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INTRODUCTION

We welcome you to the March 2018 issue of “The Monty” the heat treating news source for the worldwide captive and commercial heat treating industries. In this issue we are especially proud of our numerous recently added used equipment listings. Mesh belt furnace lines, batch IQ furnaces, a press quenching cell even an ALD vacuum carburizing furnace are all new additions. We look forward to your thoughts and comments.

Warmest regards,
Gord
the vital link...

Heat treatment and other thermal processing services from the world’s leading provider.

For heat treatment and specialist thermal processing services, the world’s leading provider gives companies around the globe their competitive edge.

Bodycote has a proud history of working together with customers to assist them with advancing their products through thermal processing related improvements, allowing materials to operate outside of normal tolerances and achieving higher performance specifications.

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Email : customer.response@bodycote.com

www.bodycote.com
Dr. Rajiv Ahuja Interview

We are pleased to have an interview with Dr. Rajiv, Ahuja, CEO & President of HEF USA & TS USA – subsidiaries of HEF Group. **February 28, 2018**

First off Dr. Ahuja I would appreciate it if you could share some information with us about HEF Group worldwide, what you do when you started etc.

“HEF Group, which has been in business for more than 50 years, is headquartered in France and is a leading global provider of surface treatments and coatings for wear, corrosion and friction reduction. Our two primary surface technology options are Liquid Nitriding and Physical Vapor Deposition (PVD – specifically diamond-like-carbon DLC coatings) – the only supplier that offers both technology options. In addition we do offer a whole range of other surface treatments to meet customer specific needs. HEF is an employee owned company and a majority of our 2,000 associates are shareholders.”

Would it be correct to say then that HEF operates as a worldwide commercial heat treater and surface engineering company?

“HEF Group currently operates 60 facilities in 20 countries. Most of them are facilities owned 100% by HEF – and a few of them are joint-ventures. These facilities provide surface treatments and coating jobbing services to local customers. A large proportion of our customers are automotive. Other major industrial segments where our technologies find applications include: Oil & Gas; Hydraulic & Pneumatic equipment; Industrial Equipment; Construction and Material handling equipment; Power generation equipment etc.”

Click Here To Continue Reading


**Expanite/ Cendres+Métaux**

Expanite is a company in Denmark who claim to have a super, duper hardening process for stainless steels. There name has been growing in the industry over the past 8 years and according to this press release they have made a great stride forward by convincing a Swiss supplier of watch parts that their technology makes a great deal of sense. **February 28, 2018**

"Cendres+Métaux is the leading supplier of precious metal parts to the Swiss watch industry with a long history of innovation and excellence. With its recent acquisition of PRG Manufacture SA it is venturing into high-performance non-precious materials and now has the know how to provide true one-stop-shop solutions to clients for cases, bracelets, buckles and movement parts. Expanite is a stainless steel surface hardening specialist founded in 2010 and based near Copenhagen, Denmark that has developed a unique patented process that increases the surface hardness of stainless steels by up to 10 times, while maintaining or even improving corrosion resistance. The process is suitable for austenitic, ferritic, martensitic, duplex stainless steels and even gr.5 titanium. Parts can be treated with within a few days, which is previously unheard of in the industry. Expanite’s technology can significantly increase the intrinsic value of products across many industries; from knives, valves, mixers, and grinders for the food industry, to pumps and extruder screws, or injection parts for the automotive sector, as well as small screws, bolts, and washers. The technology is already being used in the watch industry on movement and case components but both Cendres+Métaux and Expanite are convinced that the collaboration will push towards making the hardening technology an industry standard.”
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. **February 28, 2018**

Item # B445 Surface Combustion “Super 36” Furnaces (3 available)
Item # B441 GM Batch IQ with Top Cool
Item # C334 Press Quenching Cell
Item # G202 Surface 3600 Endo Generator
Item # B440 Surface Combustion “Super 36”
Item # C333 Mesh Belt Line 3500 Pounds/Hour
Item # M413 Gleason Press Quench Units (2 available)
Item # VF335 ALD Vacuum Carburizing Furnace
Item # VF332 IVA Vacuum Furnace 6 Bar
Item # B439 Surface “Super 36” Allcase
Item # VF331 High Temperature Vacuum Furnace 2300
Item # M412 Atmosphere Engineering “Endoinjector”

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Business Opportunities

Please take a look at our most recent employment offerings. If you see anything you like don’t hesitate to get in touch with us at jordan@themonty.com or 905-271-0033. **February 28, 2018**

Item # 0356 Heat Treat Machinery Maintenance Leader
Item # 0355 Heat Treat Quality Engineer
Item # 0354 Seeking Plant Metallurgist
Item # 0353 Plant Manager Wanted
Item # 0352 Senior Applications Engineer
Item # 0351 Technical Sales Associate
Item # 0350 Maintenance Supervisor
Item # 0349 General Manager Wanted

Nitrex San Jose, California

Commercial heat treater Nitrex one of the largest commercials in the USA with a total of 5 plants is consolidating two of their locations. Currently the company has operations in San Jose, California, Aurora, IL, Mason, Michigan, Franklin, Indiana and North Las Vegas, Nevada. The San Jose location will close this week, February 28th is our understanding with the equipment being relocated mainly to the Las Vegas facility. Nitrex offers a number of different processes but is best known for their gas nitriding experience. These two photos show the Vegas location as we saw it in 2012. **February 27, 2018**
Accu-Temp Heat Treating Auction

Commercial heat treater Accu-Temp in Racine, Wisconsin, USA has closed the doors for good with the equipment going to auction this Thursday, March 1. With all due respect to the company when we look at photos of the furnaces available our first thought would be that it would be very difficult to compete with such small antiquated furnaces. We have this note about the company and it's founder which dates back to 2016. **February 27, 2018**

“Robert “Bob” Balow. It is with regret that we mention the recent passing of Bob Balow 1946-2016. Bob was a long time resident of Racine, Wisconsin and founder of four companies. Born in Eau Claire Wis., on June 29 1946 he received his B.S. in metallurgical engineering from the University of Wisconsin-Madison. He then moved to Racine, Wisconsin and founded Accu-Temp Heat Treating Inc. in 1975 where he worked with such companies as Harley Davidson, CNH, Pioneer Products and John Deere. Through his metallurgical knowledge and expertise, Bob was able to travel the world and consult for large corporations such as Johnson’s Was, General Motors, Miller-Coors and Lodge Manufacturing. He will be missed.”

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**Monday Morning Briefing**

We start of the week with this very upsetting item, the passing of **“Big” Mike Duffens.** Mike spent his entire working life with companies such as **Bodycote, Byron Products, Mercer**
Technologies and Wallcolmonoy. He will be missed. “Colerain Twp. – Big Mike “Sparky” Duffens. Beloved husband of Cindy Duffens for 44 years. Devoted father of Karen (Denorver) Garrett, Kasey (Mike) Duffens-Carrah, Kristi (Aaron) Bosko, Kevin (Jenny) Duffens, and Kyle (Kimberly) Duffens. Cherished grandfather of ten. Loving great-grandfather of one. Also survived by numerous nieces & nephews. Big Mike passed away on February 14, 2018 at the age of 65 years. He loved being a husband, father, grandfather, and great-grandfather.

Former member of the Colerain Township FD.” Mr. Scott Workman who was very involved with the heat treat department at Stanley Black & Decker in Dallas has parted ways with the company. Scott is a metallurgist by background who has worked for a number of captive and commercial heat treaters around the world over the past number of years. If a good maintenance manager is worth their weight in gold, Mr. Dave Kailburn is worth his weight in diamonds. Dave has recently retired (kind of since he seems to keep popping up) after a lifetime working in commercial heat treating plants such as Jasco Heat Treating and Rochester Steel Treating in the Rochester, NY area. Mr. Volkan Kocaman who is a very experienced metallurgical engineer in Turkey recently made a bit of a change. For many years he was working for auto parts supplier Bosch Rexroth in Turkey however recently he moved to Bosch in Germany-our opinion is that he really knows his stuff.

Commercial heat treater Hauck has added a second location in Poland. "We are very proud to announce that our new Hauck plant in Kalisz, Poland is up and running since beginning of this month. Located about 180 km to the North-East of our first Polish plant in Dzierżoniów, Kalisz focusses on vacuum treatments for the power generation and aerospace industry; especially vacuum brazing processes. With in-depth brazing knowledge already existing in our group (it is a key part of our business in Eindhoven and of our USA based Aalberts Industries sister company Accurate Brazing) we are confident that we can grow our first class brazing services to our customers. We invested in state of the art equipment for perfect results: vacuum furnaces, borescopes, spectrometer, welding systems, hardness testers, selective plating equipment and a sandblasting cabinet; everything is available on site. Kalisz Plant Manager Wojciech Matczak and Managing Director for our Poland territory Bart Olejnik will be happy to talk about our offer. Please reach out to info.kalisz@hauckht.com."
Recently we asked **Mr. Tracy Dougherty**, Sales Manager for **AFC-Holcroft** what was new and this is what he has to say; “Hello Jordan, Thanks for inquiring about ‘what’s new’ at AFC-Holcroft. We have a lot of exciting things going on – the receipt of several recent large orders, the hiring and training of a number of new faces to support our continued growth, the continued development of new and innovative products, and quite a few projects that are being prepped for shipment or ready for install/commissioning in the field, some of which we hope to be permitted to tell you more about very soon. In the meantime and by way of example, we are preparing to ship this large roller hearth line, destined for a customer in the U.S. This is just one of several different equipment designs we have on our shop floor today. Once this equipment is shipped, the floorspace is already in demand for additional new equipment to be built by our talented team. We continue to hold our optimistic outlook for 2018 to be another good year for AFC-Holcroft, and are glad to say things are going well.”

We are going to wind up our Monday Morning Briefing today with a news item from Mexico. Just over a year ago commercial heat treater **FEDSA** was set up in Ramos Arizpe, Coahuila, Mexico (just down the street actually from commercial heat treater **CRI0** who specializes in batch IQ work). We asked the company how their first year had been and the answer is “great”! The company now has 3 vacuum furnaces two with a capacity of 500kg each and one smaller unit with a capacity of 200kg, which are staying
busy mainly for the tool and die industries. This photo shows the first furnace installed. **February 26, 2018**

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**What Do We Have Upcoming?**

For the weeks ahead we have a number of interesting features and news items-this is a brief summary; One of the largest commercial heat treaters in North America is consolidating two facilities into one with one of the plants scheduled to close February 28th-we will give you more details this week. Also, up this week we have a fascinating interview with **Dr. Rajiv Ahuja, CEO & President of HEF USA & TS USA**. Fascinating because not only does he tell us all about his company, but he also provides some very interesting information about the different types of nitriding. When it comes to used equipment, we have a number of **Surface Combustion Super 36** gas fired Allcases which we will be listing this week. In a few short weeks we will be touring the manufacturing facility of furnace manufacturer **ION Heat** in Columbia along with their heat-treating plant in Peru-the end result will be a number of photos of each plant and a profile about the company. Also, within the next few weeks we will be interviewing **Mr. Rich Ott** who is in charge of heat treating for auto parts supplier **Linamar**, one of North Americas largest captive heat treaters. And to round things out we will be joining furnace builder **Aichelin** for their 150th birthday in Germany in May and at the same time visiting a few captive heat treaters...
Leybold Interview

We are pleased to have this interview with Mr. Carl Brockmeyer, President & General Manager for vacuum pump manufacturer Leybold in North America and Mr. Gene Ligman, Product Sales Development Manager for Leybold North America.

Carl & Gene, I appreciated you taking some time with us today. First off, I have to say that when it comes to vacuum pumps Leybold is a very well-known name—please give us some background about how large the company is, where your headquarters is and the number of employees.

“Thank you Gord for having us and for your interest in our business. Leybold is the first and therefore oldest vacuum pump and system company, incorporated 1850 in Cologne, Germany. Today the company is part of the Atlas Copco Group, stocklisted in Sweden and as such part of the worldwide largest vacuum group with above USD 2bn in revenue. Our headquarters are spread around the world in our largest markets in our efforts to decentralize our decision making to be faster and responsive in front of our customers. Our headquarter for North America is based just outside of Pittsburgh, PA in the US.”

I am very aware that the vacuum pump market covers many industries however as our focus is exclusively on the heat treating industry I will limit my questions to that industry only. What products do you offer that are of interest to heat treaters?

