

## HEAT TREAT NEWSLETTER

*Everything to do with heat treating*



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

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## BUSINESS OPPORTUNITES

## IN PARTING

# INTRODUCTION

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So let's see; Heat Treat News Items from Mexico in this issue-Yes. Heat Treat News From Germany-Yes. Heat Treat Stuff from The USA-Yes. The Heat Treating Industry in Canada-Yes. What About Heat Treating in The Netherlands-included. The July 2019 issue of "The Monty" covers all of this and more and also includes some really interesting recent additions to our used equipment section.

We sincerely hope you enjoy this issue, Gord, Jordan and Dale Montgomery.

## Optimize Your Furnace Heat Treatment Process with the Datapaq TP3 from Fluke Process Instruments

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Optimizing Your Process**

# HEAT TREAT NEWS

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**The Website of Choice for Captive and Commercial Heat Treaters Since 1999**

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## **Thermprocess 2019 Dusseldorf, Germany**

Jun 27, 2019

The world's largest heat treat exhibition, Thermprocess being held in Dusseldorf, Germany is rapidly drawing to a close and as it does we present these photos from the exhibition with more to come over the course of the next week. The general consensus? That attendance is down and two heat treat shows in Germany in the same year (the second being our favorite, HK19 in Cologne in October) is too much. Having said that it was certainly very well organized and in our opinion worthwhile.



*Because of the size of the show it can be very tiring. This fellow only made it until noon before he needed a break.*



*Bill Disler, AFC-Holcroft, Sonja Zimmermann, Berndorf (parent company of Aichelin), Peter Schobesberger, CEO Aichelin*



*Graphite Materials; CFC provider always has a very strong presence at heat treat exhibitions around the world.*



*Part of the ECM Sales team including our good friend Dennis Beauchesne in the center.*



*SAMT Materials & Metallurgy; Gord Montgomery and Mr. Shen Li. SAMT is one of the largest vacuum furnace producers in China and has long standing partnerships with companies such as EMO Cleaning Systems in Germany and Pyradia in Canada.*



*ION Heat, a well known manufacturer of Ion (Plasma) nitriding systems can be found at most heat treat exhibition around the world. Second from left we have Mr. Andres Bernal, CEO and to his left we have Stephen Sossa.*



SOME LIKE IT HARD,  
SOME LIKE IT SOFT.

[www.haertha.de](http://www.haertha.de)

### **Harterei Tandler, Bremen, Germany**

Jun 27, 2019

Let's have a look at a company which largely does captive heat treating. Harterei Tandler GmbH & Co. KG., is a privately owned manufacturer of gears based in Bremen, Germany. The company produces gears for a wide variety of industries including the aerospace industry. It would be hard to describe them as a large volume company as many of their products are quite specialized and thus tend to have smaller volumes. The company processes 65 tons of work per week through a variety of pit furnaces which have the ability to quench in salt, oil or polymer.

In addition to this facility the company also has another location in Bremen by the name of Kutz & Schulze which is a commercial heat treat operation-more of Kutz &



Schulze next week. We leave you today with these photos of the Tandler heat treat department. From the left we see Production Manager, Friedel Heidelberg, Joern Rohde, Rohde Furnaces, Carsten Erasmi, President of both heat treat operations and Gord Montgomery.

## Solar Atmospheres Adds All-Metal Hot Zone Furnace

Jun 27, 2019

Solar Atmospheres recently installed another unique, all-metal hot zone vacuum furnace at its 1969 Clearview Road facility in Souderton, PA. This is Solar's third all-metal hot zone furnace installation for their climate-controlled room. The additional furnace increases Solar's capacity for processing sensitive materials such as PH stainless, nickel-chrome based superalloys, titanium, and ferritic and austenitic stainless steels.

The unique placement of isolation valves, an all-metal moly/stainless steel hot zone, and a stainless steel chamber allows this furnace to attain the level of cleanliness mandated the demanding aerospace and medical markets. The ability to achieve vacuum levels lower than  $5 \times 10^{-6}$  Torr produces clean, bright results without contamination. Additionally, this furnace incorporates Solar Manufacturing's latest SolarVac Polaris HMI control system for complete process automation.



by

Jamie Jones, President of Solar Atmospheres states, "The increasing demands for cleanliness levels in critical aerospace and medical applications, and the growth in these markets, paved the way for Solar Atmospheres to add capacity through this investment." For additional process information, contact Mike Moyer, Director of Sales, Solar Atmospheres, at 215- 721-1502 x1207, or [mikem@solaratm.com](mailto:mikem@solaratm.com), and visit [www.solaratm.com](http://www.solaratm.com).

ION NITRIDING  
SOLUTIONS



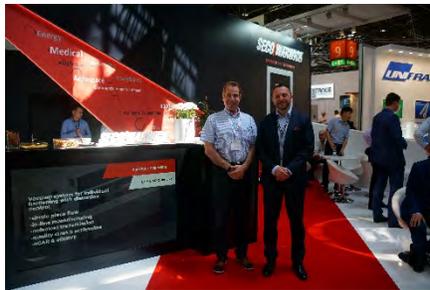
Don't let **one part**  
keep you down



## Sławomir Woźniak, SECO/WARWICK

Jun 27, 2019

There has been some speculation recently about the new CEO of furnace manufacturer SECO/WARWICK. We can now tell you that it is Mr. Sławomir Woźniak a longtime SECO employee. Sławomir has an electrical background and started his career with SECO 20 years ago as a sales engineer. Over the years he has had a variety of positions with the company including field service and most recently was COO. His career has included 4 years in China and 2 years in India on behalf of SECO. We asked Sławomir if we could expect any major changes to the company now that he is CEO and his answer was that the company has gone through some fairly substantial changes recently and while he plans to continue to make some changes we should not expect anything drastic. He did go on to say that his stated goal is to make SECO/WARWICK number 1.



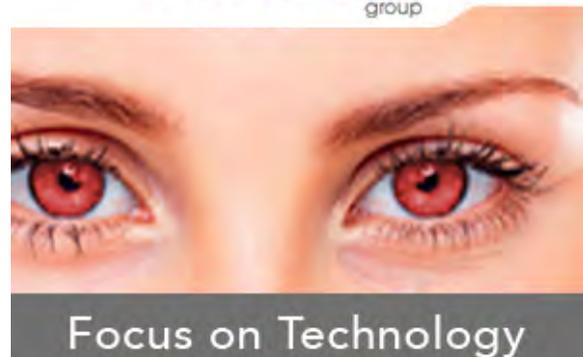
## Thermprocess, Dusseldorf, Germany

Jun 26, 2019

We are now at the “Thermprocess” exhibition in Dusseldorf, Germany which bills itself as the largest heat treat exhibition in the world. Held every four years at the same venue in Germany our first thought is that very unfortunately the event this year is being held amongst record breaking temperatures of up to 38C (almost 100F). Over the course of the next few days we have several photos from the show. In this photo we see from the left; Harald Roth of KGO, Don Longenette, and Mr. Andreas Fritz of EMO. Wait a second-Don Longenette? Yes indeed Don who has worked at companies such as Timken and Bodycote is in attendance. We want to say the EMO is one of the foremost companies in the world when it comes to high end cleaning systems and we will be having an in depth interview with him November of this year.



The eFlo line of Flow Meters



## **HARTHA Hardening Industries, Aldenhoven, Germany**

Jun 26, 2019

What you are looking at in this photo is a brand new Schmetz vacuum furnace with a capacity of 2500 Kg and 10 bar quenching. We lie a little bit as it has been in operation for a few months now but close enough. Accompanying the furnace is Mr. Ralf Einenkel, Engineering Manager. This is just a teaser as we will have more to tell you about this commercial heat treater next week.



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## **HK 2019, Cologne, Germany**

Jun 26, 2019

We are getting ahead of ourselves a bit mentioning the October 2019 Heat Treat Exhibition in Cologne, Germany while we are at the Thermprocess show in Germany but October is not that far away. From the organizers of the event we have these notes.

**75th HeatTreatmentCongress – Ticket shop launch;** *The ticket shop for HK 2019 is now online. All attendees can (re-)register on the HK website [www.hk-awt.de](http://www.hk-awt.de) using their login data, and plan their HK visit.*

**MatchMaking;** *Our MatchMaking tool is the perfect way for you to prepare your visit. It enables you to systematically search for exhibitors and products, arrange appointments with exhibitors, bookmark favourites and presentations and create your own personal event timetable using the calendar tool.*

**Apps for Android and iOS;** *The updated app for Android and iOS can be downloaded from the store via the direct link on the website, giving all visitors on-site access from their mobile phone or tablet.*

**Congress highlights;** *The programme features two absolute highlights on Wednesday morning: The lecture by Dr Stefan Hock on HK's significance &*

changes and the materials-science challenges of the future, and the plenary address by communications expert Isabel Garcia on the topic of ‘Thinking cleverly – communicating cleverly’. The conference will start with the basic seminar for professionals on the topic of ‘Case hardening – process and systems technology’, run by Dr Herwig Altena from Aichelin. <https://www.hk-awt.de/vortragsprogramm-hk-2019/>

**The online marketplace;** Many exhibitors are already enjoying the features of the new HK website and posting their industry news, product presentations and job advertisements. You too can use this information platform; it’s accessible to all website visitors. <https://www.hk-awt.de/marketplace/>

**The exhibition;** Very few exhibition spaces are still available for booking. A current hall plan with free booth spaces marked can be found at: [www.hk-awt.de/hallenplan-hk-2019](http://www.hk-awt.de/hallenplan-hk-2019).

In the exclusive Newcomer area, first-time exhibitors can once again showcase their company for a total cost of EUR 3350. The premium-design ‘HK deluxe booths’ are also available again this year. Exhibitors can book a ‘hassle-free package’ that includes everything from booth fit-out, to admission tickets and parking passes.

## HK 2019

HärtereiKongress  
HeatTreatmentCongress



## SABO BOXTEL, Boxtel, Netherlands

Jun 25, 2019

SABO BOXTEL in the Netherlands (*which is part of the HARTHA Hardening Industries Group*) has quite a unique business model. Founded a number of years ago the company only recently became part of the HARTHA Hardening Industries Group-in 2016 if our memory serves us correctly. While it is a captive/commercial heat treater the true story goes much further. Half of the company's business is producing high end, specialized, machined components for industries such as energy, heavy equipment, the paper industry and agricultural equipment. The other half of the company is dedicated to Induction hardening, half for the products the company produces, the other half for any Tom, Dick or Harry who requires high end Induction heat treating. Yesterday we saw roughly 14 induction systems with the ability to harden parts up to 6 tons with a diameter of up to 6 meters (18 feet) which is the largest the company has heat treated. By the way the General Manager, Franka Seijbel is an extremely competent individual who we immediately had a high regard for. These photos tell the story of a rather interesting operation.



## **Mr. Tadeusz Swiatek, United Process Controls GmbH**

Jun 25, 2019

It would appear that United Process Controls GmbH probably the largest furnace controls company in Europe has a new sales manager who will be covering all the German speaking areas of Europe. His name is Mr. Tadeusz Swiatek, he is based in Hagen and he joins the company with 15 years of experience in the heat treatment industry. While we personally have never met him we hope to do so this week in Dusseldorf, Germany.



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## **Nakal Supplies Roller Hearth Furnace To Vietnam**

Jun 25, 2019

Furnace builder Nakal delivers a brand new roller hearth furnace to Electronic Informatics Chemical Company (Ho Chi Minh City). With working chamber dimensions of (L x W x H) – 6000 mm Long x 300 mm Wide x 300 mm High, this furnace will be used to heat treat up to 6 meter long pipes. There are 3 control zones with a maximum temperature of 1100°C. Nakal was founded in 1992 and among some of their regular customers are ALCOA, the Khrunichev State Research and Production Space Center, Perm Motors, Sevmash, Lukoil, Komsomolsk-on-Amur Aviation Production Association, Russian Railways, Severstal, Mechel, Volzhsky Pipe Plant, Almaz-Antey Air Defense Concern.



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## IWT/Bremen, Germany, HT Research Facility

Jun 24, 2019

We have yet to see a Heat Treatment research facility anywhere in the world to rival that of IWT in Bremen, Germany. The institute has long had a mandate to further the knowledge of all facets of heat treating and to this end the institute has the an amazing array of the most up to date heat treatment equipment we have ever laid eyes upon. Salt bath heat treatment, vacuum carburizing, press quenching, gas carburizing, gas and plasma nitriding, induction hardening the institute has an up to date system to experiment with all of the technologies. In addition more systems are on the way including a brand new Hot Isostatic Press system. These furnaces give you a taste of the institute but probably fail to do real justice to it.



*Joern Rohde, Gord Montgomery, Professor Hans-Werner Zoch, Heinrich Klumper-Westkamp*



*Heinrich Klumper-Westkamp, Professor Hans-Werner Zoch, Joern Rohde, IngoBunjes*



## Precision Gear Inc., Acquires Arrow Gear Company

Jun 24, 2019

This isn't recent news, as a matter of fact it dates back to the December of 2018, however it doesn't seem to have attracted much attention. We of course are interested for the usual reason-both of these companies have very impressive in house heat treating departments. The one photo here shows Jordan Montgomery at the Precision Gear facility in College Point, NY. The other picture shows one of the batch IQ furnaces at Arrow Gear in Illinois which works in conjunction with a Dixietech Press Quench system.

*"Precision Gear Inc. of College Point, NY is pleased to announce the acquisition of Arrow Gear Company of Downers Grove, Illinois. The Purchase was concluded on November 16th, 2018. The combined strength of PGI and AGC will provide the gear and shaft market with 160 years of manufacturing expertise in providing Flight Safety Critical hardware. The confluence of the advanced gear and shaft manufacturing capabilities and an experienced and proven management team will significantly improve the company's stature across the industry. Precision Gear and Arrow Gear will continue to operate from the current facility locations, while leveraging their corporate affiliation. A management holding company has been established to ensure organizational guidance and strategic oversight to pursue a competitive vision for the group. The new entity has been established as Precision Arrow Gear Group (PAGG). The merger of these companies will enhance the diversity and depth of the product offering to the market while expanding their presence in the industry."*



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## Thermal Product Solutions Appoints Greg Jennings as President and CEO

Jun 24, 2019

*New Columbia, PA – June 17 th, 2019 – Thermal Product Solutions, LLC (TPS), a global manufacturer of thermal-processing equipment, has appointed Greg Jennings to the position of President and CEO. Jennings has experience in both Fortune 500 and private companies. He has held the position of Chief Financial Officer (CFO) at TPS since 2013. During his time as CFO, he was instrumental during the acquisition of Wisconsin Oven Corporation and Baker Furnace. Prior to TPS, Jennings held a number of domestic and international positions within SPX Corporation, a supplier of highly engineered solutions. Jennings has an extensive educational background to support his experience in the industry. He holds a BBA in Finance from the University of Tennessee, MBA from Arizona State University, Masters in Corporate Innovation and Entrepreneurship from Penn State University, and several professional certifications from accredited universities \ such as Cornell University and the New York Institute of Finance.*

*“I’m honored to lead the Thermal Product Solutions (TPS) organization, a company that has a long-standing history with each of its brands and customers. This business has done a tremendous job of serving the most innovative companies in the world, and we will continue stretch ourselves to understand each and every customer’s need. I look forward to working with all of our incredibly dedicated TPS employees and partners, to ensure that we challenge ourselves in pursuit of exceeding these customer needs through innovation, comprehensive customer service, and unparalleled quality.” – Greg Jennings, President and CEO*

*Jennings will be located at the Wisconsin Oven facility in East Troy, WI and intends to maintain an active presence in the community through his role as a board member of the United Way of Walworth County.*



*About TPS. Thermal Product Solutions (“TPS”), is a leading American manufacturer of industrial ovens, furnaces, pharmaceutical sterilizers, and environmental temperature cycling and stability test chambers. TPS is a global leader in thermal processing products and test solutions with brands including Baker Furnace, Blue M, Gruenberg, Tenney, Lindberg, Lunaire, MPH, and Wisconsin Oven. For more information on equipment solutions*

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## ROHDE Schutzgasöfen GmbH

Jun 23, 2019

We started off our week in Europe with a visit to furnace manufacturer Rohde in Hanau, Germany and have these two photos to prove it. These pictures were taken on their plant floor and show a couple of furnaces fairly close to being completed. We see in the forefront of one of the photos a Pit furnace, Type SG 160/350 destined for captive/commercial heat treater **Kern Liebers** in El Marqués (Querétaro), Mexico a company we have profiled in the past. The second photo shows a Chamber furnace type KGU 120/100/180 for Nitriding and Nitrocarburizing which is going to commercial heat treater **Haerterei Wittmann GmbH** in Ugingen (Germany)-this is the second furnace Rohde has supplied to the company. In the pictures we see **Damian Bratcher**, International Sales Manager for furnace controls company SSI of Cincinnati, USA and **Joern Rohde**, owner of Rohde Furnaces.



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 **TPS**  
Thermal Product Solutions

 **BAKER FURNACE INC.**

Baker furnace is now offering accredited system calibrations backed by the TPS group's combined 17 years of experience.

## European Heat Treating Week

Jun 23, 2019

With the Thermprocess show in Dusseldorf this week we at **“The Monty”** will be attending the show and at the same time visiting some commercial and captive heat treats in Germany and the Netherlands which means we will have a number of news items about the European heat treating market. One company which we will be seeing tomorrow is commercial heat treater Sabo Boxel in the Netherlands which as you can see is strong in the Induction heat treating field. Our host Franka Seijbel, General Manager is shown in the second picture.



