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INTRODUCTION

The May 2018 issue of “**The Monty**” reflects the fact that the worldwide heat treating industry is a very healthy industry these days. As a matter of fact out of all of our news items for this month there is really only one which hits a rather depressing note and this is one which is not new, namely how the promise of a new large market for heat treating of wind energy components never materialized. Read all the details in this issue.

As always we look forward to your thoughts and comments.

Warmest regards,
Gord, Dale and Jordan Montgomery

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HEAT TREAT NEWS

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Wind Energy-Another One Bites the Dust

April 13 of this year we had the news item below about how the wind energy industry never proved to be the gold mine for the heat treating industry that many had expected. At the time we mentioned the most recent casualty, a gear manufacturer in the US Midwest but we did not provide a name. The company we alluded to was **Brevini Wind** and these photos show the installation. We also include the original press release from when the furnace order was placed (again below). **May 1, 2018**



“Around about 2010 suppliers of components for the wind turbine industry in North America were poised for the good times. Companies such as ZF, GE, Gleason, Dokka Fasteners, Vancouver Gear and a host of others were investing heavily in their manufacturing facilities in the never doubted belief that the good times were at hand. There was no doubt but that wind energy was the way of the future and this would of course lead to furnace builders being deluged with orders for furnaces to heat treat wind turbine components such as gears, bearings and fasteners. And of course these were not just any furnaces but top end units designed for deep case carburizing with state of the art controls. Dokka Fasteners built a large plant in Michigan just for heat treating bolts for windmills, ZF invested heavily in a plant in Georgia to make gears for windmills, Aichelin installed a really top notch pit furnace installation in the US Midwest just for gears, Gleason Works in NY was on the verge of a substantial investment in batch IQ furnaces for windmill parts, Vancouver Gear bet heavily on wind energy and a host of other companies also invested, all in the certainty that the good

times were close at hand. Except of course the good times never happened. Which brings us to the latest casualty another gear manufacturer in the US Midwest who has also closed their plant recently and dumped the really nice heat treat equipment on the used market. While we



can't share the name with you yet this photo shows a portion of the department and specifically the base trays for the furnaces. More to come. **April 13, 2018**"

"August 2010 News Item; AFC-Holcroft Supplies Equipment to Process Wind Energy Gearboxes for Wind Energy Company Brevini. AFC-Holcroft is pleased to announce the receipt of a new furnace order for a sealed quench furnace line that will be used to process specialized components utilized in the wind energy market. The furnace line is based on AFC-Holcrofts standard, modular UBQ (Universal Batch Quench) family of products, but was modified to optimize its efficiency for the mix of products required by this customer. Brevini Wind, headquartered in Italy, is expanding their facility in Indiana, USA where the equipment will be installed. AFC-Holcroft is

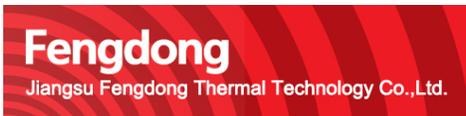
pleased to be part of the premium Brevini supplier base as they expand their business units around the world."

Fengdong Furnaces

We are pleased to mention our newest advertiser Fengdong Furnaces of China. Fengdong is the largest new furnace builder in the country and one of the largest in the world, their ad can be found on the top right of this page. Fengdong has the experience and capability to supply most types of furnaces including Atmosphere, Batch, Continuous and Vacuum. **May 1, 2018**



Zhu Wenming, Chairman of Fengdong, Gord Montgomery



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Medical Tools Manufacturer Selects SECO/WARWICK

Recently a UK company installed a SECO WARWICK vacuum furnace for medical tools. **May 1, 2018**

“In the last quarter of 2017, a UK company installed a 6 Bar vacuum furnace for the production of medical tools, e.g. bypass. The complete heat treatment cell enables the operator to automatically heat and cool in a single closed loop system. The gas quenching system provides efficient cooling with an absolute minimum of part distortion – a critical benefit for precision components where errors are not an option.”



The “Lost” Incan City of Machu Picchu, Peru

We at “The Monty” are veering dangerously away from our oft repeated goal of reporting only on items having to do with the worldwide heat treating industry but we couldn’t resist on this one. During an ongoing trip to visit a furnace manufacturer in Columbia, South America and commercial heat treaters in Columbia and Peru we took a side trip to the “lost” Incan city of Machu Picchu in Peru. In spite of the fact that there is no heat treating in the area Machu Picchu is still quite a sight. In the one photo below Dale and Gord Montgomery of “The Monty” can be seen. **April 30, 2018**



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. **April 30, 2018**

Item # T353 Williams Temper Furnace

Item # T352 Wisconsin Oven

Item # B448 Tip Up Furnaces (3 Available)

Item # B447 Surface Combustion Batch IQ Furnace

Item # B446 Surface Combustion "Super 30" Batch IQ Furnace

Item # M416 Wheelabrator 6' Diameter

Item # M415 Surface Combustion Parts Washer



Premier Furnace/BeaverMatic Expanding

From furnace builder Premier Furnace/Beavermatic in Farmington Hills, Michigan, USA we have this note about a 22,000 square foot expansion the company is adding. To go with this news item we went through our notes and found this press release from May of 2015 when Premier acquired the intellectual property assets of Beavermatic. **April 30, 2018**

"Premier Furnace/BeaverMatic is pleased to announce the start of construction of an expansion at their plant 1 facility in Farmington Hills, MI. This expansion will provide space for a state of the art testing and training facility, additional manufacturing capabilities, as

well as increased office space to allow Premier/BeaverMatic to accommodate business growth and customer needs.”



The additional 22,000-square foot space is expected to be completed by fall 2018

May 11, 2015 *“Premier Furnace Specialists Inc. of Farmington Hills, Mich., recently acquired the intellectual property assets of BeaverMatic Inc. of Rockford, Ill. Now with the purchase of the BeaverMatic IP, Premier Furnace will be able to greatly expand its product offerings and presence in the marketplace. Under the BeaverMatic name, Premier Furnace will continue to manufacture BeaverMatic’s line of I.Q. furnace systems, car bottoms, box furnaces, pit furnaces and tip-up furnaces. Premier Furnace will also continue to manufacture its line of pusher furnaces, roller-hearth furnaces, batch furnaces, brazing, sintering, annealing mesh-belt furnaces, pit furnaces, endothermic/exothermic generators and water systems.”*



Don't let **one part** keep you down



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. **April 30, 2018**

Item # 0357 Quality Control Manager

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

Ipsen Europe Record Month for Turbo²Treater



“With its versatility and efficiency, demand continues to grow for the reliable Turbo²Treater vacuum furnace. Ipsen Europe’s headquarters and manufacturing facility in Kleve, Germany sold 14 Turbo²Treaters in March – a new record for this platform product – with a total value of several million euros. Its customers include contract and industrial hardening shops in China, France, Germany, Israel and Sweden, as well as a company in the Additive Manufacturing (3-D printing) industry. This provides Ipsen with a direct connection to Industry 4.0.

Standard furnace with many possible applications; *The Turbo²Treater is part of Ipsen’s proven platform technology, which means it’s manufactured to the highest engineering and quality standards for optimized production processes. With the Turbo²Treater, customers receive a standard vacuum furnace that is high-quality, versatile and efficient, which is characterized above all by a high quenching speed and uniform cooling and heating capacity. The delivery time is usually just a few weeks. The Turbo²Treater is also used in the Aerospace, Automotive, Commercial Heat Treating, Medical, and Tooling industries. With its flexibility, the vacuum furnace can be adapted to a variety of materials, geometries and loads, and is suitable for heat treating a wide range of components, such as long, thin workpieces, multi-layer batches, tools, small punching dies, gear wheels, drills and saw blades. Due to its compact design, the Turbo²Treater can be installed easily and cost effectively.*www.ipsen.de **April 30, 2018**



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Most Difficult Heat Treat Position to Fill

Josh Hale of International Search Partners tell us what is the most difficult position in the heat treating industry to fill. **April 27, 2018**

“What is the most difficult position to hire for? We get asked this question a lot. Without a doubt our answer is always the same: Field Service Engineers.

The problem is, that by the nature of their work, Field Service Engineers are constantly on the road and largely unavailable to interview or even hear about new opportunities. But, as we all know, FSEs are also often the “face” of your company and have the most interaction with your customer (at least after the sale is made). So, how can you improve your chances of hiring a star?

First, you need to come to terms with the fact that if your company is not located in a hotbed of furnace manufacturing, your candidate will not live in your area. However, this shouldn't be an issue since relocating for a job that will require them to be gone most of the time rarely makes sense anyway. Many companies have begun to realize this and now allow their FSEs to live wherever they wish, so long as there is access to a major airport. That puts the onus on you to keep them busy or risk having your star FSE sit at home. The thought of having an employee sitting idle and still collecting a paycheck is a difficult pill to swallow, so some

companies have been reluctant to adopt this type of system. However, if you are really in need of a good FSE, it may be an option to consider as it will widen the pool of available resources considerably.

Another way to attract good FSEs is, of course, money. The market for experienced FSEs puts most of them at an hourly pay rate around \$25-35 per hour. With overtime, they can usually get into the \$80k or more range annually. However, some companies choose to put their FSEs on an exempt salary. This does two things: 1) It puts a cap on the employee's annual income and 2) it means that the employer could theoretically work them all day and night without having to offer added incentive. As would be expected, this pay structure does not often sit well with the employee. Some companies try to promote salary along with comp time, but many of the FSEs who have experience with this have responded that they are never able to take the comp time and it piles up, never to be used. Another risk with offering an annual salary over an hourly rate is that your HR department really needs to stay on its toes with respect to applicable Employment Law, as offering comp time in lieu of OT can get a little dicey with the Labor Board.

Finally, it's always a good idea to consider using a good recruiter who specializes in your field to help you reach the best and brightest. Typically, the top performers aren't the ones applying on job sites or responding to want ads. A good analogy for this is to suppose that you want to put together the world's best basketball team. Would you post an ad online and hope that LeBron James applies for the job? Or, would you would actively try and recruit him to your team? And, if there was someone already networked with him and already part of his inner circle, wouldn't you try to capitalize on their influence? A specialized recruiter who knows all the players in your industry, can be that resource and "influencer" for you.

In the end, attracting good Field Service Engineers isn't easy, but if you can allow them to live where they want, pay them hourly, including OT when required, and use the services of a good recruiter to proactively reach top performers in the field, you'll be leaps and bounds ahead of your competition!

For over 20 years, ISP has been the premier recruiting solution for the Heat Treat industry. 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.**”

Hightemp Furnaces India

We recently mentioned how Hightemp Furnaces, the largest commercial heat treater in India was expanding yet again with two brand new plants. The first which we mentioned is located in Sanand which is near Ahmedabad in Gujarat state. The second plant which has not progressed quite as far as Sanand is located in Bidadi which is near the Hightemp headquarters in Bangalore. In total the company now has two furnace manufacturing facilities, one in Nelamangala, Bangalore and one in Yeswanthpur, Bangalore and four commercial heat treat shops. The commercial shops are located in Peenya, Bangalore (this is also Head Office), Chakan, Pune (this has the auto components division, machining and grinding facility), Gurgaon, near Delhi and Sriperumbudur, Chennai. With the two new plants High Temp will now have a total of 6 commercial heat treat plants. In these photos we see the building under construction. **April 27, 2018**



Ipsen Number of Systems Sold

Last week we had an interview with Mr. Pat McKenna, President & CEO of furnace manufacturer Ipsen. The interview attracted a great deal of attention and prompted several questions, one of which we wished we had asked originally; *“How many furnaces both vacuum and atmosphere has Ipsen built over the years? Do you know what % are still in service?”* So we asked Pat for his input and this is what he has to say; **April 26, 2018**

“Gord, The Ipsen Group has designed and manufactured over 18,000 individual pieces of equipment. We estimate that over 10,000 are still in production use today. Patrick”



Bernard Salvi, Thermi-Lyon Interview

We are very pleased to have this interview with Mr. Bernard Salvi of Thermi-Lyon one of the two largest commercial heat treaters in France. Quite frankly we have never known much about the heat treatment market in France so we find this quite interesting. **April 26, 2018**

First off Bernard I appreciate the time today, you have the distinction of being the very first heat treater from France who we have interviewed. First off please tell us a bit about the company-age, size, processes location etc.

“THERMI LYON was established in June 1960. The first location was Lyon (factory and head office). Today there are; 8 plants in France in order to be closer to the main industrial areas, 1 in Romania and 1 in China. Some plants are dedicated to local industry such as THERMI GARONNE for aerospace in Toulouse, TREMPELEC for automotive in Arve valley (Mont Blanc). Our strategy is to perform all technologies of treatment and vacuum coatings to provide impartial advice. Today, 185 employees are working for THERMI LYON GROUP.”

Can you share with us the size of the company (approximately) when it comes to annual sales?

“Last year Annual sales were about 21 Million € and forecast for 2018 is about 23 Million €”

Do you have a guess as to how many commercial heat treaters there in France?

“95% of the French market is concentrated into 5 groups. 20 small players share the last 5%.”

Continue Reading







Nitrex Metal Order

We at “The Monty” often think that there is not a country on earth where Nitrex has not sold a system. South Africa, Qatar, China-you name the country and chances are Nitrex has an installed nitrider. **April 26, 2018**



“Chinese compressor vane producer Ningbo Yongwei Group Co. Ltd placed an order with Nitrex Metal for the supply of an NX-1635 turnkey nitriding system to replace an aging nitrider that failed to produce expected results. With production volume slated to reach 50 million parts annually during the first phase of expansion, Ningbo Yongwei is spurring new investment in finishing operations and equipment. The company is working

closely with Nitrex to improve their nitriding capabilities and ensure process reliability, product quality and performance.”