“We have three primary products for the heat treat industry, and a few very important ancillary products. At the top of the list, Leybold has just completed the first major innovation to large industrial diffusion pumps in decades with our new DIJ diffusion pump series that offers the most energy efficient high-vacuum pumping solution for the industry. In addition, we have industrial dry screw vacuum pumps and blowers that radically reduce down time due to vacuum issues, particularly those related to oil and moisture. Our blowers have no shaft seals, far and away the most common cause of blower repair. Our helium leak detectors have led the
market for decades due to their ease of use and rugged nature, and we recently revamped our line of vacuum measurement and control instruments, making them better than ever.” Continue Reading: Mr. Carl Brockmeyer, Leybold  February 2018
Solar Atmospheres of Western PA Receives MedAccred Accreditation

“Solar Atmospheres of Western PA is pleased to announce that it has received the prestigious MedAccred Heat Treating accreditation. Becoming only the eighth plant internationally and the fifth plant domestically to receive this certification, it demonstrates Solar’s ongoing commitment to quality by satisfying customer requirements while complying with future medical industry specifications. Performance Review Institute (PRI) states that MedAccred is an industry managed supply chain oversight program that bolsters patient safety. It does this through clarification of requirements and better identifying how they apply to critical processes used in the production of medical devices.

“It seems only natural that the medical device industry develops its own accreditation program, like Nadcap, to protect and reduce risk to patient safety,” says Michael Johnson, Sales Manager for Solar Atmospheres of Western Pennsylvania. “Being accredited by this oversite program not only sharpens our quality system even further, it also places Solar Atmospheres on a very short list of heat treaters capable of passing the arduous audit criteria. For additional information about Solar Atmospheres of Western PA, contact Mike
Johnson at 866.982.0660, ext. 2223, or mike@solarwp.com, and visit www.solaratm.com. February 23, 2018

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ION Heat Ships Plasma Nitriding Furnace

A company which has created quite a “stir” in the plasma nitriding world in the past few years is family owned ION Heat in Medellín, Columbia. 5 years ago we had never heard of them but their name is popping up more and more these days. They make the news today because they have just shipped this Hot wall pulsed Plasma Nitriding unit to an aerospace company in Asia. It is a Glow Tech 0610 unit with working dimensions of 600mm diameter x 1000mm. Want to know more about the company? It just happens that we have this recent interview with Andres Bernal of Ion Heat https://www.themonty.com/andres-bernal-interview/ February 22, 2018

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SECO/VACUUM Technologies Sells 2 Vacuum Brazing Furnaces

“SECO/VACUUM Technologies (SVT), a SECO/WARWICK GROUP company, has secured orders for two vacuum brazing furnace systems from two separate North American defense contractors. The solutions, scheduled for delivery in the first quarter of 2018, are SVT’s
signature VectorR advanced front-loading vacuum furnace and a VectorR bottom loading vacuum furnace both capable of up to 2 bar gas quenching. Both solutions are purpose-built for a diverse range of applications including vacuum brazing. “Not only do our Vector furnace systems meet all military aerospace specifications, they offer premium quality along with unequaled value,” stated Piotr Zawistowski, Managing Director, SECO/VACUUM Technologies. “Coupled with our exceptional professional services capabilities, SECO/VACUUM furnace systems are a key factor in delivering mission-critical components on time and under budget.

We are proud to be a contributing technology partner in support of defense industry,” added Zawistowski. The two Vector vacuum brazing systems are to be delivered to separate locations. They are manufactured to meet exacting specifications enabling each system to be fully compliant with NADCAP and AMS standards.”

February 22, 2018

Ryan Kelly, Advanced Heat Treat Corp

“Advanced Heat Treat Corp. (AHT) is pleased to welcome Ryan Kelly to the team as Senior Quality Specialist! Kelly will be leading all quality initiatives at Advanced Heat Treat Corp’s Burton Avenue facility in Waterloo, Iowa, and has returned from previously being an AHT team member many years ago! “We are excited to have Ryan lead the Burton team in ensuring that all processes and procedures comply with applicable standards and specifications.” Stated John Ludeman, Director of Metallurgy and Quality Excellence. “We look forward to Ryan’s leadership in pursuing the Advanced Heat Treat Corp. mission of Exceeding Customer Expectations with UltraGlowing Results.” AHT takes pride in their quality system.
and maintains certifications such as ISO 9001:2015 / IATF 16949:2016, ITAR and a Federal Firearms License. They are 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. Other AHT locations include the Corporate Office and Service Center on MidPort Blvd. in Waterloo, IA, one in Monroe, Michigan and another in Cullman, Alabama. “February 22, 2018

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**Heat Treatment & Other Services**
*We are the vital link.*

**Bodycote Enters Into Agreement With Safran**

“Bodycote, the world’s largest provider of heat treatment and specialist thermal processing services, today announced that the company has entered into a long-term agreement with Safran, an international high-technology group and tier-1 supplier of systems and equipment in the Aerospace market. Bodycote’s global network will support the agreement, operating initially from strategically located facilities in France and Belgium. Under the agreement, Bodycote will provide manufacturing services which include thermal spray coatings, electron beam welding, hot isostatic pressing (HIP), heat treatment and others to Safran companies and their key strategic first-tier suppliers. Bodycote’s processes and technologies are used to prolong the working life of critical components and provide in-service protection from factors such as abrasion, temperature and wear.

The agreement ensures that manufacturing requirements will be met by a quality-focused supplier to support the growth in Safran’s civil aerospace programs. These programs include but are not limited to CFM LEAP for Safran Aircraft Engines, helicopter engine programs for Safran Helicopter Engines and landing gear systems for Safran Landing Systems. Bodycote’s international network of thermal processing and other specialist services offers security and
mitigates risk in the supply chain. Bodycote’s core business is to provide services that protect and improve the properties of metals and alloys. This improves the material properties of components, extending their operational life and making them safer. The company plays a vital role in the aerospace supply chain.

About Bodycote. With more than 180 accredited facilities in 23 countries, Bodycote is the world’s largest provider of heat treating and specialist thermal processing services. Through classical heat treatment and specialist technologies including Hot Isostatic Pressing (HIP), Bodycote improves the properties of metals and alloys, extending the life of vital components for a wide range of industries, including aerospace, defence, automotive, power generation, oil & gas, construction, medical and transportation. Customers in all of these industries have entrusted their products to Bodycote’s care for more than 30 years. For more information, visit www.bodycote.com.” February 21, 2018

Ipsen Builds Furnace that Quenches with 1,000 Horsepower

“Ipsen recently designed and built a vertical, high-pressure quenching furnace, complete with twin cooling systems and a work volume of 350 cubic feet. During the testing phase, the furnace quenched with 1,000 horsepower (.75 megawatts) – a remarkable achievement that began as an idea just months prior. As is typical with a custom build, the customer came to Ipsen with specific requirements: they needed a large furnace with a very aggressive cooling rate. During the design phase, Ipsen’s Engineering Team determined that twin cooling systems to provide 1,000 horsepower quenching capability was the right solution due to the customer’s process requirements and the geometry and cross-section of parts.

Ipsen Engineers, alongside the customer, looked on during the testing phase. “We saw the furnace backfill and then go into quench,” said Craig Moller, Chief Engineer. “It took us a minute to realize we were experiencing a ground-breaking design and test, with cooling curves that we’ve never seen for a furnace of this size.” Ipsen excels at engineering and manufacturing innovative, highly technical thermal processing systems for unique or special applications. The opportunity to create custom solutions allows Ipsen to
continue advancing technology and grow its portfolio of product offerings. Whether you require custom equipment for your unique process requirement or a standard, dependable furnace with versatility, Ipsen has a solution for you. Visit www.IpsenUSA.com/Map to contact your local Sales Representative today.”

February 21, 2018

Solar Manufacturing Ships Two Vacuum Furnaces

“Solar Manufacturing shipped two vacuum furnaces to an aviation engine repair services facility located in the western region of the United States. The customer witnessed full testing at Solar Manufacturing and approved shipment in late 2017. Each furnace is designed with energy efficient graphite insulation and engineered to accommodate various part and load sizes; one furnace with a working zone of 28” wide x 21” high x 36” deep with a weight capacity of 1,500 pounds, and the second furnace with a working zone size of 42” wide x 42” high x 60” deep with a weight capacity of 5,000 pounds.

Both new furnaces are tailored specifically to fit the needs of aerospace engine component repair processing to the aerospace specification AMS2750E. They are equipped with mass flow controllers for accurate, repeatable and recordable gas flow control of argon, nitrogen and hydrogen partial pressure gases as well as high vacuum capabilities in the 10⁻⁵Torr range. The furnaces incorporate the new SolarVac® 5000 supervisory control and data acquisition system (SCADA) with large graphic touchscreen overview programming. The system provides gas quench rate control utilizing a variable frequency drive and precise temperature control from ambient to 2400° F (1316° C) utilizing digital power trimming technology. For more information about Solar Manufacturing, please contact Pete Reh at 267-384-5040 x1509, or via email pete@solarmfg.com, and visit us at www.solarmfg.com.”

February 20, 2018
HK 2018

The Heat Treatment Congress “HK” is far and away the largest annual heat treat show in Germany and if you have any interest at all in the German market this is the show to be at. The HK banner ad can be found on this page if you would like more info. February 20, 2018

“The Heat Treatment Congress “HK” has become the most famous congress and fair event about heat treatment with more than 3000 visitors in Europe. In 2017 at the first time, the fair event with 230 exhibitors was sold out. The congress event will be simultaneously translated German/English vice versa. The 74th Heat Treatment Congress of AWT will take place at Cologne, Germany (Koelnmesse) from 16 to 18 October 2018. At the first time, this year the days of the event will change from Tuesday to Thursday. Abstracts to the following topics can be submitted until 15 March 2018 to info@awt-online.org or by application form at www.hk-awt.de.

Main topics of the congress HK 2018

1. Materials and heat treatment for e-mobility
2. Integration of the heat treatment in the production line
3. Materials and heat treatment of additively manufactured components
4. Hard machining of heat-treated components
5. Also presentations are welcome in recent fields of heat treatment, materials technology, manufacturing technology and process engineering

Please, include an abstract in German and English language, no longer than 1800 characters, incl. space characters (per language) and your photo. Further questions will be answered by Mrs. Sonja Mueller, managing director of AWT, by e-mail to info@awt-online.org. For general information about the congress and the exhibition please choose www.hk-awt.de in German and English language."
Calvert Street

“Calvert Street Capital Partners is a Baltimore, Maryland-based private equity firm which made headlines in the heat treating industry in 2017 when they acquired commercial heat treat Diamond Heat Treat. We ran across this summary of the company recently and deemed it to be newsworthy. Thermal Processing Strategy; In June 2017, Calvert Street, in partnership with John Hubbard (former CEO of Bodycote, PLC), completed the acquisition of Diamond Heat Treat ("Diamond"), a Rockford, IL-based heat-treating company. Shortly after the acquisition of Diamond, our team began working with the owners of Certified Heat Treating ("Certified"), a Springfield, OH-based thermal processing company closing on January 2, 2018. Testing, Inspection & Certification (TIC) Strategies; Calvert Street has been an active investor in the testing & inspection space for several years, beginning with our build-up of Inspection Oilfield Services ("IOS") from 2011 – 2015.

In August 2017, Calvert Street partnered with the founder of Technical Diagnostic Services ("TDS"), to build a diversified market leader in the electrical, instrumentation and controls testing business. Ft. Worth, TX-based, TDS, provides testing, calibration and commissioning services and equipment to the utility, oil & gas, chemical processing and other industrial end markets. In October 2017, Calvert Street’s nondestructive testing and inspection portfolio company, Premium Inspection and Testing ("Premium"), completed its forth add-on acquisition: Landbros Aerial, an unmanned aerial inspection company based in Baton Rouge, LA, adding additional high value services to Premium’s ever-growing list of advanced service capabilities. Specialty Chemical Manufacturing Strategy; On November 10, 2017, Calvert Street made a minority investment in Hocking International Laboratories ("Hocking" or the “Company”) with the goal of supporting management’s strategy to build a leading specialty chemical manufacturer serving the agricultural, turf & ornamental, automotive, and commercial cleaning markets.” February 20, 2018
Monday Morning Briefing

In Jacksonville, Florida knife manufacturer *Bear & Son Cutlery* has made the decision to add in house heat treating capacity. This is part of a large investment which will also result in 25 new jobs. It’s pretty unusual to find a commercial heat treater in North America who is not doing well these days and *Dependable Metal Treating* in Kendallville, Indiana is no exception. The company is in the process of adding another 30” X 48” X 30” batch IQ furnace which will bring their total up to 10 batch IQ furnaces. The photo below shows part of their facility. **February 19, 2018**

![Photo of Dependable Metal Treating facility]

In people news *Mike Stempo* has long been involved in the gases side of heat treating recently made a move from *Linde* to *United Hydrogen*. *Paulo Heat Treating* has hired a new addition to the company; “Paulo’s team is growing and the newest addition is **Crystal Wells**. As Key Account Manager for the **Kansas City Division** she will be responsible for developing relationships with the customer base and growing our existing partnerships. Crystal comes to Paulo with previous experience in industrial sales in the Wichita, KS area. More recently she owned and operated a marketing agency with a wide scope of services from lead generation to strategy and sales consulting. Crystal will be based in the Wichita area, which represents a growing region for the Kansas City Division’s Aerospace heat treatment business.”
In Quebec forestry equipment manufacturer *Quadco Equipment* and *Usinage Rimouski* were just purchased by *Komatsu International* which is rather interesting. We mention them because the company has a very impressive in house heat treating department consisting of AFC-Holcroft Batch IQ furnaces as you can see in this photo.

