

*Technologies and Processes for the Advancement of Materials*

# Thermal processing

## 2024 **BUYER'S GUIDE**

COMPANY PROFILE ///

ENRX

NOVEMBER 2023  
[thermalprocessing.com](http://thermalprocessing.com)

# Batch Integral Quench Furnaces and Endothermic Gas Generators “Built for Stock”

Leading the Industry with the Fastest Delivery Available



**AFC-Holcroft Headquarters**

Wixom, Michigan, USA  
Phone: +1 248 624 8191

**AFC-Holcroft Europe**

Swiebodzin, Poland  
Phone: +48 68 41 61 776

**AFC-Holcroft Asia**

Shanghai, P. R. China  
Phone +86 21 5899 9100

Supply chain interruptions don't have to derail your valuable heat treating production. When you need a new batch integral quench furnace or endothermic gas generator, AFC-Holcroft's Built for Stock equipment will shave months off typical delivery timeframes.

We're always building our industry-leading UBQ (Universal Batch Quench) furnaces and EZ™ Series Endo Gas Generators for off-the-shelf delivery, ready for expedited shipment. The same standard equipment AFC-Holcroft is known for, but pre-built to speed up typical delivery by months. There is no compromise in quality to get this fast delivery.

Built for Stock equipment gets you in production faster.



# LARGE OPEN DIE FORGED SEAMLESS ROLLED RINGS

DIAMETERS UP TO 200 INCHES



ISO9001:2015  
SINCE 1994  
AS9100D  
SINCE 1998

NIST SP 800-171  
(COMPLIANCE UNDER  
DEVELOPMENT)

## Fast Quotes. Fast Delivery.

All Metals & Forge Group produces a wide variety of forged products including gear blanks, large flat & hex bars, blocks, flanges, discs, hubs, flanged shafts, step shafts, cylinders & sleeves.

We can produce forged rings in diameters up to 200 inches for steel alloys and up to 80 inches for other metals, with wall thickness ranging from 2 inches and up and weight up to 80,000 lbs.

We manufacture high-quality open die forged seamless rolled rings in ferrous and non-ferrous metals including: carbon steel, alloy steel, stainless steel, tool steel, titanium, aluminum, copper, nickel, cobalt & special alloys.

Contact one of our forging sales specialists at [sales@steelforge.com](mailto:sales@steelforge.com) for your fast quote today.

# All Metals & Forge Group

OPEN DIE FORGINGS & SEAMLESS ROLLED RINGS

**TOLL FREE: 800.600.9290**

**PHONE: 973.276.5000**

**CANADA: 416.363.2244**

**STEELFORGE.COM**



## 2024 BUYER'S GUIDE

When it comes to heat treating, it's not just about what you do, but also who you know. Identifying quality sources for contract heat treating, equipment, services, and testing is a critical component of your overall business plan, but it can be a time-consuming task. That's why we've put together this Thermal Processing Buyer's Guide: to help you partner with the suppliers you need as well as to steer companies who require these services. We have compiled the most complete source listing available and have presented this information in a way that is accessible, convenient, and informative.

**11** HEAT TREATERS

**40** MARKETPLACE

**30** EQUIPMENT

**54** SERVICES

### COMPANY PROFILE ///

#### AN EXPERIENCED NEW BRAND

ENRX has years of experience offering quality induction heating, wireless inductive charging, and contactless power supply. **6**

### Q&A ///

#### ERIC KEMPERMAN *Etchform BV*

"PCE offers several key beneficial characteristics that make it an attractive manufacturing method."  
**64**