TRATAR Peru

In our unrelenting goal to see every single captive and commercial heat treater around the world we just visited the largest commercial heat treater in Peru, TRATAR Peru a company formed in partnership with CIPESA a large Peruvian company. Started just 10 years ago it has quickly captured 40% of the market and continues to grow. It has just under 20 employees, operates 7 days a week 24 hours a day and offers carburizing, tempering, stress relieving, nitriding and sub zero treatments. The centrepiece is a state of the art Plasma (Ion) Nitrider provided by ION Heat of Columbia-the only Ion Nitrider in the country and one of only a handful in all of South America. The company is growing so quickly that some major investments are planned for the very near future, investments which unfortunately we can't mention today. The photo below shows the TRATAR team and some of the equipment. **April 25, 2018**



From Left To Right; William Rivera, Elbis Mejia, Miguel Samaniego, Gord Montgomery, Monica Forsberg, Juan Maco, Edgar Tejada, Henri Huari, Cesar Gomez Sanchez



Heat Treating Technologies Adding Batch IQ

Commercial heat treater Heat Treating Technologies of Lima, Ohio (owner Rick Diebel) is adding yet another Batch IQ furnace to the 8 the company already has as we can see below. With all due respect to everybody involved we believe that somewhere along the line this

story got slightly distorted as we have yet to see a batch IQ line worth \$3 million USD. **April 25, 2018**



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“Business is good for an Allen County industry as they’re investing millions into their company. Heat Treating Technologies on East 4th Street, getting a delivery that will meet the demand they have been facing. At a cost of 3-million dollars, a new draw furnace and quench tank is a big step for the company that started at this location back in 1993. They see the investment as a good move with the quality workforce that they have and the increasing demand for their services. “We provide heat treating services and what that means is that it’s a thermal process that we put the steel through that makes it harder and more durable in cars, automotive parts, agriculture, trucking,” explained Amberly Deibel, Heat Treating Technologies. Deibel says the expansion will bring with it at least 10 new jobs.”



Ipsen Ships 10 Furnaces In First Quarter

“Ipsen recently shipped ten furnaces to companies in California, Georgia, Ohio, Washington and Wisconsin, and also to one location in Asia. This equipment will be used to process parts for companies in the Aerospace, Commercial Heat Treating and Medical industries.

The shipments included:

- *Two TITAN® furnaces – one TITAN H2 12-bar with a 18” x 24” x 18” (457 mm x 610 mm x 457 mm) work zone and one vertical TITAN 2-bar furnace. Both are equipped with PdMetrics® software for predictive maintenance.*
- *Two MetalMaster® furnaces – one vertical 6-bar with a 96” D x 96” H (2,438 mm x 2,438 mm) work zone and 10,000 pound (4,500 kg) load capacity, and one horizontal 10-bar with a 96” x 84” x 96” (2,438 mm x 2,134 mm x 2,438 mm) work zone.*

- One VFS® horizontal internal quench 10-bar vacuum heat-treating and brazing furnace.
- Several custom-built atmosphere furnaces that will process parts for the Aerospace industry.

Many of these customers also took advantage of purchasing Ipsen's spare parts kits, installation, startup and training. Largely, these shipments signify Ipsen's capacity to provide a variety of heat-treating solutions that meet our customer's demands. Visit www.IpsenUSA.com/Products to learn more about the equipment options Ipsen offers, or contact your Ipsen representative to discuss your needs: www.IpsenUSA.com/Map **April 25, 2018**



Scrap It Or List It?

Recently we had an article about what surplus used heat treating equipment should be scrapped and what can be sold; *"Unsure about whether to scrap or try and sell a surplus furnace? We have this guide to tell you what to scrap and what to list (disclaimer time; these are general guidelines only and a lot will depend upon age, condition and time frame for having the equipment removed). So keeping that in mind we have this list of 10 different styles of furnaces starting with the least desirable and ascending to the most valuable and most desirable type of furnace <https://www.themonty.com/scrap-it-or-list-it/>".* We had a number of questions and comments about our list, with most questions having to do with various types of equipment which we did not mention. Below is a list of several other styles of equipment, again this list is from the least desirable to the most desirable. **April 24, 2018**

Salt Pots. Years ago we predicted that for environmental reasons salt quenching would eventually disappear-this was a prediction which we have never lived down. Granted salt



still makes some heat treaters nervous, however we see no sign of it disappearing any time soon. Having said that those small, old, well used salt pots you still see are in our opinion almost worthless. Cut them up!

Austemper Lines. As we just stated (above) salt processing is still alive and well and there continues to be a demand for mesh belt austemper lines. HOWEVER there is never many of these units sold in any given year so be prepared to sit on these lines for a while.

Pit Furnaces. Scrap the little, low temperature pits unless you are a very patient person, there is little demand for these. But the large diameter carburizing units always have potential buyers for heat treating of gears and the deep ones (6' and over) always have a market amongst suppliers of shafts and rock drills. So keep the big ones, scrap the little ones.



Induction Systems/Power Supplies. The only rule of thumb for induction systems is don't even consider listing an old motor generator-quick hang up the phone if somebody is offering you one. Other than that most induction systems have some value. We will caution though that some of the large custom designed systems are so specialized that it is almost impossible to find a buyer.

Batch Parts Washers. These are very mixed. A larger unit such as a 36" X 48" X 36" size, dunk/spray generally will find a home. The smaller older spray only units have very limited appeal. So list the large dunk/spray washers, give the small spray only units to your neighbour.

Aluminum Drop Bottom Ovens. As long as it is complete and in reasonably good condition an aluminum drop bottom oven always has a reasonable amount of value-list it.

Furnace Charge Cars. As long as it runs a furnace charge car always has some value. A standard charge car for a Surface Combustion or AFC-Holcroft Batch IQ furnace will always

find a home. And since they are relatively small they are easy to store which is another plus. List it!

Box Temper Furnace. The old saying is that you can never have enough tempers-we agree. Never scrap a temper-there is always some value. List it!



Advanced Heat Treat Corp. Organizational Announcement

“WATERLOO, IA — We are very pleased to announce the promotion Chase Gibbs and Steve Pasker to Production Supervisor roles for the Advanced Heat Treat Corp. (AHT) Burton Avenue, Waterloo, Iowa facility. Chase Gibbs has been with the company since 2007 and has held positions as a General Laborer, Heat Treat Technician, Senior Heat Treat Technician, and Lead. Chase has been an integral part of Burton’s success, always eager to learn, teach others, and assist in every area of our heat treat business.



*Steve Pasker joined AHT as a part time employee in 2005. He also worked his way up through the ranks as a full time General Laborer, Equipment Operator, Heat Treat Technician, Senior Heat Treat Technician and Lead. Steve has a proven history of scheduling success and furnace knowledge that is unparalleled. Chase and Steve will be working closely together to bring floor-level leadership, operational improvements and outstanding customer service. “We look forward to Chase and Steve’s leadership in their new roles and are confident they will continue to drive our business while delivering UltraGlowing results to our customers!” stated Mikel Woods, President.” **April 24, 2018***



Monday Morning Briefing

For this week we will start off in Denver, Colorado, USA. **Metal Treating & Research Company**, Denver, CO. August of last year we had the news item below about a fire at commercial heat treater Metal Treating & Research in Denver, Colorado. Our

understanding is that the company will not be rebuilding, rather the building will be put into decent repair and sold off for another purpose. The photo below shows the plant as it looked a number of years ago. **“August 8/2017 Metal Treating & Research Company Fire; Commercial heat treater Metal Treating & Research Company in Denver, Colorado suffered a very serious fire recently, the details such as they are, are below. Metal Treating & Research is one of the few commercial heat treaters and certainly the largest in Colorado, a beautiful state but not known for manufacturing. “ADAMS COUNTY – A metal treatment facility was evacuated Wednesday afternoon as crews from multiple agencies worked to put out a fire. Adams County Fire tweeted about the blaze at around 1:30 p.m. As of 3:30 p.m., firefighters said the blaze was mostly out, but crews are still working on hot spots. One firefighter is being evaluated for minor injuries. Smoke was seen billowing from the building, and at least one wall suffered heavy damage.”** We now move to



Pennsylvania for this item; **“Brad Foote Gearing** in Pittsburgh, PA has a new plant manager by the name of David Konitsney. If you recall the company parted ways with the previous manager, Rich Baker and David will be taking over. Brad Foote Gearing makes large gears and maintains a very large captive heat treating department consisting of a number of pit carburizing furnaces.” **April 23, 2018**



Brad Foote



Metal Treating and Research

We now move to a story about a Swiss furnace manufacturer, **Codere** and an Israeli commercial heat treater **Chromat**; “Codere would like to update readers on a successful pre-reception from the leading commercial heat treater in Israel which was done last week at our



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facility. Chromat has a universal portfolio of heat treatment applications for vacuum, protective atmosphere, plasma nitriding & gas nitriding for a number of industries in their local market. This line in the photo below is our System 250 modular batch line for heat treating 500 kg brutto load capacity for automotive parts with austempering application for bars measuring up to 200 mm for a number of leading automobile suppliers. Codere undertook tests to compare against their existing heat treatment line and obtained significantly reduced deformation almost eliminating the previous re-straightening process for these parts. Codere has seen an increasing demand in salt quench processes to obtain martensitic or bainitic structures without temperature losses and without contact with air during our patented transfer in clean working conditions (No interlocking of the load). One

industry this has been more present is for contract heat treaters who want more flexibility with varied multi product series, which must be versatile. In the first photo (left to right) David Howard Codere Sales department, Yizhak Abromad & Alex Sandler from Chromat Israel and Alain Humair Codere Project Manager. Also it was not all work without some sightseeing on a sunny day in Lucerne. Further information on for these companies can be found on www.chromat.co.il or www.codere.ch”



From commercial heat treater (and salt specialists) **Applied Process** in the US we have this note about their new Quality Manager; *“We are pleased to announce that James (Jim) Wasiloff has joined the Applied Process team as Quality & Continuous Improvement Manager, effective March 19, 2018. Jim has both a B.S. in Mechanical Engineering (Oakland University) and an M.S. in Industrial and Systems Engineering (University of Michigan). He is a Certified Six Sigma Master Black Belt. In addition, Jim is a Staff Officer for the United States Coast Guard Auxiliary, Department of Homeland Security. Jim’s list of accomplishments is lengthy. He has successfully applied lean and six sigma concepts in both the Detroit automotive industry as well as for the US Army Tank Automotive Command.”* We recently had a brief story about **Listemann Technology** in Liechtenstein who recently upgraded their vacuum shop into a real top notch facility. A reader pointed out that all the furnaces were built by **TAV** of Italy. TAV only makes vacuum furnaces (and good ones we will add) but it is very unusual to run across them outside of Europe.



Commercial Heat Treater **Metex Heat Treating** in Mississauga, Canada will shortly be adding another AFC-Holcroft batch IQ furnace with working dimensions of 36” X 48” X 36”. Metex is one of the most successful commercial heat treaters in North America when it comes to fasteners although the company also has a large batch IQ and Induction department. Feel free to check out our interview with the owner and founder, Mr. Surjit

Bawa <https://www.themonty.com/surjit-bawa-metex-heat-treating-february-2018/> And to round things out we have this note from commercial heat treater **Applied Thermal Technologies** in Indiana <https://www.appliedthermaltechnologies.com/> “Applied Thermal Technologies of Warsaw, Indiana is pleased to announce the completion of its Newest 12’ Furnace. The new furnace has a maximum temperature of 1450°F, work zone dimensions are 36” wide, 36” high, and 144” long. It is rated for 10,000 pounds and for bars of up to 12 feet long.”



C.I. Hayes Installs Modular Vacuum Furnace

“C.I. Hayes, a Gasbarre Furnace Group Company, announces the recent installation of a Model VPQ-D vacuum furnace in Vietnam. The furnace has a heating module with graphite internals rated to 3000F and is coupled with a gas pressure quench module rated to 10 BAR pressure. It is designed with a pair of internal steel doors that seal against corresponding machined flanges so that no complex clamping mechanisms are required. The furnace will be used for various thermal processes including brazing, annealing, hardening and sintering.

*Located in Cranston, RI, C.I. Hayes designs, manufactures and services industrial vacuum and atmosphere heat treating equipment and has been delivering custom solutions to the heat treating industry for more than 100 years. For more information on how C.I. Hayes can provide custom-engineered solutions for your specific thermal heating requirements and manufactured heat treating equipment, please visit our website at www.cihayes.com.” **April 23, 2018***





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Smith Bits Auction, Ponca City, Oklahoma, USA

In 2016 Houston-based Oilfield services company Schlumberger reported it would close its drill bit plant in Ponca City, OK and the production moved to Houston. The closure did indeed happen and the remaining equipment including all the heat treat furnaces were auctioned off Tuesday and Wednesday of this week. The heat treat department consisted of 3 Surface batch IQ furnaces (sealed quench furnaces for our readers outside of North America), a couple of Holcroft batch IQ's, endo generators and all the other equipment which goes with a large heat treat department. Now this is where the story gets interesting. Our understanding is that a buyer from a Houston based supplier of high pressure components for gate valves bought all of the heat treating equipment and paid absolute top dollar for it, including all the baskets and base trays. Again our understanding is that none of this equipment is destined for Texas but rather Viet Nam, Lam Dong Province, about four hours northeast of Ho Chi Minh City to be exact. Its not often that we see used furnaces

being shipped half way around the world but we do run across this from time to time. **April 20, 2018**



Dr Steve Offley joins Phoenix Temperature Measurement as Product Marketing Manager

"We are pleased to announce that Dr Steve Offley has recently joined Phoenix Temperature Measurement as Product Marketing Manager. Steve, known to many as 'Dr O', comes to Phoenix with over 21 years of experience in the Industrial Process Temperature monitoring market. Over this period Steve has played a key role in developing temperature process monitoring solutions for an existing well-known market brand. With this move he hopes to apply his industrial and technical and marketing skill set, to help strengthen the dynamic Phoenix™ brand, grow established markets and find new market opportunities. Steve holds a BSc Hons Degree from Coventry Polytechnic UK in Applied Chemistry and PhD from Loughborough University UK in Trace Metal Analysis Techniques used in Analytical Chemistry.