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

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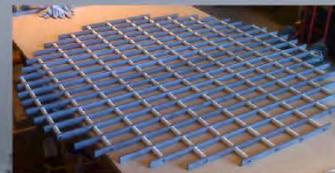
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**Grammer Vacuum Technologies, Inc.**

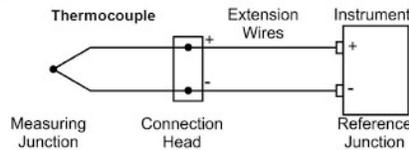
*Over 40 years in vacuum furnace materials experience.*  
[www.gvtinc.com](http://www.gvtinc.com)

## Temperature Uniformity By David Pye

Jun 23, 2019

### *Temperature Uniformity*

*Temperature uniformity within a furnace means; 'a uniform temperature set to operate within a specific tolerance band to create conditions under which a final uniform resulting metallurgy will be accomplished in the treated component'.*



*Fig 1. A simple schematic sketch of the basic function of a thermocouple for heat treatment temperature measurement.*

*The writer now asks the question, 'what does the thermocouple measure'? The immediate answer that comes to everyone's mind, is 'it measures the temperature of the furnace'. However, that is an incorrect answer!! The thermocouple can ONLY measure the temperature of the 'Measuring Junction' of the thermocouple and nothing else.*

*The basic thermocouple and temperature measuring device will require a minimum of two thermocouples, which are for Temperature Control and a safety thermocouple device for over temperature conditions. The over temperature is to protect the furnace work load from over shoot in temperature.*

*The temperature control that is desired. (in reality) is at the component itself/load. When conducting a temperature uniformity survey, the minimum requirement to establish the degree of temperature variance with the process chamber is 9 (nine).*



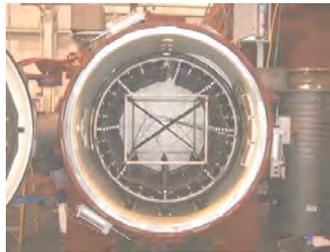
*Fig 3 Nine-point thermocouple temperature uniformity survey being prepared. Once you have defined the area (within the process chamber), label the front door of the furnace with the dimension's and location of the accurate temperature*

*uniform zone within the process chamber. All work but then be processed within that defined envelop.*

*Conduct the temperature uniformity survey on the furnaces each week. Be sure to remember to conduct the temperature survey any timer that a repair has been completed on the furnace such (to name a few);*

- *Door seal replacement.*
- *Element repair (or replacement of a gas burner)*
- *Refractory repairs*
- *Thermocouple replacement*
- *Air circulation system repairs*

*Remember also the place the thermocouple as close to the work piece or load without the thermocouple interfering with the lading and unloading of the load or individual component.*



*Fig 4 Vacuum furnace temperature uniformity survey.*

*Remember also to be sure that you replace a thermocouple with the same type of thermocouple as the one that is being replaced!*

*Sincerely David*

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## **Texas Heat Treating Installs New Ipsen Vacuum Furnace**

Jun 23, 2019

The fact that Texas Heat Treating in the USA purchased a new vacuum furnace last year certainly made our news section-you can now see a photo of the unit installed. This is an Ipsen TurboTreater H5448 6-Bar Horizontal Vacuum Treating Furnace with working dimensions of 36" X 48" X 36".



## Ipsen Expands Sales Engineering Presence

Jun 20, 2019

Ipsen USA recently embarked on an initiative to double the number of Regional Sales Engineers (RSEs) by year-end. Ipsen's RSEs engage customers with the objective of improving furnace performance and increasing service life. "The North American market has proven the need for a strong and technically diverse field support team," said Ipsen President and CEO Patrick McKenna. "We believe that quality product designs are born from investment in supporting customers." Recent hires include Midwest RSE Joyce Paliganoff, Southeast RSE Patrick Heiser and West/Northwest RSE Larry Gomez.

"We know the importance of helping our customers with aftermarket products and services on Ipsen and non-Ipsen equipment," said Ipsen Vice President of Sales Pete Kerbel.

The expanding group of RSEs will continue to include individuals with diverse skills and backgrounds, many with experience in engineering, machine repair and metallurgical processes. They perform furnace inspections, develop system health reports, and offer solutions through their expertise in parts, service, retrofits, and repairs.

**About Ipsen.** [Ipsen USA](#) designs and manufactures industrial vacuum and atmosphere heat-treating systems, supervisory controls systems and predictive maintenance software platforms for many industries, including Aerospace, Automotive, Commercial Heat Treating, Energy and Medical. With production locations in America, Europe and Asia, and representation in 34 countries, Ipsen is committed to providing 360° support for customers worldwide.



## Where Are They Now-Don Longenette

Jun 20, 2019

With his vast experience in the North American heat treating market with companies such as Timken Bearings and Bodycote Don's is a name recognized by most heat treaters. Most recently he was GM of commercial heat treater Certified Heat Treat in Springfield, Ohio, USA, however things change and Don recently parted ways with the company. He is now interested in a position in the industry where he could be in charge of maintenance & facilities for several plants. If you would like to talk to Don feel free to drop us a note [jordan@themonty.com](mailto:jordan@themonty.com)

A photograph of industrial machinery, likely a hot zone relining system, featuring a large circular component and a grid-like structure.

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## **Advanced Heat Treat Corp. Announces Building Expansions in Iowa and Michigan**

Jun 20, 2019

*Advanced Heat Treat Corp. (AHT), a recognized leader in heat treat services and metallurgical solutions, announced building expansions at their Monroe, Michigan and Waterloo, Iowa locations. The extra space will enable AHT to add more equipment and services. The Michigan AHT location is expanding their pit. The new space will allow for two additional nitriding units which are larger in size.*

*AHT Burton, referred to by the street name as there are two locations in Waterloo, Iowa, is adding additional square footage onto their building. The expansion will allow for additional equipment and services to be added. The expansion is expected to be complete mid-summer. While the expansions are the first for the Michigan and Burton facilities since 2006 and 2007, respectively, AHT recently doubled the shop floor at their corporate headquarters located in Waterloo, Iowa this past February.*

*AHT President Mike Woods commented, "We're very excited about the growth AHT has seen over the past few years. Because of this, we felt it was necessary to expand our facilities and invest in additional equipment to better serve our customers and capture more of the market." Last month, AHT also added two new induction units at the Burton Ave location, providing even better turnaround times and expanding capacity for large parts.*

*AHT has four locations: two in Waterloo, Iowa; one in Monroe, Michigan; and a fourth in Cullman, Alabama. Between the four locations, they offer over 20 surface treatments including gas and ion nitriding, induction hardening, carburizing, carbonitriding and more. Woods added, "This past year has been exciting. We thank everyone involved and look forward to another great year." For more information about Advanced Heat Treat Corp. or its services, please visit [www.ahtcorp.com](http://www.ahtcorp.com) or call 319-232-5221.*

*About Advanced Heat Treat Corp.*

*Established in 1981, Advanced Heat Treat Corp. (AHT) is a recognized leader in providing heat treat services and superior metallurgical solutions to companies across the globe, with locations in Alabama, Iowa and Michigan. Their UltraGlow® family of processes includes plasma ion nitriding, ferritic nitrocarburizing (FNC),*

*gas nitriding, UltraOx®*, through hardening, carburizing, carbonitriding, induction hardening and many more.



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## **SECO/WARWICK Introduces New Products**

Jun 20, 2019

SECO/WARWICK has just unveiled two new products, which are to solve every day heat treat problems

Various industries are currently experiencing unprecedented changes. Emerging technologies open new doors, but on the other hand, pose a challenge. SECO/WARWICK, often referred to as an “innovator”, “champion”, “trendsetter” or “one of the top 5 providers of equipment and services for metal heat treatment” has just unveiled two new products that answer to these challenges and solve every day heat treat problems:

- UCM® 4D Quench®
- the Super IQ®.

These two new product technologies will revolutionize heat treatment – one solution reduces the costs of carburizing and the other is the alternative to press hardening.

SuperIQ® for super clean parts and zero added costs

The Super IQ® (integral or sealed quench furnace) offers all of the benefits of low pressure carburizing and vacuum hardening with none of the added costs. The system combines clean processing with the exceptional performance of oil quenching in the industry’s most innovative integral quench furnace design in decades. With a Super IQ, users get super clean parts while still getting the benefit of a simple atmosphere oil quench.

The Super IQ furnace is a hybrid system combining the attributes of a conventional and vacuum furnace in one, primarily designed for carburizing processes at

elevated temperatures and hardening. The furnace features a traditional vestibule with automatic loading and an oil quench a vacuum-tight heating chamber. The furnace is designed so that it can be seamlessly integrated into an existing line of conventional gas carburizing furnaces without interfering with the material transport system.

SuperIQ® major advantages:

- Higher process temperatures (>925° C = 1700 F°) reduces cycle time, increasing productivity by enabling higher throughput,
- System flexibility – operates on an on/off mode,
- Easy system integration with traditional gas carburizing furnaces,
- Eliminates the need for an endothermic generator; a cost savings of US\$120,000 + utilities + maintenance,
- Eliminates the requirement for a flame curtain (no fire in the furnace) – improving operator safety,
- Lower post-process gas emissions,
- Fully automated operation with minimal operator intervention.

Forget about hardening in a press and all its disadvantages – meet its modern and attractive alternative

The second product, the UCM® 4D Quench® is a vacuum heat treatment system for individual quenching in nitrogen of single-piece of mechanical transmission components such as gears, shafts, rings, sleeves, etc. made from regular and special case and through hardening steels. It notably increases precision and repeatability of heat treatment results and reduces production costs. It provides vacuum heating following by powerful and uniform nitrogen quenching resulting in distortion control & reduction with high repeatability of final results. The system is fully automated and easily integrated with in-line production.

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Continuous furnaces



## Bill Jones, Solar Group of Companies, Nitriding Comments

Jun 20, 2019

Bill Jones, CEO of Solar Manufacturing and Solar Atmospheres offers these comments on nitriding in response to a news item we had yesterday about nitriding; *“With respect to the Nitrex Company Memoriam on the distinguish career of Dr. Tymowski, I would like to offer a minor correction. Nitriding of steel actually was introduced in Germany in the 1920’s and accepted in Europe, but only later in North America, per Google history. Rather than as stated by Nitrex “an undeveloped heat treating process in the 1980’s”, not to take away from the work of Dr. Tymowski, which I believe he would agree if available, as he was an honorable gentleman. There have been any number of nitride grade alloys developed with the hope of displacement of the classic carburizing surface harden grades of low alloy, medium carbon steels, and plain carbon steel. But the higher cost of the nitride alloy has retarded their acceptance, except for many special applications. We labor on as the metallurgy and process is further developed. William R. Jones, FASM”*



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## Nitrex Metals “In Memoriam”

Jun 19, 2019

***“Nitrex Metal is mourning the loss of two distinguished members of the heat-treating community, Professor Jan Tacikowski of the Institute of Precision Mechanics, Poland and Dr. George Tymowski, former Vice President of R&D at Nitrex Metal. “We are deeply saddened by the passing of our friends and colleagues Drs. Tacikowski and Tymowski,” said Michel Korwin, Founder of Nitrex Metal and Executive Vice President of Business Development. “Dr. Tacikowski***

*was a distinguished professor and prolific author, and his ground-breaking work in the field of nitriding was a turning point in the development of “controlled” nitriding and the catalyst for the birth of Nitrex Metal and Nitreg® brand of technologies. Prof. Tacikowski devoted his over 60-year career at the Institute of Precision Mechanics in Poland to various scientific issues related to heat and thermochemical treatment technologies.”*

*In the 1980s, nitriding was a relatively undeveloped heat treat process not only in Canada but worldwide. When Nitrex Metal was founded in 1984, early efforts focused on R&D, designing automated control systems and developing the process control technology. “Dr. Tymowski was a founding partner and investor of Nitrex Metal, and also joined the Nitrex management team as Vice-President of Research and Development,” said Michel Korwin. “He was a guiding voice and made enduring contributions to the development and application of Nitreg® technology. His dedication and the impact of his work have left a legacy that influenced the growth of Nitrex Metal and the increasing adoption of Nitreg® for improving the wear and corrosion resistance of metal parts. Following his retirement in 2004, he served as a close advisor. His integrity and sincerity earned him the respect and admiration of all who knew him. We deeply appreciate the contributions of these men. Our thoughts and prayers are with their family and friends.” More information about Dr. Tymowski’s life and career can be found in his obituary. <http://ottawacitizen.remembering.ca/obituary/jerzy-tymowski-1074880189>“*



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## **Exactatherm 40th Anniversary**

Jun 18, 2019

Commercial heat treater Exactatherm celebrated their 40<sup>th</sup> anniversary this past Friday and indeed the company has a lot to celebrate. Founded by Dr. Peter Lidster the company has grown and prospered over the years and is now run by the

second generation of Lidsters. Our guess would be that one of the main drivers of this success is their early achievement of Nadcap which makes them part of a relatively small group of commercial heat treats in the world that can boast this qualification. The firm has recently made several large investments which includes a second SECO/WARWICK vacuum oil quench system. In attendance at the celebration was none other than Harry Hall, founder of Aberfoyle Metal Treating and Gunner Poschmann one of the most established heat treat reps in Canada. We include these photos of the event which includes Jordan Montgomery of “The Monty” obviously enjoying himself.



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## Webster Industries, Tiffin, Ohio, USA

Jun 18, 2019

Yesterday we had the opportunity to a very interesting captive heat treater in Tiffin, Ohio, USA. Webster Industries is a 140 year old manufacturer of custom chains and as such has a very substantial captive heat treat department consisting of batch and continuous furnaces. With almost 400 employees and 450,000 square feet under roof it is quite an impressive operation. While we will have more about this company and their heat treating capabilities in the future for now we will share this photo. In it you see from the left; Mark Kuenzli, Operations Manager, Craig Agerter, Production Supervisor and Gord Montgomery.



## Ipsen North America

Jun 18, 2019

While we think of furnace manufacturer Ipsen in North America as vacuum people, this note from a senior member of the Ipsen USA Team would suggest that the atmosphere side of things is growing for the company. *“Gord, During a recent visit to our facility in Rockford, Illinois, your son Jordan observed that we were building*



*multiple atmosphere furnaces. He commented the he didn't realize Ipsen still built atmosphere equipment. Although the North American market knows us best for our vacuum furnace technology, in the past 3 years Ipsen has booked more than \$20 million in non-vacuum furnaces (i.e.,*

*endothermic, nitrogen, and air atmosphere) in North America. These strong sales figures are the direct result of a strategic initiative Ipsen USA embarked upon 5 years ago, the cornerstone of which is our ATLAS batch atmosphere furnace global product line. This year we are “doubling down” on that momentum, so expect to hear more about Ipsen atmosphere related market developments soon.”*

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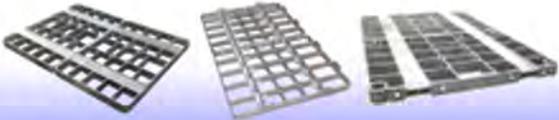
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## Monday Morning Briefing

Jun 17, 2019

We mentioned yesterday how Dave Strand was retiring from TPS and Wisconsin Oven. We were a little ahead of the curve—here is the official press release; *“In 1986, Dave Strand was hired by Wisconsin Oven Corporation as a shop worker. In 2019, he retires as President & CEO of Thermal Product Solutions, LLC, the parent company of Wisconsin Oven. Dave Strand has dedicated 33 years to the continued growth of Wisconsin Oven Corporation. His presence at Wisconsin Oven will be greatly missed by the employees, customers, and community partners. Dave will be remembered at Wisconsin Oven for his steadfast leadership and encouragement of employees. When he took over the position of President and CEO in 2005, he wanted to develop a culture that embraced his employees and motivated them to play like champions every day. Dave created Wisconsin Oven’s Work of Champions program and mission statement to inspire and reward employees for going above and beyond. This championship culture still holds true at Wisconsin Oven today.*

*During his time at Wisconsin Oven, Dave was dedicated to giving back to East Troy and the surrounding communities. As honorary chairman of the United Way of Walworth County, Dave encouraged businesses to give back during the 2017 holiday giving campaign which resulted in over \$15,000 donated. He was also focused on developing the next generation of talent and promoting careers in manufacturing through an annual scholarship to an East Troy High School graduate going into skilled trades or engineering and the creation of the Wisconsin Oven Universal Training Center (WOC-U) in 2018. The employees of Wisconsin Oven held a retirement party for Dave on June 7th to celebrate his career and contributions to the company. The event was well attended and provided one last Champion chant for the employees to participate in led by Dave.”*



Last week we mentioned we visited one of the prettiest, most well organized commercial heat treats in North America-it is none other than family owned Winston Heat Treating in Dayton, Ohio, USA. The whole location both inside and out is immaculate-we were envious of the amazing landscaping. Winston was one of the very first heat treaters in North America to achieve NADCAP way back in the 1990's and the company has never rested on their laurels as they are currently in the midst of upgrading their lab to the absolute latest and greatest that money can buy-one of the photos below shows the Winston team in the middle of the partly constructed lab. The other photos give you a taste of what an impressive heat treat this is.



*John Reger, CEO, David Reger, President, Gregg Temple, Michael Henderson*



While we are speaking about family owned commercial heat treats we should mention one of the largest, Braddock Metallurgical who is the dominant player in the US Southeast; "Braddock Metallurgical in Bridgewater, NJ received a Nadcap accreditation for demonstrating their ongoing commitment to quality by satisfying customer requirements and stringent industry specifications. Nadcap has also determined that Braddock Metallurgical has gone beyond the industry requirements and has earned the special recognition of Merit. Earning Merit demonstrates the trust that the aerospace industry has in Braddock Metallurgical, based on the past performance in the Nadcap audit. This accreditation reinforces the commitment that Braddock Metallurgical has to providing our customers with the highest quality products and services that are more reliable and that meet their technical specifications. The achievement of earning Nadcap with Merit is a

significant accomplishment and a testament to the hard work and dedication of our employees.” While we are talking about the US Southeast we should also mention that the Bodycote (commercial heat treating) facility in Athens, Alabama is making some good sized investments in the form of more IQ capacity, again showing that the US Southeast is a good place to be.

In the UK one of the largest commercial heat treaters in the country, Hauck is doing some bragging; “As a top 10 supplier to Precision Technologies Group UK (PTG), Hauck Telford was nominated for their continued outstanding quality and service in the supply of heat treated components. Hauck Telford have promised to work continually with PTG to minimise costs, deliver on quality and service and further deliver on product improvements. The team at Hauck Heat Treatment Telford strive to deliver the same high standard for all customers, and this award is proof of what we can achieve.”