This is not directly heat treat related but *GKN* does such a mammoth amount of heat treating and sintering in house that this story is at least worth a brief mention; “*GKN plc has confirmed that it will look to divest GKN Powder Metallurgy, comprising GKN Sinter Metals and Hoeganaes, within the next 12-18 months as part of its new business strategy to transform the company, including the sale of non-core segments. The new strategy announcement comes in response to Melrose PLC’s widely-reported takeover bid in January 2018. As part of a plan to divest non-core segments, GKN group will also look to sell GKN Driveline’s Wheels, Cylinder Liners and Off-Highway Powertrain businesses, while identifying plans to grow Driveline China and further develop its eDrive Systems business. GKN Aero Additive Manufacturing was also identified as a product segment positioned for growth.*” *ACE Furnaces* in India issued this press release.

We have absolutely zero interest in annealing of steel tubes but what did catch our attention is that this is a new furnace order destined for South Africa which is probably the first new furnace order in the country for 10 years now—unfortunately we don’t believe it is the start of a trend; “*We are pleased to have recently received an order for a Roller Hearth Furnace, along with associated equipment, from KLT Group, South Africa, for bright annealing of carbon steel tubes. The furnace capacity will be 4 MT/hr, and it will be suitable for firing with LPG / natural gas.*"
It is almost exactly one year ago that we told you how fastener manufacturer OMG in Agawam, MA, USA installed a very large captive heat treating department to handle their heat treating requirements. During a recent tour for local authorities the company announced that the investment was a wise decision and that roughly 80% of their heat treating requirements are now done in house.

And to round things out Sue Harrod of furnace builder Diablo sent us this brief press release along with a couple of photos of their facility; “Diablo is doing very well with new equipment orders and retrofits in the field. We are creatively utilizing technologies to meet new requirements/expectations in production. Diablo will be releasing information on its installation and new developments in the near future. For now...there is a lot of positive momentum happening at Diablo. All I can say is, “Watch us grow.”
Paulo Cleveland

Commercial heat treater Paulo is one of the largest in North America and their Cleveland facility (previously called American Brazing) is one of the largest and most modern vacuum heat treats in North America. We at “The Monty” visited a number of years back but with a number of expansions and equipment additons to the plant since then it is about time for another visit. In the meantime we have these recent photos along with a U-Tube video of the operation. February 16, 2018

https://youtu.be/0ZBQDm6OfrI
Can Eng Aluminum Aerospace Forging Furnace

Can Eng Furnaces of Niagara Falls, Ontario, Canada is just about ready to shop what they feel is the Worlds Largest Capacity Aluminum Aerospace Forging Heating Furnace. While we will have more details next week we do have this photo which shows from the left; Graeme Kirkness Marketing Co-ordinator, Can Eng and Tim Donofrio, VP Sales, Can Eng. **February 16, 2018**

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Gas or Electric? Electric or Gas?

On a regular basis manufacturers with no heat treating experience but looking to add in house heat treating capacity ask us what are the deciding factors when it comes to how an atmosphere furnace should be heated? The choices are natural gas, electricity or in extremely unusual cases propane. Assuming natural gas is available the determining factor is first price, second price and third price. This effectively means that except for areas with abundant cheap hydroelectric power or subsided rates in most areas of North America atmosphere furnaces are heated with gas, the exceptions being Quebec, Canada, Tennessee and parts of the US Northwest. There are a couple of other very small considerations such as the price of the equipment new (electric furnaces are more expensive to purchase than gas) and emissions (not a large factor in North America to date, maybe a bit in California) but essentially it comes down to the relative cost of electricity vs; natural gas. We asked
Tracy Dougherty, Sales Manager of furnace builder AFC-Holcroft what his guess would be as far as the % of each and this is what he had to say;

“Hi Gord, The vast majority of austenitizing furnaces for North America are gas fired. I would estimate it to be 90% plus. In other parts of the world, electrically heated furnaces are a bit more common due to the limited supply of consistent high quality natural gas. This percentage changes in other equipment such as tempering furnaces, washers, etc. where electrically heated options are a bit more common. Tracy”.

As a final note to this item we will add that with the enormous growth in shale natural gas on the continent there is every reason to believe that this ratio will continue or perhaps even grow. **February 15, 2018**

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**Applied Process To Open New Plant in Fort Smith, Arkansas**

To this very interesting news item we have to add that Applied Process is undoubtedly the largest commercial salt heat treater in North America. The company also has the largest batch IQ furnace with salt quenching which we have ever seen, an AFC-Holcroft built unit, a picture of which can be found below. Want to know more about the company? Only at “The Monty” will you find an interview with Chip Keough of Applied Process. [https://www.themonty.com/john-chip-keough-applied-process/](https://www.themonty.com/john-chip-keough-applied-process/) We are also including a picture of the company logo which is in their Livonia facility-our favorite logo ever. **February 14, 2018**

“FORT SMITH, AR., Feb. 13, 2018 — Applied Process, Inc., the worldwide leader in austempering heat treatment technology, will expand with a new multi-million-dollar heat treatment plant in Fort Smith, Ark. The 51,000-square-foot plant will house six furnaces and add at least 30 jobs. The plant is expected to be fully operational in the 3rd quarter and will serve customers in the Midwest and South. “We are very excited to announce our expansion in
Fort Smith,” said Chief Executive Officer Harold Karp. “Record sales performance in 2016 and 2017, combined with a strong new product forecast, make this the right time to expand.” Applied Process plants in Livonia, Mich., and Oshkosh, Wis., will remain in operation, serving the automotive, agriculture, aerospace, heavy truck, railroad, mining industries, as well as the military. The Oshkosh facility houses the world’s largest integral quench batch austempering furnace which is capable of austempering parts up to 20,000 lbs. in weight. “The additional capacity in Fort Smith will allow us to continue to offer industry-leading levels of customer service, quality and turn time,” said Steve Metz, Vice President of Sales and Marketing. “The new facility will allow us to expand into new markets and serve a broader geographic customer base.” Rusty Rainbolt, who has been with Applied Process for three years on the sales team, will be plant manager. Rainbolt holds bachelor’s degrees in engineering and marketing from Oklahoma State University. “Rusty’s engineering, sales and product experience, along with a strong, experienced leadership team, will ensure a smooth start-up of the new facility,” Karp said. “Arkansas continues to be a great place where businesses can succeed,” said Governor Asa Hutchinson. “Our dedicated workforce and low business costs help companies like Applied Process reach their highest potential.” “Working with the Applied Process team on their site search for the past year has been a pleasure. We were able to introduce them to Fort Smith and find the perfect location for their specific needs,” said Tim Allen, President and CEO of the Fort Smith Regional Chamber of Commerce. “The community was a perfect match for the company’s expansion requirements and they will be a great complement to the area.” Applied Process, Inc. specializes in the austemper heat treatment process. Compared to more traditional heat treatment methods, austempering makes iron and steel components stronger, tougher, lighter and more wear-resistant. Through technical leadership, an unparalleled number of metallurgical engineers on staff, and dedicated research and development, Applied Process helps customers solve their toughest engineering problems. Visit www.appliedprocess.com for more information.”
Rob Wilcox, Super Systems Europe

“We’re very pleased to welcome Rob Wilcox to the Super Systems Europe Sales and Engineering team! Rob brings with him 33 years of heat treatment industry experience. As well as focusing on building our relationships with our existing customers, Rob is also available as a general consultant to help commercial and captive heat treaters improve the quality and efficiency of the entire operation. Rob will cover the UK and Ireland and is immediately available on hand to respond to any process control enquiries or advice on meeting the latest quality requirements, especially CQI-9 and AMS2750E. Please do not hesitate to call to arrange an appointment. If you’d like to discuss any product, project, or consultancy enquiries with Rob, please contact him on +447375 660 787, rob.wilcox@supersystemseurope.com” February 14, 2018
SECO/WARWICK Press Release

“SECO/WARWICK is the supplier of a precision Vacuum equipment for the Wedge Group and Shenzhen Wedge South Central University in Shenzhen, China, to be utilized primarily for high temperature alloy solution treatment for both production and research & development of super alloys for aerospace applications. China’s #1 relay manufacturer, Xiamen Hongfa Electric Power Controls will add a SECO/WARWICK high vacuum brazing system to their facility in Xiamen, China.

The Wedge Group and Shenzhen Wedge Central South Research Institute Co., Ltd; The Wedge Group is located in Shenzhen China, with investment in precision casting industry beginning in 2012. Recently, the group established Shenzhen as the headquarter and through the cooperation with Shanghai and Changsha R&D institute, established the Shanghai and Changsha branch companies. Shenzhen Wedge Central South Research Institute Co., Ltd was established in 2014, dedicated to high temperature alloy material research and development.

Xiamen Hongfa Electric Power Controls Co. Ltd.; Hongfa is the leading relay manufacturer in China and one of the leading relay suppliers and manufacturers in the world. Hongfa ranks No.1 in the relay industry in China in terms of overall economic efficiency. Founded in 1984, Hongfa has become a top-notch relay R&D and production center all over the world." February 14, 2018

Say It Ain’t So Jordan Messick!

We understand that Jordan Messick Industrial Sales Manager for South-Tek Systems, LLC will be leaving the company at the end of this month. South-Tek is one of the best known companies in the heat treat industry for Nitrogen Generating Systems and Jordan has become a staple at the heat treat shows in North America over the past few years. It is rather unusual that he is leaving the industry completely for something totally unrelated.
We will miss him.  **February 13, 2018**

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**Home Page Pictures**

Just yesterday we pulled out a whole new batch of photos for our “Home Page” [https://www.themonty.com/](https://www.themonty.com/) We would encourage you to have a look and see what people or heat treat installations your recognize.  **February 13, 2018**

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**Monday Morning Briefing**

*Dry Coolers Training:* Looks like training time at Dry Coolers in Oxford, Michigan. Dry Coolers is a name known to almost every single heat treater in North America and many other parts of the world for their water and quench oil cooling systems. Last week they had a two day training session for their most recent reps, **Ben Grammer** of Grammer Vacuum Technologies (US North West) and **Jordan Montgomery** of WG Montgomery Ltd., (Canada and Upstate NY). From the left we see; Mike Gorman, Phil Seamon, Ben Grammer, Gary Berwick, Jordan Montgomery, Brian Russell, Matt Reed

In the UK fastener manufacturer **Non Standard Socket Screw** (NSSS) in the Midlands recently added in house heat treating capacity. This takes the form of a used Ipsen TQ-4
sealed quench hardening and tempering line utilizing an endothermic atmosphere. The company claims that this is a “lights out” system (meaning no furnace operator involvement but we are pretty sure we see an operator riding on that charge car). “Since its foundation in 1971, NSSS has developed a fully self-contained fastener manufacturing operation that employs 90 people. In addition to its stockist business, the company produces a wide range of special fasteners including prototypes for customers which range in size from M1.4. up to M64.”

Surface Combustion has landed an order for two gas fired batch IQ furnaces with working dimensions of 36” X 48” X 36” from a commercial heat treater in North America. Batch IQ (sealed quench) furnaces are a hot item these days and typically delivery is around 24-26 weeks. February 27th a company by the name of Ledvance in Winchester, KY is auctioning off some equipment. Nothing really of interest to heat treaters except for some vacuum pumps. No idea what they were used for but the flyer we received mentions a number of Leybold vacuum pumps. In Sweden a fastener manufacturer by the name of Bulten is getting into heat treating in a big way. The company just announced that they will be investing SEK 45 million (about $5.5 million USD) in a new heat treatment plant in Hallstahammar. About the right amount for a new mesh belt line, ancillary equipment and installation. The company was founded in 1873 and has some 1,300 employees in nine countries and head office in Gothenburg.