As Product Marketing Manager, Steve will play a key role in promoting and



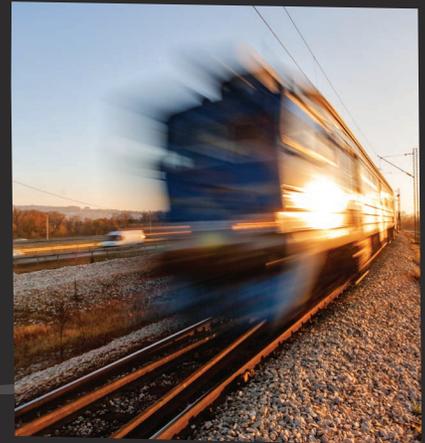
*marketing the Phoenix™ range of temperature monitoring solutions used in Industrial Heat Treatment & Furnace Survey, Paint Thermal Cure, Food Thermal Processing and Ceramic Firing Markets. Steve will further help manage the new product roadmap working to develop further new, innovative, value for money processes temperature monitoring solutions and strengthen the Phoenix™ product catalogue. Please join us in welcoming Steve to the Phoenix™ team and what will be an exciting and challenging new role." For additional information, please contact Steve Offley at +44 (0) 1353 223100 +44 (0) 7890 197636, steve.offley@phoenixtm.com **April 20, 2018***



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- "Metallurgical Aspects of Aluminum Power Driven Components", presented by Dr. Rafael Colas Ortiz, FASM, Professor and Metallurgist Engineer, Faculty of Mechanical and Electrical Engineering, UNIVERSIDAD AUTONOMA DE NUEVO LEON
- "Challenges and Opportunities for the Heat Treating Community: Threats, Risks and Benefits", presented by Dr. Richard D. Sisson, FASM, George F. Fuller Professor of Mechanical Engineering and Director of Manufacturing and Materials Engineering, Worcester Polytechnic Institute
- "NTSB and its Materials Laboratory", presented by Joe Epperson, Recently Retired Senior Metallurgist for the NTSB

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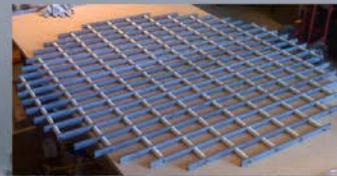
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High Temp Furnace Ltd., Sanand, India

India's largest commercial heat treater (and furnace manufacturer) High Temp Furnaces of Bangalore, India is expanding yet again with two brand new facilities, one in Sanand, near Ahmedabad, Gujarat State, India and the second in Bidadi, near their headquarters in Bangalore. The company is far and away the largest in the country with multiple locations and an estimated 40% of the total Indian market. The facility in Sanand, which we are looking at today is a "greenfield" site which has been under construction for some time. The furnaces were recently installed and tested, full production will be taking place over the next number of months. Hightemp typically operates sealed quench furnaces with some pushers and press quenching capabilities and is very strong in the automotive heat treating market. **April 19, 2018**



BODYCOTE ENTERS INTO 15-YEAR CONTRACT WITH ROLLS-ROYCE

“Bodycote, the world’s largest provider of heat treatment and specialist thermal processing services, announces that it has signed a 15-year contract with Rolls-Royce’s Civil Aerospace business. The contract is expected to be worth over £160 million in incremental revenues over the 15-year period.

Sales will ramp up over the next five years. Bodycote will provide thermal processing services which include specialised vacuum heat treatment and hot isostatic pressing (HIP), supporting Rolls-Royce’s turbine blade casting facilities in Derby and Rotherham, U.K. The agreement ensures the provision of specialist thermal processing capacity utilising Bodycote’s high performance, quality-focused approach to support the growth of Rolls-Royce’s large civil engine programmes; these include the Trent XWB, Trent 1000, Trent 7000, Trent 700 and Trent 900. Bodycote’s core business is to provide services that protect and improve the properties of metals and alloys, 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." **April 19, 2018**



Voestalpine Thermo-Tech Mississauga Canada – meet the new team

Commercial heat treater and coating experts voestalpine Thermo-Tech (formerly Bohler-Uddeholm Thermo-Tech) has a new management team in place at their facility in Mississauga, Canada. But first some background: voestalpine operates heat treating and coatings facilities around the world to compliment their steel business. We have visited



several of their locations and without fail we have been impressed by the state of the art equipment and this certainly includes their location in Mississauga. This plant features a number of Ipsen and Seco/Warwick vacuum hardening furnaces up to 15 bar, controlled nitriding and a large PVD coating center about which the company has this to say; "Adjacent to Thermo-Tech, voestalpine commissioned a world class PVD coating center to service the needs of Ontario's auto parts manufacturers. It has quickly grown to become the primary coating supplier to local stamping/forming companies as well as regional die cast facilities. The duplex coatings, Variantic and Tigral; inhibit abrasive, adhesive and chemical wear of tooling surfaces."

Now lets look at the management team which proves yet again what a small industry this is. The Operations Manager is Carlos Sartori a MSc. Metallurgical Engineer from Brazil who like many in the industry spent a number of years with commercial heat treater Bodycote, in his case at the plants of Bodycote Brasimet in Sao Paulo and Campinas city. He left Bodycote in 2011 to join voestalpine group in Brazil (Acos Bohler Uddeholm) where he

worked for six years as a technical sales manager before being invited to join voestalpine in Canada. The Quality Manager is Ali Alem. Ali has got his PhD in Materials Science and Engineering from Concordia University in Montreal where he was also a faculty lecturer. He has a background in metals, ceramics and composites. Ali has worked as a metallurgist in casting and rolling industries before joining voestalpine Thermo-Tech in 2015 where he runs the metallurgical lab and the Quality Department. Rounding out the team we have Jerry Barvinek, General Manager overseeing the heat treatment and coatings business units. Jerry has been providing value solutions to auto parts manufacturers for over 30 years. We have no doubt but that the plant will continue to thrive under the new team. ***April 18, 2018***



Ali Alem



Gord Montgomery, Carlos Sartori, Jerry Barvinek



Jerry Barvinek, Carlos Sartori

Ipsen Sells Custom Atmosphere Furnace to U.S. Customer

“One of the largest companies in the Aerospace & Defense industry recently purchased a rotary hearth furnace to heat treat state-of-the-art equipment they have developed. More specifically, this custom furnace will be used to process specialized gears for helicopters. Ipsen plans to deliver the rotary hearth furnace early next year. Rotary hearth furnaces are extremely versatile and designed for both carburizing shallow case depths and for reheating pretreated work pieces. Its high throughput makes it particularly suitable for even temperature

distribution, and robotic loading with automated press quenching systems. Learn more at IpsenUSA.com/Rotary-Hearth.

About Ipsen ; Ipsen designs and manufactures industrial vacuum and atmosphere heat-treating systems, supervisory controls systems and predictive maintenance software platforms for a wide variety of industries, including Aerospace, Automotive, Commercial Heat Treating, Energy and Medical. With production locations in America, Europe and Asia, along with representation in 34 countries, Ipsen is committed to providing 360° support for customers worldwide. Choosing Ipsen means choosing a partner in success.” **April 18, 2018**



Dana Glasgow, Kentucky Auction

As mentioned previously the Dana facility in Glasgow, Kentucky closed at the end of 2017. Several times over the years we have mentioned this plant, both because it had a large in

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house heat treating department and also because at one time it had one of the largest vacuum carburizing systems in North America, a multi cell ALD system (the line was actually bought by ALD Thermal Treatment in Port Huron, Michigan a number of years back and is still in operation there). The remaining equipment at the plant is being auctioned off over the next couple of months and this includes a Surface 3 row pusher furnace. Not a great deal of demand for pushers these days, especially multi-row systems but you never know. **April 17, 2018**



Solar Atmospheres Press Release

“Solar Atmospheres of Western PA recently installed a second machining center to support its newest service for customers – tensile testing. By adding a brand new fully programmable 8100 RPM Haas VF2 milling center, Solar is now able to support the machining of flat tensile specimens. This machining ability fully complements the function of the 10,000 PSI hydraulic jaw that is an integral component of the Tinius Olsen 300SL tensile machine. These massive hydraulic jaws can grip either threaded round or flat specimens.

Feedback from a recent customer satisfaction survey revealed how important this new mechanical testing service is to Solar’s customer base. Service Steel Aerospace states, “The ‘in-house’ tensile testing has improved our delivery performance and we couldn’t be happier.” If mechanical testing is part of your heat treating or brazing scope of work, be assured Solar Atmospheres of Western PA can support this need within hours after thermal processing is complete. Solar is Nadcap and Boeing approved for all room temperature tensile testing.

Please contact Mike Johnson at 724-982-0660 x2223 or mike@solarwpa.com. He will be glad to discuss your requirements with you. For additional information about Solar Atmospheres, visit us at www.solaratm.com." **April 17, 2018**



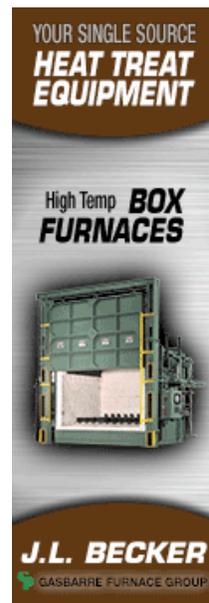
Patrick McKenna Interview (April 15, 2018)

We are very pleased to offer this interview with Mr. Patrick McKenna, President and CEO of Ipsen USA. Pat is sharing some thoughts with us about Ipsen North America and we will be following this interview up with one from Mr. Geoffrey Somary who will offer us some ideas about Ipsen globally. **April 16, 2018**

Pat, I have lots of questions for you about Ipsen, where the company has come from and where it is going however before we go there could you share your background with us? How you got into the business and how you ended up as President of Ipsen USA?

Thank you for the opportunity, Gord. I started in the industry in the early 90s, as an Engineering Intern at A. Finkl & Sons in Chicago. They are a specialty steel producer and now part of the Schmolz + Bickenbach Group. With in-house melting, forging, heat treating, and machining, it was a great place to learn. The plant operated 24/7 and I remember feeling honored when I was given keys to the office. With a starting wage of \$10/hour and unlimited overtime, I was eager to put in as many hours as possible learning my trade.

After earning a degree in Mechanical Engineering, I continued for a time as Project Engineer at Finkl, but ultimately decided to move on. My next stop was Ipsen. I was hired into the Engineering department, but eventually transitioned into Product Management and Sales. Later, I moved to the West Coast where, together with Rich Penrose, we started Nevada Heat



Treating and California Brazing. Rich and I were business partners until January 2015, when I decided to return to Ipsen in the role of Vice President – Sales. The 15 years spent operating a commercial heat treating and brazing facility have proved invaluable during my three years back at Ipsen.

In August 2017 the previous President and CEO of Ipsen USA, Geoffrey Somary, was promoted to COO of Ipsen Group. I was given the opportunity to become President at that time.

Everybody in the heat-treating industry knows Ipsen but few know the background of the company-could you share that with us?

Harold Ipsen, a Mechanical Engineer from Brown University, started Ipsen in Rockford, Illinois in 1948. His first 'heat treat project' was repairing a kiln for his wife, a pottery hobbyist. Harold later began designing and building furnaces for the steel industry, eventually leading to some of the first batch integral quench furnaces. Sadly, Harold perished in a plane crash in the 1960s (he was at the controls) along with other senior members of his Executive Team. Shortly after, the Ipsen family decided to sell the company.

If it is OK with you I would like to focus my questions today on the North American market and interview Geoffrey Somary about Ipsen globally at a future date. How big is Ipsen North America both in terms of physical size, number of employees and total sales?



Ipsen USA is comprised of (3) manufacturing facilities:

1. *Cherry Valley, IL*
2. *Souderton, PA*
3. *Pecatonica, IL (Ipsen Ceramics)*

There are 250 direct employees between these three facilities, generating approximately \$100 million in annual sales. Almost half of those sales are in aftermarket, which includes parts, upgrades, pyrometry & calibration, maintenance, and other types of services.

Continue Reading



Claudio Brum, Combustol & Metalpó Group

It is with regret that we mention the passing of Claudio Brum of furnace builder and heat treater Combustol & Metalpó Group in Brazil. Claudio had spent his entire working life in the heat treating industry in Brazil-as far as we know the whole time at Combustol. Our paths had crossed a few times over the years and we had always found him to be a very pleasant, easy to get along with fellow who we're sure did not have an enemy in the world. Combustol & Metalpó Group is a commercial heat treater, furnace builder and partner of SECO/WARWICK of Poland. In the photo below taken in 2011 at Combustol Claudio is second from the left. He will be missed. **April 16, 2018**



Jenna Alder, AFC-Holcroft

We at The Monty, as well as many of our readers, have recently been introduced to Jenna Alder, who has joined furnace builder AFC-Holcroft as Aftermarket Sales Representative. While she is new to the heat treat industry, Jenna comes to AFC-Holcroft with nearly 20-years' experience in OEM Marketing and Sales. From replacement spare parts to custom fabrication, Jenna assists with parts and service inquiries. And thanks to knowledgeable customers, helpful co-workers, and resources like "The Monty", Jenna is quickly learning the heat treat business. Here's what she had to say: **April 16, 2018**



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promptly and thoroughly.” Jenna can be reached at (248) 668-4056, jalder@afc-holcroft.com, and is active on LinkedIn.”



Vacuum Heat Treating

Later on this week we will giving you an update about this very impressive North American heat treater. By the way have a look at the very large vacuum furnace in the background, left side-the nickname for this is “The Monster”. **April 16, 2018**



Wind Energy-Another One Bites the Dust

Around about 2010 suppliers of components for the wind turbine industry in North America were poised for the good times. Companies such as ZF, GE, Gleason, Dokka Fasteners and a host of others were investing heavily in their manufacturing facilities in the never doubted belief that the good times were at hand. There was no doubt but that wind

energy was the way of the future and this would of course lead to furnace builders being deluged with orders for furnaces to heat treat wind turbine components such as gears,



bearings and fasteners. And of course these were not just any furnaces but top end units designed for deep case carburizing with state of the art controls. Dokka Fasteners built a large plant in Michigan just for heat treating bolts for windmills, ZF invested heavily in a plant in Georgia to make gears for windmills, Aichelin installed a really top notch pit furnace installation in the US Midwest just for gears, Gleason Works in NY was on the verge of a substantial investment in batch IQ furnaces for windmill parts and a host of other companies also invested, all in the certainty that the good times were close at hand. Except of course the good times never happened. The Dokka facility in Michigan was closed with the furnaces now on the used equipment market (they are actually listed on our batch page <https://www.themonty.com/batch/>) , most of the furnaces at ZF

ended up in Viet Nam where they are currently being installed, the Aichelin pit furnaces are now at Doskan Heat Treat in Turkey, and Gleason never did invest in new furnaces. Which brings us to the latest casualty another gear manufacturer in the US Midwest who has also closed their plant recently and dumped the really nice heat treat equipment on the used market. While we can't share the name with you yet this photo shows a portion of the department and specifically the base trays for the furnaces. More to come. **April 13, 2018**



Aerospace Testing & Pyrometry Press Release.

To this press release we will add that you can find out more about ATP by clicking on their banner ad which can be found on this page. **April 13, 2018**

“Aerospace Testing & Pyrometry of Bethlehem, PA is proud to announce the completion of another successful ISO/IEC 17025:2005 audit by the ANSI-ASQ National Accreditation Board (ANAB). ATP provides accredited laboratory calibrations and field services for Temperature

Process Instrumentation, Temperature Uniformity Surveys and System Accuracy testing. In addition to these accredited services, ATP provides other process instrumentation calibrations, Nadcap and Heat Treating consulting and training.

The ATP Calibration Lab, located in Bedford, OH specializes in the AMS 2750 calibration of Secondary Standard and Field Test Instruments and can calibrate many brands of instruments such as Altek, Ectron, Eurotherm, Extech, Fluke, Honeywell, Martel and PieCal. Repair service is available some brands as well. The lab provides a quick turn-around time of 5 days or less with competitive pricing. All calibrations and services provided by ATP are performed by trained and quality-orientated professionals to assure your compliance to today's stringent Nadcap and other aerospace industries requirements. Our customers profit from our knowledge because Quality is our standard! To learn more about Aerospace Testing & Pyrometry, visit our website at www.atp-cal.com or you can contact us directly.