If we are speaking about Hauck we should mention this note about their facility in Poland which we visited a few years back now; We are very proud to announce that after an audit by Bureau Veritas, our plant Kalisz in Poland was awarded the EN 9100:2018 certification which is technically equivalent to the AS 9100D. The certificate was issued on April 30, 2019 and will expire April 29, 2022 if not renewed. This certificate shows again the focus that the local management puts on sustainable quality. It is a valuable addition to the ISO 9001 certificate we have in Dzierżoniów and Kalisz and also the IATF 16949, the ISO 14001 and the ISO 50001 certificates we hold in Dzierżoniów.”



Lets move to Canada now and look at a company by the name of Exactatherm. This is another commercial heat treater which achieved Nadcap a number of years ago and has never looked back. The company had an anniversary party last Friday and Jordan Montgomery of "The Monty" was in attendance. We will have a few photos from the event for you this week but we can say at this point that the company has been investing big time recently and this includes a brand new SECO/WARWICK vacuum oil quench furnace. In the "What's Upcoming File" we have this. Next week we will have be visiting a number of heat treaters in Germany and the Netherlands and will give you details about each, this will precede our coverage of the Thermprocess exhibition in Dusseldorf, Germany-we will give you our impressions. Interviews we have for you in abundance starting with the most influential individual in the worldwide heat treating industry-Mr. Stephen Harris, CEO of commercial heat treating giant Bodycote which will happen July 1. In August we interview the new CEO of SECO/WARWICK followed by our very good friend Steve Thompson of controls company SSI in September and another top notch fellow by the name of Thomas Doppler, CEO of furnace company Aichelin, in Austria in October.

AND possibly most importantly in the upcoming news section we should have some very good news and gossip about the European heat treating market after the Dusseldorf show, a market which we understand has slowed down a little recently.

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## Dave Strand Wisconsin Oven

Jun 14, 2019

We mentioned yesterday how Dave Strand was retiring from TPS and Wisconsin Oven. We were a little ahead of the curve—here is the official press release; *“In 1986, Dave Strand was hired by Wisconsin Oven Corporation as a shop worker. In 2019, he retires as President & CEO of Thermal Product Solutions, LLC, the parent company of Wisconsin Oven. Dave Strand has dedicated 33 years to the continued growth of Wisconsin Oven Corporation. His presence at Wisconsin Oven will be greatly missed by the employees, customers, and community partners. Dave will be remembered at Wisconsin Oven for his steadfast leadership and encouragement of employees. When he took over the position of President and CEO in 2005, he wanted to develop a culture that embraced his employees and motivated them to play like champions every day. Dave created Wisconsin Oven’s Work of Champions program and mission statement to inspire and reward employees for going above and beyond. This championship culture still holds true at Wisconsin Oven today.*

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## Commercial Heat Treat Shop For Sale

Jun 13, 2019

We have been asked to find a buyer for a small commercial heat treating shop in the Northern USA. This plant offers processes such as stress relieving and annealing and has sales of between \$500,000 USD and \$1 million USD. The company has several long time, experienced employees and is profitable. If interested please contact Jordan Montgomery [jordan@themonty.com](mailto:jordan@themonty.com) for a NDA.

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## French Aerospace Company Falsifying Heat Treat Data?

Jun 12, 2019

Recently we had a brief note about how a component on Boeing 737Max airplanes called a “slat track” was possibly defective due to improper heat treating. We posted the story and promptly forgot all about it until a reader sent us this article. This very well written and researched article comes from a fellow by the name of Christopher Paris and his credentials are at the end of the article. Read on to see the entire tale which appears to tell us how a known (or unknown) company might have fudged heat treating data in the aerospace industry; <https://www.oxebridge.com/emma/why-wont-boeing-spirit-name-manufacturer-of-defective-737-slat-tracks/>

*“Within the last week, Boeing **announced** that a number of 737MAX and 737 NG airplanes are currently in operation with potentially defective components known as “slat tracks,” which help control the forward flight surfaces on the aircrafts’ wings. The Boeing announcement was another black eye for the already beleaguered company, but it was odd in that it didn’t name the manufacturer of the product in question. Subsequent reporting then uncovered that the manufacturer was a sub-tier supplier a major Boeing component manufacturer, Spirit AeroSystems of Wichita KS. Even after that was reported, Spirit wasn’t announcing the actual manufacturer’s name, either. Stranger still, the FAA hasn’t issued any airworthiness directive or announcement naming the supplier. It’s not just an oversight, either. In a call to reporters, Boeing spokesman Bernard Choi flat-out refused to answer when asked who the supplier is, **saying** he “is not commenting on the supplier.”*

The level of secrecy about the supplier is unusual, to say the least. This is made worse by the fact that Boeing is under the microscope right now due to the 737MAX angle of attack indicator malfunctions and hidden MCAS software features which appear to have caused the two deadly crashes in Jakarta and Ethiopia, grounding the entire MAX fleet worldwide. You would think Boeing would be opting for transparency in light of this new problem, but they are going in the opposite direction. And there's got to be a very powerful reason for that. For now, all we can do is guess. One likelihood is that the Spirit "sub-tier supplier" is located in Asia. A prominent manufacturer of wing components for Spirit is Drewloong Precision in Taiwan, a potential culprit. Announcing that Boeing aircraft are being affected by defects originating from Taiwan could raise a number of thorny issues for the Trump administration as it engages in a trade war with China, Taiwan's enemy. Boeing and Spirit are also keenly aware that any news of defects coming from Taiwan might trigger a tweetstorm from the Commander-in-Chief demanding that such manufacturing be done in the US, which would cripple Boeing's already damaged stock prices.

But the source may not be from Asia at all, but instead Europe. As this news hit, French manufacturer Aubert & Duval was simultaneously stripped of all its AS9100, AS9120 and other certifications from the certification body Burea

Veritas. Normally when a company loses multiple different certs from a CB it means they simply didn't pay their bill, and the certificates will be restored within

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days; but Aubert & Duval also simultaneously lost their Nadcap accreditation, which is issued by PRI, not Bureau Veritas. The IAQG OASIS database shows that Aubert & Duval's AS91xx certs were suspended on March 15th 2019, while PRI's listings show that the company's heat treat processes had their Nadcap withdrawn just four days later on March 19th. Clearly, the two actions are related, raising suspicions that the company may have gotten caught falsifying heat treat data. That March date would align with when Boeing allegedly discovered the slat track problem. Aubert & Duval supply metal to the Boeing/Spirit supply chain, so would be considered a "sub-tier supplier."

If so, Boeing, Spirit and FAA may be keeping the story quiet because they don't need a "metal data falsification" scandal to pile on top of the already suffocating host of issues Boeing is dealing with. To date, the majority of aerospace test data falsifications have come from Japan, and haven't been tracked to installations on exact US-designed aircraft models. Whatever the reason, the companies and FAA are happy to keep the supplier quiet for now, but the identity of the supplier is unlikely to stay hidden permanently. When it does come out, it won't be good news for the aerospace supply chain nor its quality certification schemes."

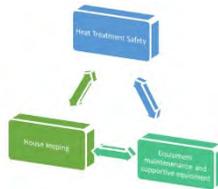
About [Christopher Paris](#); Christopher Paris is the founder and VP Operations of Oxebridge. He has over 30 years' experience implementing ISO 9001 and AS9100 systems, and is a vocal advocate for the development and use of standards from the point of view of actual users. He is the author of [Surviving ISO 9001:2015](#). He reviews wines for the irreverent wine blog, [Winepisser](#).



## Safety in Heat Treatment By David Pye

Jun 11, 2019

*Safety in heat Treatment touches each and every one who works in either a captive or a commercial heat treatment shop. We all have a responsibility to each other to minimize the risk of accidents and injuries (no matter how minimal or extensive that injury might be). The two area's that this presentation will address are shown below;*



### *Housekeeping*

*Housekeeping is a relatively easy subject to address and attend to. It is suggested that you consider a daily routine for floor cleaning. The following could then be considered;*

- *Painting of demarcation lines around the furnace equipment plus demarcation lines for stacking area's for baskets, trays and load preparation and unload areas.*
- *Demarcation lines around process enrichment gas bottles.*
- *Demarcation lines around external bulk gas storage area's for easy access for bulk gas delivery vehicles.*
- *Defining the receiving area as dispatch/pickup area.*
- *If you are operating salt baths, ensure that the salt storage area is a very secure area and under lock and key.*
- *Quenching medium should also be stored in a secure area and (if quench oil) well away from any heat source.*
- *No entry and emergency exits should be clearly identified as well as notices to follow to the nearest emergency exit.*

### *Equipment*

*Quite a large number of both captive and commercial plants have as their processing equipment, the integral quench furnace. That are used for atmosphere heat treatment procedures such as Carburizing, Carbonitriding, and neutral*

hardening procedures. The furnaces are more often than not, filled with combustible atmospheres as well an internal quench tank of specialty quench oil. Shown below is an integral quench furnace. Once the furnace is gassed up, it can be likened to a 'fire breathing dragon' once the furnace is gassed up. The atmosphere concern and consideration apply also to continuous furnace systems, shaker hearth furnaces, 2 to 4 row pusher furnaces



Fig 1 An integral quench furnace filled with the process gas.



Fig 2. The fire breathing Dragon!!

The safety rules are really quite simple; however, one should follow (implicitly) the furnace builder's safety and handling of atmosphere introduction into the furnace. This will be found in the Manufacturers Operational and Maintenance manual.

- **DO NOT INTRODUCE THE COMBUSTIBLE ATMOSPHERE INTO THE FURNACE BELOW 1400°F!!!**
- Never stand directly in front of the furnace door once the furnace is gassed up with a combustible gas. If an explosion should occur there is the potential for the explosion to blow off the furnace door.
- The integral quench furnace will have an internal oil quench built into the unit. Ensure that the set point oil quench medium temperature is maintained. In other words, ensure that the oil quench agitators are functional and most importantly, that the quench oil heat exchanger is functional and operating within the quench medium temperature set point.

- *Ensure that the oil quench filters (usually on the external side of the furnace). This is because when the quenching procedure is in operation, fine particles resulting from microscopic debris quenching from both the work load and atmosphere are recirculating through the filters. It is recommended that a weekly filter clean is part of the weekly maintenance routine.*
- *Check monthly the functionality of the explosion caps.*
- *Ensure that all pilot light sensors are lightly brushed to remove any soot build up that will have deposited onto the sensors. (This applies to the main flame curtain as well as explosion caps).*
- *Ensure that Operating and Maintenance manuals are kept. It is suggested that a master copy be held in a secure location, and that one is kept in maintenance department and the final one on the shop floor in a safe and secure location.*
- *If operating an atmosphere generator, ensure that the air to gas is correct and not to forget to consider potential variances in atmosphere moisture content, (Particularly during both humid and rainy weather).*

#### *Protective clothing*

- *Wear eye protection (goggle or full-face mask) If operating a salt bath wear the face mask with complete head protection against salt splashes.*
- *Wear a full heat resisting jacket with long sleeves for arm protection.*
- *Wear also long-sleeved heat resistant gloves.*
- *Wear appropriate foot protection with safety boots or shoes.*
- *Wear appropriate ear protection against excessive noise.*
- *Develop a personnel list of specialized heat treaters who can monitor the safety aspects of the department.*

#### *First aid*

- *Develop a first aid team or individual who has at least been trained in FIRST AID. The first aider should at least be able to deal with burns that may occur in the department.*
- *Develop a good first aid kit. Ask the local Dr for assistance in developing a first aid kit.*
- *Know the local first responders' access telephone numbers. (Including hospital, ambulance, fire department)*

- *Do not use water to extinguish an oil fire. It can make the fire spread even further. If possible, starve the fire of oxygen by covering with a heat resistant blanket.*
- *Have CO<sub>2</sub> and gas detectors at strategic locations within the heat treatment shop.*
- *DO NOT enter a CONFINEDSPACE WITHOUT CONDUCTING A CONFINED SPACE ENTRY MEETING SO THAT ALL PARTY'S FULLY UNDERSTAND THEIR FUNCTION.*
- *Confined space entry by a single individual with out back is a recipe for a serious potential accident.*

### *Conclusion*

*Regular furnace maintenance must be mandatory in any heat treatment shop. Without the furnace, and its control systems need to be regularly maintained. Without the furnace and its associated equipment, nothing is treated!!Your furnace equipment are your assets! People are also your assets. Ensure that employee safety is mandatory. The writer suggests a regular meeting of a formed safety committee within your organization to address with management to discuss potential safety issues. Have all of the appropriate and emergency telephone contact number available and located in a Manual of Corporate Standard Operating Procedures (SOP).*

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## SECO/WARWICK

Jun 11, 2019

There would appear to be lots happening at Poland based furnace manufacturer SECO/WARWICK and we are looking forward to telling you about some of it, both today and in the near future. We can share that the company will soon have a new CEO as Pawel Wyrzykowski is no longer with the company as of last week. We actually interviewed Pawel a few years back and his interview can still be found at <https://themonty.com/project/pawel-wyrzykowski-seco-warwick/> August 1st of this year we will have an interview with the new CEO which we are sure you will find interesting. However prior to that we will be meeting with the SECO team during their press day which will be held during the upcoming **Thermprocess** exhibition in Dusseldorf, Germany in a couple of weeks. In the meantime we leave you with this press release just sent out by their Retech Systems subsidiary.



*“Retech Systems, a subsidiary of SECO/WARWICK Group, supplied two vacuum induction melting (VIM) systems to Siemens Power and Gas division. The VIM systems will play a key role in the casting of components such as turbine blades and vanes for the power-generation industry. One VIM directional solidification/single crystal/equiax pitless (VIM DS/SC/EQ) combination casting furnace and one VIM directional solidification/single crystal (DS/SC) casting furnace were installed. To meet market demand, Siemens is planning for more furnaces (pitless VIM DS/SC casting furnace systems) to be installed soon.”*



## Monday Morning Briefing

Jun 10, 2019

We are going to start off in Canada for a couple of news items about commercial heat treating. In the first we see that **Exactatherm** in Mississauga will be celebrating their 40<sup>th</sup> anniversary with a barbeque this coming Friday. Exactatherm was founded by **Dr. Peter Lidster** and the company is NADCAP approved and offers vacuum heat treating, Plasma nitriding and several other processes. In this picture we see the good Doctor alongside **Jordan Montgomery** of “The Monty”. We will be in attendance at the party and will give you an update.



In Quebec **Thermetco** has now completed their transition from their original plant to a brand new location. In these photos you can see the old, now empty facility and the new location.



As we often say nitriding is a growing business both gas and vacuum purged which means more and more players are getting into the market. **Gasbarre** who entered the gas nitriding field a little while back is scheduled to ship a system to **Contour Hardening** in Indianapolis who is now entering the vacuum nitriding field as you can see in the picture below. (*Gasbarre's ad can be found on this page by the way*)



**Bodycote, Greenville, South Carolina, USA** is justifiably proud of recent approvals at their facility in South Carolina as you can see in this press release; *“Bodycote, Greenville, South Carolina, is now Pratt & Whitney and GE Aviation approved for heat treat and brazing. We are excited to serve the rapidly growing additive and aero-engine markets. This location is ideal for supporting your Southeast manufacturing plant.”* We recently listed this item on behalf of a company by the name of **Qualtech** in Denver, Colorado, USA. *“Unitherm Industries Pit Carburizing furnace with working dimensions of 36" diameter X 72" deep. Model GP3672. Installed in 2015 and in operation until December 2018 when the plant was closed down. Maximum operating temperature of 1850F, maximum load 2,000 pounds. Gas-Fired with Eclipse Thermjet TJSR55.”* The furnace was in excellent shape and not that old, however Qualtech (a manufacturing company) had made the decision to exit heat treating and this furnace along with a number of others became surplus. Bottom line is that the furnace sold to a commercial heat treater and all of the furnaces at this plant are now gone.

In China we see that a furnace manufacture by the name of **JGEP** is bragging about a recent installation they made at a commercial heat treat in Chongqing, China; *“JGEF Furnace installed a series of nitrocarburizing furnaces at a commercial heat-treatment company’s recently opened 53,820-square-foot facility in Chongqing, China. The furnaces are designed to maintain temperature uniformity of  $\pm 3^{\circ}\text{C}$ . The series of pit nitrocarburizing furnaces use software that controls the nitriding potential and maximizes the efficiency of the process. The systems are capable of maintaining the preset values of  $K_n$ , and the process requires no manual adjustments from start to finish.”* The world’s largest heat treat show **“Thermprocess”** will be held June 24 to 28<sup>Th</sup> in Dusseldorf, Germany. This event is held every 4 years and we will be in attendance and also taking the opportunity to visit a few heat treaters and equipment manufacturers in Germany

at the same time. One company which comes to mind is **Halex** one of the largest heat treatment groups in Europe and we will be seeing two of their locations. The photo below is from the 2015 event and features the “Solo” (furnace manufacturing) booth.



We mentioned Bodycote, Greenville, SC already but this plant comes up a second time today. **Mark Haran** a long-time heat treater who has worked at companies such as **Braddock Metallurgical** and **Bodycote** for quite some time was recently promoted to Production Manager in Greenville-good for Mark.



And to round things out we have this recent photo of **Mr. Marco Marchetti** who up until a couple of years ago was a very well known individual in the European heat treating industry. Mr. Marco Marchetti was the Chairman, CEO and majority shareholder of Swiss company **Accu Holdings** which amongst its different divisions included Italian furnace builder CIEFFE. Due to some legal issues Marco parted ways with the industry and while we don't know what he is up to these days we have this recent photo of him. Marco is on the left in this picture.