### RESOURCES ///

Marketplace **60** Advertiser index **63**

COVER PHOTO: SHUTTERSTOCK

*Thermal Processing* is published monthly by Media Solutions, Inc., 266D Yeager Parkway Pelham, AL 35124. Phone (205) 380-1573 Fax (205) 380-1580 International subscription rates: \$105.00 per year. Postage Paid at Pelham AL and at additional mailing offices. Printed in the USA. POSTMASTER: Send address changes to *Thermal Processing* magazine, P.O. Box 1210 Pelham AL 35124. Return undeliverable Canadian addresses to P.O. Box 503 RPO West Beaver Creek Richmond Hill, ON L4B4R6. Copyright © 2006 by Media Solutions, Inc. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage-and-retrieval system without permission in writing from the publisher. The views expressed by those not on the staff on *Thermal Processing* magazine, or who are not specifically employed by Media Solutions, Inc., are purely their own. All "Update" material has either been submitted by the subject company or pulled directly from their corporate website, which is assumed to be cleared for release. Comments and submissions are welcome and can be submitted to [editor@thermalprocessing.com](mailto:editor@thermalprocessing.com).

# THERMOCOUPLE TECHNOLOGY

CUSTOM SENSOR MANUFACTURER

Proudly Made in the USA

ACCURACY. RELIABILITY. SOLUTIONS.

## PRODUCTS

- THERMOCOUPLES & RTD ASSEMBLIES
- THERMOWELLS
- PROTECTION TUBES
- THERMOCOUPLE WIRE / MULTI CABLE
- THERMOCOUPLES & RTD ACCESSORIES
- ALLOY PIPE & TUBING

## SERVICES / CAPABILITIES

- ENGINEERED SOLUTIONS FOR YOUR PROCESS
- ALLOY APPLICATION ENGINEERING
- GTAW CERTIFIED TECHNICIANS
- CALIBRATION & CERTIFICATION



WWW.TTECONLINE.COM • SALES@TTECONLINE.COM  
215-529-9394

## FROM THE EDITOR ///



### The 2024 Buyer's Guide: Your go-to source

**T**hermal Processing has been working hard this year to bring you the latest information on heat treating, and as we develop plans for 2024, we're not expecting to slow down any time soon.

To help you make your business decisions for the coming year, we offer our 2024 Buyer's Guide. It's a comprehensive resource of company listings for the heat-treating industry. I encourage you to keep this special issue of *Thermal Processing* close at hand as your go-to guide for connecting with these quality companies offering equipment, services, testing, and other supplementary products to help with your continued success.

Over the years, we've made exceptional contacts in the heat-treating industry. We value these connections — whether it's for advertising opportunities or for contributed articles highlighting the latest technology, applications, products, and trends.

I hope you find this and more interesting and informative and see our Buyer's Guide for the useful resource we intended it to be in order to help you with your purchasing decisions.

And if your company isn't listed, email me at [kenneth@thermalprocessing.com](mailto:kenneth@thermalprocessing.com) with your information and category, and we will make sure you get added.

And as you can see by the bottom of this page, this issue also includes our 2024 editorial calendar to help you further pinpoint future issues that can aid you in sharing your message with our readers.

As always, thanks for reading and letting us be a valuable source for you and the rest of the heat-treating industry.

**KENNETH CARTER, EDITOR**

[editor@thermalprocessing.com](mailto:editor@thermalprocessing.com)  
(800) 366-2185 x204