For ATP field calibration services, Nadcap and Heat Treating consultation and training, contact Andrew Bassett, President, at abassett@atp-cal.com or call (844) 828-7225 ext 1.

For Secondary Standard and Field Test Instrument calibrations, contact Dale T. Praznik, Director of Quality / Calibration Lab Manager, at dpraznik@atp-cal.com or call (844) 828-7225 ext 3."



Derrick Company, Cincinnati, Ohio, USA

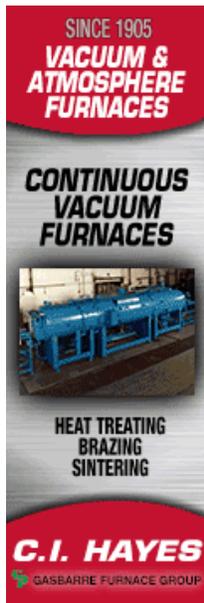
Amongst commercial heat treaters in North America family owned Derrick Company is pretty unique in that they can handle parts far larger than almost any other commercial heat treater in North America-parts up to 100' long and 100,000 pounds. As a matter of fact the only other company that comes to mind which is able to handle parts this size is Aberfoyle Metal Treating in Canada. However we mention them today for a completely different reason which is that the company recently expanded into aluminum processing in

a brand new 10,000 square foot building. The new building has a horizontal solution oven and an aging oven both of which we believe were built by Wisconsin Oven. This means they can now offer Solution-Treatment, Aging, Stress Relief, Annealing & Other Heat Treatments on Aluminum Alloys. **April 12, 2018**



Furnace Explosion

Last week we had a news item about a furnace explosion which happened in the US Northeast. When a tragedy such as this occurs and “The Monty” reports on it we are always asked for a follow up as to the cause. These requests are generally not out of morbid curiosity but more to learn about what went wrong and how it can be prevented in the



future. Over the years we have attempted to follow up on a number of fatal accidents such as the fatal vacuum furnace explosion in Brazil a few years back, the terrible salt accident at a Schaeffler plant in Germany last year or the furnace explosion in Michigan last year that killed one person. While we do try to find out the cause in most cases a shroud of silence seems to descend and at least publicly the cause never sees the light of day. It's a shame as this can be a dangerous industry and there are valuable lessons to be learned from each accident, but human nature being what it is perhaps everybody's first instinct is to say nothing. As far as the accident last week goes the most recent news report we have we have found really adds no details to what was first reported but for what it is worth it is included below. **April 11, 2018**

“An explosion at AVS Inc. in Ayer, MA on March 23 injured two workers, one of whom later died. The explosion and its aftermath have shaken the small town about 40 miles northwest of Boston. AVS, or Advanced Vacuum Systems, makes custom vacuum and

pressure furnaces. Three workers were inside the building, located on Fitchburg Road in Ayer, when the blast occurred at around 5:20 in the afternoon. Flaming debris set the building ablaze. One of the men suffered burns to 25 percent of his body and was airlifted to an area hospital where he died. Two firefighters were also injured as they battled the fire that tore holes through the roof the building. Investigators from seven states, local and federal agencies including the Middlesex District Attorney's office, the state Fire Marshal's office, and a team from the Occupational Safety and Health Administration (OSHA) are investigating the explosion. They suspect a pressure vessel malfunction was the source of the explosion."



Monday Morning Briefing

We start off in the US Northwest where we have this announcement from the largest commercial heat treater in the area. "**Stack Metallurgical Group** is the new name for the Corporation that commenced heat treating services in the Pacific Northwest in 1946 under the name of Commercial Heat Treaters. This Seattle based company founded by Otto Sandell and George Murphy is proud to make the following two announcements. First and MOST importantly is the introduction of the Group's CEO **Doug Puerta**, who many of you will already know. Doug was born in Allentown, PA. In 2008 he moved to Portland, OR. He earned his BA degree in Chemistry (Franklin and Marshall College), his MS degree in Materials Engineering (Lehigh University), and his MBA (Cornell). He started his career in the family heat treating business in Allentown, still owned by

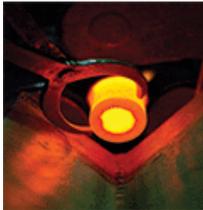


his father. He then moved into materials testing and product qualification. Doug oversaw the global division of IMR Laboratories which supported the qualification of current Leap, XWB, GeNX, and PW100G engine programs. As many of you know Stack works closely with IMR. Following IMR Doug joined our customer PCC in early 2017 as Operations Manager for Deer



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Creek facility where he oversaw Front- and Back-End operations, Facilities, Maintenance, and TiAl product line. Following his Deer Creek experience, he worked in the PCC Large Structural facility. Doug grows his own hops but has consistently failed to brew anything which he would proudly serve to friends. Secondly, the owners of Stack in Portland, ASAP in Salt Lake and Inland in Spokane are pleased to announce that the companies will now all be owned by Stack Metallurgical Group. One of Doug's goals as CEO will be to co-ordinate the efforts of these three fine teams. Dave Ederer, Dan Ederer, Marsha Ederer, Deanne Ederer Emmons."

Pyradia in Quebec is a furnace manufacturer which has grown substantially over the years. While we say furnace manufacturer that is not quite correct as the company is more lower temperature items although they have built high temperature furnaces in conjunction with Swiss company Codere as an example. Anyway their name comes up today because Pyradia recently designed designed 2 drop bottom ovens for **SAMT** (Shanghai Advanced Metallurgical Technologies) its Chinese partner. SAMT manufactured the drop bottom ovens for Harbin Dongan Engine Co., Ltd., a joint venture mainly engaged in the R&D, production and sales of gas engine for **Mitsubishi Motor**. We really get a kick out of the picture of this drop bottom.

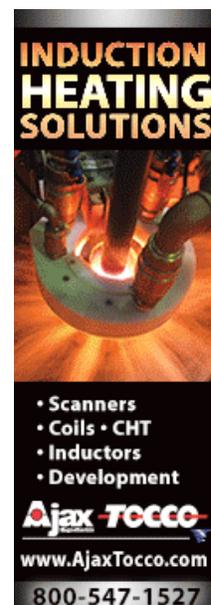


Early in 2017 we mentioned that the assets of **Forge USA.**, in Houston, Texas were going to be auctioned off. It made for an interesting news item because of the number of heat treat furnaces that were to be part of the auction, a total of 14 big box type furnaces, 2 large

carbottom furnaces and some very large quench tanks. At the time we commented that the furnaces looked rather “tired” and probably wouldn’t attract a lot of attention which lead to the auctioneers, “Hilco” sending us some choice comments-which really didn’t matter at all as we call them like we see them and we still think they were pretty tired furnaces. As it turns out all of the equipment in the plant was acquired by a company by the name of **Forged Components** before the auction. All this leads to the fact that the buyer Forged Components recently issued a press release building up the fact that they now have eight additional heat treatment furnaces and a 16,000 lb. polymer, and 30,000 lb. water quench tank.

Lets look at people news starting with **Michael Lister**. Michael has worked with companies such as **SECO/WARWICK** where he was **Vacuum Products Team Leader** and **Flowserve Corporation** where we was a Sales Engineer. Recently he became **Director Of Business Development** for **Consarc Corporation**, who is part of the Inductotherm Group of companies and who offer vacuum melting furnaces. **Rick Collins** who spent his entire working life in the heat treating department at **Borg Warner** in Ithaca, NY recently retired. The Borg Warner facility in Ithaca is one of the nicest manufacturing plants we have ever visited and has a very substantial and impressive inhouse heat treating department which includes something you don’t see that often anymore-numerous rotary retort furnaces.

Deb Dougherty is another person who just retired. Deb worked for 20 years at **General Metal Heat Treating** in Cleveland a family owned commercial heat treat where she worked along with her brother and father and possibly other family members. We met her a few times and always found her to be a very competent individual. **James Long** has joined his father Mike Long and younger brother Aaron at **Vacuum and Atmosphere Services** in the UK where he has taken over the TUS and calibration department. VAS claims to be the largest provider of services for the vacuum and atmosphere heat treating market in the UK. And to round our people news we have to mention that our friend **Márcio Boragini** is now General Manager of **United Process Controls** in Brazil. We have to confess that this only reflects the fact that he was GM of Atmosphere Engineering which was of course acquired by UPC so it is only a name change but it does give us the chance to post this picture of Márcio taken way back in 2006 in



Brazil. Márcio is the second from the right with Gord Montgomery on the left and **Wagner Ribas** of **Maxistrate** in between. We have to confess that doing business in Brazil is a joy as you can see.



And to round things out we would respectfully suggest that you check out our updated home page photos <https://www.themonty.com/> for 10 possibly never seen before pictures from the worldwide heat treating industry. If you have an interesting photo you would like to share we would be more than happy to include it absolutely free. **April 9, 2018**



Midwest Thermal-Vac Expands Adds TITAN® Furnace

“Nationally recognized commercial heat treater and repeat Ipsen customer, Midwest Thermal-Vac (MTV), recently purchased a TITAN® vacuum furnace with 12-bar gas quenching. This furnace features a diffusion pump for high-vacuum levels and an all-metal hot zone to ensure part cleanliness – an important feature for processing parts that need to comply with Nadcap and Medical industry requirements such as MedAccred. The TITAN is MTV’s second Ipsen furnace; the first is a horizontal furnace used primarily for processing tool and die work. The TITAN furnace features an all-metal hot zone measuring 18” x 24” x 18” (455 mm x 610 mm x 455 mm), with a 1,000-pound (450 kg) load capacity. It is capable of operating at temperatures ranging from 900 °F to 2,400 °F (482 °C to 1,316 °C) with ± 10 °F (±6 °C) temperature uniformity. This shipment also includes PdMetrics® software platform for

predictive maintenance and Ipsen's startup service performed by local Field Service Engineers.

Ipsen's TITAN vacuum furnace is a platform product that sets the industry standard for quality equipment at a cost-conscious value. These heat-treating systems are available in several sizes with horizontal or vertical configurations, nitrogen or argon quench and graphite or all-metal hot zone construction. They are easy to operate and handle a variety of common heat-treating processes, making them an ideal choice for both new and repeat customers. Learn more at www.IpsenUSA.com/products.

About MTV; *Founded in 1999, MTV is a leader in LPC vacuum carburizing and heat-treating for Aerospace, Commercial, Military and Motor Sports industries with quenching capabilities up to 23-bar. MTV can also fulfill needs for conventional solution, isothermal, spherodized or full annealing, homogenizing, normalizing, austenitizing and tempering tool steel. To learn more, visit www.mtvac.com.*

About Ipsen ; *Ipsen designs and manufactures industrial vacuum and atmosphere heat-treating systems, supervisory controls systems and predictive maintenance software platforms for a wide variety of industries, including Aerospace, Automotive, Commercial Heat Treating, Energy and Medical. With production locations in America, Europe and Asia, along with representation in 34 countries, Ipsen is committed to providing 360° support for customers worldwide. Choosing Ipsen means choosing a partner in success." **April 6, 2018***



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Atmosphere Furnaces

Automatic heat treatment lines



Continuous furnaces with online quenching



Continuous furnaces



Michael Coburn Joins AFC-Holcroft Sales Team

“AFC-Holcroft is pleased to announce Michael Coburn has joined their sales team as Sales Engineer. Coburn will be based out of the company’s headquarters in Wixom, Michigan, where he will focus his varied experience on key account management as well as new lead generation. Coburn will report to Tracy Dougherty, Sales Manager at AFC-Holcroft. Coburn has a BA in English from Oakland University and brings many years of capital equipment sales experience. He also brings first-hand knowledge of commercial heat treating earned from his 10+ years in various positions, including President of Hoover Steel Treating, where he led the company known primarily as a salt bath operation focused on the high speed steel broach cutting tool industry as well as other tool and die customers.

In addition, Coburn also brings experience selling fasteners and stampings for a large industrial manufacturer as regional sales manager, giving him exposure to an array of heat treatment technology such as vacuum, induction, pusher and continuous belt furnaces. “We believe our customers will benefit from Mike’s hands-on experience in heat treatment covering many different aspects of the business”, said Tracy Dougherty, Sales Manager, “and we are excited to have him on board as part of our team.”

About AFC-Holcroft: Founded in 1916, AFC-Holcroft, is one of the US market leaders in the production of industrial furnace equipment for ferrous and non-ferrous metals. The company manufactures turn-key heat treating systems for applications including commercial heat treating, bearings, automotive, aerospace, mining, aluminum heat treatment, gear manufacturing, fastener manufacturing, and alternative energy industries. Member of the Aichelin Group since 2016 and headquartered in Wixom, Michigan, AFC-Holcroft operates its own subsidiaries in China and Switzerland and has a global presence through a network of partners located in Australia, Brazil, China, India, Mexico, Poland and Spain.

