacturing are of some interest to us as an indicator of the health of the auto and truck parts industry however our interest generally starts and stops with the heat treating aspect. Let us explain; AAM is a very large captive heat treater and combined with Metaldyne and their captive heat treating you end up with an enormous amount of in house heat treating, perhaps one of the largest in North America. While this will most likely prove to be an extremely difficult task we are going to see if we can put together a list of the 10 largest in house heat treaters in North America. This might

take a bit of time and we certainly welcome any input but at the end of the day lets see what we end up with. **December 1, 2017**

“American Axle & Manufacturing Holdings Inc., Detroit, Michigan, USA, has reported its financial results for the third quarter 2017 and updated its full-year 2017 financial outlook. The company stated that Q3 sales had reached \$1.72 billion compared with \$1.01 billion in the same quarter in 2016 – an increase of 70%. AAM’s Q3 2017 results, and a sales increase to \$4.53 billion in the first 9 months of 2017 (2016: \$3.00 billion), reflect the impact of the acquisition of Metaldyne Performance Group Inc. (MPG) that was completed on April 6, 2017, for \$3.3 billion. MPG, based in Southfield, Michigan, is one of the leading global manufacturers of powder forged steel and structural PM parts. AAM’s net income in the first nine months of 2017 was \$230.8 million. Both AAM and MPG are heavily involved in the production of driveline and powertrain components for the global automotive sector, including hybrid and electric driveline systems.”

USED EQUIPMENT

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themonty.com is the only way to do this! Unlike used equipment dealers we work on a commission basis meaning no high overheads, no buy and resells, no high expenses which means that you as a seller get what your equipment is worth-not what a used equipment dealer will pay you for it.

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Let us know and we can give you a **free appraisal** and an honest answer about market conditions – **no BS**. Before listing we will require a signed copy of the “**Terms and Conditions**”.

Please email **Jordan** at **jordan@themonty.com** all pertinent information including asking price (which we strongly recommend) age, condition and if possible photos. When selling please keep in mind that we do NOT ask for an exclusive sales agreement – **if we don't sell it we don't get paid – PERIOD**. You can't lose by listing with **themonty.com** we sell your equipment or we don't get paid-period.

WE HAVE ATTEMPTED TO DESCRIBE ALL EQUIPMENT ACCURATELY FROM THE INFORMATION WE HAVE AVAILABLE.

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BATCH FOR SALE

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

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Quick Jump To Items:

- Item # B437** Ipsen Recirculating Box Furnace
- Item # B436** 36" x 60" Pit Gas Nitrider
- Item # B435** CODERE Switzerland System 250 42/60
- Item # B434** Holcroft Batch IQ
- Item # B433** Car Bottom 74" x 84" x 84"
- Item # B432** Atmosphere Box Furnace 36" X 48" X 24"
- Item # B431** Air Atmosphere Box Furnace 2,000 F
- Item # B428** Carbottom Furnace 1800 F
- Item # B426** Plasma Nitriding Unit 1000 kg Capacity
- Item # B425** Box Furnace 2000 F
- Item # B424** Atmosphere Box Furnace 80" x 96" x 60"
- Item # B421** Surface Combustion "Super 36" Allcase
- Item # B418** Lindberg High Temperature Oven 36" Cubed
- Item # B415** J.L. Becker Car Bottom 1800 F
- Item # B414** Ipsen Batch IQ Installation Immaculate
- Item # B400** Surface Combustion Super 30 Allcase
- Item # B399** Car Bottom Furnace 10' x 12' x 8'
- Item # B398** Sauder Batch IQ Line 24" x 24" x 36"
- Item # B397** "Lift-Off" Atmosphere Box Furnaces (2)
- Item # B388** Hydrogen Atmosphere Furnace 8" x 8" x 8"
- Item # B374** Atmosphere Box Furnace 2100 F
- Item # B371** Sauder "Auto-Tilt" Car Bottom Furnace
- Item # B352** Pacific Scientific Box Furnace

ITEM # B437

IPSEN RECIRCULATING BOX FURNACE

Ipsen Recirculating Box Furnace 38" high x 43" wide x 48" deep. Gas fired, 1,000,000 BTU/hr with a max temperature: 1400 deg.F. Model Number: DL-3036. Serial Number: 60458. Updated controls, Honeywell indicating controller and overtemp. High temperature tempering furnace. Vertical lift air operated door with overhead air cylinder. Fiber board insulation. Alloy roller rail hearth. Direct fired furnace, but the heating chamber is separate from the work chamber and has a high velocity roof mounted circulating fan. Top mounted package burner. Complete combustion controls and safeties. 460/3/60 power. Test fired prior to shipment.