HighTemp in India, the country’s largest furnace builder and largest commercial heat treater is expanding again. Later this year the company will be opening two brand new commercial heat treat locations, one in Sanand Gujarat (Western India) and
one at Bidadi near Bangalore (South India near HO). We are looking forward to sharing some more details and photos with you. Jeff McLaughlin of Vesco-McLaughlin sent us this press release. It’s interesting that Jeff started off in the atmosphere side of heat treating and has expanded into vacuum also-this is a combination which we have not seen before; “Vesco-McLaughlin is offering FREE pick-up to evaluate your vacuum pumps for reconditioning and repairs. We’ve recently upgraded and added to our fleet of service vehicles, enhancing our maintenance capabilities. We specialize in a number of areas of field service including: leak detection, installations, preventative maintenance, and troubleshooting. We buy used pumps!”  

**February 12, 2018**

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**Voestalpine High Performance Metals Buys Seco Vacuum Furnace**

We find it very interesting that Böhler-Uddeholm AG which was acquired back in 2007 by Austrian company voestalpine High Performance Metals just now is changing the name. We have no idea whether this covers all of their plants but obviously some including their location in Mississauga, Canada which is shown in the photo below have officially changed their name. We at “The Monty” have visited several Böhler locations and they are always absolutely top notch operations with the latest and greatest in heat treating and surface engineering technology. In this case you can see that the Mysłowice, Poland facility has bought a state of the art 15 bar vacuum furnace.  

**February 9, 2018**
“Voestalpine High Performance Metals (formerly Böhler-Uddeholm AG), one of the world’s largest manufacturers of tool and special steels, invests in SECO/WARWICK technologies to increase its production capacity. The global leader in steel manufacturing, already using SECO/WARWICK equipment, is now expanding its processing capabilities with a 15 bar vacuum furnace with high-pressure gas quenching and a retort furnace. “Tool steels are particularly demanding materials, with high durability requirements such as high hardness, wear and temperature resistance, and adequate impact strength. This is why even the smallest fault during the heat treatment process can result in faster wear, warping, or even breaking of components, which entails financial losses. SECO/WARWICK is well aware of it all, and our long-term cooperation is a proof not only of our expertise in the matter, but also of the reliability and quality of SECO/WARWICK equipment,” said Zbigniew Nowacki, head manager of the Böhler Uddeholm Polska heat treatment facility. For Böhler Uddeholm Polska, the Polish branch of voestalpine High Performance Metals, the first machines were delivered to the quenching plant in the city of Mysłowice. Currently, two more SECO/WARWICK solutions are being developed for the Böhler Uddeholm Polska in the town of Łomianki. Outside Poland, SECO/WARWICK carried out similar projects for voestalpine branches in Slovakia, Romania, China, Mexico, Canada, providing over a dozen solutions during the five years of cooperation.”
Houston Heat Treat Receives ABS Certification

“Houston Heat Treat, a leading heat treat service provider located in the Houston, TX area, was granted approval through the American Bureau of Shipping (ABS), January 12th, 2018. We strive to provide exceptional service in all sectors of our industry, including our marine structure manufacturers monitored by the American Bureau of Shipping (ABS). ABS and Houston Heat Treat have worked together frequently since Houston Heat Treat opened their doors in 2007. ABS comes onsite for special projects our customers may be working on requiring ABS approval and will witness processing and/or hardness inspection. However, this has always required special approval, and were order specific. In early 2017, we began receiving requests to earn the ABS Heat Treatment Facility Approval to broaden our capabilities. Some were from customers who had used us for many years on other projects, and some requests were from companies who had heard positive things about us by word of mouth. We saw a need by our customers in the marine sector of our industry and so we began the approval process.

After months of ‘Heat Treat Studies’ by way of customer witness product, and a Quality Assurance Plan written by HHT Quality specific to ABS Rules for Materials & Welding Part 2 (2018), we were elated to receive our ABS Certificate of Heat Treatment Facility and Process Approval. The appreciation received by our customers was more than we ever expected, and made this process that much more worth it. Our ABS Approved Quality Assurance Plan includes process and test requirements for ABS & Non-ABS Grades: Carbon & Low Alloy Steels. Processes included: Annealing, Normalizing, Quenching & Tempering. Each process for each ABS grade, as well as the grade specific hardness and mechanical requirements are included in our ABS Quality Assurance Plan. This procedure may be reviewed onsite at HHT. Just let us know you’re coming by and we can go over our future business plans while we review the QAP. Houston Heat Treat ABS Approval Certification T1707554 January 12, 2018”

February 8, 2018
**Commercial Heat Treat Trivia (Whoops)**

Yesterday we had a trivia point about the size of commercial heat treats in the US and how most had under 100 employees and to bolster this point we mentioned the few commercials that have over 100 employees. It was politely pointed out to us that we missed one of the largest in the US, FPM Heat Treating with multiple locations in the US Midwest. We apologize for the omission. **February 8, 2018**

**Commercial Heat Treat Trivia**

We ran across this interesting information about commercial heat treaters in the US (we have no doubt but that these numbers are similar to most areas of the world by the way). According to US census data 96 percent of heat treatment companies in the US employ fewer than 100 workers and 68 percent employ fewer than 20. While we have not put much thought into this we certainly can’t argue, except for Bodycote, Paulo, Solar, Woodworth, Bluewater Thermal, Braddock, Precision Thermal, Advanced Heat Treat Corp., Vac Aero and a few that we have missed (and we apologize) we struggle to come up with many other commercials that would have more than 100 employees. And that ends our trivia time for Wednesday. **February 7, 2018**
Surjit Bawa Interview

We are pleased to have an interview with Surjit Bawa founder of Metex Heat Treating in Mississauga, Ontario, Canada and his son Raman-Metex is arguably one of the most successful commercial fastener heat treaters in North America. **February 6, 2018**

**How did you get started working in the heat treat industry?**

“My background is as a Metallurgist and my first position in the industry was with Budd Heat Treat in Windsor, Ontario, Canada where I started as a furnace operator. While I was a furnace operator I occasionally had to change into a suit and put my metallurgist hat on when a customer visited-I ended up as General Manager.”

Raman – “I decided sometime in high school that I wanted to spend my life working on computers. That somehow transcended into a degree into Electrical Engineering. From there, I worked at BlackBerry working on software security & privacy. When things started going south over there, I decided I needed something fresh and more hands on. Obviously growing up around Metex, it seemed like a logical choice. It combined a passion for engineering with the hands on nature I was looking for. “

**Tell us about starting Metex.**

“I started Metex in Brampton in 1983 partly because I wanted to live in Toronto (editor’s note; Brampton is a suburb of Toronto). The name comes from “Metal Experts” and I started with 1 rotary retort furnace, 1 batch furnace and 1 brazing furnace. From there we expanded to 4 brazing furnaces and got rid of the batch furnace. In 1985 we added our first mesh belt line with a capacity of 1,000 pounds per hour and then a 3,000 pound line and then a 6,000 pound line.”

**Please tell us something about Metex, the size of the company, number of employees, processes offered etc.**

“Metex now has 4 buildings, mesh belt capacity of 21,000 pounds per hour, 4 batch IQ lines and 10 Induction systems with a new, automated, very large induction system arriving shortly.” **Continue Reading**
Dr. MacKenzie Elected President of IFHTSE for 2-year Term

“Valley Forge, PA – At the Executive Council Meeting of the International Federation of Heat Treating and Surface Engineering (IFHTSE), D. Scott MacKenzie, PhD., Research Scientist – Metallurgy, Houghton International, Inc. Valley Forge PA was elected to serve as Vice President for a two year term: 01 January 2018 to 01 January 2020. Scott MacKenzie, born 1956 in Lafayette, Indiana USA, is the ASM representative to IFHTSE Executive Committee since 2015. He completed his B.S. Metallurgical Engineering at The Ohio State University in 1982; his M.S. Metallurgical Engineering in 1993 from the University of Missouri – Rolla, and his Ph.D. Metallurgical Engineering from the University of Missouri – Rolla in 2000. His dissertation was on “Quench Rate and Aging Effects on Al-Zn-Mg-Cu
Aluminum Alloys.” He was awarded ASM Fellow in 2007. He is presently Research Scientist – Metallurgy, responsible for sales and technical support of heat treating customers globally. He has over 150 publication and books, mainly in the field of heat treating and quenching. He is an active member in ASM (American Society of Metals) and has served as chairman, co-chairman or participated on the organizing committee of numerous heat treating conferences.

Previously, Dr. MacKenzie was an Associate Technical Fellow at Boeing, St. Louis, responsible for conducting failure analysis of structural aerospace components. He was also a manufacturing engineer at McDonnell Douglas, responsible for all aluminum, steel and nickel-based super alloys at the St. Louis facility. The International Federation for Heat Treatment and Surface Engineering (IFHTSE) is a not-for-profit body founded in Switzerland 16th May, 1971. This is an international group of scientific/technological societies and associations, groups and companies and individuals whose primary interest is heat treatment and surface engineering. The IFHTSE represents Heat Treating and Surface Engineering Organization around the globe, with memberships for approximately 25 different countries, including countries from Europe, Americas, Asia, and the Middle East. The primary function of the IFHTSE is to promote international collaboration and communication on heat treatment and surface engineering, through the sharing of knowledge. This knowledge is communicated via conferences and international congresses held throughout the globe. The IFHTSE places emphasis on recognizing engineers and scientist in the Field of Heat Treating and Surface Engineering with Programs such as the IFHTSE Fellows (sponsored by Houghton, Inc.). Since 1865, Houghton International Inc. has been serving the metalworking, aluminum and steel industries, along with a variety of other markets including the offshore oil exploration metal finishing and surface treatment industry, with the development and production of specialty chemicals, oils and lubricants. Headquartered in Valley Forge, Pa., Houghton maintains manufacturing and research facilities throughout the world. Houghton International continues its focus to expand its customer service operations and grow its worldwide facilities.
Monday Morning Briefing

We start off with a very interesting pairing of two technologies, a rotary hearth furnace with an “IntensiQuench” system destined for a heat treater in Japan. IntensiQuench is a very interesting water quenching system championed by Joe Powell and Michael Aronov of Akron Steel Treating in Akron, Ohio. It’s been around for many years and while the results seem to be very impressive it is not a technology which has caught on to any extent in the general heat treating market. Systems that we have seen in the past have been more of a batch IQ style than a rotary hearth but obviously it doesn’t make too much difference the style of furnace.

A couple of years back “The Monty” visited a number of captive and commercial heat treaters in Australia and during that time we kept hearing about a large Ipsen gas fired, pusher carburizing furnace which was available. We lost track of the system however it has now appeared on the used equipment market. It is being sold by a company by the name of Drivetrain Systems International in Albury, Australia which was previously part of auto parts supplier Borg Warner. It’s a nice looking furnace but with an asking price of $1.3 million Australian (a little over $1 million USD), not being run for almost 10 years and with shipping not included we say good luck with that.
**Braddock Metallurgical** is the largest commercial heat treater in the US Southeast and certainly dominates the market in Florida. The company has just installed this New Large Car Bottom Furnace in their Tampa location. The furnace is capable of stress relieving, normalizing and annealing.

Ahead of some more announcements from **Vacuum & Atmosphere Services** in the UK such as a larger building, we note this upcoming seminar; “Vacuum & Atmosphere Services Ltd, the UK’s leading industrial furnace service company, will be holding their inaugural Customer Seminar on 14th and 15th March at the Belfry in Sutton Coldfield, Birmingham. The seminar will take place on the Wednesday morning, topics include Furnace Optimisation, Energy Savings, Aftermarket support, New equipment, Control Systems, SCADA systems and Refurbishments. On the afternoon we will be ‘streaming’ the Cheltenham horse racing festival on the big screen. This will be followed by an evening meal and overnight stay. On the Thursday for those that wish to play golf, we will be enjoying a round on the Belfry’s PGA National golf course. We anticipate a good attendance with many ‘blue chip’ companies already confirming their attendance. For further information please visit [http://www.vacat.co.uk/2017/09/20/vas-invite-you-to-the-belfry-seminar-cheltenham-races-golf-day-2018/](http://www.vacat.co.uk/2017/09/20/vas-invite-you-to-the-belfry-seminar-cheltenham-races-golf-day-2018/) for more details of how to register.”

Furnace builder **SOLO Swiss** (whose banner ad can be found on this page) recently held an open house; “Open Day at SOLO Swiss, Porrentruy, Switzerland. The 19th January 2018, SOLO Swiss had the pleasure to organize an Open Day for their customers. More than 60 customers from France, Switzerland, Italy, Germany and Russia came to visit the workshop where two
automatic bell-type furnaces lines were presented. With over 70 years’ experience, SOLO Swiss manufactures atmosphere furnaces for metal heat treatment since 1945 which are sold worldwide. www.solo.swiss.”