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## Automated Heat Treating South Carolina Closed

Jun 7, 2019

It is seldom you hear about a commercial heat treat just closing their door but that is exactly what has happened to this South Carolina company. Automated Heat Treating, Inc in Woodruff, SC has closed their doors. Apparently the owner Frank Jones has decided to retire at the young age of 84 and close up shop. Established in 1985, Frank along with us daughter have ran it since day one with a couple of employees. <https://www.automatedheattreat.com/>

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## Strong Forge & Fabrication Fire, Batavia, New York, USA

Jun 7, 2019

Captive heat treater Strong Forge & Fabrication in Batavia, NY (Buffalo area) suffered a small fire recently which originated in the ducting from one of their batch IQ furnaces-amazing how often fires start in furnace ducting. We have this report from a local newspaper; *“At Strong Forge & Fabrication, 20 Liberty St., Batavia, NY a fire occurred in the roof above one of their heat-treating furnaces. Strong Forge makes machine forgings, weldments and fabricated parts, according to the company website. The call came in at 1:10 p.m. “The fire was caused by a*

*combination of super-heated air and a flammable media in the exhaust pipe of the heat-treated unit, which in turn caused the roof material to combust,” the fire chief said. “The fire was brought under control within 30 minutes. There were no injuries or evaluations on scene.” “It was an industrial fire. It’s not suspicious,” he said. “It’s (the facility) operational. They’re putting protective covers over the roof and I imagine they’ll start immediate repairs. “Initially, we requested assistance from the town of Batavia, but canceled them before they responded. It was for a second ladder truck. We canceled them once we had control of the fire.”*



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## **Dan McCurdy-The End of An Era**

Jun 6, 2019

This Friday, June 7th marks Dan McCurdy’s last day at commercial heat treat giant Bodycote which means the start of his retirement. Our association with Dan goes back many, many years to when he started with furnace controls company Marathon Monitors in Cincinnati, Ohio, USA. Through a number of twists and turns Dan became President, Bodycote Automotive and General Industrial Heat Treatment, North America and Asia a position which he has held for the past number of years. We’re not going to dwell on his work history except to say that we have always had a tremendous amount of respect for his knowledge, professionalism and calmness (although others might disagree on this last statement). It is a trite saying but the heat treating industry will certainly be poorer without him. By the way an upcoming interview with the CEO of Bodycote, Mr. Stephen Harris will tell us who will be replacing Dan as President. To go with this item we have two photos, the first shows from the left Jim Oakes and Bob Fincken of SSI and Jordan and Gord Montgomery having a toast to our good friend Dan. The second shows Dan at the FNA show in Nashville back in 2016. Flanking him

are Gord Montgomery and Tom Gibbons, President of Bodycote ADE, North America.



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## Solar Atmospheres of Western PA Installs 14 Foot Air Furnace

Jun 6, 2019

*Solar Atmospheres of Western PA recently installed a brand new, 14-foot long car bottom air furnace. The furnace was surveyed in accordance with AMS2750 Rev E and is uniform within  $\pm 10^{\circ}\text{F}$  (Class 2). With a working zone measuring 60" wide x 54" high x 168" long, the furnace will be capable of handling workloads up to 30,000 pounds. A maximum operating temperature of 1400°F allows this furnace to accommodate the tempering of large tool steel components, as well as the age hardening processes of nickel-based alloys and precipitation hardenable stainless steels.*

*Bob Hill, President of Solar Atmospheres of Western PA, states, "This new air tempering furnace will be a good complement its larger counterpart, a recently installed 20 foot long car bottom furnace. Expanding our large air furnace capability will enhance the turnaround for our 'raw material' customers, and is more cost-effective than processing in a vacuum environment."*

*For additional information, contact Mike Johnson at 724-982-0660 x2223 or [mikej@solaratm.com](mailto:mikej@solaratm.com), and visit us at [www.solaratm.com](http://www.solaratm.com).*



## Pankl Racing Systems, ALD System

Jun 5, 2019

Engine components manufacturer Pankl Racing Systems is justifiably very proud of the heat treating department at their location in Kapfenberg, Austria the centrepiece of which is this fairly new ALD vacuum carburizing system. Lets see what the company has to say about it;

*“Pankl Racing Systems has one of the most innovative heat treatment facilities available on the market. Our modular vacuum heat treatment system is fully automated and multifunctional, with three treatment chambers that are supported by a preheating furnace. All thermal and/or thermochemical heat treatment processes may be performed simultaneously, at temperatures of up to 1200°C. Using quench gases such as nitrogen, high pressure and high flow speeds, components are hardened evenly and with a high level of process reliability. The unit allows for a wide range of heat treatment processes, all of them customised to suit the component and material in question.”*



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## Boeing 737 Heat Treating Issues?

Jun 4, 2019

According to this news report from CCN Business their might be an issue with some parts on the Boeing 737 Max not being heat treated;

*“Boeing on Sunday said some of its 737 planes, including many 737 Max aircraft, may have faulty parts on their wings. It’s the latest problem Boeing faces as it tries to get its most important and popular airplane, the [grounded 737 Max](#), back in the air. Working with the Federal Aviation Administration, Boeing said it has reached out to [airlines that fly 737 planes](#), advising them to inspect their slat track assemblies on Max and NG aircraft. The 737 NG series includes the 737-600, -700, -800 and -900 planes. Leading edge slats are an aerodynamic control surface that extend from the front of the wing. Some the tracks may not meet manufacturing standards and may need to be replaced, Boeing and the FAA said. They said if the parts are found to be defective, airlines should replace them before returning the planes to service.*

*The faulty parts could fail prematurely or crack. The FAA said a part failure would not bring down a plane, but it could damage an aircraft while in flight. Boeing has sent out a service bulletin and the FAA will issue an airworthiness directive requiring airlines to inspect and repair its slat track assemblies within 10 days. The company discovered the problem Friday, when Boeing was meeting with the parts supplier. Boeing employees noticed some of the parts were not heat treated, which led them to believe there might be a safety issue. The development comes as Boeing seeks to get the [737 Max back in the air](#). The plane was [grounded worldwide](#) after a fatal crash of an Ethiopian Airlines jet in March, which followed a fatal crash of a Lion Air jet in Indonesia in October.*

*Crash investigators have focused on an automatic safety feature on the jet as a possible contributor to the crashes. The newly discovered issue affects 148 slat tracks produced by a single supplier, Boeing said. The company said it believes 20 737 Max and 21 737 NG planes may have defective slat tracks. But the FAA advised airlines to check an additional 179 Max planes and 133 NGs to determine if their parts are also faulty. Of the group that needs to be inspected, 33 Max and 32 NG planes are in the United States. The company and the FAA said it has not been notified of any incidents related to the tracks on operating flights, and the fix*

*should take a couple days to complete. “We are committed to supporting our customers in every way possible as they identify and replace these potentially non-conforming tracks,” said Kevin McAllister, CEO of Boeing Commercial Airplanes, in a statement.”*



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## **Hole Saw Distortion Problems by David Pye**

Jun 4, 2019

From world famous heat treat consultant David Pye we have this article about distortion in Hole Saws;

*We were invited to consult for a manufacturer of hole drill saws to review the current problem of massive distortion and resulting scrap.*

*The state of production due to distortion of the hole cutter was as high as 75% scrap due to massive distortion results after pressure quenching with nitrogen in a vacuum furnace,*

*The manufacturer was conducting the procedure in a 5 bar over pressure vacuum furnace*

- *Material review*

*The material was supplied in the unusual form of M2 High Speed Steel, friction welded to a low alloy steel for the support body of the completed hole saw. The material was also supplied in the coiled roll. The material test certificate was checked for composition, test (very simply) against the test cert information and found to conform to the test certificate.*

- *Hole saw manufacturing procedure*

*The steel roll cutting edge of M2 and Low carbon steel body were de-coiled and cropped to length. Further the top plate was pressed out of low carbon steel and a hole drilled in the center of the punched plate.*

*Fig 1 Assembled and completed hole saw (Not representative of the hole saw under discussion in this article).*



*It was observed that when the coiled material was de-coiled and cropped to length, that the cropped piece always had a variation in the actual physical length of crop always had a variance of correct size and up to 0.125 inches.*

*This meant that the hole saw drill diameter was never actually constant. It further meant that after fold and seam weld. In addition to this, although the punched plate that is carrying the pilot drill bit was maintain its size, it was causing an undue stress in the assembled drill, prior to heat treatment.*

- *Current Heat Treatment Practice*
- *Load basket with approximately 100 assembled hole saws in ‘soldier fashion’.*
- *Load into vacuum furnace.*
- *Ramp up to the selected austenitizing temperature of 2250°*
- *Soak at temperature for 20 minutes.*
- *High pressure quench at 5 Bar over pressure with nitrogen as the quench medium.*
- *Air recirculation furnace at 1020°F*
- *Open furnace and inspect the load for distortion ovality.*

*Review and comments on the current heat treatment procedure.*

*It was established that the Isothermal Transformation Diagram for M2 had been considered, it was clear that the interpretation of the diagram was misunderstood. It was also discovered by the writer that the understanding of the time necessary for transformation to the Ms line transformation was not considered (or recognized).*

*The next observation was, that the company did not understand the necessity for accurate austenitizing temperature. (Believing that the higher the temperature, the more uniform the metallurgy of the hole saw would be).*

*The writer conducted a Design Of Experiment to be used to establish to the client that although that the present heat treat procedure was incorrect, the hole saw*

manufacturing (crop, bending to form the OD, welding methods) were also influencing the distortion to the slight inaccurate differences on the crop to length. A batch of 100 hole cutting saws were placed in the load basket for vacuum heat treat, after being measured accurately to note the influences of movement after treatment. Shown below is a comparative heat treatment process program;

<i>Original heat treatment process</i>	<i>Suggested DOE</i>
<i>Load vacuum furnace</i>	<i>Load vacuum furnace</i>
<i>Preheat by ramp up</i>	<i>Preheat by ramp up</i>
<i>Selected austenitize temperature= 2350°F</i>	<i>1975°F</i>
<i>Soak time at temperature =20 minutes</i>	<i>5 minutes</i>
<i>Over pressure N<sub>2</sub> gas quench=5bar (73.5psi)</i>	<i>Partial pressure 0.5bar</i>

*Remove the load basket from the furnace and check distortion occurrence.*

*On completion of the measurement comparison, it was seen that the percentage were as follows;*

*The original heat treatment procedure, from each batch of 100-hole saws an average of 75% scrap was observed in each load.*

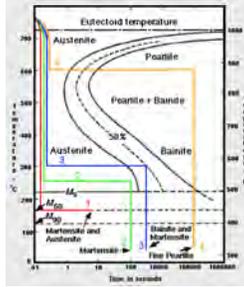
*From the new recipe, the distortion was noted only in approximately 15% as scrap, the corporate management suggested that it was a 'fluke'.*

*It was then decided to process a second and third batch of 100-hole saws. This was accomplished with almost the same result as the first alternative suggested new program.*

*The new focus of evaluation was to ensure as near accurate fit up and to focus on the crop to length procedure.*

*This was accomplished and the newly suggested heat treatment program conducted once again.*

*The distortion factor improved once again and processed using the new heat treat program, which produced a scrap rate of + – 5%.*



**Conclusion**

*The original program of heat treatment austenitizing temperature was too high to achieve the desired results*

*The second part of the program of pressure quenching was also too high. One has only to consult the TTT curve for M2, and it will be observed that the ‘nose of the cooling curve’ is far to the right of the transformation and time line at approximately 20 minutes to the Ms line.*

*Then the crop to length and manufacturing method tolerances were tightened up. The company is now selling their products, better than ever.*

*Sincerely, David (Pye Metallurgic al International Consulting)*

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## BATCH IQ FURNACES

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### **Item#IQ466 Beavermatic Batch IQ Furnace 36" X 48" X 36"**

Built in 2012 by Beavermatic this is a gas fired batch IQ furnace with working dimensions of 36" X 48" X 36" and a load capacity of 4,000 pounds. Updated SSI controls including touch screens added in 2015. Redundant probe system and Atmosphere Engineering electronic flowmeters. SBS quench oil cooler and oil filter. Footprint 12' wide X 16' deep. Rollers on 22" centres. Installed but not in operation. Currently set up for endothermic atmosphere. Also available is a Beavermatic temper and dunk/spray washer. Excellent condition and ready to go.

**Asking Price \$125,000 USD**

<https://themonty.com/project/itemiq466-beavermatic-batch-iq-furnace-36-x-48-x-36/>

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### **Item#IQ465 Surface Combustion "Super 36" Batch IQ Furnace**

Manufactured by Surface Combustion in 2001 this is a gas fired batch IQ furnace with working dimensions of 36" X 48" X 36" and a weight capacity of 3500 pounds. Set up for endo atmosphere. Pneumatically actuated quench elevator , top cool, furnace fan and updated SSI touch pad controls. Currently installed but not in use. Very good condition.

**Asking Price \$160,000 USD**

<https://themonty.com/project/surface-combustion-super-36-batch-iq-furnace/>

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### **Item#IQ464 Ipsen T-4 Batch IQ Furnace**

Ipsen Model: T-4 Batch IQ Furnace, Serial # 52506  
Type: Straight Through Atmosphere Integral Quench Furnace  
Processes: Carburizing, Neutral Hardening and Carbonitriding  
Heat Input: Natural Gas-Fired (8 ceramic radiant tubes)  
Work Zone: 24"W x 36"D x 18"H  
Max. Temp: 1850°F (Typically operated at 1750°F)  
Max. Load Wt.: 850 lb at 1550F  
Quenchant Heating and Cooling: Yes (SBS Oil Cooler)  
Loading/Unloading: Ipsen Powered Front-end Loader and Roller Unload Table  
Pit Required: None  
Carbon Control: SSI Gold Probe  
Controls: Super Systems, Inc. 9120 touch screen, with SSI Series 3 & 7 controllers, Digital data logging (currently tied into plant-wide SSI Super Data system), SSI eFlo Electronic Flowmeters for natural gas and air.  
Insulation Type: Brick-lined  
Included: Any available spare parts, Ammonia Tank.  
Footprint: 5'5" Wide x 17'-10" Long x 13'-2" High per literature (We measure 93"W x 21'L x 14'H)  
Alloy: Grids and baskets may be available

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

<https://themonty.com/project/itemb464-ipsen-t-4-batch-iq-furnace/>

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## **Item#IQ462 Beavermatic Batch IQ Furnace**

Beavermatic Batch IQ Furnace. Standard "Beavermatic" Integral Quench Furnace which includes top cool chamber, dunk & spray wash, 1400°F atmosphere temper, charge car and air to oil heat exchanger. This furnace has a total of eight (8) single ended radiant tubes with recuperators, four (4) on each sidewall. Quench tank is heated. Natural gas fired with a max temperature of 1950°F. Model # 46-26-I.G.LQ.F and Serial # 1192-50-1. Voltage 460/3/60. Working dimensions of 24"W x 24"H x 36"L and external dimensions of 100"W x

12'5"H x 18'L. Controls Mounted & wired in a free standing panel includes a Honeywell UDC 3000 digital controllers for control and high-limit, Honeywell UDC 5000 for carbon control and Honeywell digital round chart recorder. Very good condition and available immediately.

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

<https://themonty.com/project/itemb462-beavermatic-batch-iq-furnace/>

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### **Item#IQB461 Surface Combustion Batch IQ**

Surface Combustion Batch IQ Furnace. Standard Surface Combustion Integral Quench Furnace with single quench cylinder and rear handler. This furnace has "Trident" type radiant tubes with Eclipse burners and Eclipse recuperation. Natural gas fired 1,000,000 BTU's. Serial Number BX-35790-1. Max operating temperature 1750°F with a voltage of 460/3/60. Working dimensions of 30"W x 20"H x 48"L. Approximate external dimensions 10'w x 10'h x 15'l. Controls: Mounted and wired in a free standing panel includes a current SSi control system with PLC and computer. Very good condition and available immediately.

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

<https://themonty.com/project/itemb461-surface-combustion-batch-iq/>

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### **Item#IQB445 Surface Combustion Batch IQ's (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. Furnaces were in operation until February 27th 2018, now in indoor storage in the Detroit, Michigan area. Complete and in good operating condition. Alloy and brickwork in reasonably good condition.

**Asking Price \$99,000 USD Each Loaded On A Truck**

## **Item#IQ442 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.

**For Pricing Please Contact [Jordan@themonty.com](mailto:Jordan@themonty.com)**

<https://themonty.com/project/itemb442-solo-quenching-machine/>

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## **Item#IQ441 GM Batch IQ Furnace**

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 overtemp. 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 USD**

<https://themonty.com/project/itemb441-gm-batch-iq-furnace/>

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## **Item#IQ439 Surface Combustion Batch IQ Furnace**

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.

**Asking Price \$80,000 USD**

<https://themonty.com/project/itemb439-surface-combustion-batch-iq-furnace/>

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## **Item#IQ438 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" and a Holcroft Spray/Dunk washer with heating system 30" X 48" X 30". Complete, in very good condition and ready to go.

**Asking Price \$60,000 USD**

<https://themonty.com/project/itemb438-holcroft-batch-iq-furnace-line/>

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## Item#IQ398 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 Price \$125,000 USD**

<https://themonty.com/project/itemb398-sauder-batch-iq-line/>

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# BATCH FURNACES

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## **Item#B473 Pit Carburizing Furnaces (2 available)**

Manufactured by Surface Combustion these are gas fired units with an operating temperature of 1750 F. SSI controls. Working dimensions of 48" X 72". Endo atmosphere with recirculating fan in the bottom. Currently installed but not in use. Excellent condition.

**Asking \$150,000 USD Each Loaded On A Truck**

<https://themonty.com/project/itemb473-pit-carburizing-furnaces-2-available/>

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## **Item#B472 Ionitech's Plasma Nitriding Cold-Wall furnace**

Ionitech's Plasma nitriding Cold-Wall furnace ION-75CWI, with 2 Chambers and one control. The furnace is capable of Plasma Nitriding, Plasma nitrocarburising, and Post-oxidation, processing big and small parts and tools. The furnace has been used for 4 years at Ionitech's facility and has been taken care of perfectly – it is good as new. It still works daily. It has been retrofitted to work with our absolutely user-friendly touchscreen control panel. The process is really easy to control. Ionitech gives full time support as maintenance and technology after purchase. Working dimensions of Chamber 1 are Ø 1000 mm x 1100 mm and max weight of tool for processing 1500 kg. Chamber 2 – Ø 750 mm x 2000 mm and max weight of tool for processing 1500 kg. Purchase can be done with only one chamber. Located in Europe.