About AICHELIN Holding: The AICHELIN Group, as part of the BERNDORF Group of companies, is a manufacturer of industrial furnace equipment for different industry segments and provider of after-sale services. AICHELIN Group also operates in the field of induction heating and in the manufacturing of industrial gas burner systems. The group's production sites are located in Austria, Germany, France, Slovenia, the US, China, and India. Altogether, the AICHELIN Group has 1,100 employees worldwide and ranges among the largest producers of heat treatment plants globally. For more information, contact media@afc-holcroft.com.” April 6, 2018



HK 2018

Härtereikongress
HeatTreatmentCongress

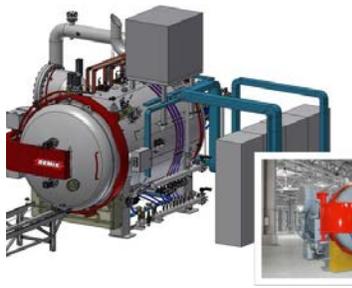
16–18 October

Cologne, Germany
Koelnmesse

P&L Heat Treating, Inc. Installs Vacuum Furnace

To this press release we can add that this is the second vacuum furnace Remix has sold to P&L. The company also recently shipped a bottom load furnace to a customer in France. **April 5, 2018**

*“REMIX of Poland recently delivered their latest horizontal high pressure vacuum furnace to an American commercial heat treating plant. P&L Heat Treating, Inc. of Youngstown, Ohio/USA has already began production with the REMIX furnace, making this P&L’s fourth large capacity Vacuum. This furnace enhances P&L Heat Treating’s production capabilities in the heat treatment of aluminum extrusion die’s, forging dies used in the automotive industry , as well as parts for aviation, nuclear and other industries. The unit was designed to handle positive pressure of inert cooling gas up to 10 bar. It’s internal size of 910mm x 910mm x 1220mm is ideal for various sized dies, punches, and forming rolls. **About REMIX S.A.;** Founded in 1990, REMIX is a Polish Company with 26 years’ experience in heat treatment equipment manufacturing. The production scope covers manufacturing of high quality heat treatment: furnaces and technological lines for thermal and thermo-chemical heat treatment, units designed for joint operation with external loaders, quench baths, washers, casting and non-ferrous metals heat treatment furnaces as well as repairs, modernizations and spare parts delivery. In October 2012, Remix became the exclusive partner of AFC-HOLCROFT in the European market. In 2016 we became an exclusive representative of German NOXMAT – manufacturer of high capacity energy saving industrial gas burners, for the Russian, Belarus, Ukrainian and domestic market. In Poland exclusive agent of German crucibles manufacturer – MAMMUT – WETRO Company. More information here: <http://remixsa.pl/eng>”*



Sundaram Clayton, Ridgeville, S.C

This press release was issued in early 2017 and it caught our attention at the time as one more example of the enormous growth in the automotive and consequently heat treating industry in the South Eastern, USA. As it turns out the aluminum automotive casting heat

treatment system is being supplied by Can Eng Furnaces of Niagara Falls, Ontario, Canada. **April 5, 2018**

“COLUMBIA, S.C. – Sundaram-Clayton,, a leading Indian manufacturer and supplier of aluminum cast products to global automotive original equipment manufacturers (OEMs), today announced that it will be launching its first U.S. manufacturing operations in Dorchester County. By investing \$50 million, the company is expecting to create 130 new jobs over the next five years. A component of the \$7 billion TVS Group, SCL is the holding company for the \$1.6 billion TVS Motor Company Limited, India’s third-largest manufacturer of two-wheelers and a flagship company of the TVS Group. SCL also manages Sundaram Auto Components Limited, which manufactures injection molded plastic components. Located in the Ridgeville Industrial Campus in Ridgeville, S.C., SCL has acquired 50 acres of land for its new facility, where it will manufacture aluminum high-pressure die-cast products and permanent mold gravity cast parts for its customers. Construction at the site is expected to begin by April 2017, and the first production line is projected to be operational by the end of 2018.”

Vac Aero

Vacuum Furnace manufacturer VAC AERO International is pleased to announce the addition of Kevin Wang as our new Electrical Controls Specialist. Kevin, an electrical engineer with previous industrial furnace experience, is proving to be a real asset for our organization. In the photo we have from the left; Gord Montgomery, Bill Potts, Kevin Wang, Gary Younger, and Darrell Manente standing in front of two VAC AERO VAV6060 HV-2 bottom loading vacuum furnaces destined for the aerospace market. With the booming US economy, business has been strong this year and we have a healthy order book moving forward. Regards, Darrell Manente, Director Furnace Manufacturing Division, VAC AERO International 905 336 0673 x111. **April 4, 2018**



Gord Montgomery, Bill Potts, Kevin Wang, Gary Younger, Darrell Manente



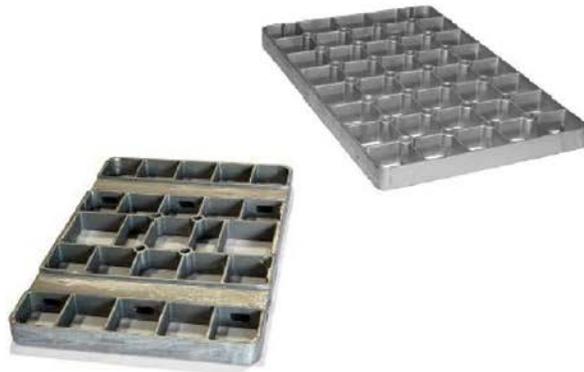
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² Applies to standard design trays only. Some restrictions apply.

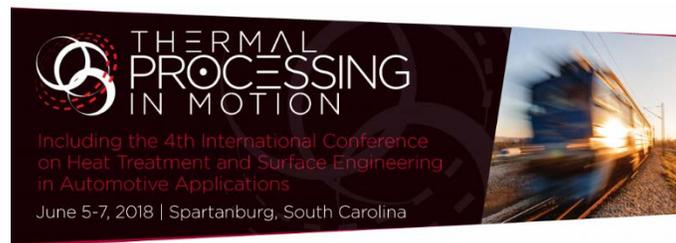
Molybdenum Pricing

Now if the graph below was showing the price of a stock you owned it would bring tears of joy to your eyes, however very unfortunately it shows the price of Moly Oxide which is not going to bring joy to the heart of any heat treater who needs moly. Moly is valued by vacuum heat treaters mainly because it doesn't distort at high temperatures, the flip side is that it is reasonably expensive. What we do know is that moly pricing has increased by roughly 50% over the past month and this applies to every supplier we have run across. **April 3, 2018**



Swedish Heat Treater Acquired

In Sweden we see that commercial heat **treater HARDtekno**, located in Kristinehamn, Sweden was recently acquired. **HARDtekno was part of the** Driconeq Group of companies which was acquired by a company by the name of Mincon just a couple of weeks ago. Although we at "The Monty" have visited a number of captive and commercial heat treats in Sweden this is one which we missed. We can say that the heat treating industry in Sweden is large for the size of the country and compares favorably with any area of the world. What we saw were new, clean plants with generally state of the art equipment mainly from German manufacturers. These photos show the HARDtekno facility. By the way the equipment you see in these photos was provided by a German company by the name of Systherms GmbH which we have run across once or twice in the past. We searched through our records and found one photo showing the CEO of Systherms, Mr. Gunter Reuss at a Thermprocess show in 2015-he is the rather shaggy haired individual second from the left. **April 3, 2018**



Monday Morning Briefing

On March 29th 2018 international commercial heat treater **Bodycote** published their 2017 annual report <http://www.bodycote.com/en/investors/reports-and-results/2017.aspx> These are the highlights;

- Revenue growth of 14.9% to £690.2m; revenue growth at constant currency was 9.6%, well above the background market growth rates
- 24% growth in headline operating profit to £123.9m
- Return on sales improvement to 18.0% (2016: 16.6%)
- Basic headline EPS increased 33% to 49.2p
- ROCE increased to 19.3% (2016: 17.1%) notwithstanding the increased rate of capital investment
- Headline operating cash flow⁵ of £1111.7m (2016: £91.4m)
- Headline operating cash conversion⁶ at 90%; £83.0m free cash flow⁷ (2016: £60.5m)

- Full year ordinary dividend 17.4p, up 10%, and special dividend 25.0p (2016: nil)

November of 2017 we had a short news item about Commercial heat treater **Listemann Technology** which has 3 locations in Liechtenstein, Switzerland and Poland. At the time we told you how the company was moving into a new building in Liechtenstein but we regretted we did not have a photo of the plant finished. Well we do now.



On the US West coast one of the largest and most impressive heat treaters is a company by the name of **Stack Metallurgical** in Portland, Oregon. We have visited the company in the past and have always been impressed by their equipment, all of which is very up to date. While the company is always investing one of their largest investments can be seen below. What you are looking at are two 60" X 60" 6-bar quenching, bottom loading vacuum furnaces built by Ipsen. These were added over the past couple of years.



"Can-Eng Furnaces International Limited was recently awarded a contract from an India based conglomerate to design, manufacture, install, and commission an Aluminum Automotive Casting Heat Treatment system for their new green field North American expansion in South Carolina. Can-Eng was chosen for this project largely due to the unique Modular Design concept which offers efficient product, process, and production flexibility for our partners new line of Die Cast Light Weight Aluminum Automotive Components. This Solution Treatment, Water Quench and Artificial Aging system are arranged to provide both T5, T6 and Homogenizing Processes. The new system will service three distinct aluminum product groups with unique treatment cycles." From Italy furnace builder **CIEFFE** (whose banner ad can be found on this page) sent us this photo of furnaces being shipped. The first

truck is going to a customer in Germany, the second to a customer in Italy. We get a kick out of the fact that to visit CIEFFE the closest airport is Venice which makes for a real fun visit.



Jim Oakes of Controls company **SSI** in Cincinnati, Ohio, USA sent us this news item; *“We have had an opportunity to help out a very talented group of high school kids here in Cincinnati with their robotic competitions. Supporting STEM students is a great way to give back to the community and refreshing to see the talent and brain power that will soon contribute to engineering and technology in the years to come. I have attended a couple of these events this year and it is amazing to see the technology they are using and the designs they are coming up with along with the comradery and teamwork demonstrated by the participants. The note below is from the team.*

*Last November you manufactured some parts for our drive base for us. We’d like to thank you for making these parts for us. We have had quite a lot of success again this year and are currently preparing for the world championship at the end of April after qualifying for this competition last weekend at the East Super Regional tournament in Scranton, Pennsylvania. Our team has also made a lot of progress this year in our efforts to make our schools and community aware of robotics and to get robots in the hands of elementary school students. The Forest Hills Foundation for Education funded a grant we submitted and we developed and implemented an after school program at Wilson. We’d like to thank you again for your support. We attribute some of our success to our gracious sponsors, and we’re very grateful for your support. Sincerely, 7 Sigma Robotics, FTC team 10030” **April 2, 2018***



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

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BATCH FOR SALE

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

[Contact Us](#)

Quick Jump To Items:

- Item # B448 Tip Up Furnaces (3 Available)
- Item # B447 Surface Combustion Batch IQ Furnace
- Item # B446 Surface Combustion "Super 30" Batch IQ Furnace
- Item # B445 Surface Combustion "Super 36" Furnaces (3 available)
- Item # B444 BOREL Furnace 550 °C
- Item # B443 SOLO Heat Treatment Line
- Item # B442 SOLO Quenching Machine
- Item # B441 GM Batch IQ with Top Cool
- Item # B439 Surface "Super 36" Allcase
- Item # B438 Holcroft Batch IQ Furnace
- Item # B437 Ipsen Recirculating Box Furnace
- Item # B436 36" x 60" Pit Gas Nitrider
- Item # B435 CODERE Switzerland System 250 42/60
- Item # B433 Car Bottom 74" x 84" x 84"
- Item # B432 Atmosphere Box Furnace 36" X 48" X 24"
- Item # B431 Air Atmosphere Box Furnace 2,000 F
- Item # B428 Carbottom Furnace 1800 F
- Item # B426 Plasma Nitriding Unit 1000 kg Capacity
- Item # B425 Box Furnace 2000 F
- Item # B424 Atmosphere Box Furnace 80" x 96" x 60"
- Item # B421 Surface Combustion "Super 36" Allcase
- Item # B418 Lindberg High Temperature Oven 36" Cubed
- Item # B415 J.L. Becker Car Bottom 1800 F
- Item # B414 Ipsen Batch IQ Installation Immaculate
- Item # B399 Car Bottom Furnace 10' x 12' x 8'
- Item # B398 Sauder Batch IQ Line 24" x 24" x 36"

Item # B397 "Lift-Off" Atmosphere Box Furnaces (2)

Item # B388 Hydrogen Atmosphere Furnace 8" x 8" x 8"

Item # B374 Atmosphere Box Furnace 2100 F

Item # B352 Pacific Scientific Box Furnace

ITEM # B448

TIP UP FURNACES (3 AVAILABLE)

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

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



ITEM # B447

SURFACE COMBUSTION BATCH IQ FURNACE

Surface Combustion Batch IQ Furnace. Working dimensions of 30" wide X 48" deep X 24" high. Built in 1979. Gas fired and running endo atmosphere. Set up for Carbo Nitriding with ammonia and Carburizing. Control panel new in 2005, SSI controls. New alloy and

brickwork in 2016. Comes with SBS quench oil cooler and SBS trash can oil filter. Installed and in operation. Very good condition.

Asking Price: 50,000 USD



ITEM # B446

SURFACE COMBUSTION "SUPER 30" BATCH IQ FURNACE

Surface combustion batch IQ furnace. Working dimensions of 30" X 48" X 30". Gas fired. Fairly new SSI controls, furnace is set up for Carbo Nitride and carburizing. Gas fired with and currently running endothermic atmosphere. 2500 gallon quench tank. Dual quench cylinders. Alloy was last replaced and brick work repaired in 2016. It is currently in operation and has no issues. Included are a SBS oil cooler and SBS trash can oil filter. Furnace uses a rear handler in the furnace to transfer loads in and out. Very good condition.

Asking Price: 85,000 USD



ITEM # B445

SURFACE COMBUSTION "SUPER 36" FURNACES (3 AVAILABLE)

Surface combustion gas fired batch IQ furnaces model "Super 36". Working dimensions of 36" wide X 48" deep X 32" high. Late 1980's vintage. Casemate controls, SBS quench oil filter. Set up for endo atmosphere with ammonia addition. Currently installed,

furnaces were in operation until February 27th 2018. Complete and in good operating condition. Pricing to come.



ITEM # B444

BOREL FURNACE 550 °C

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

Price on request jordan@themonty.com



ITEM # B443

SOLO SWISS HEAT TREATMENT LINE

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

Price on request jordan@themonty.com



ITEM # B442

SOLO QUENCHING MACHINE

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

Price on request jordan@themonty.com



ITEM # B441

GM BATCH IQ WITH TOP COOL

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

Controls: All mounted in two freestanding panels next to the furnace Includes motor starters relays, pushbuttons, signal lights etc. Honeywell indicating controller and

overtempt. Honeywell circular chart recorder for recording temperature. Carbon control system.

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

Asking Price: \$150,000.00



ITEM # B439

SURFACE "SUPER 36" ALLCASE

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

Please call for pricing.



ITEM # B438

HOLCROFT BATCH IQ FURNACE LINE

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

Asking \$125,000 USD for everything.



ITEM # B437

IPSEN RECIRCULATING BOX FURNACE

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

Asking Price: \$39,500.00



ITEM # B436

36" X 60" PIT GAS NITRIDER

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

Asking Price \$50,000 USD.



ITEM # B435

CODERE SWITZERLAND SYSTEM 250 42/60

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

Codere confirm this installation will undertake retrofit of retorts before dispatch and overall inspection of line. Well maintained and has been shut down since August 2017.

Asking Price: 595,000 CHF



ITEM # B433

CAR BOTTOM 74" X 84" X 84"

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

Asking Price: 8,250 USD



ITEM # B432

ATMOSPHERE BOX FURNACE 36" X 48" X 24"

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

Asking \$49,500 USD.



ITEM # B431

AIR ATMOSPHERE BOX FURNACE 2,000 F

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

Asking \$65,000 USD.



ITEM # B428

CARBOTTOM FURNACE

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

Asking \$150,000 USD or best offer.