Asking Price: \$39,500.00



ITEM # B436

36" X 60" PIT GAS NITRIDER

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

Asking Price \$50,000 USD.



ITEM # 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 machinex 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



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.



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



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.

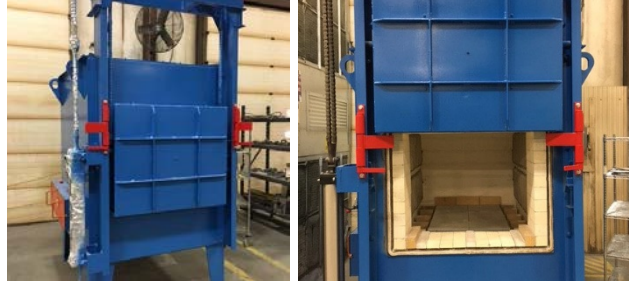


ITEM # B431

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.



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.

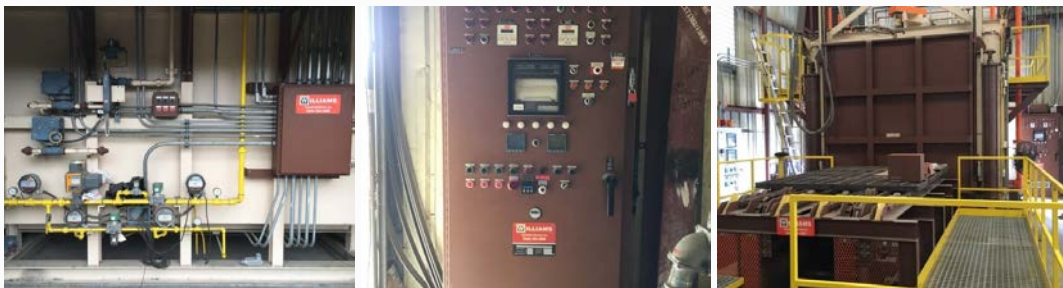


ITEM # B424

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 # B374

ATMOSPHERE BOX FURNACE

Atmosphere Box Furnace. Manufacturer: R&G Services, Inc. Inside Dimensions: 18" high x 32" wide x 36" deep. Heated: Electric, 230/3/60, 60 KW. Temperature: 2100 deg. F Model Number: EB-183236 Serial Number: 77021 Temperature Controls: Updated indicating

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

Asking Price: \$18,000.00 USD.



ITEM # 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-prewired 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 # C331** Lindberg Pusher Furnace
- Item # C330** Mesh Belt Furnace Line
- Item # C329** CI Hayes Atmosphere Belt Furnace
- Item # C328** CI Hayes Atmosphere Belt Furnace
- Item # C327** Rogers Engineering Continuous Brazing Furnace
- Item # C325** Sinterite Mesh Belt Furnace 1180 C
- Item # C324** C.I. Hayes Mesh Belt Furnace 12" Wide Belt
- Item # C323** Aichelin Cast Link Furnace Line 750 lbs/hr
- Item # C322** Surface Combustion Rotary Hearth Line
- Item # C321** Austempering System 500 lbs/hr
- Item # C319** CI Hayes High Temperature Pusher Furnace
- Item # C317** CI Hayes High Temperature Pusher Furnace
- Item # C314** Roller Hearth (Atmosphere) 4800 lbs/hr
- Item # C308** AFC Mesh Belt Furnace 54" Wide Belt
- Item # C301** Cast Link Belt Line 4000 lbs/hr
- Item # C296** C.I. Hayes High Temperature Tube Furnace
- Item # C283** Rotary Hearth Furnace System
- Item # C269** CI Hayes Mesh Belt Furnace 12" Wide Belt
- Item # C265** Sunbeam Pusher Carburizer 3000 lbs
- Item # C219** Abbott Furnace

ITEM # C331

LINDBERG PUSHER FURNACE

Lindberg Pusher Furnace. Lindberg pusher furnace S/N JW030855A. Gas fired with 16 Burners, Eclipse TFP-030, 1,415,000 BTU/Hour. Maximum operating temperature of 1750F. Brick Lined Hearth + Mineral Fiber walls and ceiling. Currently used for annealing but also set up for atmosphere heat treating. (4) Zones of Control (3 heating and one cooling), Burners on top, Air cooled and Water cooled. Uses 24" X 48" trays. 1 tray in entry purge, 5 in high heat zone, 1 in transition zone, two in air cooling zone, and one in water cooled zone. As set up for annealing at 1550F the furnace is currently capable of 2400 pounds per hour. Includes chiller and spare burner tubes. OVERALL DIMENSIONS:

High Heat Chamber: 44.5" Wide x 43" High x 270" Long.