**For Pricing Please Contact [Jordan@themonty.com](mailto:Jordan@themonty.com)**

<https://themonty.com/project/itemb472-ionitechs-plasma-nitriding-cold-wall-furnace/>

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## Item#B471 Lindberg Pit Nitrider

Lindberg Pit Nitrider. Lindberg Cyclone “Pit Nitriding” furnace with removable fan assembly & retort. There are twelve (12) bolt locks which seal the fan assembly to the gasket on the retort. Fan assembly sets on a steel stand when not in use. Alloy retort sets in a steel support when not in use. Electrically heated with a voltage of 230/3/60/105 kW. Model # 3896-E12 and serial # 14030. Max operating temperature is 1250°F. Working dimensions of 36” diameter x 84” deep with external dimensions of 5’w x 9’4”H x 7’l – Furnace Only. Controls mounted and wired in a free standing panel includes all necessary controls for proper operation.

**For Pricing Please Contact [Jordan@themonty.com](mailto:Jordan@themonty.com)**  
**<https://themonty.com/project/itemb471-lindberg-pit-nitrider/>**

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## Item#B452 AHT Fluidized Bed Furnace

Applied Heat Technologies (AHT) fluidized bed furnace. Treatment chamber is 300 mm diameter x 900 mm deep (roughly 12 in diameter x 36 in deep.) Maximum temperature is 1050 °C (1922°F). Maximum load is rated at 50 kg at 1000 °C (110 lb at 1832 °F) and 90 kg at 570 °C (198 lb at 1058 °F.) Mark® fluid bed furnace controller software. Silicon carbide heating elements, 25 kW, configured in delta. Piping is set to accept nitrogen, argon, hydrogen chloride (HCl), and hydrogen gasses. Inert material is P120 grit aluminum oxide (Al<sub>2</sub>O<sub>3</sub>) powder. The fluidized bed is designed to deposit vanadium carbide (and other carbides with correct chemistry) onto steel. The fluidized bed system comes with a propane burner, HCl detection system, and scrubber system. The system also has a hood and quench bed that came with it but these have not been used and it cannot be verified that they work. The fluidized bed system with scrubber is currently operational but is not being used. Almost new heating elements with one spare included.**Asking Price \$99,000 USD**

<https://themonty.com/project/itemb452-aht-fluidized-bed-furnace/>

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## **Item#B448 Kleenair Products Tip Up Style Furnaces**

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 Price \$55,000 USD Each**

or

**\$150,000 USD For All Three**

<https://themonty.com/project/itemb448-kleenair-products-tip-up-style-furnaces/>

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## **Item#B436 Lindberg Pit Gas Nitrider**

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

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

<https://themonty.com/project/itemb436-lindberg-pit-gas-nitrider/>

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## **Item#B426 Plateg 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 1250 mm high. Load capacity 1000 kg. Installed power 95 kW, 400 V, 50 Hz, 160 A. Located in Turkey.

**Asking Price \$98,000 Euro**

<https://themonty.com/project/itemb426-plateg-plasma-nitriding-unit/>

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## **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 USD**

<https://themonty.com/project/itemb415-j-l-becker-car-bottom/>

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# Box Furnaces

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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## Item#BOX466 Grieve Top Loading Furnace

Model# PT-3642, Serial# 140. Manufactured by Grieve this is a top loading furnace with working dimensions of 36" Wide X 42" Deep X 36" Long and a capacity of 31.5 cubic feet. Electrically heated 460/3/60 @ 70 KW, 2,000 F maximum operating temperature. Description; Manually operated counter balance door, brick lined, helical coil Kanthal heating elements on all four sides, gasketed cover fully self contained. Temperature Controls; Honeywell "Dial a Troll" control with "Dial a Pak" Overtemp. Built in 1982. Very good condition.

**Asking Price \$14,500 USD**

<https://themonty.com/project/itembox466-grieve-top-loading-furnace/>

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## Item#BOX465 Electra Box Furnace

Electra Box Furnace. Floor model high temperature box style furnace with a manually operated vertical lift door with counterweight for easy operation. A door limit switch cuts power to the elements when the door is opened. The furnace is refractory lined and has a silicon carbide hearth plate supported on brick piers. Twenty four silicon carbide elements mounted horizontally across the furnace chamber, 12 elements over the top and 12 under the hearth for good uniform heating. Electrically heated with a max operating temperature of 3000°F. Model # 6724 and serial # 1184. Voltage of 460/3/60/16 kW. Working dimensions of 8"W x 6"H x 30"L and external dimensions of 44"W x 90"H x 70"L. Controls are located on the right hand side at the rear of the furnace. There is a Barber Colman model 560 digital controller, a Barber Colman 560 high limit and a Barber Colman strip chart recorder. Also on the rear of the unit in a protected

area is a Robicon SCR to control the elements and a high limit contactor. A voltage reduction transformer is mounted on the framework under the furnace chamber.

**For Pricing Please Contact [Jordan@themonty.com](mailto:Jordan@themonty.com)**  
<https://themonty.com/project/itemb465-electra-box-furnace/>

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## **Item#BOX464 Lindberg Box Furnace**

Lindberg Box Furnace. Pneumatically operated vertical lift door with convenient foot pedal operator. The door slides up and down on the sloped front breast plate. A flame curtain is mounted directly under the door. A limit switch activates a solenoid to start the flame curtain to burn off any escaping atmosphere. The interior is refractory lined. Heavy gauge rod style heating elements are located on both side walls, and on the floor under the alloy hearth plate for excellent temperature uniformity. The alloy hearth pan has 2" high sides to prevent product from falling off the pan. Flow meters attached to the side of the furnace regulate the flow of atmosphere into the furnace. There is an Endothermic gas flow meter and a Natural Gas flow meter. Electrically heated with a max temperature of 2000°F. Model # RO 122410-A and serial # 19229. Voltage is 480V/3/60/15 kW, 67V. Working dimensions of 12"W x 10"H x 24"L with external dimensions of 54" wide x 64" long x 85" high. Controls are mounted and wired in a separate enclosure. There is a Leeds & Northrup digital temperature controller with display screen and a Leeds & Northrup model 2077 high limit safety. Control switches are flush mounted on the front of the panel. The panel has a Square D flange mounted fused disconnect switch. Honeywell flame safety relay, purge timer relays and control transformer are mounted inside the enclosure A second enclosure with circuit breaker disconnect switch houses the Halmar SCR power controller. A step down transformer is supplied to provide low voltage to the elements.

**For Pricing Please Contact [Jordan@themonty.com](mailto:Jordan@themonty.com)**

<https://themonty.com/project/itemb464-lindberg-box-furnace/>

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## **Item#BOX463 Lindberg Box Furnace**

Lindberg Box Furnace. This furnace has an air operated vertical lift door with foot pedal control. "Rod Overbend" heating elements are located in the hearth and both sidewalls. An Alloy hearth with brick piers supports the work load. The atmosphere system consists of a "Waukee" Nitrogen flowmeter and flame curtain. Atmosphere enter the furnace chamber through the rear wall. Manuals and drawings are included with this furnace. Electrically heated with a max temperature of 2000°F. Model # 11-ROMT243618-20A and serial # 859266. Voltage is 460/3/60/40 kW, 92V Secondary. Working dimensions of 24"W x 18"H x 36"L with external dimensions of 6'W x 9'H x 8'L. Controls Mounted in a free standing panel includes a Honeywell UDC digital temperature controller, Honeywell Dial-a-Trol high limit and a Honeywell strip chart recorder. The step down transformer for the heating elements is mounted in the same enclosure. Power to the heating elements is controlled through a "Halmar" SCR. This electrical enclosure is air conditioned to prevent overheating of the SCR.

**For Pricing Please Contact [Jordan@themonty.com](mailto:Jordan@themonty.com)**  
<https://themonty.com/project/itemb463-lindberg-box-furnace/>

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## **Item#BOX458 Noble Furnaces Box Furnace**

Manufactured by Noble Furnaces this is a gas fired box furnace capable of 2,000F. Furnace has a vertical lift front door with a charge car and retort. Furnace has working dimensions of 8' X 8' X 6" high (approximate). 330SS retort has working dimensions of 70" diameter X 42" high. Vendor has been processing aerospace parts in an argon atmosphere in the retort, however furnace can be used without the retort. Excellent condition, currently installed and in operation.

**Asking Price \$80,000 USD**

<https://themonty.com/project/itemb458-noble-furnaces-box-furnace/>

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## **Item#BOX449 Lindberg Atmosphere Box Furnace**

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-OOA. 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 Price \$60,000 USD**

<https://themonty.com/project/itemb449-lindberg-atmosphere-box-furnace/>

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## **Item#BOX425 Lindberg Box Furnace**

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 Price \$85,000 USD**

<https://themonty.com/project/itemb425-lindberg-box-furnace/>

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## **Item#BOX397 Drever Atmosphere Box Furnaces**

“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 Price \$325,000 USD Each**

<https://themonty.com/project/itemb397-drever-atmosphere-box-furnaces/>

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## **Item#BOX374 R&G Services 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 USD**

<https://themonty.com/project/itemb374-rg-services-atmosphere-box-furnace/>

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## **Item#BOX352 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 Price \$70,000 USD**

<https://themonty.com/project/itemb352-pacific-scientific-box-furnace/>

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# CONTINUOUS FURNACES

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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## Item#C343 48" Diameter Rotary Hearth Furnace

Manufactured by "Erco" this is a model "Erco FRH 48" rotary hearth furnace. Electrically heated 480 volt, 3 phase 60 cycle. 48" diameter with a single 15"X 12" high door. Appears to be in good condition. Ceramic motorized hearth, brick lined heat chamber with heavy gauge NiChrome ribbon elements, fibre lined lift off roof, air operated foot pedal, 6.5" thick brick lined door.

**Asking Price \$12,500 USD**

<https://themonty.com/project/48-diameter-rotary-hearth-furnace/>

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## Item#C342 Two CM High Temperature Pusher Furnaces

Each system includes ...Common frame with power and control components. Heavy gage welded construction. Atmosphere containment doors with protective atmosphere flushing. "Moly" elements wound a ceramic tube muffle. Alumina brick insulation. Water jacketed cooling section. Microprocessor temperature controller. Phase angle fired SCR control units. Overttemperature protection controller. Type "C" thermocouples.

Model 345-48-3Z. 4" opening x 5" wide x 48" long heating chamber, 3 zones. 54 KW, 480/3/60. Hydrogen/Nitrogen atmosphere with safety system. Max. temperature rating: 1700 deg.C.

Asking Price: \$23,450.00

Model 366-48-1Z. 6" opening x 6" wide x 48" long heating chamber, single zone. 45 KW, 480/3/60. Hydrogen/Nitrogen atmosphere with safety system. Max. temperature rating: 1700 deg.C.

**Asking Price: \$22,550.00**

<https://themonty.com/project/itemc342-two-cm-high-temperature-pusher-furnaces/>

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## **Item#C341 CI Hayes Mesh Belt Furnace**

Used CI Hayes Conveyor Type Muffle Furnace. Super Solitaire 27. NH3 & Nitrogen Inlet Flowmeters. Combustible atmosphere system with N2 purge. Inconel Muffle with internal hearth plates. Furnace (6) Nichrome Ribbon Elements. AD150 (6) Nichrome Ribbon Elements 314SS Mesh Belt rated 3# per linear foot loading @ 2000F. Type: Model LAC-MB-030627-AD. Hot Zone: 27" Long Heated Length, 6" wide Mesh Belt, 3" Work Height. Overall Dim.: Approx 2-1/2' Wide x 5' High x 20' Long. Max Temp.: 2100F (1150C) Continuous at 2000 deg.F Elec Utilities: Furnace 18kw, Contactor Power Switching, Wired 240/3/60. AD150 15kw, Contactor Power Switching, Wired 240/3/60 Controls: Honeywell Temp Control & Honeywell Overtemp Control, Both. Furnace and 150 CFH Ammonia Dissociator. Rear mounted Belt Drive with Indexing Control. Digital speed readout 0-20ipm. Extended Front Entrance Tunnel with Nitrogen Curtains and Burn-off Stack.

**Asking Price 18,000 USD Loaded On A Truck**

<https://themonty.com/project/itemc341-ci-hayes-mesh-belt-furnace/>

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## **Item#C340 CI Hayes Mesh Belt Brazing Furnace**

Manufactured by CI Hayes this is a continuous mesh belt brazing furnace with working dimensions of 6" wide X 54" long X 3" high. Model LACMB 030654, Serial number 16101 Electrically heated-47KW. Operating temperature of 2100F. Mesh belt is a tight Weave mesh. Includes; belt, full alloy muffle, NiChrome ribbon heating elements, built-in 150 CFH ammonia dissociator, 8' water cooled exit zone and Vari-speed belt drive. Temperature controls, furnace mounted.

Panel with Honeywell digital controls and overtemps. Includes spare elements. Very good condition.

**Asking Price 25,000 USD**

<https://themonty.com/project/itemc340-ci-hayes-mesh-belt-brazing-furnace/>

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## **Item#C339 Can Eng Mesh Belt Furnace**

*Operating temp. to 2050 F. Work zone: 18" wide x 12" high x 132" heated, 33' stainless steel cooling section. Power: 575 volt, 3 phase. 176 KW. 2 zone temperature control. Brick lined chamber. Silicon carbide heating elements above and under the belt. Silicon carbide hearth tiles. 2 tap transformers. Approximate overall size: 8' wide x 7' high x 60' long.*

**Asking Price 14,900 USD**

<https://themonty.com/project/itemc339-can-eng-mesh-belt-furnace/>

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## **Item# C337 Mesh Belt Furnace Line, 4,000 Pounds/Hour**

Manufactured by Atmosphere Furnace Company in 1995 this is a complete mesh belt furnace line designed for hardening of fasteners. Gas fired. 4,000 pounds per hour capacity. Line included Metro Scale loading system, hydraulic bin dumper, vibratory shaker and scale, belt width 60". Oil quench and temper. Line is complete, installed but has not been run recently. Very good condition. More details and photos to come.

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

<https://themonty.com/project/item-c338-mesh-belt-furnace-line-4000-pounds-hour/>

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## **Item#C335 SOLO 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 3m<sup>3</sup>/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% H<sub>2</sub> and 25% N<sub>2</sub> (NH<sub>3</sub>), effective height with belt: 30 mm, conveyor belt width: 70 mm, external dimensions: L 5300 mm x I 800 mm x H 1250 mm. Perfect condition, 11 manuals included. Located in France.

**For Pricing Please Contact [Jordan@themonty.com](mailto:Jordan@themonty.com)**

**<https://themonty.com/project/itemc335-solo-compact-belt-furnace/>**

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## **Item#C324 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 (N<sub>2</sub>, H<sub>2</sub>). Footprint: 9'W x 54'L (90'L Belt), 10'H + ductwork. Extra set of cooling muffles.

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

**<https://themonty.com/project/itemc324-c-i-hayes-mesh-belt-furnace/>**

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## **Item#C323 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 used for processing automotive bearings. Recently removed from operation and now in indoor storage. Excellent condition.

**For Pricing Please Contact [Jordan@themonty.com](mailto:Jordan@themonty.com)**  
**<https://themonty.com/project/itemc323-aichelin-cast-link-furnace-line/>**

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### **Item#C321 Ipsen 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 Price \$20,000 USD**  
**<https://themonty.com/project/itemc321-ipsen-austempering-system/>**

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### **Item#C314 Wellman Roller Hearth Furnace**

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 Price \$225,000 USD**

<https://themonty.com/project/itemc314-wellman-roller-hearth-furnace/>

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### **Item#C308 AFC Mesh Belt Hardening Furnace**

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

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

<https://themonty.com/project/itemc308-afc-mesh-belt-hardening-furnace/>

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### **Item#C301 Rogers Engineering Cast Link Furnace 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 hardeneing 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 Price \$650,000 USD**

<https://themonty.com/project/itemc301-rogers-engineering-cast-link-furnace-line/>

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## **Item#C283 Denton Thermal Rotary Hearth**

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**

<https://themonty.com/project/itemc283-denton-thermal-rotary-hearth/>

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## **Item#C269 C.I. Hayes Mesh Belt Furnace**

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

**Asking Price \$29,000 USD**

<https://themonty.com/project/itemc269-c-i-hayes-mesh-belt-furnace/>

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# DRAW/TEMPER OVENS

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## **Item#T367 Beavermatic Temper Furnace**

Manufactured by Beavermatic in 2011 this is an electrically heated temper with an operating range of 300-1400F. Working dimensions of 36" X 48" X 36" with a load capacity of 4,000 F. Pneumatic actuated front door, motorized infeed conveyor and combustion blower. Controls updated in 2015 by SSI to include touch screen control. Atmosphere Engineering electronic flow meter for nitrogen addition. Installed but not in use. Excellent condition.

**Asking Price \$45,000 USD**

<https://themonty.com/project/itemt367-beavermatic-temper-furnace/>

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## **Item#T366 Wisconsin Temper Oven**

Wisconsin Oven Model EWN-618-6E, NEW in 2012, 500F, Inside 6' W x 18' D x 6' H, Outside 9'6"W x 19'3"D x 9'11", 96KW on 480V/3/Approx. 133 Amps, 10HP/8,600CFM recirculating fan, 1HP/9CFM forced exhaust, UL listed control panel, shipping weight 6,500 lbs., uniformity (+/-)10, viewing window, 8 port jack panel, doors front and rear, digital controller, safety disconnect switch, emergency stop button, horizontal airflow, aluminized steel interior, high limit control, adjustable louvers, aluminized steel interior

**Asking Price \$39,950 USD**

<https://themonty.com/project/itemt366-wisconsin-temper-oven/>

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## **Item#T365 Surface Combustion Unidraw**

Surface Combustion "Unidraw" tempers built in 1993 (2 available). Electrically heated and rated for 300F-1400F. Working dimensions of 36" X 48" X 36" and a load capacity of 3500 pounds. Pneumatically actuated door, roller hearth

conveyor, recirculating fan. Updated SSI touch screen controls (2015, last calibrated 2016). Set up for Nitrogen addition with Atmosphere Engineering electronic flow meter. Roller rails on 22 1/2" centres. 50 1/2" from floor to top of rollers. Requires roughly 9' width X 10' deep. Very good condition. Installed but not in use.

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

<https://themonty.com/project/itemt365-surface-combustion-unidraw/>

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### **Item#T364 Surface Combustion "Unidraw"**

Surface Combustion "Unidraw" temper built in 1994. Electrically heated and rated for 300F-1400F. Working dimensions of 36" X 48" X 36" and a load capacity of 3500 pounds. Pneumatically actuated door, roller hearth conveyor and recirculating fan. Updated SSI touch screen controls. Set up for Nitrogen addition. Very good condition. Installed but not in use.