ITEM # B426

PLASMA NITRIDING UNIT 1000 KG CAPACITY

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

Asking 98.000 Euro. Located in Turkey.



ITEM # B425

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

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

Asking \$85,000 USD.



ITEM # B424

ATMOSPHERE BOX FURNACE

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

Asking \$125,000 USD.



ITEM # B422

IPSEN SEALED QUENCH LINE

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

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

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

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

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

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

Asking Price £95,000.00



ITEM # B421

SURFACE COMBUSTION "SUPER 36" ALLCASE

Surface Combustion "Super 36" Allcase. Working dimensions of 36" X 48" X 30" high, gas fired. Currently undergoing a rebuild and will be in "like new" combustion in 12 weeks. Gas fired, top cool option and hot oil. Vertical U tubes with safety platforms, ladders, all new motors, wiring, components and comes with new control cabinet with SSI controls and flow scopes.

Asking Price: \$353,825 USD.

ITEM # B418

LINDBERG HIGH TEMPERATURE OVEN

Lindberg High Temperature Oven. Model 41-MT-363636-2. Serial number 949223. Working dimensions of 36Wx36Lx36H. Manufactured in 1994. Maximum operating temp of 2050F. 240V, 3-phase 60hz. Honeywell Truline round chart recorder, model DR45AT and Watlow F4 digital control. Air operated vertical lift front door. Heating is provided by Lindberg MPH heating elements. Recirculating fan is mounted in the bottom.

Furnace can be used for hardening, carburizing, carbo-nitriding, normalizing, and annealing. Includes retort box measuring 34x34x32 with gas connection. Excellent condition. Only used in the jet aviation industry by 1 owner. The retort was purchased with the furnace but was not actually used. Retort is brand-new. Unit has been well taken care of. Also included is a Clark Hardness Tester, Model CPT.

Asking \$21,000 USD for both.



ITEM # B415

J.L. BECKER CAR BOTTOM

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

Asking Price: \$95,000.00 USD.



ITEM # B414

IPSEN BATCH IQ INSTALLATION

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

Asking Price is \$1.25 million USD. Vendor will consider selling individual items.



ITEM # B399

CAR BOTTOM FURNACE

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

Asking \$85,000 USD.



ITEM # B398

SAUDER BATCH IQ LINE

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

Dimensions:

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

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

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

Quench: 106" x 10'H x 72"

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

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

Misc. skids, flow panel, SBS, spare parts

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



ITEM # B397

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

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

Asking \$325,000 USD each.



ITEM # B388

HYDROGEN ATMOSPHERE FURNACE

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

Price: \$5,000 USD



ITEM # B374

ATMOSPHERE BOX FURNACE

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

Asking Price: \$18,000.00 USD.



ITEM # 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.



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Quick Jump To Items:

- Item # C338 Cast Link Belt 3000 lbs/hr
- Item # C337 BTU-TCA Series Belt Conveyor Furnace
- Item # C335 Compact Belt Furnace
- Item # C334 Press Quenching Cell
- Item # C331 Lindberg Pusher Furnace
- Item # C330 Mesh Belt Furnace Line
- Item # C329 CI Hayes Atmosphere Belt Furnace
- Item # C328 CI Hayes Atmosphere Belt Furnace
- Item # C327 Rogers Engineering Continuous Brazing Furnace
- Item # C325 Sinterite Mesh Belt Furnace 1180 C
- Item # C324 C.I. Hayes Mesh Belt Furnace 12" Wide Belt
- Item # C323 Aichelin Cast Link Furnace Line 750 lbs/hr
- Item # C322 Surface Combustion Rotary Hearth Line
- Item # C321 Austempering System 500 lbs/hr
- Item # C319 CI Hayes High Temperature Pusher Furnace
- Item # C317 CI Hayes High Temperature Pusher Furnace
- Item # C314 Roller Hearth (Atmosphere) 4800 lbs/hr
- Item # C308 AFC Mesh Belt Furnace 54" Wide Belt
- Item # C301 Cast Link Belt Line 4000 lbs/hr
- Item # C296 C.I. Hayes High Temperature Tube Furnace
- Item # C283 Rotary Hearth Furnace System
- Item # C269 CI Hayes Mesh Belt Furnace 12" Wide Belt
- Item # C265 Sunbeam Pusher Carburizer 3000 lbs

ITEM # C338

CAST LINK BELT 3000 LBS/HR.

Cast Link Belt 3000 lbs/hr. Built by Electric Furnace Company in the early 80's. The line consists of a loader, furnace, quench and temper. Maximum operating temperature is 1700F with 2 zones of control. Honeywell instruments. Oil or Polymer quench with a few spare tubes available as well. 36" wide belt for furnace and 48" wide belt for temper. High heat length is 25' and temper length is 24'. Capable of 3000 lbs/hr.

Asking 50,000.00 USD



ITEM # C337

BTU-TCA SERIES BELT CONVEYOR FURNACE

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

Asking \$16,500 USD or Best Offer.



ITEM # C335

COMPACT BELT FURNACE

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

Price on request jordan@themonty.com



ITEM # 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 quenches 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 sell unit individually. Videos of the system in operation are available upon request.



ITEM # C331

LINDBERG PUSHER FURNACE

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

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

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

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

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

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

Asking \$49,000 USD.



ITEM # C330

MESH BELT FURNACE LINE

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

Best offer.



ITEM # C329

CI HAYES ATMOSPHERE BELT FURNACE

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

Asking Price \$15,000 USD



ITEM # C328

CI HAYES ATMOSPHERE BELT FURNACE

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

Asking Price \$15,000 USD



ITEM # C327

ROGERS ENGINEERING CONTINUOUS BRAZING FURNACE

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

Asking \$250,000 USD.



ITEM # C325

SINTERITE MESH BELT CONVEYOR FURNACE

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

Preheat is rated for 1100 degrees C and high heat is rated for 1180C. New in 2000 it has seen very limited production and is in excellent condition. Has pre-heat bubbler. New pre-heat muffle, new belt, and several new glo-bars.

Asking \$70,000.00 USD or best offer.



ITEM # C324

C.I. HAYES MESH BELT FURNACE

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



ITEM # C323

AICHELIN CAST LINK FURNACE LINE

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

operating temperature of 575F. Installed in 2005 and currently used for automotive bearings. Complete installed and in operation until March 2017. Excellent condition.

Best offer.



ITEM # C322

SURFACE COMBUSTION ROTARY HEARTH FURNACE LINE

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

Asking \$50,000 USD.



ITEM # C321

AUSTEMPERING SYSTEM

Austempering System. Ipsen Model SG500, S/N52822. Shaker hearth style hardening furnace is capable of 500 pounds/hour, 1850F operating temperature, gas fired 800,000

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

Asking \$20,000 USD or best offer.

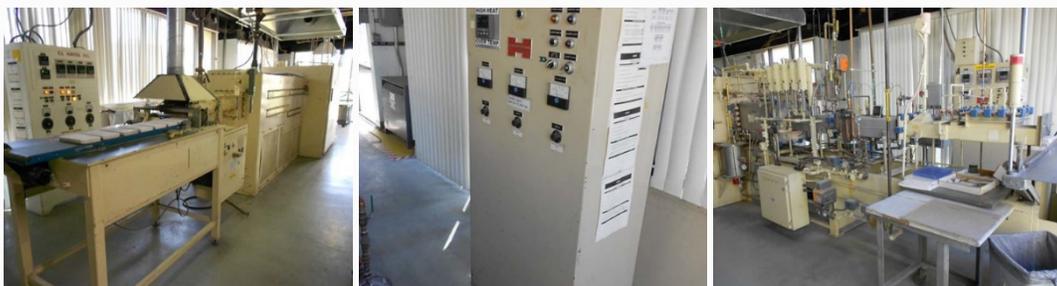


ITEM # C319

CI HAYES HIGH TEMPERATURE PUSHER FURNACE

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

Asking \$100,000 USD.



ITEM # C317

CI HAYES HIGH TEMPERATURE PUSHER FURNACE

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

Asking \$110,000 USD.



ITEM # C314

ROLLER HEARTH FURNACE (ATMOSPHERE)

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

Asking \$225,000 USD.



ITEM # C308

AFC MESH BELT HARDENING FURNACE

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

Asking \$75,000 USD.



ITEM # C301

CAST LINK BELT QUENCH AND TEMPER LINE

Cast Link Belt Quench and Temper Line. Manufactured by Rogers Engineering 4,000 pounds/hour cast link belt furnace line consisting of a 1750F high heat furnace and 1700F temper furnace. Serial # CC-3977-0 (1997). High Heat Furnace: 48"W Omega Cast Link Belt, 4" pitch, 3" sides. Furnace has a 30'L heating section. Four (4) zones of control with three (3) roof mounted in the last three (3) zones. Maximum operating temperature of the hardening furnace is 1750°F. Furnace is radiant tube heated with recuperators. Furnace is currently set up for Endothermic w/Enriching Natural Gas & Air. Total BTU's for

hardening furnace is 3,180,000 BTU/HR. Controls; All mounted in a free standing panel includes Allen Bradley PLC w/HMI Touchscreen, Honeywell UDC Digital Temperature Controls, SSi Carbon Controls. Voltage 480/3/60/200kW.

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

The sequence of this furnace is as follows:

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

Includes:

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

Very good condition, available immediately.

Asking \$650,000 USD.



ITEM # C296

C.I. HAYES HIGH TEMPERATURE TUBE FURNACE

C.I. Hayes High Temperature Tube Furnace. Model MY-0002.528, 2-1/2" ID Tube x 28" Long Heating Chamber. Operating temperature of 1700°C, 10.5 KW, Single Zone Control

with overtemp protection. Overall dimensions of 75" H x 32" W x 91"L. Hydrogen Atmosphere. Included is an automatic loader.

Asking Price \$21,000 USD / OBO.



ITEM # C283

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

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

Asking price: \$29,000 USD.



ITEM # C269

CI HAYES MESH BELT FURNACE

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

Asking \$39,000 USD.



ITEM # C265

SUNBEAM PUSHER CARBURIZER

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

Asking \$40,000 USD.



DRAW/TEMPER FOR SALE

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

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Quick Jump To Items:

Item # T351 Mesh Belt Temper Furnace

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 Safed/Borel Annealing Furnace

Item # T339 Box Tempering Oven

Item # T336 Mesh Belt Temper Furnace 48" Wide

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

Item # T325 3-Station Despatch Temper Furnace

Item # 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 # T351

MESH BELT TEMPER FURNACE AVAILABLE

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

Asking \$20,000 USD.



ITEM # T350

SUNBEAM MESH BELT TEMPER

Sunbeam Mesh Belt Temper. Manufacturer: Sunbeam. Inside Dimensions: 8" x 36" wide belt x 14' heating. Heated: Gas Fired, (4) North American nozzle mix burners. Temperature: 1250 deg.F. Model Number: F-246-67. Serial Number: 35214. Temperature Controls: Free standing enclosed panel. Solid state digital readout indicating controller & overtemp. Description & Features: Brick lined. Tight weave mesh belt. Four side mounted burners fire above the work zone. Two 1300 deg. Garden City top mounted recirculating fans. Complete combustion controls and safeties. Condition: Very Good, needs minor brick repairs

Asking Price: \$35,000.00



ITEM # T349

RECIRCULATING BOX TYPE DRAW FURNACE

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

Asking Price: \$39,500.00



ITEM # 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.



ITEM # T342

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

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

Asking \$16,500 USD.



ITEM # T341

TEMPER FURNACE

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

Asking \$91,000 USD.



ITEM # T340

SAFED/BOREL ANNEALING FURNACE

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

Price on request.



ITEM # T339

BOX TEMPERING OVEN

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

Asking price is \$72,500 USD.



ITEM # T336

MESH BELT TEMPER FURNACE 48" WIDE

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

Asking \$29,500 USD.



ITEM # T335

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

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

Asking \$8,000.00 USD.



ITEM # T325

STATION DESPATCH TEMPER FURNACE

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

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

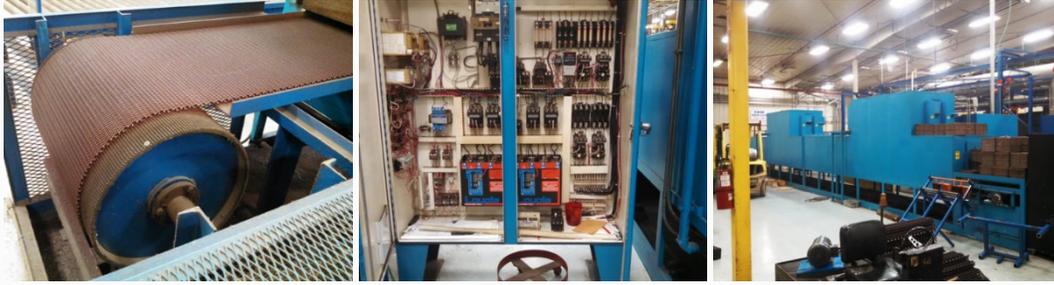


ITEM # T321

GRIEVE CONVEYOR OVEN

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

Asking Price: \$42, 000 USD.



ITEM # T320

PIFCO CONVEYOR OVEN

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

Asking Price: \$59,000 USD.



ITEM # T318

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

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

Description; Stainless Steel Lined Recirculating Box Tempering Oven complete with Top-Mounted Alloy Recirculating Fan (20 HP – 13,000 CFM), Rear-Mounted Heater Box with

Eclipse Burner System, Alloy Skid Hearth, Forced Cool Down Fan System (7,333 CFM), Vertical Rising Motor Driven Front Door, and Stationary Loading Table.

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

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

Asking Price: \$72,500 USD each.



ITEM # T303

PIFCO TEMPER FURNACE

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

Asking Price: \$38,000 USD.



ITEM # T290

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

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

Please call for pricing.



ITEM # T286

LINDBERG BOX TEMPER

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

Asking Price: \$65,000 USD



GENERATORS FOR SALE

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Quick Jump To Items:

Item # G201 Ammonia Dissociator 250 SCFH

Item # G198 Endothermic Generator 3000 CFH

Item # G197 Ammonia Dissociator 1000 CFH

Item # G196 Surface Combustion 5000 CFH Endo Generator

Item # G189 Surface Combustion 2400 CFH Endo Generator

Item # G178 Ammonia Dissociators 3000 CFH

Item # G176 Surface "Multi-Bottle" Endo Generators

Item # G173 Lindberg Endo Generator 4500 CFH

Item # G169 Gasbarre Endo Generator 3000 CFH

ITEM # G201

AMMONIA DISSOCIATOR 250 SCFH

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

Best Offer



ITEM # G198

3,000 CFH ENDOTHERMIC GENERATOR

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

Asking \$22,500.00 USD.