Transition Chamber: 36" Wide x 40.5" High x 35" Long.

Air Cooling Zone: 50" Wide x 62" High x 96" Long.

Water Cooling Zone: 52" Wide x 40" High x 68" Long.

Currently installed but not in operation. Complete and in good condition.

Asking \$49,000 USD.



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

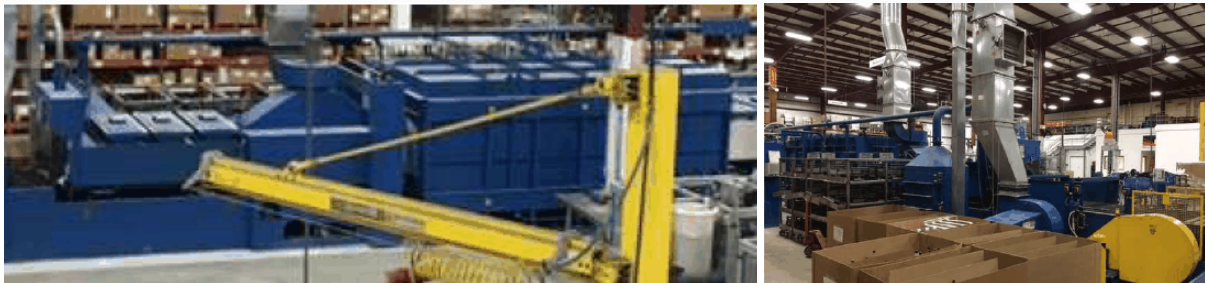


ITEM # C327

ROGERS ENGINEERING CONTINUOUS BRAZING FURNACE

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

Asking \$250,000 USD.



ITEM # C325

SINTERITE MESH BELT CONVEYOR FURNACE

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

seen very limited production and is in excellent condition. Has pre-heat bubbler. New pre-heat muffle, new belt, and several new glo-bars.

Asking \$70,000.00 USD or best offer.



ITEM # C324

C.I. HAYES MESH BELT FURNACE

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



ITEM # C323

AICHELIN CAST LINK FURNACE LINE

Aichelin Cast Link Furnace Line. The line consists of a loading table, cast link belt hardening furnace, oil quench, cross conveyor, post wash and two continuous tempering furnaces. High belt is 24" wide X 300" long with a capacity of 336 Kg/h. Nitrogen/Methanol atmosphere. Electrically heated 300 kW. Operating temperature of 1650F. Quench oil tank holds 7,000 litres. Air/oil quench oil cooler. Post wash has oil skimmer. Both tempering

furnaces are electrically heated, 57 kW each. Belt widths 20" X 250" long. Maximum operating temperature of 575F. Installed in 2005 and currently used for automotive bearings. Complete installed and in operation until March 2017. Excellent condition.

Best offer.



ITEM # C322

SURFACE COMBUSTION ROTARY HEARTH FURNACE LINE

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

Asking \$50,000 USD.



ITEM # C321

AUSTEMPERING SYSTEM

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

Asking \$20,000 USD or best offer.



ITEM # C319

CI HAYES HIGH TEMPERATURE PUSHER FURNACE

CI Hayes High Temperature Pusher Furnace. C.I. Hayes model MY-040848-94PH high temperature pusher furnace. 4" opening above the hearth, 8" tray width. Max. Temp: pre-heat 1100 C, High Heat 1700 C. 94" long preheat, 1 control instrument/1 zone, 15 KW@440/3/60, metallic heating elements. 48" high heat, 1 instrument, 3 control zones, 45 KW@440/3/60, molybdenum heating elements. 48" metallic front tunnel with nitrogen curtains and burn off. 3 cooling sections. each 36" long, 1 section is insulated and all are water jacketed. Rear tunnel with nitrogen curtains and burn off. Multiple atmosphere inlets, for hydrogen/dissociated ammonia with nitrogen purging. Pusher screw drive. Atmosphere bubbler. High heat chamber recently rebuilt. Overall Dimensions; 6'H x 4'-6"W x 39'L (Approx.)

Asking \$100,000 USD.



ITEM # C317

CI HAYES HIGH TEMPERATURE PUSHER FURNACE

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

Asking \$110,000 USD.



ITEM # C314

ROLLER HEARTH FURNACE (ATMOSPHERE)

Roller Hearth Furnace (Atmosphere). Manufactured by Wellman in 1982. Model #AL-81-180 RH, S/N 180. Working dimensions of 60" Wide x 42' Long x 14" High – 4800#/HR.

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

Asking \$225,000 USD.



ITEM # C308

AFC MESH BELT HARDENING FURNACE

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

Asking \$75,000 USD.