### 2024 EDITORIAL CALENDAR

#### JANUARY

Vacuum Heating,  
Cryogenics

#### FEBRUARY

Insulating Materials,  
Burners & Combustion

#### MARCH

Process Control,  
Pyrometry

#### APRIL

Industrial Gases, Ceramics

#### MAY

Medical Applications,  
Thermocouples

#### JUNE

Powdermet Preview,  
Sintering, Additive  
Manufacturing

#### JULY

Induction Heating, Quenching

#### AUGUST

Forging, Nitriding

#### SEPTEMBER

IMTS Issue

#### OCTOBER

Aerospace Applications,  
Certifications

#### NOVEMBER

Annual Buyer's Guide

#### DECEMBER

Gear Applications,  
Inspection & Metrology

**Thermal**  
processing

David C. Cooper  
PUBLISHER

#### EDITORIAL

Kenneth Carter  
EDITOR

Jennifer Jacobson  
ASSOCIATE EDITOR

Joe Crowe  
ASSOCIATE EDITOR | SOCIAL MEDIA

#### SALES

Dave Gomez  
VICE PRESIDENT | SALES & MARKETING

Kendall DeVane  
NATIONAL SALES MANAGER

Susan Heinauer  
REGIONAL SALES MANAGER

#### CIRCULATION

Teresa Cooper  
MANAGER

Jamie Willett  
ASSISTANT

#### DESIGN

Rick Frennea  
CREATIVE DIRECTOR

Michele Hall  
GRAPHIC DESIGNER



**PUBLISHED BY MEDIA SOLUTIONS, INC.**

P. O. BOX 1987 • PELHAM, AL 35124  
(800) 366-2185 • (205) 380-1580 FAX

David C. Cooper  
PRESIDENT

Teresa Cooper  
OPERATIONS



## **WIRCO IS PROUD TO ANNOUNCE THE ACQUISITION OF PERFORMANCE INDUSTRIAL PRODUCTS!**

**Wirco and PIP join forces to bring to market a large scope of product offerings for the heat treat and steel mill markets for high temperature thermal processing applications.**

With 3 facilities across the Midwest (Avilla, Indiana, Champaign, Illinois and Waupaca, Wisconsin) Wirco is positioned in the market to deliver 100% USA made products with industry best lead times and world class quality! The addition of PIP to the Wirco family provides increased stainless steel centrifugal casting and static casting capabilities along with the experienced PIP foundry team.

**Reach out to Wirco today for any stainless steel casting and fabrication needs.**



**FANS**



**RADIANT TUBES**



**FURNACE ROLLS**



**ROD FRAMED BASKETS**



**[sales@wirco.com](mailto:sales@wirco.com)**

**PARTNER WITH WIRCO,  
YOUR AMERICAN MADE  
ENGINEERED ALLOY SOLUTION.**



**[WWW.WIRCO.COM](http://www.wirco.com)**

**COMPANY PROFILE ///**

**ENRX**

# ***A NEW BRAND WITH DECADES OF EXPERIENCE***

Induction hardening uses induced heat and quenching to increase the hardness and durability of steel. (Courtesy: ENRX)



# ENRX has years of experience offering quality induction heating, wireless inductive charging, and contactless power supply with goals of making a sustainable world through smart energy transfer within manufacturing and mobility.

By **KENNETH CARTER**, Thermal Processing editor

**I**ndustrial heat treating has been going through some transformation over the last few years, with more automation, higher-grade steels, and greener technologies leading the way.

ENRX, a company that is a recent merger of EFD Induction and IPT Technology, has been at the forefront of moving its expert services and products into the future of heat treating.

To that end, ENRX offers inductive heating, charging, and power transfer with low or no carbon footprint. The company also develops stand-alone equipment and integrated systems within induction heating, wireless inductive charging, and contactless power supply.

## USING INDUCTION

Induction hardening uses induced heat and quenching to increase the hardness and durability of steel. It is a no-contact process that quickly produces intense, localized, and controllable heat. Induction can harden numerous components, including gears, crankshafts, camshafts, drive shafts, output shafts, torsion bars, rocker arms, CV joints, tulips, valves, rock drills, slewing rings, and inner and outer races.

“We do a lot of development of new induction hardening processes,” said Mark Andrus, VP of North American Sales for ENRX Corporation. “Over the history of the company, we are taking products from case carburizing to induction hardening with a kind of high frequency, large power, single-shot processes with a lot of high-volume automated equipment. It’s induction hardening and tempering — no furnace processes, all induction.”

Induction heating is commonly used by global automotive brands, major electro-technical companies, large steel tube and pipe manufacturers, and in many other industrial segments worldwide. One segment where ENRX is involved is with heat treating related to renewable-energy components and storage products, as well as replacing gas heating with induction heating in order to reduce or eliminate carbon dioxide emissions.

## GROWING EXPERTISE

It is in that space that ENRX has been growing its expertise with induction hardening and more since it began in 1954.