ITEM # G197

AMMONIA DISSOCIATOR

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

Asking Price \$11,500.00 USD.

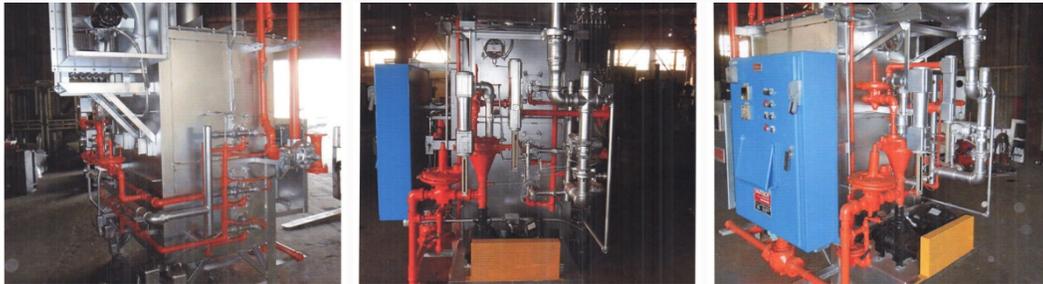


ITEM # G196

SURFACE COMBUSTION 5000 CFH ENDO GENERATOR

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

Asking \$31,500.00 USD.



ITEM # G189

SURFACE COMBUSTION 2400 CFH ENDO GENERATOR

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

Asking \$59,000 USD.



ITEM # G178

AMMONIA DISSOCIATORS (4 AVAILABLE)

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

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

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

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

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

Asking \$29,500.00 USD each.



ITEM # G176

SURFACE "MULTI-BOTTLE" ENDO GENERATORS

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

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

Asking \$75,000 USD.



ITEM # G173

LINDBERG ENDO GENERATOR

Lindberg Endo Generator. 4500 CFH, gas fired. Retorts and brickwork are in excellent condition however it requires temperature controls and an air cooler (vender 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 # I176 Radyne Scanner and Power Supply

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

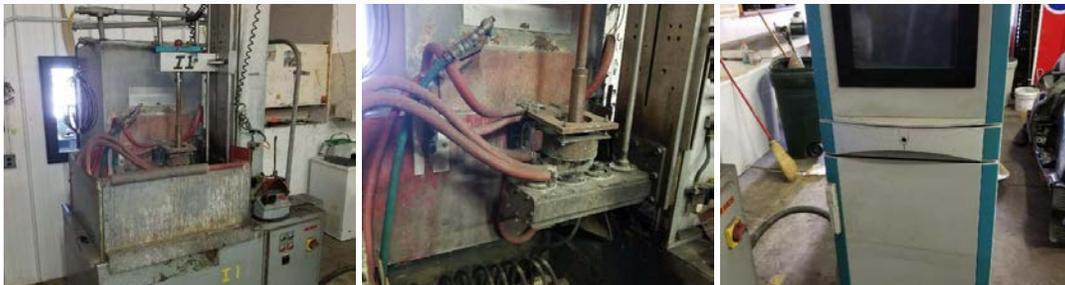
Item # I153 Raydyne Induction Heating System 40 kW

ITEM # I176

RADYNE SCANNER AND POWER SUPPLY

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

Asking \$9,900.00 USD



ITEM # I175

INDUCTOHEAT /LEPEL INDUCTION POWER SUPPLY

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

Asking \$19,500.00 USD



ITEM # I174

AJAX/TOCCO INDUCTION HEATING POWER SUPPLY & HEAT STATION

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

Asking \$139,000 USD.



ITEM # I173

125 KW AJAX INDUCTION GENERATOR

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

Asking Price: \$15,250.00 USD



ITEM # I171

50 KW LEPEL GENERATOR

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

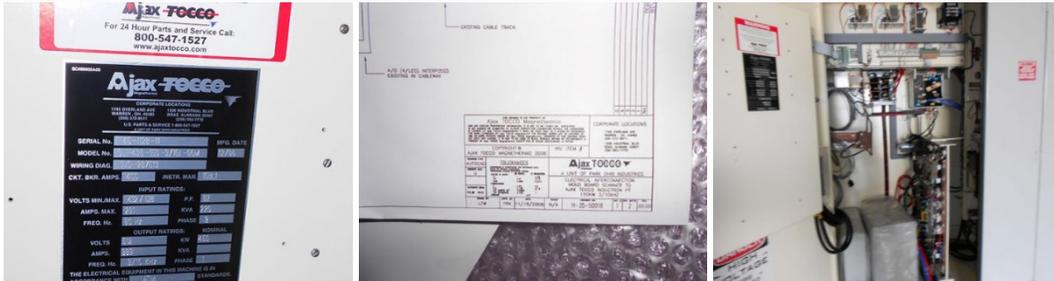


ITEM # I164

AJAX TOCCO INDUCTION POWER SUPPLY

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

Asking \$33,000 USD.

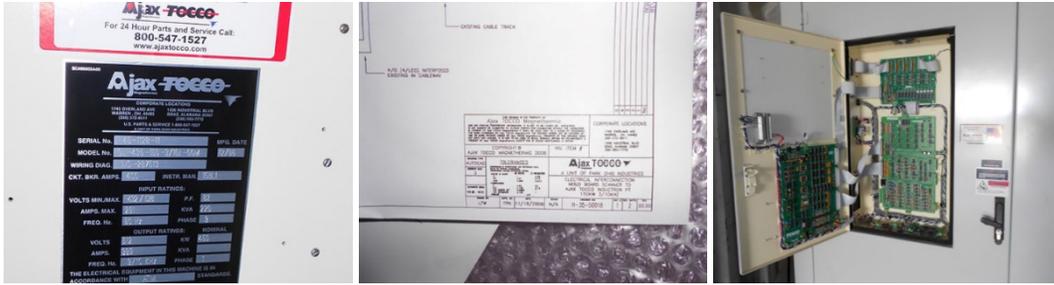


ITEM # I160

AJAX TOCCO POWER SUPPLY (UN-USED)

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

Asking \$39,000.00 USD.

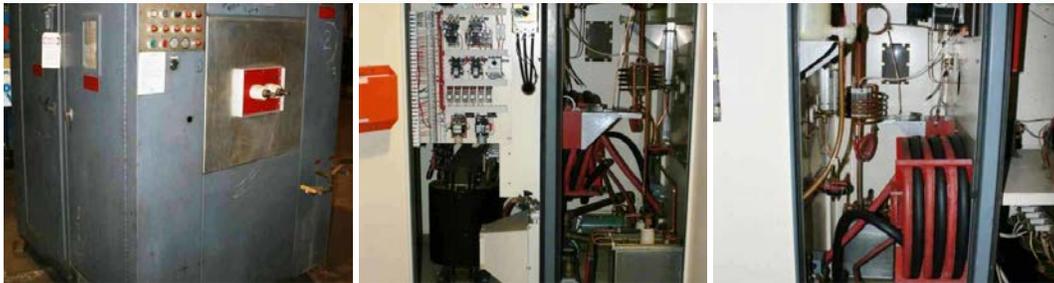


ITEM # I153

RAYDYNE INDUCTION HEATING SYSTEM

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

Asking \$7,500.00 USD.



LAB EQUIPMENT FOR SALE

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Quick Jump To Items:

Item # L8 Clark Micro Hardness Tester

Item # L7 Leco Micro Hardness Tester

Item # L3 Laser Diffraction Particle Size Analyzer

Item # L1 Detroit Testing Brinell Hardness Tester

ITEM #L8

CLARK MICRO HARDNESS TESTER

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

Asking \$6,500.00 USD.



ITEM #L7

LECO MICRO HARDNESS TESTER

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

Asking \$7,000.00 USD.



ITEM #L3

LASER DIFFRACTION PARTICLE SIZE ANALYZER

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

Asking \$20,000 for complete system.

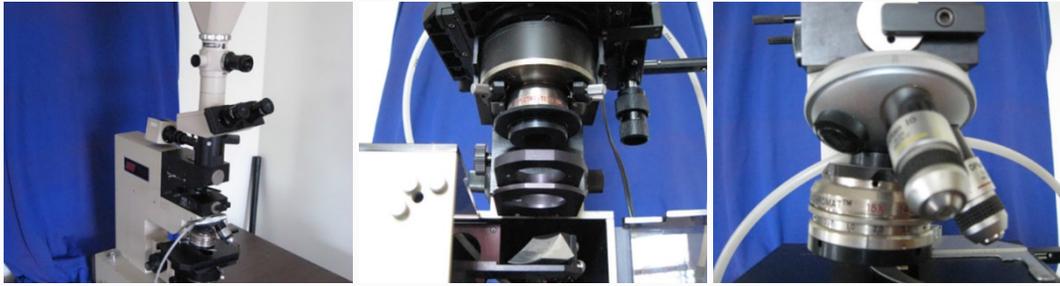


ITEM # L1

SPECTRA-TECH 0044-003 INFRARED MICROSCOPE

Spectra-Tech 0044-003 Infrared Microscope. Model WHK 10X 201, Reflected & Transmitted light, multiple objectives, Polaroid 4x5 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 #M417 Soluble Oil Dunk Tank
 - Item #M416 Wheelabrator 6' Diameter
 - Item #M415 Surface Combustion Parts Washer
 - Item #M414 Vacuum Residual Gas Analyzer (3 available)
 - Item #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
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 - 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 #M381 Water Cooling System
 - Item #M380 Bronco Wheelabrator 36" Meshbelt
 - Item #M370 SBS Quench Airs 3 Fan Units
 - Item #M366 Wheelabrator Rubber Belt Tumbler
 - 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 #M417

SOLUBLE OIL DUNK TANK

Soluble Oil Dunk Tank

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

Asking \$8,000 USD.



ITEM #M416

WHEELABRATOR 6' DIAMETER

Wheelabrator 6' Diameter. 6" Diameter table blast wheelabrator. 30 HP belt drive. Installed and in use until March 2018. Recently reconditioned with rebuilt auger. Brand New wheel and wheel housing. Good controls with pneumatic operated control and timer to shut down wheel and notify operator when cycle is complete. Very reliable machine in excellent condition. Table is mounted on the door with full access for overhead crane.

Asking \$75000.00 USD.



ITEM #M415

SURFACE COMBUSTION PARTS WASHER

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

BEST OFFER



ITEM #M414

VACUUM RESIDUAL GAS ANALYZER (3 AVAILABLE)

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

1. 1 Each, Quadrupole electronics QME220, P/N PTM28612
2. 1 Each, Quadrupole analyzer QMA200, P/N PTM25253
3. 1 Set, QMS220, Accessories & Spare Parts
4. 1 Each, SP 220, (033-0038 43202) Power Supply 90-264VAC, 2.1mm R/A (24 V Output)
5. 1 Each, 45-0007 43024 UTP-Patch-Cable, 3m, Crossed, Red
6. 1 Each, B4564309YX Inficon Mains Cable (USA) LNPE, AWG 18, 2.5m
7. 1 Each, 45-0006 UTP-Patch-Cable, 3m, 1:1, grey 43024
8. 1 Each, PT882400-T Quadera-software, Version 4.61 12/10/2015 for Windows 7 or XP (32-bit Pro)
9. 2 Each, PrismaPlus QMG220 Operating Instructions (1-English & 1-German)
10. 1 Each, Test Reports and Configuration
11. 1 Each, PT R 26 002 Compact Full Range Vacuum Gauge PKR 251, DN 40 CF F
12. 1 Each, PT 448 250-T Sensor Cable

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

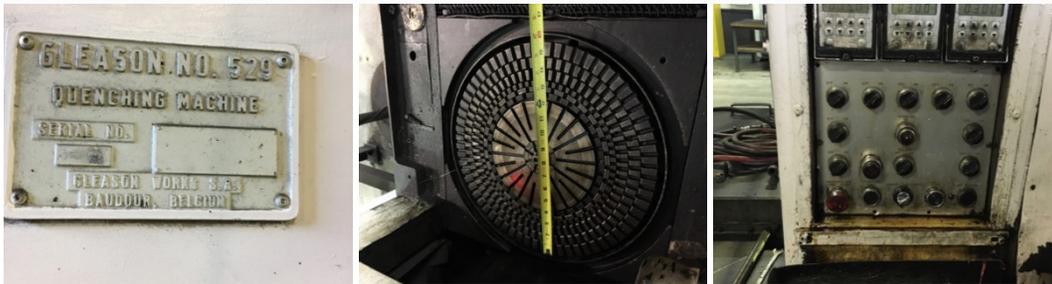


ITEM #M413

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.



ITEM #M412

ATMOSPHERE ENGINEERING "ENDOINJECTOR"

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

Asking \$6,500.00 USD.



ITEM #M411

SBS QUENCH OIL COOLERS (2 AVAILABLE)

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

Asking \$13,500.00 USD Each.



ITEM #M410

MAGNAFLUX MPI INSPECTION

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

Asking Price: \$11,750.00



ITEM #M409

GRAYMILL AQUEOUS/SOLVENT PARTS WASHER

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

Asking Price: \$1250.00 USD



ITEM #M408

SURFACE COMBUSTION POWER LOADING TABLE 30" WIDE

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

Asking Price: \$1,000 USD



ITEM #M406

SURFACE COMBUSTION PARTS WASHER

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

ITEM #M400

NITROGEN GENERATING SYSTEM

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

Asking \$82,500.00 USD.



ITEM #M399

ECLIPSE BURNERS, RECUPERATORS AND SPARK IGNITERS

Eclipse Burners, Recuperators and Spark Igniters. All of these items are in "like new" condition and still in the original boxes. Vendor will sell as a complete package or as individual items. Recuperators; Eclipse Bayonet Ultra Recuperator, Assembly 101849-24 (5BU, 24" tube length, low pressure drop model). S/N 07-27834580-8 45 units in inventory.

Asking \$1840 USD each.

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

\$695 USD each.

Spark Plug Igniters. Model # 100640-11. 40 units in cardboard tubes with bubble wrap.

\$100 USD each.



ITEM #M396

SURPLUS CAST LINK BELT

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

Please call for pricing – Gord: 905.271.0033



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

Asking: \$55,000.00 USD.



ITEM #M365

DUAL LANE CONVEYOR WASHER

Dual Lane Conveyor Washer. Heated: Natural Gas. Dual Lane Washer Serial Number: 08-010 (2008). Max Temperature: N/A. Voltage: 480/3/60. Work Area: 11"W x 7"H. Each Lane External Dimensions: 8'W x 10'6H x 30'L – approx. Controls: Mounted and wired in an enclosure attached to the washer. Includes an Allen Bradley MicroLogix 1200 PLC and an Allen Bradley "Powerflex 4" VFD to control conveyor belt speed. Description: This washer has three (3) stages, wash/rinse/blow-off. This washer is gas fired using Eclipse burner

and gas train with a Honeywell UDC digital temperature control. Spray nozzles are located on top, both sides and bottom. Condition: Very Good.