ITEM # C301

CAST LINK BELT QUENCH AND TEMPER LINE

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

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

The sequence of this furnace is as follows:

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

Includes:

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

Very good condition, available immediately.

Asking \$650,000 USD.



ITEM # C296

C.I. HAYES HIGH TEMPERATURE TUBE FURNACE

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

Asking Price \$21,000 USD / OBO.



ITEM # C283

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

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

Carbon Control System. Includes Quench Press that was handling up to 5" Diameter bearings. Prior user reference available upon request.

Asking price: \$29,000 USD.



ITEM # C269

CI HAYES MESH BELT FURNACE

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

Asking \$39,000 USD.



ITEM # C265

SUNBEAM PUSHER CARBURIZER

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

Asking \$40,000 USD.



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
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- Item # T325** 3-Station Despatch Temper Furnace
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- 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.



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.

ITEM # T343

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

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

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

Asking \$49,900.00 USD.



ITEM # T342

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

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

Asking \$16,500 USD.



ITEM # T341

TEMPER FURNACE

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

Asking \$91,000 USD.



ITEM # T340

SAFED/BOREL ANNEALING FURNACE

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

Price on request.



ITEM # T339

BOX TEMPERING OVEN

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

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

Asking price is \$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

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

[Contact Us](#)

Quick Jump To Items:

Item # G201 Ammonia Dissociator 250 SCFH

Item # 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. Sela 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.

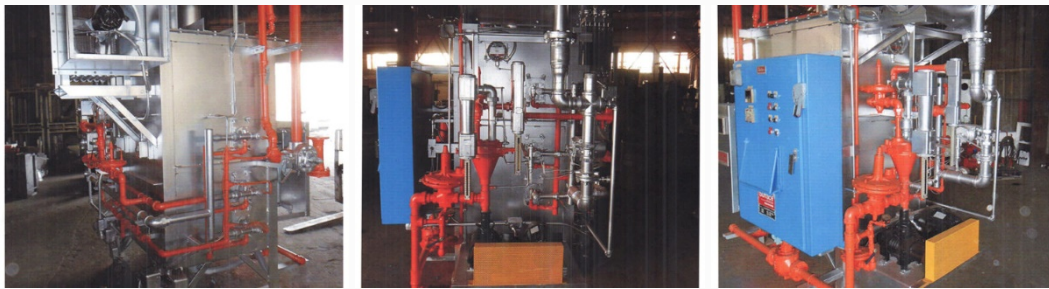


ITEM # G196

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 "mixer" valve then into the Waukee gas pump. Mixed gas enters the 3 "mixed gas" flow meters, through the Selas fire checks and enters the top of the retorts. The gas travels through the catalyst filled heated retorts and exits at the bottom. The exiting Endothermic gas passes through water cooled chambers then finned cooled air heat exchangers then through the Endothermic flow meter. A pressure regulator is supplied on the exiting gas piping. Good condition.

Asking \$29,500.00 USD.



INDUCTION 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 # I175 Inductoheat /Lepel Induction Power Supply

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

Item # I173 125 Kw Ajax Induction Generator

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

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 # 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.

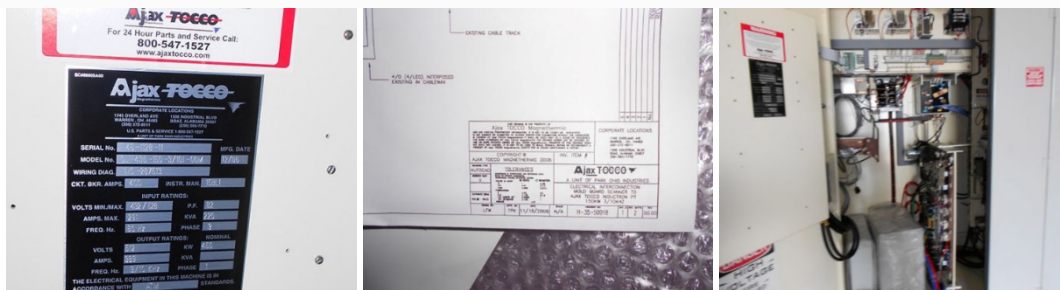


ITEM # I164

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.