The company became EFD Induction after a merger in 1993 between ELVA Induction and Fritz Dusseldorf Freiburg, FDF. More acquisitions of induction companies in France, Poland, Romania, and the U.S. came later throughout the 1990s and early 2000s. With the most recent acquisition with IPT Technology, the company became ENRX, making it one of the largest induction heating companies.

“That involves hardening machines and automation for heat treatments of anything from large wind-turbine rings to press quenching of small bearings to high volume horizontal shaft hardeners in



Induction heating can be used for metal heat treatment of almost any body panel, chassis, driveline, electrical, or engine part of a vehicle. (Courtesy: ENRX)

areas of automotive, general industry — all focused on induction hardening and tempering,” Andrus said. “We case harden the large wind-turbine rings, slewing rings, and gear teeth that are in the gearboxes.”

## ENRX AND RENEWABLES

A fascinating aspect of wind energy and induction heating is that they complement each other in serendipitous ways. Power generated by wind turbines can, in turn, be used to power induction heating

//////  
***“Every case is unique depending on history, experience, and of course, the customer’s history. Being so global, we see how manufacturers of the same pieces or products process things in their factory differently because of different concerns.”***



**ENRX offers hardening machines and automation for heat treatments of anything from large wind-turbine rings to press quenching of small bearings to high volume horizontal shaft hardeners in areas of automotive and general industry. (Courtesy: ENRX)**

systems, which are used to heat metal parts in wind-power systems — from brazing of terminal ends on high voltage cables to hardening inclined heavy rings of more than five meters in diameter. ENRX delivers giant turnkey plants for the most complex jobs as well as mobile and flexible heating equipment.

In addition to case hardening turbine parts, ENRX also has heating equipment used for maintenance on turbine towers, specifically for loosening large bolts, according to Andrus.

“The bolt heating is for large bolts that are in the wind towers,” he said. “We also have mobile heat-shrink equipment used to expand a bearing off a shaft in the tower. The smaller mobile equipment is not for heat treatment but for heat shrinking on the bolts for shrinking and expanding them.”

#### **ISO 14000 CERTIFIED**

Even with an expanding product line, ENRX is still very much focused with the induction heating process and how it can be used to reduce a company’s carbon footprint, but it also can be a more economical form of heat treating in general, according to Andrus. In doing so, ENRX was able to become ISO 14000 certified.

“ISO 14000 takes a deep dive into a company’s environmental footprint, and it has new standards that you have to adhere to,” he said. “It’s voluntary, but we want to be good stewards of electrical efficiency

and energy efficiency for a greener world. That’s why we’re getting into induction wireless charging, also. We’ve always said induction heating and induction hardening are more environmentally friendly and more electrically efficient than furnace treatment.”

Environmental protocols are a necessity when dealing with European companies, but Andrus pointed out that it is important for ENRX to get ahead of the game as carbon-reducing methods become more of a norm in the U.S. as well.

In addition to carbon-reducing factors, ENRX is also poised to perform the necessary processes on products in the industry made with higher-grade steels and higher-grade alloys, according to Andrus.

“The industry is wanting less cross-sectional area, but more performance, and we’re acquiring that through more precision heat treatment with the intentions of less distortion,” he said.

ENRX has been working with the automotive industry for many years, and with a shift toward Industry 4.0 in the automotive industry, using induction heating is easier to control and monitor with integrated supply chains. Induction heating can be used for metal heat treatment of almost any body panel, chassis, driveline, electrical, or engine part of a vehicle.

#### **AUTOMATION**

Automation is also key to a more productive heat-treating process,

according to Andrus.

“Every industry is about removing the operator from the manufacturing process, so the equipment often comes with the integration of robots and material handling and traceability,” he said. “We see more automation, more data acquisition, and more implementing of Industry 4.0, more energy management of machines. We have many more avenues for remote monitoring.”

In order to ensure a customer is getting what they need involves a collaborative process from the beginning, according to Andrus.