Asking: \$39,500.00 USD.



ITEM #M363

SBS UNIT

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

Price: \$15,500.00.



ITEM #M348

IPSEN AUTOMATIC DUNK/SPRAY WASHER

Ipsen Automatic Dunk/Spray Washer. Model #WRD-11, Serial Number 57690. Working dimensions of 36" wide X 48" deep X 24"+ high, 2200 pound capacity. Electrically heated, 72KW. Companion washer-In/Out or straight through design. Door each end, Cal Rod element bundle. 12" wide belt oil skimmer, air operated-full width elevator rack for submerged oscillation, overhead spray rinse. Overall dimensions of 7' 5" wide X 5' 4" long X 11' 8" high. Rebuilt,

Excellent condition asking \$35,000 USD.



ITEM #M346

SBS "QUENCHAIR"

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

Asking \$5,500.00 USD.



ITEM #M341

AFC CHARGE CAR

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

Asking \$28,500.00 USD.



ITEM #M334

BERG WATER CHILLER

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

Asking \$5,500.00.



ITEM #M314

HOLCROFT DUNK/SPRAY WASHER

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



VACUUMS FURNACES FOR SALE

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

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Quick Jump To Items:

- [Item # VF335](#) ALD Vacuum Carburizing Furnace
- [Item # VF334](#) Degussa Vacuum Hardening Furnace
- [Item # VF333](#) Low Temperature Vacuum Tempering Furnace
- [Item # VF332](#) IVA Vacuum Furnace 6 Bar
- [Item # VF331](#) High Temperature Vacuum Furnace 2300 °
- [Item # VF330](#) Surface 2-Bar Quench Vacuum Furnace
- [Item # VF328](#) Abar Ipsen Model HS-26 Vacuum Furnace
- [Item # VF327](#) Surface Combustion Vacuum Temper Furnace
- [Item # VF326](#) Ipsen 924 Vacuum Furnace
- [Item # 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

ITEM # VF335

ALD VACUUM CARBURIZING FURNACE

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

Price: FOT/Germany : 75.000. Euro



ITEM # VF334

DEGUSSA VACUUM HARDENING FURNACE

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

Price : FOT / Germany Euro 60.000



ITEM # VF333

LOW TEMPERATURE VACUUM TEMPERING FURNACE

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

Price : FOT/Germany Euro 28.000



ITEM # VF332

IVA VACUUM FURNACE 6 BAR

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

Price : FOT/Germany Euro 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 utility
- Complete and in Good Condition
-

Asking \$19,950.00 USD



ITEM # VF330

SURFACE 2-BAR QUENCH VACUUM FURNACE

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

Asking Price: \$119,000



ITEM # VF328

ABAR IPSEN MODEL HS-26 VACUUM FURNACE

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



ITEM # VF327

SURFACE COMBUSTION VACUUM TEMPER FURNACE

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

Asking Price: \$85,000 USD



ITEM # VF326

IPSEN 924 VACUUM FURNACE

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

More details and asking price available upon request.



ITEM # VF323

150 TON VACUUM HOT PRESS (2 AVAILABLE)

(2) 150-Ton Vacuum Hot Presses

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

Asking \$450,000 USD Each



ITEM # VF322

VACUUM SINTERING FURNACE, 2,000 C

Vacuum Sintering Furnace, 2,000 C. Horizontal Vacuum Sintering Furnace System for processing graphite and ceramics. Manufactured by AVS, Model HGF-22-21-62-2000. Work zone is 22" wide x 21" high x 62" deep. 12 cubic feet, maximum load of 350 kgs. Temperature: 2000 °C maximum operating temperature. Temperatures above 1700 °C require partial pressure or positive pressure. Maximum heat rate is 10 °C/min ramp rate for room temperature to 1600 °C, ± 10 °C uniformity @ up to 1600 °C in vacuum. Rotary piston roughing pump. Evacuates chamber to 20 micron in 10-15 minutes, empty (5 X 10⁻³ Torr Ultimate vacuum) 5 u/hr. leak rate. Process Gasses – Argon, Nitrogen, 1% Methane in Nitrogen. Controls Fully automatic operation with ACE™ control/ Data Acquisition System. **Chamber;** HORIZONTAL JACKETED CHAMBER – nominal 56" diameter x 82" long flanged, on legs. All stainless-steel chamber, interior jacket and flange water-cooled. Two door containing hinges and manual door clamps. The chamber includes a 4" flanged bottom port

designed for future applications and flexibility. Two site ports are included and set up with gas purged pyrometer sight port assemblies. Two load carts with battery operated hydraulic lift and roller top are provided with the furnace for use with the two hearths that are provided for the hot zone.

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

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

Asking \$180,000 USD.



ITEM # VF321

IPSEN VACUUM FURNACE

Ipsen Vacuum Furnace:

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

Price: \$58,000 USD.



ITEM # VF320

HIGH TEMPERATURE VACUUM FURNACE

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

Asking \$100,000 USD for everything.



ITEM # VF319

VACUUM INDUCTION MELTING SYSTEM

Vacuum Induction Melting System. Manufactured by Ionex, Model 260 LB VIM, S/N 93978. Electrically heated 480/3/60/200 KVA. Work area 150 kW, 3 kHz, 260 Pound. External dimensions of 10' wide X 10' high X 15' long. Controls; Complete with PLC and touchscreen HMI interface. 260 pound horizontal front loading VIM with water cooled stainless steel vacuum chamber. Pumping system includes a BOC/Edwards 1722 package with mechanical pump/booster and a stainless steel 20" T-M Vacuum diffusion pump. Induction power supply consists of a Pillar 150 kW, 3 kHz and includes water cooled power

leads. This furnace has automatic tilt and includes two (2) crucibles. Also included with this VIM is a rotating load table that moves up and down for accurate pouring. Lot of misc. spare parts and molds are included. Excellent condition.

Asking \$285,000 USD.

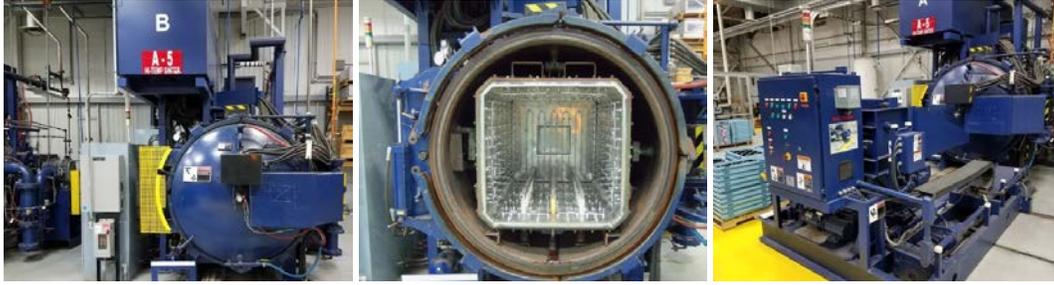


ITEM # VF317

TWIN HIGH TEMPERATURE VACUUM HT & SINTERING FURNACES

Twin High Temperature Vacuum HT & Sintering Furnaces. Two each Seco/Warwick Model V40-35/48 Vacuum Furnaces, 1500C (2732 F) Max. operating temperature, 1600C (2912F) burn-out temperature, Work Zones: 600mm x 650mm x 1200mm (23.6" x 25.6" x 47.2"), Design uniformity +/- 10C, but with elements on all 6 sides we would expect much better uniformity, One furnace hot zone is in excellent condition and the other is nearing time for replacement, All-Metal Hot Zones (Layers: 1 Tungsten, 7 Moly, 1 Stainless Steel), Low voltage Tungsten Heating Elements, Moly hearth, Load Rating: 2850 lb. (1300 Kg), Power: 480V/3Ph/60Hz, 390 kW SCR Heating Input with 3-zone control, 420 kVA total power, Stainless steel chamber, water jacket and hot zone plenum, Controls are CompactLogix PLC with computer, touch screen and SCADA software, Leybold TTR91 pirani vacuum sensor, Edwards (Stokes) 212J mechanical pump with Edwards 607 booster pump, Gases set up for Argon cooling and hydrogen purge, Hydrogen mass flow controller, Gas quench pressure rating is 1.05 Bar absolute. Mezzanine-mounted power supplies for minimal floor space requirement. Both furnaces (2), factory loader and existing spare parts are included at this price. Disassembly and Loading: Buyer's responsibility. Built in 2010 these furnaces were only used for 1 year. Excellent condition!

Asking \$275,000 USD for Both.



ITEM # VF316

AVS VACUUM FURNACE

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

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



ITEM # VF315

AVS VACUUM FURNACE (REBUILT)

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

Asking \$195,000 USD.



ITEM # VF314

IPSEN BOTTOM LOAD VACUUM FURNACE

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

Asking Price: \$325,000 USD.



ITEM # VF313

TOP LOADING VACUUM FURNACES (6 AVAILABLE)

Top Loading Vacuum Furnaces (6 available). Manufactured by GT Technologies, Model # AMPF-4836HP – 2015. Working dimensions of 1200mm diameter x 900mm High. Operating temperature of 2100C. Controls by Loy Instruments (Honeywell graphic touchscreen). This unique ultra high temperature furnace is high vacuum, has resistance heating with all graphite hot zone and graphite felt insulation for high efficiency operation. 480 volt 3PH 50/60 HZ, 160 KVA. Maximum load 1,000 KG. Double Wall Stainless Steel Vessel construction. Platform with Stairs included. Halogen Gas Purge equipped, Dry

Vacuum Pumping System with Blower. Graphite Purity levels to less than 5ppm. Cycle time 72 – 84 hours. 10 – 3 Torr vacuum level achievable. Options: Exhaust Scrubber System, Overhead Crane. Very good condition.

Asking \$175,000 USD each.



ITEM # VF312

2400C VACUUM FURNACE

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

Asking \$149,000 USD.



ITEM # VF307

BOTTOM LOADING VACUUM FURNACE

Bottom Loading Vacuum Furnace. Manufactured by Vac Aero. Working dimensions of 48" diameter X 60" high. 4860 High Vacuum (diff pump) bottom loader Main Chamber

replaced new in 2000. 50 HP Spencer Turbine gas quench blower with a .85 Bar pressure quench. Closed loop water system w/o air coil. Yokogawa paperless chart recorder. Honeywell DCP550 Set point programmer. Edwards vacuum gauge controller. Furnace is installed and presently in operation. Customer responsible for removal. Complete and in good overall condition.

Please call for pricing.



ITEM # VF301

VAC AERO 2 BAR VACUUM FURNACE

Vac Aero 2 Bar Vacuum Furnace. Model #VAH 4848-HV2. Working dimensions of 48" X 48", rated for 1500 pound loads. Serial #BM 981, built in 1998. Stokes vacuum pump #615-1. Serial number 915240E0498. Updated Allen Bradley controls. No diffusion pump but it does have a port for one. Good condition. Currently installed and in use for approximately 6 more weeks.

Asking Price: \$150,000 USD.



ITEM # VF299

SUNBEAM VACUUM FURNACE

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

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

Asking Price: \$95,000 USD.



ITEM # VF294

VACUUM ANNEALING FURNACE

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

Asking Price: \$29,000.00 USD.



ITEM # VF291

SMALL TOP LOAD VACUUM FURNACE

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

Asking Price: \$10,000 USD



ITEM # VF289

IPSEN VACUUM TEMPER FURNACE

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

Asking Price: \$59,500 USD.



ITEM # VF282

AVS VACUUM DEBINDING/SINTERING FURNACE

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

Asking Price: \$169,000 USD.



ITEM # VF271

SINTERING / DE-WAXING FURNACE

Sintering / De-Waxing Furnace. Horizontal sintering furnace with wax condenser 1470°C operating temperature. Water cooled 304 stainless steel chamber with mild steel flanges. Graphite hot zone – 24” wide x 18” high x 36” deep, with hearth rails. Graphite retort – 4 to 5 cubic foot work space, shelves, graphite rollers, de-wax tube and -cooling. 5 HP recirculation cooling fan system – cooling flaps in insulation and retort. Wax condenser assembly with hot water circulation system and removable wax receiver pot. Power supply – transformer-type, low voltage secondary, nominal 250 kW. Vacuum pumps – Stokes 212-

H, 150 cfm rough pump, Roots 615, 1600 cfm booster. Dynamic partial pressure gas system. Unit can be seen in operation and is available for immediate delivery.

Asking Price: \$299,000 USD.

ITEM # VF267

SEMI-CONTINUOUS TITANIUM DIFFUSION BONDING HOT PRESS

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

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

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

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

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

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

As is \$890,000.00 USD



ITEM # VF266

KINNEY 75 CFM VACUUM PUMP

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

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



ITEM # VF243

35" DIFFUSION PUMP

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

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



ITEM # VF242

35" DIFFUSION PUMP

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

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

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



HEAT TREAT CENTRAL

- High Quality Low Cost Base Trays
- **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

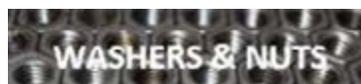
²Applies to standard design trays only. Some restrictions apply.

©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



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

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

ALD Vacuum Systems



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

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

Cooley Wire Products



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

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

Custom Electric Manufacturing



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

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

Dry Coolers



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

<http://drycoolers.com/>

Grammer Vacuum Technologies, Inc. (Molybdenum)

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

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

Graphite Materials



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

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

Heat Treat Central



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

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

Idemitsu



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

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

South-Tek



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

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

Super Systems



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

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

EMPLOYMENT OPPORTUNITIES ADVERTISING

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

Employment Opportunities

Quick Jump To Items:

Item # 0357 Quality Control Manager

Item # 0353 Plant Manager

Item # 0352 Senior Applications Engineer

Item # 0351 Technical Sales Associate

Item # 0349 General Manager of Commercial Heat Treating Business

Item # 0345 Multiple Positions Available

ITEM # 0353 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 out 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 # 0352

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

ITEM # 0351
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 activity.
- 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

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

ITEM # 0345
MULTIPLE POSITIONS AVAILABLE

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

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

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

SEEKING EMPLOYMENT ADVERTISING

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

ITEM # SE 001

MANUFACTURERS REP LOOKING FOR LINES TO ADD

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

In Parting

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

Gord Montgomery,
W.G. Montgomery Limited
Phone: 905 271-0033
Fax: 905 271-9324
Email: gord@themonty.com