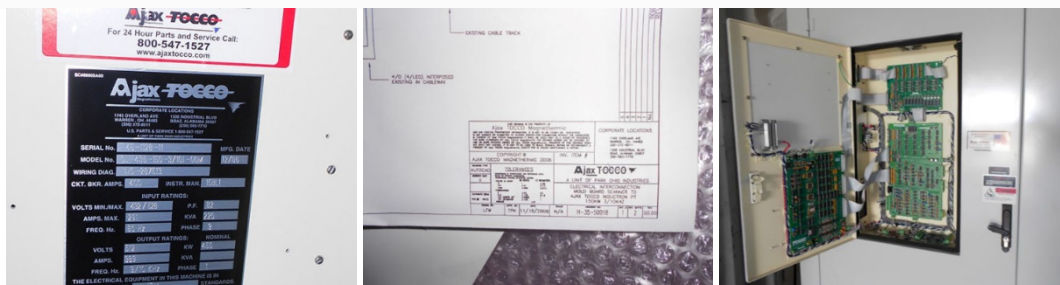


ITEM # I160

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

Asking \$39,000.00 USD.

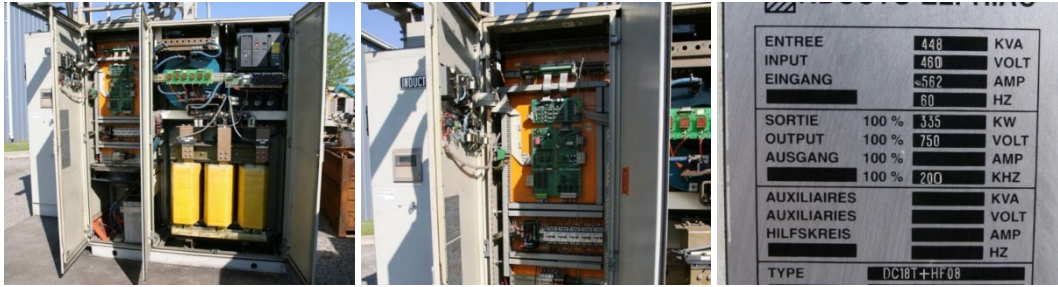


ITEM # I158

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

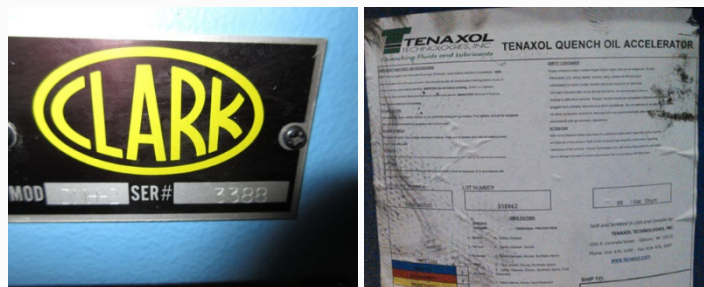
Item # L1 Detroit Testing Brinell Hardness Tester

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.

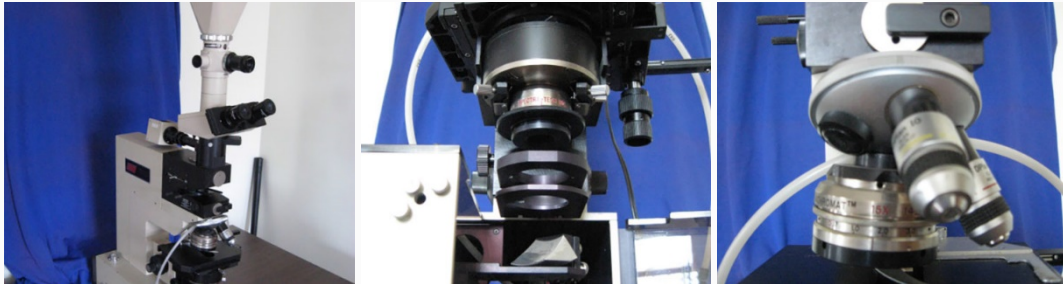


ITEM # L1

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 #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 (CH₄), 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 #M381

WATER COOLING SYSTEM

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

Asking \$7,500.00 USD.



ITEM #M380

WHEELABRATOR – BRONCO

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

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



ITEM #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 Airls (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.



ITEM #M366

WHEELABRATOR RUBBER BELT TUMBLAST

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

Asking: \$55, 000.00 USD.



ITEM #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:

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Item # VF267 Semi-Continuous Titanium Diffusion Bonding Hot Press

Item # VF266 Kinney 75 CFM Vacuum Pump

Item # VF243 35" Diffusion Pump

Item # VF242 35" Diffusion Pump

ITEM # VF330

SURFACE 2-BAR QUENCH VACUUM FURNACE

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

Asking Price: \$119,000



ITEM # 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.