“We want to walk the process of the input and output variables,” he said. “And if we don’t have a direct history, we try to do some FEA modeling and some process development. Every case is unique depending on history, experience, and of course, the customer’s history. Being so global, we see how manufacturers of the same pieces or products process things in their factory differently because of different concerns.”

As an example of that collaborative process, Andrus brought up a recent job of when ENRX was working with a transmission manufacturer.

“We introduced nitrogen chambers early in the process development to reduce oxide and scale, so that their downstream grinding tools would last longer,” he said.

So, a consultation phase is often a necessary step that can lead to a new technology or process, according to Andrus.

With the addition of becoming ISO 14000 certified, Andrus pointed out that ENRX has always been ISO 9001 certified, since it is important from Day 1 with a customer that ENRX be able to demonstrate the ability to consistently provide products and services that meet customer and regulatory requirements.

## POWER SOURCE RELIABILITY

Induction heating is undeniably a main staple of ENRX’s toolbox, but Andrus said the company also makes available power source reliability equipment.

“We have a digital processor control now of the main regulation of the induction power source that allows us remote abilities and very specific monitoring together with our customers to keep the awareness and the alerts up to the surface,” he said.

As the industry moves into the future, Andrus also said he expects the induction world to follow suit in a similar manner as the machining world did with CNC manufacturers and other machine technologies.

“That will play into the automation and the electrical efficiency and Industry 4.0 with a lot of data acquisition and monitoring,” he said. ♪



**MORE INFO** [www.enrx.com/en](http://www.enrx.com/en)



Ensuring customers are getting what they need involves a collaborative process from the beginning. (Courtesy: ENRX)



# 2024 *BUYER'S GUIDE*

**11** HEAT TREATERS

**40** MARKETPLACE

**30** EQUIPMENT

**54** SERVICES

## COMMUNITY STOREFRONT ///

In the following company listings, the special shaded boxes around some listings denote a company that participates in our ThermalProcessing.com community storefront. You can visit the community page on ThermalProcessing.com to find more information about these companies, including a brief profile, social media integration, and videos.