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

<https://themonty.com/project/itemt364-surface-combustion-unidraw/>

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### **Item#T363 Despatch Tempering Furnace**

TYPE OF EQUIPMENT: Box Tempering Furnace

MANUFACTURER: Despatch

MODEL NO: WB-73

SERIAL NO: 102835

EFFECTIVE WORKING DIMENSIONS: 42" Wide x 72" Deep x 36" High

FUEL: Electric – 460/3/60 – 120 KW

TEMPERATURE RANGE: 1350° F

DESCRIPTION: Stainless Steel Lined Recirculating Box Tempering Furnace complete with (2) Top-Mounted Alloy Recirculating Fans each with 5 H.P. Fan Motors, Alloy Conveyor Roller Hearth, complete New Set of Heating Elements, and Vertical Rising Pneumatic Front Door.

**INSTRUMENTATION:** Side-Mounted Control Panel complete with Koyo Digital Temperature Controller, Allen Bradley High Limit, and Magnetics SCR Power Controller (210 Amps).

**CONDITION:** Very Good

**OVERALL DIMENSIONS:** 103" Wide x 93" Deep x 11'8" High

**APPROX. WEIGHT:** 9,000 lbs.

**Asking Price \$54,500 USD**

<https://themonty.com/project/itemt363-despatch-tempering-furnace/>

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### **Item#T362 Electric Temper 30" X 48" X 30"**

Manufactured by Selas (Pacific Scientific). Model PKMD 100-E, Serial number 662-0585. Working dimensions of 30"X 48" X 30". Operating temperature of 1450F. 65 KW, 460 Volt, 3 Phase. Very good condition.

**Asking Price \$19,500 USD**

<https://themonty.com/project/itemt362-electric-temper-30-x-48-x-30/>

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### **Item#T361 Tempers 30" X 48" X 30" (2 available)**

Manufactured by Pacific Scientific these have working dimensions of 30" x 48" x 30". Model PKMD 100-E. Serial numbers 662-0208P and 662-0420. Electrically heated and rated for 1450°F. 65 KW, 460 Volt, 3 Phase. Very good condition

**Asking Price \$17,500 USD Each**

<https://themonty.com/project/itemt361-tempers-30-x-48-x-30-2-available/>

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## **Item#T360 Wisconsin Oven**

Model SBH-222, 650F, inside dimensions 2'W x 2'D x 2'H, horizontal airflow, Allen Bradley Panel View Plus 600, hi-limit, door switch, audible/visual alarm, 240/3 with 12 KW heater, Honeywell chart recorder, 2 shelves.

**Asking Price \$7,900 USD**

<https://themonty.com/project/itemt360-wisconsin-oven/>

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## **Item#T359 Seco Warwick Vacuum Temper Furnace**

Model VTR-5050/48. Serial Number 586/2005. Purchased 3/21/2006. Work Zone Dimensions, 36W X 48D X 24H. Originally qualified for 900°F to 1260°F with +/- 10°F uniformity. Vacuum pump is Stokes Model 212-11, Blower is Stokes Model 310-41. The operating system is Wonderware Intouch. Internal circulation fan. 460 VAC 3 phase. The buyer will be responsible for removal. The furnace will be available for removal in April 2019. It is currently still in operation.

**Asking Price \$50,000 USD Or Best Offer!**

<https://themonty.com/project/itemt359-seco-warwick-temper-furnace/>

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## **Item#T358 Wisconsin Oven Like New (2 Available)**

Wisconsin Oven Model EWN-55-5G8, 800F, 5'W x 50'D x 6'H, overall 9'6" W x 11'D x 11'H, 10HP/7000CFM recirculating fan, combination airflow, adjustable louvers, airflow switch, 600 CFM exhaust, Eclipse 450,000BTU burner, UL listed control panel, Honeywell recorder, Honeywell programmer, digital hi-limit, disconnect switch, vertical rise doors on both ends, insulated floor, exhaust hood. Excellent Condition.

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

<https://themonty.com/project/itemt358-wisconsin-oven-like-new-2-available/>

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## **Item#T357 Surface Combustion Electric Tempering Furnaces (3 available)**

Surface Combustion Electric Tempering Furnaces (3 available). Bricked Lined Box Tempering Furnace complete with Alloy Roller Rail Hearth, Stainless Steel Air Baffles, Top-Mounted Recirculating Fan, and Vertical Rising Pneumatic Door. Model # BX41758-1. Serial # BX41758-1. Working dimensions of 30" Wide x 48" Deep x 30" High. Electric – 460/3/60 – 81 KW. Max operating temperature of 1400° F. Controls consist of Side-Mounted Control Panel complete with Love Series 2500 Digital Temperature Controller, Love Series 16 Digital High Limit Controller, and Honeywell Truline 12" Round Chart Recorder. Overall dimensions of 8' Wide x 7' Deep x 11'8" High. Approximate weight of 8,000 lbs.

**Asking Price \$39,500 USD Each**

<https://themonty.com/project/itemt357-surface-combustion-electric-tempering-furnaces-3-available/>

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## **Item#T356 Wisconsin Oven Temper Furnace**

Wisconsin Oven Temper Furnace. 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. Manuals & drawings are included with this furnace. Natural Gas – 1 MBTU's/Hour. Model # SDB-6616-10G and serial # 033899307. Max operating temperature is 1000°F with a voltage of 480/3/60/16 Amps. Working dimensions of 36"W x 36"H x 96"L with external dimensions of 96"W x 13'4"H 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 controllers 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 and Barber Colman digital round chart recorder. 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.

**For Pricing Please Contact [Jordan@themonty.com](mailto:Jordan@themonty.com)**  
<https://themonty.com/project/itemt356-wisconsin-oven-temper-furnace/>

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## **Item#T352 Pyradia Tempering Oven**

Pyradia Oven 48" X 48" X 48". Electrically heated oven manufactured by Pyradia. Model P06P048048048HMTGV, Serial Number 2002-12-15977-1. Working dimensions of 48" X 48" X 48". Operating temperature of 1200F. Recirculating fan. 600 volts, 3 phases, 54KW. Vertical lift Door with double pivots. Convection style, 32,000 CFM. Built in 2004 this oven has been used for a total of 40 hours and should be considered like new.

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

<https://themonty.com/project/itemt352-pyradia-tempering-oven/>

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## **Item#T349 Eclipse Recirculating Box 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 USD**

<https://themonty.com/project/itemt349-eclipse-recirculating-box-furnace/>

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## **Item#T342 Precision Quincy Recirculating Walk In Oven**

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 Price \$16,500 USD**

<https://themonty.com/project/itemt352-precision-quincy-recirculating-walk-in-oven/>

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## **Item#T341 McLaughlin Services 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 Price \$91,000 USD**

<https://themonty.com/project/itemt341-mclaughlin-services-temper-furnace/>

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## **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.

**For Pricing Please Contact [Jordan@themonty.com](mailto:Jordan@themonty.com)**

**<https://themonty.com/project/itemt340-safed-borel-annealing-furnace/>**

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### **Item#T335 Despatch Temper**

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. Operating temperature of 500F. 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 Price \$5,500 USD**

**<https://themonty.com/project/itemt335-despatch-temper/>**

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### **Item#T325 Despatch 3-Station 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 \$20,000 USD**

<https://themonty.com/project/itemt325-despatch-3-station-temper-furnace/>

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### **Item#T320 Pifco Conveyor Oven**

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

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

<https://themonty.com/project/itemt320-pifco-conveyor-oven/>

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### **Item#T318 Eisenmann Box Tempers (4 Available)**

*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**

<https://themonty.com/project/itemt318-eisenmann-box-tempers-4-available/>

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## **Item#T303 Pifco Temper Furnace**

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

**Asking Price \$20,000 USD**

<https://themonty.com/project/itemt303-pifco-temper-furnace/>

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## **Item#T286 Lindberg Box Temper**

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

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

<https://themonty.com/project/itemt286-lindberg-box-temper/>

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# GENERATORS

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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## **Item#G201 South Tek Nitrogen Generating System**

Manufactured by South Tek Systems of Wilmington, NC., in 2012. Model STS N2-GEN 250S. Output of 2875 SCFH at 99.5% purity. Footprint of 48" X 50" X 119". Shipping weight of 3925 pounds. Installed but not in use. Excellent condition.

**Asking Price \$30,000 USD**

<https://themonty.com/project/itemg201-south-tek-nitrogen-generating-system/>

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## **Item#G199 2000 CFH Endothermic Generator New 2015**

Manufactured by Unitherm Industries in 2015. Model EG 2000, Serial Number 102113-2. 2,000 CFH capacity. Maximum operating temperature 2000F. Natural Gas fired. SSI atmosphere controls includes AC-20, Series 7 Temperature control, 7SL Hi Limit. Installed but not in use. Excellent condition. Last operated December 31/2018.

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

<https://themonty.com/project/itemg199-2000-cfh-endothermic-generator-new-2015/>

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## **Item#G198 Sunbeam 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 Price \$22,500 USD**

<https://themonty.com/project/itemg198-sunbeam-endothemic-generator/>

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### **Item#G197 Lindberg 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 USD**

<https://themonty.com/project/itemg197-lindberg-ammonia-dissociator/>

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### **Item#G196 Surface Combustion 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 Price \$31,500 USD**

<https://themonty.com/project/itemg196-surface-combustion-endo-generator/>

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### **Item#G178 Sargeant & Wilbur 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 Price \$29,500 USD**

<https://themonty.com/project/itemg178-sargeant-wilbur-ammonia-dissociators-4-available/>

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## **Item#G176 Surface Combustion Endo Generator**

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 Price \$75,000 USD**

<https://themonty.com/project/itemg176-surface-combustion-endo-generator/>

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## **Item#G173 Lindberg Endo Generator**

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

**Asking Price \$17,500 USD**

<https://themonty.com/project/item173-lindberg-endo-generator/>

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## **Item#G169 Gasbarre / Sinterite 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 Price \$29,500 USD**

<https://themonty.com/project/itemg169-gasbarre-sinterite-endo-generator/>

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# INDUCTION HEATING SYSTEMS

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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## **Item#I181 Pillar Induction Heat Treat System 50 kW, 50 kHz**

This is an automatic Lift and Rotate Machine with a single lift position and TWO heat stations allowing for heating in two different locations in one machine cycle. The two heat stations are controlled by a transfer switch that transfers power from one position to a second position. This is a manual load/unload automatic cycle machine with Allen Bradley controls and Panelview 1000 operator interface. It has an automatic door close/open and light curtain for operator safety. Power Supply is a Pillar MK11 50 kW, 50 kHz IGBT Type. Entire unit is mounted on a common base for easy transport and re-installation. Other details include:

Rotational Drive Speed (Variable): 0- 200 RPM

Integral Quench Reservoir: 100 Gallon

Dimensions (Induction Heater) (L x W x H): 155" x 120" x 115"

Weight Estimate: 20,000 Lbs.

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

<https://themonty.com/project/itemI181-pillar-induction-heat-treat-system-50-kw-50-khz/>

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## **Item#I180 Lepel/ Inductoheat SP12-100 kW-30 kHz**

**Inductoheat /Lepel Induction Power Supply.** This is a Lepel/ Inductoheat SP12-100 kW-30 kHz IGBT type induction heating power supply with Integral Heat Station. This is an older version of a currently offered Inductoheat Power Supply. The SP12 power supply is designed to match multi-turn coils (400- 2000 V) that are used for hardening, tempering, tube heating, crystal growing, brazing, wire/strip heating and many other induction heating applications. A wide variety

of heating coils can be properly matched with built-in load tuning capacitors and multi-tap output isolation transformer.

This has a REMOTE OPERATOR PANEL which can be used to operate the power supply if it is placed away from or oriented away from the heating operation. This is an optional extra cost item when purchased with this power supply. It can be shown operating. There is no warranty but it is sold with the assurance it is in good working order. It will be connected and tested in our facility. Start up and Training service is available at extra cost by an experienced induction heating service engineer. We can also offer repairs and servicing for Induction Power Supplies.

**Asking Price \$24,500 USD**

<https://themonty.com/project/item180-lepel-inductoheat-sp12-100-kw-30-khz/>

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## **Item#I179 Semi-Automatic Pin Hardening System 25kW, 3/10 kHz**

Ajax Pachydyne 25kW, 3/10 kHz pin annealing/hardening system. This is a small automatic system for Induction Heat Treating small pins. Includes a power supply with matching heat station and a small fixture for heating and drop quenching small diameter parts. Also includes a small conveyor to drag out the parts from the quench container and water to water cooling and recirculating system and a quick-change coil bus adapter. Good condition.

**Asking Price \$14,900 USD**

<https://themonty.com/project/item179-semi-automatic-pin-hardening-system-25kw-3-10-khz/>

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## **Item#I178 Inductoheat Pick & Place Induction System**

Used Inductoheat Automated 100kW, 400 khz pick and place heat treating machine. This machine has been taken out of production due to completion of a contract. It is in good working condition and is still connected to power. It can be run for the buyer prior to shipping. It was used to harden a gear part 45” in dia. Could possibly be retooled for different part processing within the limits of the machine capabilities. This machine includes a SOLID STATE TRANSISTOR (Thermatool) power supply. These are very heavy-duty power supplies which are generally made by Thermatool for tube welding operations that usually run 24/7. This machine includes:

- Input conveyor with gating and part pickoff locator.
- Three arm Pick and Place mechanism that picks one part from the infeed position, one part from the heating position and one part from the cooldown station. All are transferred at the same time.
- Head Position includes placement into the heating coil, air operated part hold down, rotation, heating and quenching. Quick Change Coil Adapter is also included.
- Cooldown/Exit Idle position includes cooling quench flow.
- Exit position with push off onto exit conveyor with reject station
- Auto Lube System • Quench cooling and recirculating system with bag filter
- Water cooling and recirculating system.
- PLC Control with Panelmate interface
- Most Drawings and DVD Manual Included.
- Optional 6 Ton Chiller available.

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

<https://themonty.com/project/item178-inductoheat-pick-place-induction-system/>

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## **Item#I177 Ajax 2 Station Spindle Scanners**

This is an integrated Ajax 2 Station (single spindle per station) 150 kW, 10 kHz Scanner System. It has a single SCR type power supply with a transfer switch to send power to station A or B. It has a single shared Quench Recirculating

System with bag filter, single shared Water Recirculating System. Each station has a PLC Control and servo control. PLC is A/B SLC 5/03, Pacific Scientific Servos, and Nematron MMI. Also has Quick Change Coild Adapters (would cost about 4-5k today). This was built in 1998 but appears to have been well maintained and contains currently serviceable components.

**Asking Price \$89,500 USD**

<https://themonty.com/project/item177-ajax-2-station-spindle-scanners/>

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## **Item#I174 Ajax Tocco Induction 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 deigned 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 Price \$120,000 USD**

<https://themonty.com/project/item174-ajax-tocco-induction-power-supply-heat-station/>

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# LAB EQUIPMENT

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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## Item#L11 Leco Metallagraph

Leco Metallagraph.

**Asking Price \$8,500 USD**

<https://themonty.com/project/iteml11-metallagraph/>

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## Item#L1 Spectra-Tech Infrared Microscope

Model WHK 10X 201, Reflected & Transmitted light, multiple objectives, Polaroid 4x5 attachment.

**Asking Price \$6,500 USD**

<https://themonty.com/project/iteml1-spectra-tech-infrared-microscope/>

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# MISCELLANEOUS HEAT TREAT EQUIPMENT

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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## **Item#M432 Super Systems 9200 Control System**

For sale Super Systems 9200 control system mounted in free standing panel including multiple spare HMI touch screens and spare power supplies

**Best Offer**

<https://themonty.com/project/itemm432-super-systems-9200-control-system/>

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## **Item#M431 Eclipse Singe Ended Recuperative Burners (20 available)**

We have 20 Eclipse single ended recuperative burners and 20 65 inch long silicon carbide inner and outer tubes for sale. Also 20 Honeywell flame relays and all solenoids and gas and air valves also 20 ignition transformers. This system is still installed. New in 1998 and used very little. We can provide removal and packaging. We prefer not to separate. Burners and tubes are currently mounted vertically but can be installed and operated horizontally. These burners are good for any atmosphere furnace such as belts or batch or pits.

**Best Offer**

<https://themonty.com/project/itemm431-eclipse-singe-ended-recuperative-burners-20-available/>

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## **Item#M430 Furnace Alloy Fixturing**

We have available a wide selection of 330 rod frame alloy baskets, cast base trays and cast fixturing. All of these items are for batch IQ furnaces with working dimensions of 36" X 48" X 36". Various sizes of baskets including 36" X 48" X 8" high, 36" X 23" X 8" high and 36" X 23" X 16" high. Condition ranges from unusable for some items to a number of baskets and trays which have never been used. More photos available upon request.

For Pricing Please Contact [Jordan@themonty.com](mailto:Jordan@themonty.com)

<https://themonty.com/project/furnace-alloy-fixturing/>

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## **Item#M429 Whaley Products Refrigerant Water Cooling Tower**

Model # SA20D-3-2PT. Capacity: 20 Tons. Dual Compressors/240,00 BTU/Hr. Flow Rate:48 GPM. Insulated Poly Tank: 100 Gals. Inlet/Outlet Pipe Size: 1-1/2". Fan Output:16,600 CFM. Supply Pump: 3 HP. Circulating Pump: 1 HP. OAD: 29" L x 68" W x 84" H. Purchased 4/2015 In Very Good Condition, Has Seen little Use.

**Asking Price \$9,800 USD**

<https://themonty.com/project/itemm429-whaley-products-refrigerant-water-cooling-tower/>

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## **Item#M427 Used Houghton MAR-TEMP Oil 355**

Mar-Temp 355 is a high performance accelerated hot quenching oil suitable for use at temperatures of up to 375°F (190°C). It is based upon solvent-refined mineral oils and contains a specialty formulated additive package which provides accelerated quenching characteristics and excellent oxidation resistance and thermal stability. Mar-Temp 355 has a high flash point and will provide long life under arduous operation conditions.