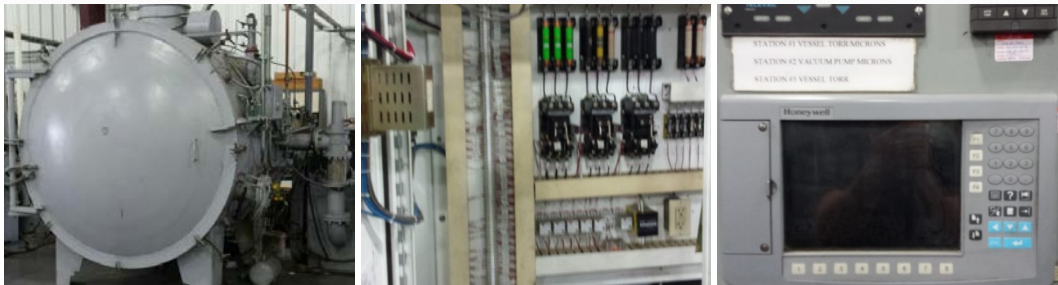


ITEM # VF327

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 (5×10^{-3} 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.

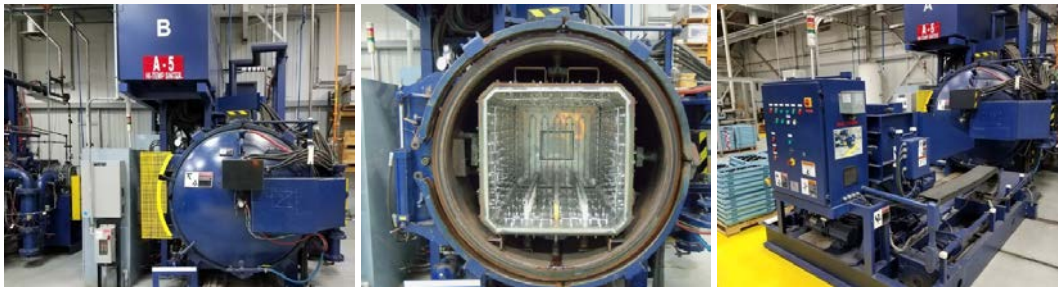


ITEM # VF317

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.



ITEM # VF316

AVS VACUUM FURNACE

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

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



ITEM # VF315

AVS VACUUM FURNACE (REBUILT)

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

60Hz. Loader Included as well as a 2-Tier Moly Fixture. VFD on blower. Rear Access Door. EXCELLENT condition. Rebuilt July 2015.

Asking \$195,000 USD.



ITEM # VF314

IPSEN BOTTOM LOAD VACUUM FURNACE

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

Asking Price: \$325,000 USD.



ITEM # VF313

TOP LOADING VACUUM FURNACES (6 AVAILABLE)

Top Loading Vacuum Furnaces (6 available). Manufactured by GT Technologies, Model # AMPF-4836HP – 2015. Working dimensions of 1200mm diameter x 900mm High. Operating temperature of 2100C. Controls by Loy Instruments (Honeywell graphic

touchscreen). This unique ultra high temperature furnace is high vacuum, has resistance heating with all graphite hot zone and graphite felt insulation for high efficiency operation. 480 volt 3PH 50/60 HZ, 160 KVA. Maximum load 1,000 KG. Double Wall Stainless Steel Vessel construction. Platform with Stairs included. Halogen Gas Purge equipped, Dry Vacuum Pumping System with Blower. Graphite Purity levels to less than 5ppm. Cycle time 72 – 84 hours. 10 – 3 Torr vacuum level achievable. Options: Exhaust Scrubber System, Overhead Crane. Very good condition.

Asking \$175,000 USD each.



ITEM # VF312

2400C VACUUM FURNACE

2400C Vacuum Furnace. Capable of 2400C (4320F). Working dimensions of 10" high x 22" wide x 36" deep element-to-element. External dimensions of 86" high x 76" wide x 85" deep. 480 volts, 3 phase, 225 kw. This unit is capable of both vacuum and atmosphere operation. Graphite rigid board insulations, graphite heating elements on all 4 sides, graphite hearth plate, 6 channel digital chart recorder, Yokogawa UP 550 digital programmable controller. High accuracy Raytek digital optical pyrometer. All New Vacuum Chamber – Tested and Certified and new graphite hot zone. Very good condition.

Asking \$149,000 USD.



ITEM # 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 8×10^{-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.