People news. **Martin Beaton** is a fellow we have always had a lot of respect for. We first met him when he was a young metallurgist at **FAG Bearings** in Stratford, Ontario, Canada and we kept in touch with him when he was a Group Director for commercial heat treater **Bodycote** and also when he was President of **Bohler Uddeholm** (who in our opinion have some of the nicest heat treats around). Well Martin is now President of a company by the name of **Voestalpine High Performance Metals Ltd.**, in the Toronto, Canada area. **Bob Mann** who was Manufacturing Engineering Manager for medical device supplier and captive heat treater **DePuy Orthopaedics Inc.**, in Warsaw, Indiana just retired. Commercial heat treater **Certified Metal Treating** in Ohio was of course recently acquired by Calvert Street Capital Partners. **Joe Biehn** of Certified will be staying on as VP Business Development. Manufacturers rep **Marty Keylon** out in California is telling the world that he now reps for Houghton International; “Keylon Thermal Consulting is proud to announce it’s partnership with **Houghton International** as their West Coast Distributor. We have many different products including cold and hot quench oils, polymers, lubricants and specialty instruments.” And in the UK **Robert Wilcox** recently became the UK Sales Manager for controls company **SSI Europe**.

And that is it for Monday, February 5/2018-if you would like your company to be mentioned in the Monday morning briefing please send your press releases to jordan@themonty.com **February 5, 2018**
Metlab Heat Treating Project

Commercial heat treater Metlab in Pennsylvania, USA had this interesting project recently that they would like to tell us about. Metlab is best known for having some of the largest pit carburizing furnaces in North America. **February 2, 2018**

“Metlab comes across many unique and interesting projects each year. Some have a history lesson to accompany the project. Recently, a newly fabricated structural bulkhead for a Ryan ST-A historic aircraft (circa.1934), was treated in the Metlab facility. The customer, Classic Metalcraft, was referred to Metlab by another facility that did not have the equipment to properly process the large part.

Ryan ST-A (Aerobatic) training aircraft circa.1934

Ryan Aircraft was the manufacturer of the famous Spirit of St. Louis airplane. The Ryan ST’s were a series of two-seat, low-wing monoplane aircraft. They were used as sport aircraft, as well as trainers by flying schools and the military of several countries. The “ST” series (for “Sport Trainer”) was the first design from the company, introduced in 1933. This aircraft was followed by the “ST-A” (A for Aerobatic) which was developed with a more powerful engine. “We manufacture aircraft parts for displays and museums.” States David Paqua from Classic Metalcraft. “We recently expanded our practice to accept complete restoration work for antique aircraft. Enter the Ryan STA. We decided to produce an exact replica of the Ryan. The most difficult part that needed to be fabricated was the #2 bulkhead. Not only is it tough to replicate without heavy pressing equipment, but it requires heat treating by a knowledgeable firm to prevent distortion. This is where Metlab came into the picture.”

The bulkhead component is a structural piece fabricated with 4130 steel. The #2 bulkhead component carries all the stress of the flying wires, landing gear as well as the wing attachments. It was vital indeed to properly fabricate and heat treat this assembly while maintaining a flat section.
The fuselage jig is allowing accurate positioning of the bulkheads and upper and lower stringers. Then will be covered by 2024 alloy aluminum skin of .032 thickness. Paqua explains, “The skin of the aircraft is affixed to the bulkhead. It is critical for the part to have the proper minimum mechanical properties to support the skin as well as remain in shape through the heat-treating process to maintain the aerodynamic characteristics of the aircraft.” Metlab developed a special fixture to maintain the flatness of the component during processing. Additionally, Metlab consulted with the customer and advised them to tack weld additional bracing inside the component to keep the integrity of the shape and help with the flatness of the entire component during the heat-treating process.

The physical dimension of the bulkhead is 26” wide X 39” tall and about 2” in section size. The part is quenched and tempered to 180,000 PSI UTS, minimum, about HRC 40 – 44. The part was processed in one of Metlab’s 4’ diameter by 16’ work zone pit furnaces and then clamped on a flat plate for tempering to maintain flatness. Post heat treatment inspection consisted of verification of the hardness and flatness.

‘Hot Box’ systems for furnace surveying (AMS2750 & CQI-9)

PhoenixTM www.phoenixtm.com
Furnace & Oven Manufacturers Salaries

Ever wonder what your friendly sales engineer from your furnace or oven supplier is getting paid? Well wonder no more we have this really top notch article about what employees at furnace and oven builders are getting paid these days courtesy of “International Search Partners”.

OEM’s (Furnace and Oven Manufacturers) Salary Guide: Recently we provided a salary guide laying out compensation ranges for most functions within the commercial heat treat industry. Here, we will provide the same information as it relates to OEMs and specifically furnace and oven manufacturers. Although job descriptions can vary quite a bit between companies, and salaries are subject to regional adjustments, this should give you a reasonably accurate representation of the current market-value for most OEM positions. An important note: compensation packages in the heat treat industry have advanced rapidly over the past few years. As the labor market has tightened, companies have had to increase wages to attract the resources necessary to run a successful operation. In many cases, the employer is offering non-cash incentives as well, such as more vacation time, the ability to work from home and profit sharing or bonus programs.

Mechanical, Electrical and Project Engineers: These are typically degreed individuals who handle project management and will often act as the project lead regarding equipment design. Electrical engineers will generally not be the lead on a single project but will spread themselves out over several projects. Typical salary ranges for engineers can vary quite a bit depending on total number years of experience, but usually falls anywhere from $85k up to around $110k.

Designers, Draftsman, Detailers (both Mechanical and Electrical): These are typically non-degreed individuals who are the backbone of every Furnace/Oven Manufacturer. They are typically paid hourly and can earn anywhere from the mid – $20’s to $40/hour + OT.

Application Engineers: These positions can also be called proposal engineers, estimators, inside sales engineers, etc. Whatever you call them, these are the people who put together the
quotes that get sent to prospective customers. Sometimes, the business development person will also handle quotes, but companies will benefit from having this function done in-house and thus allowing the sales engineer to be out in the field doing what they do best, SELLING. Application engineers are usually compensated at around $65k on the low end, but they can earn up to six figures or more for those who have niche technical expertise and who also work closely with outside sales to close deals.

**Field Service Engineers:** FSEs are a unique breed of technical “road warriors,” who love to travel and spend days, weeks or months away from home. These hands-on engineers and technicians work on installations and start-ups of equipment all over the world. They are almost always non-exempt employees and a significant percentage of their income can come from OT and per diem. Good ones can often make over $100K in any given year, but they are usually earning a base rate in the $25-35/hour range. As this type of skills set and availability to travel is highly in demand, more and more companies are offering remote-work and other flexible schedule options to entice and retain experienced FSEs.

**Sales Engineers:** Two types of compensation plans are prevalent for sales. One type of plan is salary only, commensurate with experience. The other is salary plus commission or bonus. Generally, OEMs who have a very technical, custom designed product and a long sales cycle will incentivize their sales engineers mainly with base salary and perhaps a small incentive bonus. This works well for both parties since it can be hard to determine a commission percentage for a sale that might be years in the making. OEMs with a more standard product line, and therefore a shorter sales cycle, will often opt for a smaller base salary and more incentive in the form of commission or bonuses. Whatever mix of base and commission, most sales engineers are earning somewhere in the low to mid $100k's, plus car allowance/company car/mileage. Compensation plans for sales can be complex and we will provide an in-depth analysis of how sales professionals are incentivized in a future article.

**VP/Production/Other:** This is obviously not an exhaustive list of positions within an OEM but covers most of the middle management roles. VPs were intentionally left out because compensation can differ so much at the higher levels depending on the company, region and equity or bonus packages. Hourly production workers are always in demand as well. However, typically companies don’t require much experience and are willing to hire at a lower rate and provide in-house training. If you have questions about any specific position, please feel free to contact us at info@ispards.com.
For over 20 years, ISP has been the premier recruiting solution for the Heat Treat industry. The salary information provided is based on information gathered over that time and from interviewing 500+ industry professionals per year. If you’re hiring now, or exploring new opportunities for yourself, we are uniquely positioned to be your partner for success and would love to work with you. Please contact us at info@ispards.com or 619-465-9621. February 1, 2018

J. Gonzales Appointed as California Sales Representative for J. L. Becker Company

J.L. Becker, a Gasbarre Furnace Group Company, is pleased to announce the appointment of A. J. Gonzales as Sales Representative for the state of California. Mr. Gonzales has a Bachelor of Science Degree in Organizational Management from the University of La Verne. He was previously employed at Arconic Fastening Systems and Rings, formerly known as Alcoa Fastening Systems and Fairchild Fasteners. During his 30 year career, Gonzales held key positions as manufacturing supervisor, environmental engineer, project engineer, and regional engineer. While in these roles, he developed the infrastructure for manufacturing facilities. He has extensive project experience in business planning, as well as selecting, installing and implementing heat treat equipment at facilities throughout the world. Gonzales assisted with combustion safety compliance and played a key role in acquiring NADCAP and Boeing accreditations. As a result, he has significant familiarity with heat-treating processes and equipment.

Going forward, Gonzales will support J. L. Becker’s sales and service efforts in California. Please congratulate A.J. on this new journey. Located in Plymouth, MI, J. L. Becker has been designing, manufacturing, and servicing a full line of industrial thermal processing equipment for over 40 years. J. L. Becker’s product offering includes both batch and continuous heat processing equipment and specializes in Temper, Tip Up, Box, Car Bottom, and Pit Furnaces as well as a full line of replacement parts and auxiliary equipment which consists of atmosphere generators, quench tanks, and charge cars. 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, AJ can be reached by telephone at (626) 437-6557 or via email at a.j.gonzales@me.com. You can also visit www.jlbecker.com. February 1, 2018
USED EQUIPMENT

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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.

Contact Us

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Item # B388 Hydrogen Atmosphere Furnace 8” x 8” x 8”
Item # B374 Atmosphere Box Furnace 2100 F
Item # B352 Pacific Scientific Box Furnace

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ITEM # B445

SURFACE COMBUSTION “SUPER 36” FURNACES (3 AVAILABLE)

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

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ITEM # B444

BOREL FURNACE 550 °C


Price on request jordan@themonty.com
ITEM # B443

SOLO SWISS HEAT TREATMENT LINE

SOLO Swiss Heat Treatment Line 202-30/30/60. Built by Solo of Switzerland this is a SOLO 202-30/30/60 model. This heat treatment line was manufactured and modified in 1981-1987-1994. Composition: 1 washing machine, 1 “5 bar gas tank”, 1 “5 bar gas tank” with 35 kW turbine, 1 oil tank, 1 tempering furnace, 1 salt tank, 1 furnace with max. temperature of 850 °C, 1 manual manipulator, temperature regulation system and % CP with regulator, loading material. Possibility of mounting and commissioning by the manufacturer (SOLO). Actually, in operation, located in Switzerland. Good condition. All manuals included.

Price on request jordan@themonty.com

ITEM # B442

SOLO QUENCHING MACHINE

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

Price on request jordan@themonty.com

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ITEM # B441

GM BATCH IQ WITH TOP COOL


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


Asking Price: $150,000.00
ITEM # B440

SURFACE COMBUSTION "SUPER 36"


ITEM # B439

SURFACE "SUPER 36" ALLCASE

Surface “Super 36” Allcase. Surface Combustion “Allcase” batch IQ furnace with working dimensions of 36” X 48” X 30” high. Natural gas heating, 1 MBTU’s/Hour. Maximum operating temperature of 1750F, voltage 460/3/60. External Dimensions: 10’W x 12’H x 15’L. Controls: All mounted in a panel attached to the furnace includes motor starters relays, pushbuttons, signal lights etc. Honeywell digital strip chart recorder for recording temperature, indicating controller and overtemp. Partlow controls for oil heating/cooling. Description: Surface Combustion Allcase Furnace with (6) “U” shaped radiant tubes mounted vertically 3 on each side wall. Fiber lined. Alloy roller rail hearth, alloy circulating fan, dual quench cylinders, top cool chamber and heated quench tank. Furnace has some missing components (temperature controls, pressure switches, ignition transformers, regulator) which will be replaced prior to shipment. Condition: Very Good.

Please call for pricing.
ITEM # B438

HOLCROFT BATCH IQ FURNACE LINE

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

Asking $125,000 USD for everything.

ITEM # B437

IPSEN RECIRCULATING BOX FURNACE

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

**Asking Price: $39,500.00**

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**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.**

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**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**

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**ITEM # B434**

**HOLCROFT BATCH IQ FURNACE**

**Holcroft Batch IQ Furnace.** A Holcroft Model GPM batch IQ furnace with working dimensions of 36” wide X 48” deep X 30” high. Gross load capacity of 3,000 pounds. Gas fired with four 8” diameter U-Tubes and Hauck burner with recuperators. BTU input 1,350,000 BTU’s. Maximum operating temperature of 1800F. Uniformity from 950F to 1650F +/− 10F. Quench tank 3400 gallons. Quench oil temperature 160F. Nitrogen Top Cool. Allen Bradley PLC 1400. SBS quench oil cooler which has never been used. Also included is a spare pusher head. Currently set up for carburizing and nitriding. New in 1998. Excellent condition!