### **Features & Benefits**

- Short vapor phase and fast maximum cooling rate for optimum hardness and physical properties

- Premium hot quenching (martempering) oil providing maximum distortion control of quenched components eliminating the need for rework due to distortion
  - Excellent oxidation and thermal stability: Resists formation of sludge and breakdown of oil in use to ensure maximum oil life
- 22,000 Liters are available immediately and 16,000 Liters in a month or two.**

**Asking Price \$1.25 USD Per Litre (Located In Canada)**

<https://themonty.com/project/itemm427-used-houghton-mar-temp-oil-355/>

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### **Item#M426 Midbrook Belt Washer**

Midbrook hurricane 5024, stainless steel conveyor through feed type 4-stage parts washer, s/n 44674 (2004), 24" x 24" opening, wash/rinse/rinse/blow off/dry stages, allen-bradley panelview 1000 control, stainless steel metal mesh belt conveyor, demagnetizer, 24" wide plastic infeed and outfeed power belt conveyors. Comes with over 50' of automated feed conveyor. Currently installed without power.

**Asking Price \$89,000 USD**

<https://themonty.com/project/itemm426-midbrook-belt-washer/>

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### **Item#M425 Kolene Salt Bath Nitriding Line (gas)**

Manufactured by Kolene this was purchased new in 1995 by the vendor. This is gas fired with pot dimensions of 42" diameter X 6' deep. Was typically producing 1,000 pounds per hour but capable of more. Line includes the following;

- 3 overhead transfer cranes
- Air scrubbing unit
- Bronco continuous belt blasting unit, large very effective machine with 36" belt and 8 multi directional blasting motors (vendor will sell this separately)
- 3 vibratory polishers
- Many fixtures
- Used salt\*
- New salt\*
- Extra pot (weld repaired)

System is installed and was in operation until late 2018. Complete and in good condition.

**Asking Price \$365,000 USD For Everything**

<https://themonty.com/project/itemm425-kolene-salt-bath-nitriding-line-gas/>

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## **Item#M421 Berg Chiller**

Brand: Sterling. Model: GPAC-20 (2014 mfg. year). Capacity: 5 ton. Voltage: 460V/3/60. In good condition.

**Asking Price \$8,000 USD**

<https://themonty.com/project/itemm421-berg-chiller/>

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## **Item#M417 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 Price \$8,000 USD**

<https://themonty.com/project/itemm417-soluble-oil-dunk-tank/>

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## **Item#M416 Wheelabrator**

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 Price \$75,000 USD**

## **Item#M414 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

**Asking Price \$8,800 USD Shipping Included**

<https://themonty.com/project/itemm414-vacuum-residual-gas-analyzer-3-available/>

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## **Item#M411 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 Price \$13,500 USD Each**

<https://themonty.com/project/itemm411-sbs-quench-oil-coolers-2-available/>

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### **Item#M380 Bronco Wheelabrator**

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. (Includes loading at the facility)

**Asking Price \$20,000 USD**

<https://themonty.com/project/itemm380-bronco-wheelabrator/>

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### **Item#M366 Wheelabrator Rubber Belt Tumblast**

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

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

<https://themonty.com/project/itemm366-wheelabrator-rubber-belt-tumblast/>

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# VACUUMS FURNACES

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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## **Item#VF356 DeGussa 2 Bar Vacuum Furnace (Located in Turkey)**

This furnace is in operation at a captive heat treat in Turkey where it has become surplus. Currently it is under power and can be seen at any time. Vendor is willing to run sample parts. Good condition, complete and with many spare parts and alloy fixturing.

- Built in Mid 1990's
- Working dimensions of 1100x1100x2200 (2600kg load)
- 390 kW
- 2 bar quenching with nozzles
- Diffusion pump
- Vacuum pumps are in good shape
- Hot zone newly rebuilt
- Suitable for the aerospace industry, furnace was originally hardening parts for Sikorsky and Liebherr aviation parts
- There are approximately 900kgs of alloy fixtures which most of them are almost new (see photos) (2.4879 material)
- Lots of spare parts for virtually all graphite components.
- Is under power and can be seen, sample parts can be heat treated.
- Located in Turkey

Asking Price \$62,000 Euros

<https://themonty.com/project/itemvf356-degussa-2-bar-vacuum-furnace-located-in-turkey/>

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### **Item#VF355 Vacuum Furnace Control Panel**

Built by Loy Instruments in 2014 for use on an Abar Vacuum furnace. System consists of a free standing, 2 door panel with Honeywell 900PLC with Honeywell Over Temp and Televac vacuum controller. Panel was used for 2 years before it was removed from service. Panel has always been in a controlled atmosphere environment maintained at 70F. Very clean and in excellent condition. New this was \$60,000 USD.

**Asking Price \$26,000 USD**

<https://themonty.com/project/itemvf355-vacuum-furnace-control-panel/>

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### **Item#VF354 ALD Degussa Bottom Loader Vacuum Furnace**

Bottom loading vacuum furnace built by ALD Degussa in 1985 and rebuilt in 2016. Working dimensions of 1500 mm diameter and 1500 mm high. Load capacity of 1,000 Kg. Vacuum System; High vacuum system with diffusion pump. Vacuum Level : 10exp-4 .... 10exp-5 mbar. Used in the aerospace industry and suitable for AMS2750 regulations. Complete and in excellent condition. Located in Germany.

**Asking Price \$110,000 Euro**

<https://themonty.com/project/itemvf354-ald-degussa-bottom-loader-vacuum-furnace/>

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### **Item#VF353 Bottom Load Vacuum Furnace 60" X 60"**

Vac Aero Rebuilt Bottom Load Vacuum Furnace, working dimensions of 60" x 60". Model: VAV-6060-BL. Hot Zone: Moly face with graphite insulation. Vacuum Pumps: 35" Diffusion Pump, Stokes 1722 Package. Quench System: 125 HP external quench. Rebuild in progress: Complete exterior reconditioning. Interior

of pipes, fna house and vessel receive sand blasting and new high temp white epoxy paint. New hosing. New hot zone. New quench heat exchanger. Rebuilt 125 HP motor. Rebuilt mechanical pump and blower. (New controls available at extra cost). PHOTO BELOW SHOW FURNACE BEFORE REBUILD.

**Asking Price \$495,000 USD**

<https://themonty.com/project/itemvf353-bottom-load-vacuum-furnace-60-x-60/>

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### **Item#VF351 GCA/Vacuum Industries Vacuum Furnaces (3 Available)**

MANUFACTURER: AVS/VACUUM INDUSTRIES

TYPE: VACUUM FURNACE I.D.: 12"W X 36"D X 12"H

SERIAL#: 42093 MODEL: WORK HOUSE 3040

MAX. TEMP: 3000 F

ELECTRICS: 460V/77KW/3PHASE

CONTROLS: HONEYWELL DCP 700 DIGITAL PROGRAM CONTROLLER, HONEYWELL OVER TEMP CONTROL, HONEYWELL CHART RECORDER MOUNTED IN AN ENCLOSED PANEL.

GENERAL: HORIZONTAL DOUBLE WALL WATER COOLED VESSEL WITH SIDE SWING DOOR, FAN IN REAR, METALLIC HOT ZONE, AND STAINLESS INNER WALL. OUMPING SYSTEM INCLUDES A WELSCH MECHANICAL PUMP AND A 6" DIFFUSION PUMP.

**Asking Price \$22,500 USD**

<https://themonty.com/project/itemvf351-gca-vacuum-industries-vacuum-furnaces-3-available/>

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### **Item#VF350 Ipsen Bottom Load Vacuum Furnace**

Model VVFC, Serial number #57411. Working dimensions of 48" X 48". Max. temp 2300F. 225KW heating power. 2 speed 25 HP cooling fan. Increased internal heat exchanger coils. Insulated hot zone with moly hot face. Stokes 412 mechanical pump with ROOTS CONNERSVILLE 1016 booster. New SSI programmer/controller. Built 2/6/78. Graphite heating elements and graphite hearth. Installed but not in use. Good condition.

**Asking Price \$99,000 USD**

<https://themonty.com/project/itemvf350-ipsen-bottom-load-vacuum-furnace/>

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## **Item#VF348 C.I. Hayes Vacuum Furnace**

C.I. Hayes Vacuum Furnace. The front door is mounted on an I-Beam trolley and slides to the side for access to the interior. Quench section is located directly in front of the heat chamber with a hydraulically operated door separating the chambers. Hot zone is lined with graphite felt backed up with ceramic fiber blanket. Six graphite rod elements are mounted horizontally across the chamber, 3 over and 3 under the work area. Hearth rails support the work load. Hydraulic cylinder transfers the load between the chambers. Hydraulic pumping system lowers and raises the work load into the tank. There is a Kinney vacuum. Electrically heated with a voltage of 480/3/60/20 kW. Model # VCQME and serial # 16482 (1987). Max operating temperature is 2400°F. Working dimensions of 8"W x 6"H x 14"L with external dimensions of 5' wide x 9' 6" long x 8' 5" high. Furnace only – not including pumps, transformer. Controls are mounted and wired in a separate enclosure. There is a Honeywell DCP 511 programmable controller and a Honeywell round chart recorder / high limit with digital readout. MKS vacuum gauge indicates vacuum level in the quench area and the heat chamber. Control switches for all functions of the furnace including temperature, vacuum, nitrogen backfill, gas fan and oil agitator are flush mounted in the enclosure. Controls for transferring the load and elevator controls are

located next to the furnace door. Voltage reduction transformers with DC power drivers are mounted in a NEMA 12 enclosure.

**For Pricing Please Contact [Jordan@themonty.com](mailto:Jordan@themonty.com)**  
**<https://themonty.com/project/itemvf348-c-i-hayes-vacuum-furnace/>**

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## **Item#VF344 C.I. Hayes Vacuum Furnace**

Built by C.I. Hayes this is a VCH-202436 Single Chamber Vacuum Furnace. Work dimensions of 20”h x 24”w x 36”d. Max. Temp.: 2450 deg.F. Connected Load: 125 KW, 440/3/60. All Graphite Heating Chamber. Vacuum Components: Mechanical Pump/Blower Combo (16” Port For Addition Of Diffusion Pump). High Volume Recirculating Gas Cooling System. Programmer Controller, OT Protection, Two Recorders. Previously used for sintering of stainless steel magnetic material and the quench is capable of hardening alloy materials. Hot zone in good condition. Furnace is presently in storage.

**Asking Price \$90,000 USD**  
**<https://themonty.com/project/itemvf344-c-i-hayes-vacuum-furnace/>**

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## **Item#VF342 Ipsen Bottom Load Vacuum Furnace**

Ipsen Bottom Load Vacuum Furnace 48” X 54”. Completely Re-Manufactured IPSEN 48” Dia x 54” High Vertical Bottom Loading Vacuum Furnace for your Heat Treating and Brazing requirements. This furnace complies and meets the SAE Aerospace Material Specification AMS2750 Latest Revision E (AMS2750E) and NADCAP. Operating temperature from 800°F (427°C) to 2400°F (1315°C). Temperature uniformity ±10°F (±6°C) between 1004°F (540°C) to 2400°F (1315°C). Equivalent to Class 2 Furnace in AMS2750E standards. Circular one-piece gas plenum/hot zone support structure provides strong, uniformly expanding support for elements Work Zone Dimensions are 48” (1219 mm)

Diameter x 54" (1372 mm) High. Hot Zone Insulation is composed of the following layers:

Hot Face

First Layer

Second Layer

– 0.060" Thick Graphite Foil with CFC Sheet at ends

– 1.00" Thick High Purity Graphite Felt

– 1.00" Thick High Purity Graphite Felt

Hearth gross load weight capacity of 3000 lbs (1361 kilograms) at 2400°F (1316°C). Ultimate Vacuum (nominal) 10-5 Torr Range. Re-manufactured Stokes 412H-11, 300 C.F.M. (8,500 litres per minute) mechanical roughing pump. Re-manufactured Stokes 900-615, 2,000 C.F.M. (56,600 litres per minute) as blower pump. Re-manufactured Varian NHS-35" Diffusion pump, pumping speed 50,000 litres per second. Comes with Safety Guard against hot body surfaces. New Leybold Trivac 8B, 5.7 C.F.M.(161 litres per minute) Rotary Vane Vacuum pump as holding pump. New Oil Mist Filter System for pumping system exhaust. One (1) Re-manufactured External 4400 CFM 50HP Spencer Turbine Co. Gas Fan Cooling Motor and heat exchanger system. One (1) Re-manufactured step-up transformer for Gas Fan Motor. One (1) Backfill Reservoir Gas Tank @ 120 p.s.i.g of 5,000 litres capacity. Argon Quenching To Maximum 2 Bar. Consider this basically a new furnace with a 12 month warrantee. Asking \$525,000 USD with start up and training included. Half the price of new.

**Asking Price \$525,000 USD**

<https://themonty.com/project/itemvf342-ipsen-bottom-load-vacuum-furnace/>

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## **Item#VF335 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.

**Asking Price \$75,000 Euro**

<https://themonty.com/project/itemvf335-ald-vacuum-carburizing-furnace/>

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## **Item#VF331 Elnik Vacuum Furnace**

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
- Working dimensions of 18" X 18" X 18"
- External dimensions of furnace 6' X 6', water tank 5' X 5'
- Ultimate vacuum 10<sup>-5</sup>
- 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 utilities
- Complete and in Good Condition

**Asking Price \$19,950 USD**

<https://themonty.com/project/itemvf331-elnic-vacuum-furnace/>

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## **Item#VF330 Surface Combustion 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 USD**

<https://themonty.com/project/itemvf330-surface-combustion-vacuum-furnace/>

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## **Item#VF327 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 \$50,000 USD**

<https://themonty.com/project/itemvf327-surface-combustion-vacuum-temper-furnace/>

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## **Item#VF326 Ipsen Vacuum Furnace**

Ipsen 924 Vacuum Furnace. Ipsen Model: VFC-924-R Vacuum Furnace S/N: 58699. Working dimensions of 32" wide X 53" deep X 26" high. Maximum operating temperature of 2400F, recently surveyed from 1400-2000F at +-25F. Molybdenum faced hot zone. Stokes 412 roughing pump, Stokes 615 booster pump, and Varian HS-20 diffusion pump. 40 HP fan. Water cooled. One zone of control. Honeywell controllers and chart recorder. MKS 937B Vacuum Gauge Controller. Good operating condition. 480 Volts. Was used in an aerospace facility before it was very recently removed.

**Asking Price \$80,000 USD**

<https://themonty.com/project/itemvf326-ipsen-vacuum-furnace/>

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## **Item#VF321 Ipsen Vacuum Furnace**

- Manufacturer: Ipsen
- Model: VFC-524, working dimensions of 24" wide X 36" deep X 24" high
- Temperature: 2400F
- Moly-faced hot zone
- Graphite heating elements
- 18" Ipsen Diffusion Pump
- Stokes 412H-10 mechanical pump
- 50 kVA power transformer
- Top-mounted cooling fan with 15 HP Motor
- 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

**Asking Price \$58,000 USD**

<https://themonty.com/project/itemvf321-ipsen-vacuum-furnace/>

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## **Item#VF320 Thermal Technologies 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 parts washer.

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

<https://themonty.com/project/itemvf320-thermal-technologies-vacuum-furnace/>

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## **Item#VF319 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 Price \$285,000 USD**

<https://themonty.com/project/itemvf319-vacuum-induction-melting-system/>

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## **Item#VF316 AVS Vacuum Furnace**

Manufacturer: Advanced Vacuum Systems (AVS). Model: HMF-24-24-48-1100, S/N 4-1284-0683 Approx. 1990. Chamber: Cylindrical, Horizontal, Stainless Steel with front & rear access doors for ease of maintenance. Hot Zone: Used, All-Metal Moly/SS Shielded Hot Zone with Moly Elements and Moly Hearth Ass'y. Vacuum System: Stokes Mechanical Pumps and Varian Diffusion Pump (Typ. 10-4 to 10-6 Torr ultimate) Pumps: Varian HS-20 warranty rebuilt Diffusion Pump. Stokes 310 warranty rebuilt mechanical blower pump (booster). Stokes 212 warranty rebuilt Mechanical Roughing Pump. Holding Pump for diffusion pump. Power: 480V/3Ph/60Hz, 300 Amp, 250 KVA Heating. Floorspace Requirement: Approx. 15' x 15' x 11'H. Work Zone: 24"W x 48"D x 24"H. Max. Temperature Rating: 1100°C (2012°F) Max. Load Rating: > 1500 lb. Upgraded Controls: SSI 9220 Controller with 12.1" Advantech Touch Screen HMI and built in digital data acquisition, SSI Series 804L Hi-Limit, SR12 Remote Input Satellite Recorder, New Allen-Bradley Micrologix 1400 PLC, Televac vacuum instrument & gauges. Gas Cooling: External VFD Drive Blower and Heat Exchanger, 1 Atmosphere Pressure. Other: Included – 24" x 48" used 2-Tier Molybdenum Grid Fixture. Both front and rear doors have ports for adding end heating elements, if desired (not included). Rear door also has a port for a circulation fan, if desired (not included).

**Asking Price \$170,000 USD**

<https://themonty.com/project/itemvf316-avs-vacuum-furnace/>

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### **Item#VF315 AVS Vacuum Furnace (Rebuilt)**

Manufactured by Advanced Vacuum Systems (AVS) this furnace has a Model Number HMF-24-24-48-1100, S/N 4-1284-0490. Built approximately 1990. Chamber: Cylindrical, Horizontal, Stainless Steel with front & rear access doors. Hot Zone: New in 2015, All-metal, shielded (Moly and Stainless Steel), Moly Hearth, Moly Elements. Hot Zone rated for 2400F. Vacuum System: Currently 10-9 Torr, Cryogenic and Turbomolecular Dry Pumps. Pumps: CTi Cryogenics 10" Cryo Ultra High Vacuum Pump; MAGintegra 10" High Vacuum

Turbomolecular Pump (New in 2015); Pfeifer Balzers Duo 120 2-stage Rotary Vane Roughing Pump; Agilent Technologies SH-110 Dry Scroll Holding Pump for Cryo. Power: 480V/3Ph/60Hz, 300 Amp, 250 KVA Heating, Hunterdon VRT with Halmar Power Control. Floorspace Requirement: Approx. 15' x 15' x 11'H. Work Zone: 24"W x 48"D x 24"H. Max. Load Rating: > 1500 lb. Controls: ProVac computer based control system. New in 2015. Gas Cooling: External VFD Drive Blower and Heat Exchanger, 1 Atmosphere Pressure. Loader: Included. Cooling Water: 90 GPM @ 25-40 PSIG (40 Max.), Open Drain. Air: 1 cu. ft./hr @ 80-100 PSIG. Inert Gas: 35 cu. ft./Load @ 6-8 PSIG. Other: Includes 24" x 48" 2-Tier Molybdenum Grid Fixture, Has blanked off 20" port for easy change to diffusion pumping, if desired. Both front and rear doors have ports for adding end heating elements, if desired. Rear door also has a port for a circulation fan, if desired.