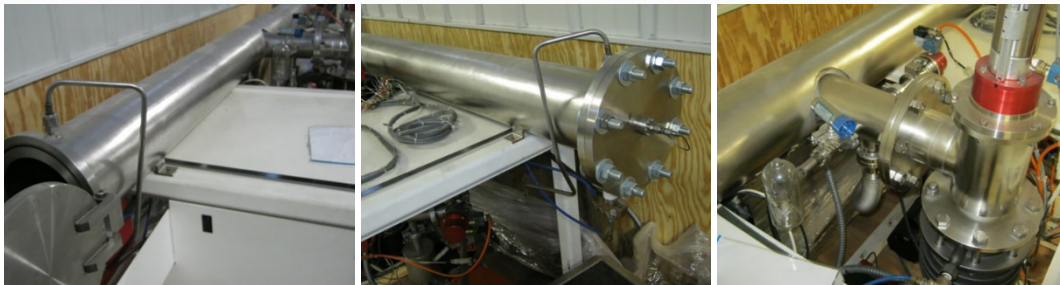


ITEM # VF294

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 1×10^{-6} Torr. Maximum vacuum level to operate in continuous duty is 5×10^{-8} Torr. The unit was designed to use N₂ gas. The unit was an R & D unit that was built in 1998, but has had little to no use. Excellent condition. New this was \$90,000 USD.

Asking Price: \$29,000.00 USD.



ITEM # 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 1.0×10^{-1} mbar, operating pressure 1000 mbar. Maximum vacuum level 5.0×10^{-2} mbar. Circulated nitrogen atmosphere gas. Elements Cr-Ni Steel. Stokes model 149H vacuum pump. SS hot zone. Class 3 furnace with a temperature uniformity of ± 8 C. 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

$\pm 10^{\circ}\text{C}$ in vacuum, 1450°C burn-out. 50μ ultimate vacuum; leak rate $<10\mu$ / hour, CEDORT (Clean, Empty, Dry, Outgassed, Room Temperature). De-bind system - nitrogen or argon sweep gas, 0 - 100 torr differential pressure controlled by PLC and automatic I-to-P modulating vacuum valve, binder trap, condenser assembly; options available for hydrogen gas and burn-off. De-bind lines heated to keep vapor from condensing in vacuum lines. Fast cooling with circulation fan and automatic gas re-circulation ports. Control system - AVS ACE™ control/data acquisition system. Estimated cold-to-cold cycle time of 16 to 20 hours with AVS "Fast Cool" option. Horizontal jacketed chamber - 60" dia. x 80" long, nominal dimensions, flanged, on legs. SA-516-70 mild steel construction on water jackets and door + body flanges. Stainless Steel inner jacket & dished head plus all power ports Front-loading chamber with 2 doors - both doors on adjustable hinges, with buna o-rings, manual clamps, for operation from 50 millitorr vacuum to 3 psig positive pressure; rear door opens for service. Ports - rough line on side of chamber, delube line from bottom, fan housing flange on rear door Additional PORTS added to the system to accommodate future system modifications for processing 'sinter-hard' P/M materials - a total of up to 7 additional ports ranging from 18" in diameter down to 1" in diameter will be added. Further details available upon request. Currently installed and in excellent condition.

Asking Price: \$169,000 USD.



ITEM # VF271

SINTERING / DE-WAXING FURNACE

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

Asking Price: \$299,000 USD.

ITEM # VF267

SEMI-CONTINUOUS TITANIUM DIFFUSION BONDING HOT PRESS

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

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

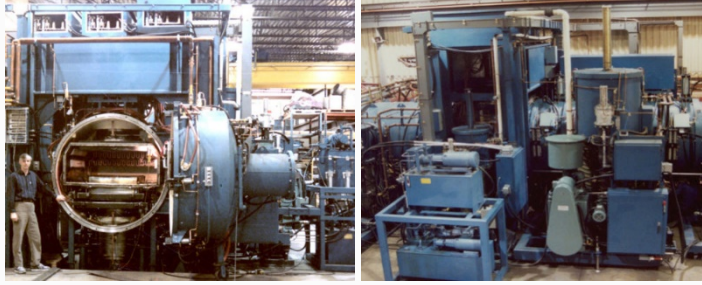
Bonding Chamber. 20" diffusion pump / 100 CFM holding pump Moly Pin walking system rated for 2720 kg load 44" w x 54" d x 20" high product size in batch mode 44" w x 54" d x 6.5" high product size in semi continuous mode Constant 1100°C Heated Platens, Moly pressing surface 1000 tons of force, up pressing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

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

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

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

As is \$890,000.00 USD



ITEM # VF266

KINNEY 75 CFM VACUUM PUMP

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

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



ITEM # VF243

35" DIFFUSION PUMP

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

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



ITEM # VF242

35" DIFFUSION PUMP

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

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

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



HEAT TREAT CENTRAL

- High Quality Low Cost Base Trays
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- Fast Delivery for in-stock trays¹
- **Surface Combustion Allcase Tray**
- UBQ Furnace Tray
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- **No setup or pattern fees²**
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- **HU, HT, Super NA22H, ...**

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¹While supplies last

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

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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 Refrigerated. Dry Coolers also offers quench oil coolers, filtration systems, and a unique outdoor mechanical room "Tower Shed". They are industry leaders in vacuum furnace cooling packages.