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


Asking $49,500 USD.
ITEM # B431

AIR ATMOSPHERE BOX FURNACE 2,000 F


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.

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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 “Fireye” 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 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**

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**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.**

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**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.u00a0240V, 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. Recurculating 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 # 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


Price: $5,000 USD
ITEM # B374

ATMOSPHERE BOX FURNACE


Asking Price: $18,000.00 USD.

ITEM # B352

PACIFIC SCIENTIFIC BOX FURNACE

Pacific Scientific Box Furnace. Working dimensions of 72” wide X 120” long X 48” high, Gas fired radiant tube, maximum operating temperature of 2050F. Air operated vertical lift door, fiber lines, new refractory piers (12), hi-temp horizontal radiant tubes (6 above, 6 below), full safeties, side exhaust guard. Free standing control panel-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

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.

Quick Jump To Items:

- Item # C335 Compact Belt Furnace
- Item # C334 Press Quenching Cell
- Item # C333 Mesh Belt Line 3500 Pounds/Hour
- Item # C331 Lindberg Pusher Furnace
- Item # C330 Mesh Belt Furnace Line
- Item # C329 Cl Hayes Atmosphere Belt Furnace
- Item # C328 Cl 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 Cl Hayes High Temperature Pusher Furnace
- Item # C317 Cl 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 Cl Hayes Mesh Belt Furnace 12” Wide Belt
- Item # C265 Sunbeam Pusher Carburizer 3000 lbs
- Item # C219 Abbott Furnace
ITEM # C335

COMPACT BELT FURNACE

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

Price on request jordan@themonty.com

ITEM # C334

PRESS QUENCHING CELL

Press Quenching Cell. Complete Press Quenching cell which consists of a rotary hearth furnace, two Gleason press quench units a robot and an automatic unload table. Manufactured by QPS (Quench Press Specialists) the rotary hearth furnace is electrically heated with a 12’ working diameter, is brick lined and has an endo flow panel and a single door. The two press quences are Gleason Model 529 units. Maximum diameter of parts 10 ½”, maximum height 4”. Total pressure 49,500 pounds. Floor space required 73.5” X 130”, height 90”. Net weight 8,500 pounds. Everything was manufactured in the late 1980’s. System is complete and in good condition. Vendor is asking $155,000 USD for everything but will sells unit individually. Videos of the system in operation are available upon request.
ITEM # C333

MESH BELT LINE 3500 POUNDS/HOUR

Mesh Belt Line 3500 Pounds/Hour. Manufactured by Can-Eng this is a complete mesh belt furnace line which includes a “High Tech Loading” system built in 2001, gas fired high heat furnace, oil quench, post wash and gas fired temper. S/N 101970. High heat has Eclipse burners, a 42” wide belt and an operating temperature of 1750F. Line was used to process automotive fasteners and comes with a complete datalogging system and SSI oxygen probes. Furnace was operating until February 2018. Line is complete, in good operating condition and ready to go.

Very attractively priced; please contact us for complete details and pricing.

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.**

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**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


Asking Price $15,000 USD

ITEM # C328

CI HAYES ATMOSPHERE BELT FURNACE

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

Asking Price $15,000 USD
ITEM # C327

ROGERS ENGINEERING CONTINUOUS BRAZING FURNACE

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

**Asking $250,000 USD.**

ITEM # C325

SINTERITE MESH BELT CONVEYOR FURNACE

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

**Asking $70,000.00 USD or best offer.**
ITEM # C324

C.I. HAYES MESH BELT FURNACE


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, 1850°F operating temperature, gas fired 800,000 BTU’s/hour with an 18” wide tray. Temper has an operating temperature of 800°F 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.**

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**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 KW2440/3/60, 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)


Asking $225,000 USD.
ITEM # C308

AFC MESH BELT HARDENING FURNACE


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 1700ºC, 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.**

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**ITEM # C283**

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


**Asking price: $29,000 USD.**
ITEM # C269

CI HAYES MESH BELT FURNACE

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

Asking $39,000 USD.

ITEM # C265

SUNBEAM PUSHER CARBURIZER

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

Asking $40,000 USD.
ITEM # C219

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

ABBOTT MODEL 6ZSCR-18-432HH6-VC-2150. 18” wide belt, 3”+ opening over the belt, 432” heating chamber (silicon carbide muffles), six zones, 36” long vari-cool with 162” of additional cooling including two curtain boxes. 2150 deg.F. max temp., piped for dissociated ammonia atmosphere and nitrogen purge, 335 kw @ 480/3/60, Honeywell UMO 800 controller/programmer, OAD: 84” w x 90” h x 720” l. Currently used for annealing knife blades but with a little effort a metallic muffle in the front half of the heating chamber could be added for debinding and sintering of PM parts.

**Asking price: $77,000 USD / OBO.**
DRAW/TEMPER FOR SALE

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.

Quick Jump To Items:

- Item # T350 Sunbeam Mesh Belt Temper
- Item # T349 Recirculating Box Type Draw Furnace
- Item # T346 Despatch Oven 72” X 48” X 48”
- 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 Safe/Borel Annealing Furnace
- Item # T339 Box Tempering Oven
- Item # T336 Mesh Belt Temper Furnace 48” Wide
- Item # T335 Batch Oven 37”H X 37”W X 25”D
- Item # T325 3-Station Despatch Temper Furnace
- Item # T321 Grieve Conveyor Oven
- Item # T320 Pifco Conveyor Oven
- Item # T318 Temper 48” W X 48” D X 36” H
- Item # T303 Pifco Temper Furnace
- Item # T290 Tempering Ovens 36” X 48” X 36” (2 available)
- Item # T286 Tempering Ovens 36” X 48” X 36” (2 available)
ITEM # T350

SUNBEAM MESH BELT TEMPER


Asking Price: $35,000.00

ITEM # T349

RECIRCULATING BOX TYPE DRAW FURNACE


Asking Price: $39,500.00
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 # T343

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

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

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

**Asking $49,900.00 USD.**

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**ITEM # T342**

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


**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


*Asking price is $55,000 USD.*

ITEM # T336

**Mesh Belt Temper Furnace 48" Wide**


*Asking $29,500 USD.*
ITEM # T335

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

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

Asking $8,000.00 USD.

ITEM # T325

STATION DESPATCH TEMPER FURNACE

3-Station Despatch Temper Furnace. Manufactured in 1980 by Despatch Industries, Inc. 3 Independently loaded and operated furnace stations with shared panel. Tops elevate off bases for loading and unloading. Work Zone: 22”W x 40”L x 25”H Each. Hearth Height: Estimated at 36-40” (Can measure for you). Max. Temperature: 850ºF with a Uniformity of +/- 25ºF (Center area of 12”W x 20”L x 10”H meets +/-10ºF). 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.**

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**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 # HNFNC-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.

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.**

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**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 60Hzx. Water 80 deg. F maximum @ 20PSI. Compressed air 60PSIG minimum. Adequate drain for water. Good condition.

**Asking Price: $38,000 USD.**
ITEM # T290

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

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

Please call for pricing.

ITEM # T286

LINDBERG BOX TEMPER


Asking Price: $65,000 USD
GENERATORS FOR SALE

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Quick Jump To Items:
- Item # G202 Surface 3600 Endo Generator
- 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 # G202

SURFACE 3600 ENDO GENERATOR

Surface 3600 Endo Generator. Manufactured by Surface Combustion this endothermic generator has an output of 3600 CFH. Gas fired it has 3 retorts, has been completely rebuilt and has a brand new SBS “Endotherm” gas cooler and new SSI controls.

Asking $10,000 USD or best offer.
ITEM # G201

AMMONIA DISSOCIATOR 250 SCFH


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 ENDOOTHERMIC GENERATOR


Asking $22,500.00 USD.

ITEM # G197

AMMONIA DISSOCIATOR


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 1759°F. 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


Asking $75,000 USD.

ITEM # G173

LINDBERG ENDO GENERATOR

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

Asking $17,500.00 USD.
ITEM # G169

GASBARRE/SINTERITE FURNACE DIVISION ENDO GENERATOR

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

**Asking $29,500.00 USD.**
INDUCTION FOR SALE

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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 # 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

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

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 # 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

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.

Quick Jump To Items:
- Item # L8 Clark Micro Hardness Tester
- Item # L7 Leco Micro Hardness Tester
- Item # L3 Laser Diffraction Particle Size Analyzer
- Item # L1 Detroit Testing Brinell Hardness Tester

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ITEM #L8

CLARK MICRO HARDNESS TESTER

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

Asking $6,500.00 USD.
ITEM #L7

LECO MICRO HARDNESS TESTER

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

Asking $7,000.00 USD.

ITEM #L3

LASER DIFFRACTION PARTICLE SIZE ANALYZER

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

Asking $20,000 for complete system.
ITEM # L1

SPECTRA-TECH 0044-003 INFRARED MICROSCOPE

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

$6,500.00 USD.
MISCELLANEOUS FOR SALE

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

Contact Us

Quick Jump To Items:

Item #M413 Gleason Press Quench Units (2 available)
Item #M412 Atmosphere Engineering “Endoinjector”
Item #M411 SBS Quench Oil Coolers (2 available)
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 #M413

GLEASON PRESS QUENCH UNITS (2 AVAILABLE)

Gleason Press Quench Units (2 available). Available are two Gleason press quenching units Model 529. Maximum diameter of parts 10 ½", maximum height 4”. Total pressure 49,500 pounds. Floor space required 73.5” X 130”, height 90”. Net weight 8,500 pounds.

Units are complete and ready to go. Best offer.

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ITEM #M412

ATMOSPHERE ENGINEERING "ENDOINJECTOR"


Asking $6,500.00 USD.
ITEM #M411

SBS QUENCH OIL COOLERS (2 AVAILABLE)

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

Asking $13,500.00 USD Each.

ITEM #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


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.


$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.
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 Airs (2 available).** Manufactured by SBS Corp., these are air/oil quench oil coolers. Each is a 3 fan unit with disconnect and 480 volt. Suitable for a large continuous line. Installed indoors. Very good condition.

**Asking $12,500 USD each.** Must be removed within the next few months All Offers Considered.

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 10’6”H 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


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”


Asking $5,500.00 USD.
ITEM #M341

AFC CHARGE CAR


Asking $28,500.00 USD.

ITEM #M334

BERG WATER CHILLER

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

Asking $5,500.00.
ITEM #M314

HOLCROFT DUNK/SPRAY WASHER

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

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

Contact Us

Quick Jump To Items:

Item # VF335 ALD Vacuum Carburizing Furnace
Item # VF334 Degussa Vacuum Hardening Furnace
Item # VF333 Low Temperature Vacuum Tempering Furnace
Item # VF332 IVA Vacuum Furnace 6 Bar
Item # VF331 High Temperature Vacuum Furnace 2300 °
Item # VF330 Surface 2-Bar Quench Vacuum Furnace
Item # VF329 Abar Ipsen HR46 X 72
Item # VF328 Abar Ipsen Model HS-26 Vacuum Furnace
Item # VF327 Surface Combustion Vacuum Temper Furnace
Item # VF326 Ipsen 924 Vacuum Furnace
Item # VF323 150 Ton Vacuum Hot Press (2 Available)
Item # VF322 Vacuum Sintering Furnace, 2,000 C
Item # VF321 Ipsen Vacuum Furnace
Item # VF320 High Temperature Vacuum Furnace
Item # VF319 Vacuum Induction Melting System
Item # VF317 Twin High Temperature Vacuum HT Sintering Furnaces
Item # VF316 AVS Vacuum Furnace 24” x 24” x 48”
Item # VF315 AVS Vacuum Furnace (Rebuilt)
Item # VF314 Ipsen Bottom Load Furnace 60” x 96”
Item # VF313 Top Loading Vacuum Furnaces 2100 C
Item # VF312 Vacuum Furnace 2400 C
Item # VF307 Bottom Loading Vacuum Furnace 48” x 60”
Item # VF301 Vac Aero 2 Bar Vacuum Furnace
Item # VF299 Sunbeam Vacuum Furnace 36” x 120”
Item # VF294 Vacuum Annealing Furnace 8” x 90”
Item # VF289 Ipsen Vacuum Temper 12” x 16” x 24”
Item # VF282 AVS Vacuum Debinding/Sintering Furnace
Item # VF271 Sintering/De-Wax Furnace 1400 C
Item # VF267 Semi-Continuous Titanium Diffusion Bonding Hot Press
Item # VF266 Kinney 75 CFM Vacuum Pump
Item # VF243 35” Diffusion Pump
Item # VF242 35” Diffusion Pump