# COMMERCIAL HEAT TREATERS ///

## ALABAMA

### Advanced Heat Treat Corporation

1545 County Road 222  
Cullman, AL 35057  
256-739-2775  
www.ahtweb.com

### Bodycote Athens

105 West Sanderfer Road  
Athens, AL 35611  
256-233-1147  
www.bodycote.com

### Pinson Valley Heat Treating

6179 Sunrise Drive  
Pinson, AL 35126  
205-681-8595  
www.pvht.com

### Rex Heat Treat

3008 Red Morris Parkway  
Anniston, AL 36207  
256-835-3370  
www.rexht.com

## ARIZONA

### Axian Technology

21622 North 14th Avenue  
Phoenix, AZ 85027  
800-466-3131  
www.axiantech.com

### Controlled Thermal Technology

2617 West Cypress Street  
Phoenix, AZ 85009  
602-272-3714  
www.cttaz.com

### Die-Bond LLC

6141 West Erie Street  
Chandler, AZ 85226  
480-940-0024  
www.die-bond.com

### F & B Mfg LLC

4245 North 40th Avenue  
Phoenix, AZ 85019  
602-272-3900  
www.fbmfg.com

### Phoenix Heat Treating Inc

2405 West Mohave  
Phoenix, AZ 85009  
602-258-7751  
www.phoenix-heat-treating.com

### Refrac Systems

7201 West Oakland Street  
Chandler, AZ 85226  
800-473-3722  
www.refrac.com

## ARKANSAS

### Bodycote K-Tech

111 K-Tech Lane  
Hot Springs, AR 71913  
501-760-1696  
www.bodycote.com

### Coleman Heat Treating

2500 West Main Street  
Jacksonville, AR 72076  
501-982-3148  
www.colemanheattreating.com

### Parker Trutec - MMI Inc

2609 North 12th Avenue  
Paragould, AR 72450  
870-236-6920  
www.parkertrutec.com

## CALIFORNIA

### Accurate Steel Treating

10008 Miller Way  
South Gate, CA 90280  
800-622-4328  
www accuratesteelreating.com

### Bodycote Fremont

4240 Technology Drive  
Fremont, CA 94538  
510-492-4200  
www.bodycote.com

### Bodycote Huntington Park

3370 Benedict Way  
Huntington Park, CA 90255  
323-583-1231  
www.bodycote.com

### Bodycote Rancho Dominguez

515 West Apra Street  
Rancho Dominguez, CA 90220  
310-604-8000  
www.bodycote.com

### Bodycote Santa Fe Springs - Romandel

9921 Romandel Avenue  
Santa Fe Springs, CA 90670  
562-946-1717  
www.bodycote.com

### Bodycote Vernon

2900 South Sunol Drive  
Vernon, CA 90058  
323-264-0111  
www.bodycote.com

### Bodycote Westminster

7474 Garden Grove Road  
Westminster, CA 92683  
714-893-6561  
www.bodycote.com

### Burbank Steel Treating Inc

415 South Varney Street  
Burbank, CA 91502  
818-842-0975  
www.burbanksteel.com

### Byington Steel Treating Inc

415 South Varney Street  
Santa Clara, CA 95050  
408-727-6630  
www.byingtonsteel.com

### California Brazing

37955 Central Court  
Newark, CA 94560  
510-790-2300  
www.californiabrazing.com

### Certified Metal Craft Inc

877 Vernon Way  
El Cajon, CA 92020  
619-593-3636  
www.certifiedmetalcraft.com

### Continental Heat Treating Inc

10643 South Norwalk Boulevard  
Santa Fe Springs, CA 90670  
800-622-6624  
www.continentalht.com

### Cook Induction Heating Company

4925 East Slauson Avenue  
Maywood, CA 90270  
323-560-1327  
www.cookinduction.com

### Delta Heat Treating

15692 Computer Lane  
Huntington Beach, CA 92649  
714-890-4893  
www.deltaht.com

### Galaxy Brazing Company Inc

10015 Freeman Ave  
Santa Fe Springs, CA 90670  
562-946-9039  
www.galaxybrazing.com

### MPT America Corporation

27525 Newhall Ranch Road Unit 4  
Valencia, CA 91355  
661-257-1933  
www.plasma-nitride.com

### Nitrex

441 Perrymont Avenue  
San Jose, CA 95125  
408-275-0330  
www.nitrex.com

# COMMERCIAL HEAT TREATERS ///

## **Pacific Heat Treating Company**

1238 Birchwood Drive  
Sunnyvale, CA 94089  
408-736-8500  
www.pacificheattreating.com

## **Quality Heat Treating Inc**

3305 Burton Avenue  
Burbank, CA 91504  
818-840-8212  
www.qualityht.com

## **Scarrott Metallurgical Company**

6371 Arizona Circle  
Los Angeles, CA 90045  
310-645-7300  
www.scarrott.com

## **Solar Atmosphere of California**

8606 Live Oak Avenue  
Fontana, CA 92335  
866-559-5994  
www.solaratm.com