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

<https://themonty.com/project/itemvf315-avs-vacuum-furnace-rebuilt/>

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### **Item#VF314 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**

<https://themonty.com/project/itemvf314-ipsen-bottom-load-vacuum-furnace/>

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### **Item#VF313 GT Technologies Top Loading Vacuum Furnaces**

Top Loading Vacuum Furnaces (2 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 Price \$175,000 USD Each**

<https://themonty.com/project/itemvf313-gt-technologies-top-loading-vacuum-furnaces/>

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## **Item#VF312 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 Price \$149,000 USD**

<https://themonty.com/project/itemvf312-vacuum-furnace/>

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## **Item#VF299 Sunbeam Vacuum Furnace**

Model # 40236, Serial Number F-170-82. Working dimensions of 36" wide X 120" long X 36" high. Maximum operating temperature of 2552F (1400C). 460 volts, 400Kw, 3 phase. Honeywell digital program control, Honeywell digital overtemperature control, Honeywell strip chart (inoperative) and Granville-Phillips 375 Convector 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**

<https://themonty.com/project/itemvf299-sunbeam-vacuum-furnace/>

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## **Item#VF282 AVS Vacuum Debinding/Sintering Furnace**

This is a horizontal graphite vacuum debinding sintering furnace for steel MIM parts completely rebuilt from top to bottom by AVS in 2010. Working volume – approximately 18 cubic feet, 28" wide x 26" high x 42" long graphite retort, 1500# capacity. Temperature – rated for continuous operation at 1400°C ±10°C in vacuum, 1450°C burn-out. 50μ ultimate vacuum; leak rate <10μ / hour, CEDORT (Clean, Empty, Dry, Outgassed, Room Temperature). De-bind system – nitrogen or argon sweep gas, 0 – 100 torr differential pressure controlled by PLC and automatic I-to-P modulating vacuum valve, binder trap, condenser assembly; options available for hydrogen gas and burn-off. De-bind lines heated to keep vapor from condensing in vacuum lines. Fast cooling with circulation fan and automatic gas re-circulation ports. Control system – AVS ACE™ control/data acquisition system. Estimated cold-to-cold cycle time of 16 to 20 hours with AVS "Fast Cool" option. Horizontal jacketed chamber – 60" dia. x 80" long, nominal dimensions, flanged, on legs. SA-516-70 mild steel construction on water jackets and door + body flanges. Stainless Steel inner jacket & dished head plus all

power ports Front-loading chamber with 2 doors – both doors on adjustable hinges, with buna o-rings, manual clamps, for operation from 50 millitorr vacuum to 3 psig positive pressure; rear door opens for service. Ports – rough line on side of chamber, delube line from bottom, fan housing flange on rear door Additional PORTS added to the system to accommodate future system modifications for processing ‘sinter-hard’ P/M materials – a total of up to 7 additional ports ranging from 18” in diameter down to 1” in diameter will be added. Further details available upon request. Currently installed and in excellent condition.

**Asking Price \$149,000 USD**

<https://themonty.com/project/itemvf282-avs-vacuum-debinding-sintering-furnace/>

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## **Item#VF266 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**

<https://themonty.com/project/itemvf266-vacuum-pump/>

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## **Item#VF243 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: (with existing working elements. Add \$6,000 if you want brand new elements.)

**Asking Price \$12,250 USD**

<https://themonty.com/project/itemvf243-diffusion-pump/>

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## **Item#VF242 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 Warranty Rebuilt Condition, Painted: \$ 12,250.00 (with existing working elements. Add \$4,500 if you want brand new elements.)

**Asking Price \$6,400 USD**

<https://themonty.com/project/itemvf242-diffusion-pump/>

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# WASHERS

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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## **Item#W429 AFC-Holcroft Washer**

AFC-Holcroft dunk spray washer 36" x 48" x 36". Manufactured in 2013 this is gas fired and 180F. Disc type skimmer.

**Asking Price \$29,900 USD**

<https://themonty.com/project/itemw429-afc-holcroft-washer/>

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## **Item#W428 Abar Ipsen Parts Washer**

Model WRD-5-G Dunk/Spray washer. Serial number 60099. Working dimensions of 24" X 36" X 24", maximum load capacity 1200 pounds. Gas heated. 460/3/60 electrical. Currently installed. Very good condition.

**Asking \$19,900.00 USD.**

<https://themonty.com/project/itemw428-abar-ipsen-parts-washer/>

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## **Item#W426 Mart Corporation Table Washer**

Mart Corporation Table Washer. Equipped with: Thermal Insulated Skins, Rinse Pump for Hand Wand, Wash-Rinse, Gas Heat, Oil Skimmer, Variable Pressure Switch Low-High, Rinse Pump Off-Auto, Turntable Off-On, Turntable Jog, 24 Vee-Jet Wash Nozzles, Oscillating Manifold 4 Revolutions Per Minute, 30 Minute Cycle Timer, 55 HP Duplex Pumps 399 GP, Reservoir Capacity 967 Gallons 260 Gallon Sludge Capacity, Table Load Capacity 20,000 lbs. Initial Heat Up Time 45-60 Minutes. Note: Unit is in very good condition. Table Bearings are good all maintenance up to date, recent items include, turntable drive replaced, as well as pump rebuild. Heated with natural gas. Model # Hurricane 84 and Serial # H3013. Max temperature 140°F – 180°F with a voltage of 480 3 Phase 60 HZ,

71 FLA. Working dimensions of 84" Diameter x 75"H and external dimensions of 143" W x 139"H x 125"L – 16,000 pounds. Controls Mounted and wired in an enclosure attached to the left hand side of the washer includes.

**Asking Price \$49,000 USD**

<https://themonty.com/project/itemm426-mart-corporation-table-washer/>

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## **Item#W425 Proceco Rotary Table Washer**

Proceco Rotary Table Washer. Standard Proceco "Typhoon" stainless steel rotary table washer with 2000 pound table capacity. This washer has a wash stage, rinse stage and electrically heated blow-off stage. Wash tank is 600 gallons, rinse tank is 295 gallons. 25 HP wash pump, 360 GPM, 40 psi. 7-1/2 HP rinse pump, 115 GPM, 60 psi. Manual and drawings are included with this washer. Washer options include the following: Center Nozzle Pipe (CNP), Full Flow Filtration, Exhaust Blower, Oil Skimmer, Fresh Water Rinse, Oil Coalescer, PLC Controls, Stainless Steel Construction. Electrically heated with voltage 460/3/60/39 Amps. Model # HD 62-60-S-2000-CO-2-R-BO-SS and Serial # 96-224. Working dimensions of 62" Diameter x 60" High with external dimensions of 8'W x 16'H (11'H shipping) x 13'L. Controls Mounted and wired in a free standing panel includes an Allen Bradley SLC 500 PLC control with operator interface flush mounted to the door. There are three (3) digital temperature controllers, 1 for 1st stage, 1 for 2nd stage and 1 for blow-off stage. Excellent condition and available immediately.

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

<https://themonty.com/project/itemm425-proceco-rotary-table-washer/>

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## **Item#W422 Surface Combustion Dunk/Spray Washer**

Dunk/Spray Washer 36" X 48" X 36". Manufactured by Surface Combustion this is a Dunk/Spray batch IQ washer with working dimensions of 36" X 48" X 36". Electrically heated.

**Asking Price \$22,500 USD**

<https://themonty.com/project/itemm422-surface-combustion-dunk-spray-washer/>

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## **Item#W415 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.

**For Pricing Please Contact [Jordan@themonty.com](mailto:Jordan@themonty.com)**

<https://themonty.com/project/itemm415-surface-combustion-parts-washer/>

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## **Item#W348 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.

**Asking Price \$35,000 USD**

<https://themonty.com/project/itemm348-ipsen-automatic-dunk-spray-washer/>

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## **Item#W314 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 Price \$18,500 USD**

<https://themonty.com/washers/>

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# EMPLOYMENT OPPORTUNITIES ADVERTISING

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

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## **Item#O374 Heat Treat Tech**

Phoenix Heat Treating is looking to add dynamic individuals to our growing production team. For over 50 years this family owned, and operated heat treater has established itself as a leader in aerospace and defense industries known as the company who takes on the most challenging orders. Customers from across the country send their work to Phoenix Heat Treating for our wide range of processing capabilities and a reputation of excellence.

The Heat Treat Tech will be responsible for safe operation of equipment. Additionally, this position is responsible for load set up, setting correct programs per specification, and maintaining production and quality expectations. The tech is required to follow written shop order instructions and maintain a high level of quality. It is essential that the heat treat tech exhibit ownership of department and quality of work. Additionally, effectively communicate across departments and with management to meet department and company goals. It is critical that heat treat techs be able to function as an independent worker and self-starter. Ability to utilize computers and read line charts is essential. All heat treat techs report to their department supervisor.

The ideal candidate will have minimum 2 years of previous heat treat experience. We have openings in multiple departments which include Endothermic Atmosphere, Aluminum, Salt Bath, Straightening, and Vacuum. Salary: \$16.00 to \$30.00 (based on experience and shift)

While performing the duties of this job, the employee is regularly required to: be able to work in various positions, including but not limited to, stooping, standing, kneeling and squatting, be able to lift, pull and push at least 50 pounds. EOE  
Email resumes to [ereamer@phxht.com](mailto:ereamer@phxht.com)

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## **Item#O373 Endo / Aluminum Supervisor**

Phoenix Heat Treating is looking to add dynamic individuals to our growing production team. For over 50 years this family owned, and operated heat treater has established itself as a leader in aerospace and defense industries known as the company who takes on the most challenging orders. Customers from across the country send their work to Phoenix Heat Treating for our wide range of processing capabilities and a reputation of excellence.

The Endo / Aluminum Supervisor is responsible for ensuring the effective operation of the Endo and Aluminum Departments through the communication, training and delivery of established goals and objectives. While maintaining effective work processes, this position will also be responsible for the development of employees while monitoring their performance. This position also has functional responsibility for productivity, KPI's, maintaining the daily operations and driving continuous improvement. Management of production and quality targets to meet daily, weekly, and monthly department goals.

### **ESSENTIAL JOB FUNCTIONS:**

- Supervise daily work assignments and follow up on the delivery of the expected performance results
- Schedule the correct number of staff to ensure production goals are met within the budgeted labor cost
- Set up work to ensure a seamless transition.
- Assign and follow up with operators and department staff on the length of time required for tasks
- Monitor department and plant schedules with the Production Management
- Hold direct employees accountable for ensuring proper procedures are followed
- Flag priority orders and revise schedules to meet outbound orders
- Work with Purchasing to maintain component stock levels to coincide with production schedules.

- Ensure customer specific requirements are met.
- Monitor and manage workload levels and availability of equipment
- Assess and determine overtime requirements on a timely basis to ensure an effective meeting of budgeted costs
- Communicate and cooperate with Operations and Management teams on a regular basis to ensure overall priorities are met. Act as an additional supporting resource to the other departments
- Create and maintain an environment that promotes positive communication while fostering teamwork within the department and the company.
- Monitor, analyze and report daily/weekly departmental performance through effective KPI tracking and data collection
- Maintain accurate daily and weekly timekeeping and attendance records to ensure proper payment of employee and temporary employee payroll submissions.
- Ensure operation procedures, equipment & facilities follow company policies & legislative requirements
- Take a proactive approach to Health and Safety to promote accident avoidance.
- Hold employees accountable for the completion and filing of safety inspection forms to ensure all obligations are met.
- Provide daily feedback to employees through coaching and administer performance appraisals.
- Handle all disciplinary situations appropriately and in a timely manner with appropriate supporting documentation.
- Strive for continuous improvement by soliciting employee suggestions and feedback and making recommendations.
- Assist in the development of facility goals and strategies to support the business plan.
- Implement and actively champion compliance with company policies & procedures.
- Performs any other duties as may be assigned.

#### SUPERVISORY RESPONSIBILITIES

Will be reasonable for direct reports in the department.

## QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

### EDUCATION and/or EXPERIENCE

A minimum of a High School Education / GED. Minimum of Three years of managing and leading people in a production environment. Three years working in a manufacturing environment with Lean manufacturing and 5S. Computer literacy essential Proficiency in MS-Office suites. A team player, ability to work on own initiative, strong understanding of the expectations associated with leading a production team.

### LANGUAGE SKILLS

Ability to read and interpret documents such as safety rules, operating instructions and procedure manuals. Ability to write routine reports and correspondence. Must be able to read and write English.

### MATHEMATICAL SKILLS

Ability to add, subtract, multiply, and divide in all units of measure, using whole numbers, common fractions, and decimals. Ability to compute rate, ratio, and percent and to make and interpret excel and graphs.

### REASONING ABILITY

Ability to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists. Ability to interpret a variety of instructions furnished in written, oral, diagram or schedule form.

### CERTIFICATES, LICENSES, REGISTRATIONS

Green Belt in Lean / Six Sigma, MTI training certificate for Supervision and Heat Treating

### PHYSICAL DEMANDS

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is regularly required to stand; use hands to finger, handle, or reach with hands and arms and talks or hears. The employee frequently is required to walk and stoop, kneel, crouch. Visual Acuity: Near acuity and accommodation are required for reading blueprints, and Computers. Specific vision abilities required by this job include close vision, distance vision, color vision, peripheral vision, depth perception, and ability to adjust focus.

Hearing Ability: Ability to hear safety devices on forklifts, machines and fire alarms.

#### WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job.

Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The employee may be required to follow other job-related instructions and to perform other job-related duties as requested, subject to all applicable state and federal laws.

While performing the duties of this job, the employee is regularly required to: be able to work in various positions, including but not limited to, stooping, standing, kneeling and squatting, be able to lift, pull and push at least 50 pounds. EOE

Email resumes to [ereamer@phxht.com](mailto:ereamer@phxht.com)

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### **Item#O372 Account Manager/Sales Person**

HI TecMetal Group Headquartered in Cleveland OH is looking to add a talented Account Manager/Sales Person to join our team! Our Sales personnel play a critical role in our business to uphold our commitments to our customers, providing the best possible quality and service we can achieve.

#### KEY RESPONSIBILITIES

To develop and maintain new and existing accounts for our brazing and heat treating operations located in northeast Ohio. Accounts should be developed across North America to meet the needs and abilities of the corporation.

- Serve as the lead point of contact for customer account management matters
- Develop new business with existing & perspective clients and/or identify

areas of improvement to meet sales quotas

- Assist in negotiation of contracts and close agreements to maximize profits
- Conduct sales calls, receive and respond to phone inquiries from customers and potential customers
- Conduct customer feedback interviews / surveys
- Develop and deliver quotations, provide clarification of customer requirements
- Partnering with employees at the plant level to monitor progress of work to meet customer expectations
- Exercise tact and ability to partner with customer to resolve issues
- Must be able to effectively cultivate and develop customers from diverse backgrounds including small entrepreneurial businesses to large multinational corporations
- This position must satisfy ITAR compliance requirements, therefore candidates must be U.S. Citizens or Permanent Resident Card Holder.

#### QUALIFICATIONS

- Education –four year degree, or equivalent experience
- Experience necessary – 10 years in sales, customer service or related field
- Experience in Brazing & Heat Treating preferred
- Experience with CRM software
- Experience using MS Office including Word, Excel and PowerPoint
- Ability to read and interpret Blueprints
- Ability to travel

#### LICENSE(S)/CERTIFICATION(S) REQUIRED:

- Must have a valid driver's license.

Pay will be commensurate with experience. Company benefits after probation period including health insurance, life insurance, 401 and other benefits.

Company-paid Drug Screen required upon hire. Proud to be an Equal Opportunity Employer.

Please send resume to [kboyd@htg.cc](mailto:kboyd@htg.cc)

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### **Item#O371 Combustion/Control Service Technician**

Combustion/Control Service Technician. Full Time Employment. Established Industrial Combustion Service Company located in North Central Illinois, seeks an experienced combustion/control technician for field service work.

Requirements:

- Prior experience with industrial furnaces and ovens typically used in heat treat, coating and food processing industries.
- Strong electrical background.
- Welding, fabrication and piping skills a bonus.
- Individual must be a self-starter and work under minimal supervision.
- Experience in Industrial Environment.
- Valid Driver's License.
- Good Driving Record.

Daily Tasks:

- Troubleshooting, installation, start up, repair, and tuning of industrial burner systems and related controls. Candidate must have experience in an industrial environment, a valid driver's license, vehicle, and good driving record.

Benefits:

- \$25-\$35.00/per hour (compensation based on experience).
- Medical Insurance.
- 401K plan.

Please forward emails to: [dawnc@cliffsoper.com](mailto:dawnc@cliffsoper.com)

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## **Item#O370 Experienced Heat Treater Looking For Position Near New Hampshire**

Experienced Heat Treat Engineer Looking For a Position in the New Hampshire Area; I am an experienced heat treat engineer looking for employment in the southern New Hampshire region. I would like to work in a manufacturing environment with a focus on ferrous or aluminum thermal processing. An ideal position would include continuous improvement of production heat treat processes, project management of capital equipment installations, development and improvement of equipment maintenance plans and ensuring compliance to industry standards (AMS 2750, ASTM E18, CQI-9, etc...). I will be available to start work in mid to late June of this year. [williamhuber1966@gmail.com](mailto:williamhuber1966@gmail.com)

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# In Parting

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

**Gord Montgomery,**

William G. Montgomery Limited

Phone: 905 271-0033

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

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