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**ITEM # VF335**

**ALD VACUUM CARBURIZING FURNACE**


**Price: FOT/Germany : 75.000. Euro**

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**ITEM # VF334**

**DEGUSSA VACUUM HARDENING FURNACE**

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

**Price : FOT / Germany Euro 60.000**

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**ITEM # VF333**

**LOW TEMPERATURE VACUUM TEMPERING FURNACE**

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

**Price : FOT/Germany Euro 28.000**

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**ITEM # VF332**

**IVA VACUUM FURNACE 6 BAR**


**Price : FOT/Germany Euro 35.000.**
ITEM # VF331

HIGH TEMPERATURE VACUUM FURNACE 2300

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

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

**Asking $19,950.00 USD**
ITEM # VF330

SURFACE 2-BAR QUENCH VACUUM FURNACE


**Asking Price:** $119,000

ITEM # VF329

**Abar Ipsen HR46 X 72**


**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


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: 2000°C / 3632°F (Optional 2200°C / 3992°F operation available)
- Power Requirements: 480 volts, 60 hertz, 3 phase (Optional 380 volt, 50 hertz operation available)
- Hot Zone Dimensions: 16” high x 19” wide x 20” deep element-to-element (41cm x 48cm x 51cm)
External Dimensions: • 99” high x 82” wide x 74” deep (251cm x 208cm x 188cm)

Atmosphere: • High vacuum, rough vacuum, partial pressure, and atmosphere operation

Features: • Standard one-year warranty. • This is a compact, packaged, and assembled unit. • Graphite hot zone and four-sided graphite heating elements for optimum uniformity. • Upper ram is moveable with 6” stroke. Bottom ram is fixed. • 16.3” daylight between rams (41.4cm) • Fully automatic operation with PLC programmer/controller with alphanumeric display to indicate hot press processing cycles. • Programmable closed-loop temperature/pressure control. This system will consist of a Yokogawa UP750 two-loop programmable temperature/pressure controller with 300 programs and 3,000 segments. The UP750 will control the temperature and the pressure on the hydraulic ram on the same timeline. • Mechanical vacuum pump.

Asking $450,000 USD Each

ITEM # VF322

VACUUM SINTERING FURNACE, 2,000°C

Vacuum Sintering Furnace, 2,000°C. Horizontal Vacuum Sintering Furnace System for processing graphite and ceramics. Manufactured by AVS, Model HGF-22-21-62-2000. Work zone is 22” wide x 21” high x 62” deep. 12 cubic feet, maximum load of 350 kgs. Temperature: 2000 °C maximum operating temperature. Temperatures above 1700 °C require partial pressure or positive pressure. Maximum heat rate is 10 °C/min ramp rate for room temperature to 1600 °C, ± 10 °C uniformity @ up to 1600 °C in vacuum. Rotary piston roughing pump. Evacuates chamber to 20 micron in 10-15 minutes, empty (5 X 10⁻³ Torr Ultimate vacuum) 5 μ/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.*

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**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
- 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 1565°C, maximum temperature of 2000°C. 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.**

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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.**

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**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


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

ITEM # VF315

AVS VACUUM FURNACE (REBUILT)

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

**Asking $195,000 USD.**

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**ITEM # VF314**

**IPSEN BOTTOM LOAD VACUUM FURNACE**


**Asking Price: $325,000 USD.**

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**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 2100°C. 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

2400°C VACUUM FURNACE

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

Asking $149,000 USD.
ITEM # VF307

BOTTOM LOADING VACUUM FURNACE


Please call for pricing.

ITEM # VF301

VAC AERO 2 BAR VACUUM FURNACE


**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 in 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 X 10-6 Torr. Maximum vacuum level to operate in continuous duty is 5 X 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


Asking Price: $10,000 USD

ITEM # VF289

IPSEN VACUUM TEMPER FURNACE

Ipsen Vacuum Temper Furnace. Built in 1981. Working dimensions of 280 mm high X 420 mm wide X 590 mm deep (11” X 16.5” X 23.2”). Maximum load 100kg (220 pounds). Minimum operating temperature 150C, maximum operating temperature 700C. Input power 94 KVA, heating 71Kw, 575 volts, 60Hz. Type K T/C’s, Honeywell controls. Vacuum contact point 1.0 X 10-1 mbar, operating pressure 1000 mbar. Maximum vacuum level 5.0 X 10-2 mbar. Circulated nitrogen atmosphere gas. Elements Cr-Ni Steel. Stokes model 149H vacuum pump. SS hot zone. Class 3 furnace with a temperature uniformity of +- 8C. Used in an aerospace heat treat facility until it was replaced with a new furnace. Complete although missing the temperature recorder. Included are a manual loader and 3 baskets. Excellent condition.
ITEM # VF282

AVS VACUUM DEBINDING/SINTERING FURNACE

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

Asking Price: $169,000 USD.
ITEM # VF271

SINTERING / DE-WAXING FURNACE

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

Asking Price: $299,000 USD.

ITEM # VF267

SEMI-CONTINUOUS TITANIUM DIFFUSION BONDING HOT PRESS

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

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

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

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

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

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

As is $890,000.00 USD

ITEM # VF266

KINNEY 75 CFM VACUUM PUMP


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
• Investment cast only
• Fast Delivery for in-stock trays¹
• Surface Combustion Allcase Tray
• UBQ Furnace Tray
• Site-specific custom trays
• Based on existing castings
• No setup or pattern fees²
• Industrial alloy grades available
• HU, HT, Super NA22H, ...

Please send your enquiries to:

Jordan Montgomery
jordan@themonty.com
905-271-0033

¹While supplies last
²Applies to standard design trays only. Some restrictions apply.

©Heat Treat Central
Moly

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

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

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

**AFC-Holcroft 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 # 0356 Heat Treat Machinery Maintenance Leader
Item # 0355 Heat Treat Quality Engineer
Item # 0354 Seeking Plant Metallurgist
Item # 0353 Plant Manager
Item # 0352 Senior Applications Engineer
Item # 0351 Technical Sales Associate
Item # 0349 General Manager of Commercial Heat Treating Business
Item # 0348 Senior Account Manager
Item # 0347 Product Manager, Tech and Marketing
Item # 0346 Division Manager-OES (OEM)
Item # 0345 Multiple Positions Available
Item # 0344 Independent Board Member
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 # O356
HEAT TREAT MACHINERY MAINTENANCE LEADER

Heat Treat Machinery Maintenance Leader

LEAD A MAINTENANCE TEAM IN OUR HEAT TREAT DIVISION! Are you a confident, independent decision maker that has a sense of urgency in getting tasks completed? Do you have initiative, the ability to make decisions and take responsibility for them? THEN COME LEAD OUR TEAM!

GENERAL: Responsible for all machinery maintenance duties as assigned in heat treat, mechanical, electrical, hydraulic and pneumatic systems in complex equipment.

MINIMUM QUALIFICATIONS (Knowledge, Skills, Abilities): Must have high school diploma or equivalent. Must have extensive formal technical education and training. Must demonstrate proficient performance of all Class B and C Heat Treat Machine Maintenance essential duties.

ESSENTIAL DUTIES:
1. Maintain all heat treat machinery and furnaces, and keep equipment in good operating condition with minimal supervision.
2. Assist in all phases of the installation of new equipment.
3. Effectively troubleshoot heat treat machinery and furnace performance problems, plan repair methods and time required, and order replacement parts and material.
4. Schedule heat treat servicing, and maintain system records.
5. Wear personal protective equipment and follow safety instructions as required.
6. Perform other duties as assigned.

APPLY TODAY through our website www.modernind.com by clicking on Employment, or by mail to:
Modern Industries, Inc.
613 West 11th Street
Erie, PA 16501

ITEM # O355
HEAT TREAT QUALITY ENGINEER

Heat Treat Quality Engineer

LOOKING FOR A CAREER OPPORTUNITY? Are you a self-starter who schedules their time effectively, working closely and accurately within established guidelines? Does a fast paced environment, using your analytical and technical abilities to produce carefully thought-out results sound interesting? JOIN OUR TEAM!

BENEFITS:

In addition to a competitive salary, we offer one of the best health care plans in the area that includes medical, dental and vision insurance. We also offer long term disability, life insurance, 401(k) with company match, 11 paid holidays, paid vacation, tuition reimbursement and more.
**ESSENTIAL DUTIES:**

1. Lead process development projects and new product introduction projects to on-time completion.
2. Lead the PPAP development and approval process.
3. Resolve product quality issues with customers in a timely manner.
4. Insure accuracy and completeness of furnace system accuracy tests and furnace temperature uniformity surveys.
5. Act as the divisional Quality Systems assessor and lead auditor in our IATF 16949 and NADCAP accredited division.
6. Accompany customer and third party audits, and follow-up to ensure all required corrective actions are implemented and communicated to the auditing party.
7. Perform other duties as assigned.

**MINIMUM QUALIFICATIONS (Knowledge, Skills, Abilities):**

Must have a Bachelor's degree in a technical discipline, with material science or engineering strongly preferred. Two years job related experience as a quality professional or project manager strongly preferred. Must be proficient with current computer software.

APPLY TODAY through our website www.modernind.com by clicking on Employment, or by mail to:
Modern Industries, Inc.
613 West 11th Street
Erie, PA 16501

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**ITEM # 0354 SEEKING PLANT METALLURGIST**

**Seeking Plant Metallurgist.** Summary: We are a vacuum heat treating company located in North Central Indiana specializing in processing of medical and aerospace products and materials.

**Responsibilities:**
1) Brazing and heat treating process development and troubleshooting
2) Metallurgical lab management

**Requirements:**
1) Degree in metallurgy or materials science
2) Knowledge of vacuum heat treating and brazing of stainless steels, titanium alloys, and heat resisting alloys
3) Knowledge of metallographic lab techniques
4) Ability to work with U.S. government controlled documents

Competitive compensation based on skills and experience. This full-time position offers medical, dental, vision, and life insurance along with company matched IRA. Please submit résumé to resume@appliedthermaltechnologies.com
ITEM # O353
PLANT MANAGER

Brad Foote Gearing, a division of Broadwind Energy, is searching for a Plant Manager to join our team in Pittsburgh, PA. The Plant Manager will have oversight for all production personnel at a particular location. This position will be responsible for training, leading and teaching the hourly workforce as well as the supervisors that report to this position.

RESPONSIBILITIES AND ESSENTIAL FUNCTIONS
• Ensure shop personnel are properly trained
• Ensure process control throughout all stages of production
• Implement corrective actions to eliminate incidents of nonconformance
• Select and hire qualified personnel to meet production requirements
• Schedule working hours and number of shifts to meet production requirements
• Interact with peers and maintain good working relationships
• Properly and efficiently man area of responsibility, coordinating head count requirements through Industrial Relations, in order to meet production requirements on a timely basis
• Continually train and upgrade work force
• Maintain equipment such that parts can be accurately manufactured in an efficient manner
• Initiate and monitor in-plant training
• Ensure that perishable tooling is replaced as required to meet customer demand
• To ensure that all products of Brad Foote Gear are manufactured within the parameters established by our ISO 9001 quality guidelines

QUALIFICATIONS
Academic/Experience/Credentials/Certifications
• Undergraduate technical degree or equivalent work experience
• Preferred at least 1 years operating various metal working machine tools and related support equipment
• Preferred at least 5 years of supervisory experience as first line manager

Specialized Skills/Knowledge/Ability
• Sound knowledge of gear generating methods of manufacture

Brad Foote Gearing is proud to be an Equal Opportunity Employer. To learn more, please visit our website at www.bwen.com. Please send resumes to: Rocio.Guzman@bwen.com.

ITEM # O352
SENIOR APPLICATIONS ENGINEER

Job Title: Senior Applications Engineer. Worldwide supplier of industrial furnace equipment located in the Great Lakes region (USA) is seeking an experienced Senior Applications Engineer to become a part of our team. Responsibilities:

• Size Continuous and Batch Heat Treating Furnace systems and companion equipment
• Estimate mechanical, electrical and programming, and process engineering design hours.
• Estimate steel fabrication labor and materials required for manufacturing and assembly
• Estimate heat resistant alloy components for high temperature applications
• Estimate refractory labor and materials for thermal insulation systems
• Estimate convection heating and recirculation systems for heating and process uniformity
• Estimate gas and electric heating and cooling systems, sizing components and assembly labor
• Estimate conveyors and mechanical drive systems and assembly labor hours
• Estimate process control systems for automation, temperature, combustion, atmosphere, electrical, pneumatic and hydraulic control systems with control panels and assembly labor
• Prepare proposal documents and drawings for sales and customer
• Prepare monthly sales reports
• Process order entries into computer database to establish budgets
• Report estimated cost to actual cost to manufacture and maintain standard equipment pricing

Experience:
• 4 year degree and/or 5 years of heat treating work experience preferred.