Super Systems Inc.

Develops and manufactures products for the thermal processing industry. Our products include probes, analyzers, controllers, software solutions, flow control and

engineered systems. We have extensive experience in addressing industry demands with technology to help our customers be more efficient and produce better quality products. Our state-of-the-art manufacturing facility in Cincinnati, Ohio, and offices around the globe give us the resources to address the instrumentation, software and technical needs of the industry.



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 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 # 0343 Account Manager, Surface Treatments & Metallurgical Coatings

Item # 0342 Induction Technician/Maintenance Person

Item # 0341 Maintenance Leader

Item # 0340 Heat Treat Metallurgist

Item # 0339 Welder / Assembler

Item # 0338 Service Technician

Item # 0336 Account Manager

Item # 0334 Planning Technician

Item # 0333 Process Engineer

ITEM # 0343

ACCOUNT MANAGER, SURFACE TREATMENTS & METALLURGICAL COATINGS

Account Manager, Surface Treatments & Metallurgical Coatings.

Key Qualifications:

- 3 to 5 years of experience in technical industrial sales, preferably in metallurgical services such as heat treatment, electroplating, nitriding, PVD / CVD coatings etc. to automotive and/or industrial equipment/ component manufacturers.
- 4-year science / engineering degree, preferably in Metallurgical or Mechanical engineering, or equivalent relevant industry experience.

HEF USA, a subsidiary of HEF Group, is expanding its jobbing service network in the US and is seeking 2 experienced Account Managers to generate sales for our Springfield, OH and Phoenix, AZ facilities respectively. HEF Group operates a global service jobbing network that provides its nitriding treatments and PVD coating services to manufacturers of automotive components and precision components used in industrial equipment such as pumps, valves, compressors, mechanical drives etc For more information about HEF USA, please visit www.hefusa.net.

Location:

One position reports to our Springfield, OH headquarters; the other to our Phoenix, AZ facility.

Job Responsibilities:

Generate jobbing revenue for our Group's Liquid Nitriding treatment and PVD Coating services within the following segments:

- Automotive components that could benefit from reduced friction and improved corrosion and wear resistance.
- Industrial machinery: Sliding and rotating precision components used in – Hydraulic & Pneumatic equipment; Power Generation; Oil & Gas; Construction equipment; Mechanical Drives; General Mechanical components etc.

Account Manager Job Duties:

- Identify current and future customer requirements; provide product and service related technical and engineering information;
- Understand the technical and product performance issues being faced by the customer and convey the relevant details to HEF Application Development engineers; coordinate testing at customer location and provide performance feedback to facilitate the development of optimum solutions.
- Prepare price quotes by studying blueprints, plans, and related customer documents; consulting with engineers, and other technical personnel.
- Prepare sales reports by collecting, analyzing, and summarizing sales information, engineering and application trends.

Other Skills/Qualifications:

- Excellent interpersonal, verbal and written communication skills are required. Ability to communicate effectively with various stakeholders within the customer's organization – product engineers, purchasing, operational managers etc.
- Ability to do cold-calling.
- Experience in managing multiple accounts through the various steps of application development, product launch and on-going account maintenance.

Compensation Package:

We offer a competitive salary, bonus plan, car allowance, excellent health benefits and 401(k) plan, etc. If you want to further explore this opportunity, please send an e-mail to Michel Morin (mmorin@hefusa.com).

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

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

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

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.

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

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

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

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

SEEKING EMPLOYMENT ADVERTISING

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

ITEM # SE 002

MANUFACTURING/PROCESS ENGINEER SEEKING POSITION IN HEAT TREATING FIELD

Manufacturing/Process Engineer Seeking position in Heat Treating Field. Summary of Skills: Worked for 8 years with 2 vacuum furnaces and a Titanium sintering process for the medical device industry. Moved the process from laboratory to production. This included establishing cooling systems for the furnaces, establishing and monitoring processes, directing repairs, procuring vendor intervention when necessary, and various quality projects to monitor the output of the process. Worked with various departments to eliminate waste and schedule work. Established annealing process and specifications for Direct Metal Laser Sintering product output. Knowledge of powder metallurgy, Isostatic presses, machining pressed blanks, and sintering finished product. Currently looking for a challenging engineering position in the heat treating Industry. Please e-mail me at mailto:kejones.eng@gmail.com for a complete resume.

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

In Parting

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

Gord Montgomery,

W.G. Montgomery Limited

Phone: 905 271-0033

Fax: 905 271-9324

Email: gord@themonty.com