Compensation includes a full benefits package, competitive wages and bonus package. Send letter of interest/resume/CV to: jobresume@mindspring.com

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ITEM # O351
TECHNICAL SALE ASSOCIATE

Major manufacturer of industrial heat treating equipment, located in the Great Lakes area (USA), is interested in candidates for long-term career opportunities in the capital equipment sector. Currently seeking candidates for the following:

Technical Sales – We are seeking a Technical Sales Associate to become a part of our team to answer queries, provide pre-and post-sales technical advice and support our products.

Responsibilities:
• Provide support to the Sales and Application Engineering Group as well as to advance the development of new technology.
• Evaluate modular products with the group.
• Manage the transfer of technical information to our international licensees.
• Assist engineering and service with technical problems.
• Identify and establish new business
• Organize sales visits
• Connect with existing customers
• Prepare proposals and quotations
• Negotiate contracts, terms and conditions
• Review cost and sales performance
• Provide product education and advice
• Attend trade exhibitions, conferences and meetings
• Ensure that sales targets are met
• Conform to all policies & procedures within the company.
• Travel domestically and internationally as required to support new equipment sales
• Interface with Sales Reps and Partners as required.
• Perform additional duties as assigned.

**Qualifications:**
• Engineering degree BSME, thermal minor preferred or comparable experience in industrial capital equipment sales
• Ability to read and interpret blueprints
• Strong computer skills
• Strong problem solving and critical thinking skills.

Compensation includes a full benefits package, competitive wages and bonus package. Send letter of interest/resume/CV to: jobresume@mindspring.com

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ITEM # 0349
GENERAL MANAGER OF COMMERCIAL HEAT TREATING BUSINESS

**General Manager of Commercial Heat Treating Business.** Job Description:

– Full responsibility and authority for the successful operation of all functions of the business.
– Fluent in: heat treating, quality, developing and motivating people, safety / environmental, equipment, developing / executing strategic plans, managing P&L / Cash Flow, customer relations and concise report writing.
– Report to President (senior officer)
– Support from group engineer, accountant, finance, legal and Board of Directors

This is an opportunity to be as close to your own boss as you can get without taking the personal risk of starting your own company. Salary / Bonuses / Stock Options / Benefits commensurate with the position and performance.

Please submit resume to be considered for interview. Hubbardj1@aol.com

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ITEM # 0348
SENIOR ACCOUNT MANAGER

**Job Title: Senior Account Manager.** Location: Detroit, MI. Reports to: Division Manager. **Position Summary:** Responsible for establishing, maintaining and expanding assigned National accounts, coordinating marketing, building customer relations through mutually rewarding partnership and assisting with the expansion of new product introductions. Requires proven sales success and strong leadership capability ty.
**Essential Functions/Examples of Duties:**

1. Accomplishes or exceeds sales goals by creating action plans to support division market strategy as directed by the Sr. Division Manager.

2. Help manage a national sales force of NARs (National Account Representatives)

3. Manages pricing as directed by the Pricing and Planning Division

4. Current sales responsibility of over 20MM

5. Forecasting, addressing customers concerns and needs with a sense of urgency and ownership.

6. Identifies potential new product lines or marketing opportunities.

7. Develop, communicate and implement customer forecasts to management

8. Communicate market trends, new developments and competitive situations to management

9. Support new product and marketing launches and Initiatives

10. Identify and capitalize on KPI’s, strategic planning, goal setting and attainment as they pertain to obtaining new business opportunities.

11. Development of a strong customer relationship using a consultative selling approach

12. Achieves a high level of customer development with an emphasis on partnership building. Works with customer to create partnerships that are mutually rewarding.

13. Coordinates associate resources (team) for business developments/promotions as required to meet sales goal under the direction of Sr. Division Manager.

14. Generates program proposals and action plans based on marketing strategy.

15. Communicates product changes to the customer as required.

16. Supports the collection of past due customer accounts.

17. Supports Technical & Marketing team’s market research. Supports the development of new strategies to expand the business as well as brand image/awareness.

18. Reports activities, problems, and results to Sr. Division Manager and appropriate Technical & Marketing Chief Engineer/Product Manager following company policies and procedures.

19. Maintains current customer/industry knowledge through educational opportunities such as; training, professional publications, industry events and networking.
20. May supervise Account Representatives as assigned including training, developing work goals, coaching and reviewing performance. Leads and directs subordinates to high level of customer development with an emphasis on partnership building.

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:** 3-5 years Account Management experience
- **Product Specific:** Automotive Lubricant background preferred. Knowledge of and experience with the automotive industry a HUGE plus especially genuine oil programs
- **Special Skills:** Sales Planning Project Management Product Development, Price Strategy and Analysis
- Supply Chain Management and Logistics, Outstanding communication skills including presentations and public speaking. Strong computer skills including Microsoft Office and Dynamics CRM. Proven sales success and strong leadership skills.

**Additional Information:** Travel Required: 40% – 60%. Please send resume’s to: awilkerson@ilacorp.com

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**ITEM # 0347**

**PRODUCT MANAGER, TECH AND MARKETING**

**Job Title:** Product Manager, Tech and Marketing. **Location:** Detroit Office (Southfield, MI). Reports to: Chief Engineer

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

**Essential Functions/Examples of Duties:**
1) Manage the product line from strategic planning to tactical activities. Working closely with all divisions, supports the development of marketing strategy including; finding new markets for current products, developing new products to meet market needs and setting strategies to improve profit margins.
2) Manages aftermarket datasets in ACES and PIES format as well as retail ERP date such as EPICOR.
3) Specify market requirements for current and future products by conducting market research supported by on-going visits to customers and non-customers
4) Drive a solution set across development teams (primarily Development/Engineering, and Marketing Communications) through market requirements, product contract, and
positioning.
5) Supports Tech & Marketing team to coordinate label/artwork development and closely work with cross functional team and challenge them to ensure on time delivery.
6) Support Cross Sell. Gain approvals and support selling current products to additional MLA sales markets. (IE. OEM to Aftermarket, Passenger Car to Heavy Duty market, etc.).
7) Conduct product training for Customers and Idemitsu associates
8) Communicate information about new technologies, product developments and industry requirements to customers and appropriate associates within Idemitsu and its global affiliates
9) Communicate customer information to appropriate coworkers within Idemitsu and its global affiliates following company policies and procedures.
10) Help to develop product specification sheets and marketing literature using graphics packages such as InDesign or Adobe Photoshop Suite.
11) Maintains professional and technical knowledge by attending educational workshops; reviewing professional publications; establishing personal networks; participating in professional societies.
12) May supervise subordinates job results by leading, coaching and disciplining employees; planning, monitoring, and appraising job results.

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

**Minimum Requirements:**
**Education:** BS/BA. Technical Bachelor's degree preferred (Mechanical/Chemical Engineering, Chemistry, Marketing).
**Experience:** Minimum 5-8 years of appropriate lubricant and or related industry experience as well as a minimum of 3 to 5 years proven product management, project management or sales experience.
**Product Specific:** Must have experience with automotive lubricants and an understanding of the development of these products. Understanding of North American AMO market, experience and familiarity with managing datasets in ACES and PIES format is necessary. Experience with retail ERPs like, EPICOR is highly preferred. Experience with InDesign or Adobe Photoshop preferred.

Special Skills: Strategic Planning, Market research, Marketing, Product Development, Proven sales success, Project Management, Outstanding communication skills including presentations and public speaking. Strong computer skills including Microsoft Office and Dynamics CRM. Must be able to research new markets and help develop new business strategies; work in both a team and independent environment

**Additional Information:** Travel required, 40 to 60%. Please send resume’s to: awilkerson@ilacorp.com
ITEM # 0346  
DIVISION MANAGER-OES (OEM)

**Job Title: Division Manager-OES (OEM)**. Location: Southfield, MI. Reports to: Vice President, Sales/Director, Sales. Division: OEM. Position Summary: Develops action plan to support Division market strategies. Meets or exceeds Division sales targets by implementing sales plans, coaching and monitoring sales associates.

**Essential Functions/Examples of Duties:**
1. Works with VP/Director of Sales and Technical & Marketing team to establish sales objectives by forecasting and developing annual sales quotas for regions and territories; projects expected sales volume and profit for existing and new products.
2. Works with Technical & Marketing Division to develop market strategies for assigned projects.
3. Determines annual volume target approach, by building action plans based on marketing strategies.
4. Prepares and executes detailed field sales plans targeting division market strategy.
5. Provides regular status updates (activities, problems, results) to the Director.
6. Maintains sales volume and product mix by keeping current with supply and demand, changing trends, economic indicators, and competitors.
7. Develops strategies that will strengthen customer relationships by supporting customer objectives.
8. Prepares Division reports and presentations.
9. Creates and controls Division budget.
10. Maintains division sales staff by participating in the recruiting, selection, orientation and training of sales associates.
11. Completes division sales operational requirements by scheduling and assigning employees; following up on work results.
12. Maintains division sales associate job results by leading, coaching and disciplining employees; planning, monitoring, and appraising job results.
13. Maintains professional and technical knowledge by attending educational workshops; reviewing professional publications; establishing personal networks; participating in professional societies.

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 (engineering, chemistry) Experience: Min. 5 years Sales Management + 5 years account representation in lubrication oil sales. Knowledge of local market, customer and vendor communities. Proven ability to lead, coach and inspire team to achieve.

**Product Specific:** Automotive and/or Industrial Lubricant/Chemical background preferred. Knowledge of and experience with the automotive or manufacturing industry a HUGE plus.
Special Skills: Sales Planning, Project Management, Product Development, Price Strategy and Analysis, Supply Chain Management and Logistics, Outstanding communication skills including presentations and public speaking, Strong computer skills including Microsoft Office and Dynamics CRM, Proven sales success.

Additional Information: Travel Required: 40% – 60%. Please send resume’s to: awilkerson@ilacorp.com

ITEM # 0345
MULTIPLE POSITIONS AVAILABLE

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

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

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

ITEM # 0344
INDEPENDENT BOARD MEMBER

Independent Board Member: Board Member: Privately held, Midwest based, heat treat company desires to retain an independent Board member with significant leadership experience in the heat treat industry. Candidates must be able to evaluate and provide insight on the operations, business model, growth and operational strategies, underlying business assumptions, operating performance metrics and executive leadership of the company. Board members must attend 4 – 5 Board meetings a year, as well as participate in telephonic meetings as needed should key strategic decisions be required between in person meetings. Weekly operational and financial information, including key performance indicators, distributed by management are expected to be timely reviewed and analyzed.

Experience: Fifteen years minimum experience in the C-Suite of a heat treat company, with demonstrated knowledge of equipment lines and processes. Former director experience a plus.
ITEM # O343
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 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 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 feedback to facilitate the development of new products.
• Develop and maintain a network of customer relations that can be leveraged to generate new business opportunities.
• Establish and maintain effective communication with all internal departments and clients.
• Maintain current and accurate customer records in the company’s database.
• Establish and maintain effective communication with all internal departments and clients.
• Maintain current and accurate customer records in the company’s database.

If you want to further explore this opportunity, please send your resume to heatreatdirectorposition@gmail.com.

Compensation: D&O liability insurance, competitive compensation and expense reimbursement (including all required travel) are provided.
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 # O342
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 # O341
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 # O340
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 # O339  
WELDER / ASSEMBLER

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

Responsibilities/Duties:

- Read, understand and follow engineering prints, shop orders, and standard work documents to accomplish the assembly, rebuild, and plumbing of machines.
- Knowledge and skills to assemble units and complete tools to design specifications
- Able to work with other personnel and customers in a professional manner
- Rework, repair, and rebuild any used or existing tooling to be remanufactured
- Able to fit product to tooling to achieve repeatability and dimensional quality
- Travel up to 50%
- Perform all other duties, as assigned

Job Skill Requirements:

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

Educational Requirements:

- High School Diploma or GED

Physical Requirements:

- Standing

We are proud to offer a work environment where people can do their best. We offer an excellent compensation package including a competitive base salary, comprehensive
health, life, dental and disability insurance. Equal Opportunity Employer
Minorities/Females/Veterans/Disabled Welcome.
NOTE: **Reasonable relocation assistance is open for discussion.
SHarrod@diabofurnaces.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 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 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