## **Thermal-Vac Technology Inc**

1221 West Struck Avenue  
Orange, CA 92867  
714-997-2601  
www.thermalvac.com

## **Thermo-Fusion Inc**

2342 American Avenue  
Hayward, CA 94545  
510-782-7755  
www.thermo-fusion.com

## **Tri-J Metal Heat Treating Company**

327 East Commercial Street  
Pomona, CA 91767  
909-622-9999  
www.trijonline.com

## **Valley Metal Treating**

355 South East End Avenue  
Pomona, CA 91766  
909-623-6316  
www.valleymt.net

## **COLORADO**

### **Erickson Metals Corporation**

5045 Oakland Street  
Denver, CO 80239  
303-373-0820  
www.ericksonmetals.com

### **Metal Treating & Research**

1680 East 69th Avenue  
Denver, CO 80229  
303-286-9338  
www.metal-treating.com

## **Superheat FGH Inc**

4675 Joliet Street  
Denver, CO 81239  
303-975-6236  
www.superheatfgh.com

## **Temperature Processing Company Inc**

10477 Weld County Road 7  
Longmont, CO 80504  
303-772-0250  
www.tpcolorado.com

## **CONNECTICUT**

### **Aerospace Alloys Inc**

11 Britton Drive  
Bloomfield, CT 06002  
800-214-0475  
www.aalloys.com

### **American Heat Treating Inc**

16 Commerce Drive  
Monroe, CT 06468  
203-268-1750  
www.americanheattreating.com

### **Anderson Specialty Company**

81 Custer Street  
West Hartford, CT 06110  
860-953-6630  
www.andersonspecialty.com

### **Bee Hive Heat Treating Service Inc**

132 Water Street  
Norwalk, CT 06854  
203-866-1635  
www.beehivect.com

### **Bodycote Berlin**

675 Christian Lane  
Berlin, CT 06037  
860-225-7691  
www.bodycote.com

### **Bodycote South Windsor**

45 Connecticut Avenue  
South Windsor, CT 06074  
860-282-1371  
www.bodycote.com

### **Bodycote Waterbury**

130 Huntingdon Avenue  
Waterbury, CT 06708  
203-755-9119  
www.bodycote.com

### **Metallurgical Processing Inc**

68 Arthur Street  
New Britain, CT 06050  
860-224-2648  
www.mpimetaltreating.com

## **Nelson Heat Treating Company**

2046 North Main Street  
Waterbury, CT 06704  
203-754-0670  
www.nelsonheattreating.com

## **Sousa Corporation**

565 Cedar Street  
Newington, CT 06111  
860-523-9090  
sousacorp.com

## **Specialty Steel Treating Inc**

12 Kripes Road  
East Granby, CT 06026  
860-653-0061 x0003  
www.sst.net

## **DELAWARE**

### **Atlantic Heat Treat**

402 East Front Street  
Wilmington, DE 19801  
302-656-1677  
www.treatmetal.com

## **FLORIDA**

### **Braddock Metallurgical**

14600 Duval Place West  
Jacksonville, FL 32218  
904-741-4777  
www.braddockmt.com

### **Braddock Metallurgical**

400 Fentress Blvd  
Daytona Beach, FL 32114  
386-323-1500  
www.braddockmt.com

### **Braddock Metallurgical**

6502 S. 78th Street  
Riverview, FL 33578  
813-672-7722  
www.braddockmt.com

### **Braddock Metallurgical**

507 Industrial Way  
Boynton Beach, FL 33426  
561-622-2200  
www.braddockmt.com

## **GEORGIA**

### **Aremac Heat Treating East LLC**

240 Airport Road  
Eastman, GA 31023  
478-559-1200  
www.aremacc.com

Making our world more productive



# Industrial Gases & Technologies for Heat Treating Applications

- Nitrogen
- Hydrogen
- Helium
- Carbon Dioxide
- Argon
- Acetylene



As the world's largest industrial gas supplier, Linde is uniquely positioned to provide a full spectrum of gases and expertise to our customers – including reliable supply systems and efficiency-driven technologies, plus tools and knowledge to help you reach sustainability goals.

Visit [www.lindeus.com/heattreating](http://www.lindeus.com/heattreating) or call 1.844.44LINDE to learn more.

# COMMERCIAL HEAT TREATERS ///

## **Bodycote Covington**

45 Charisma Road  
Covington, GA 30016  
770-922-3954  
www.bodycote.com

## **Braddock Metallurgical**

1050 Lagrange Blvd SW  
Atlanta, GA 30318  
404-355-6952  
www.braddockmt.com

## **ILLINOIS**

### **Beechner Heat Treating Company Inc**

905 Brooke Road  
Rockford, IL 61109  
815-397-4314  
www.beechnerheat.com

### **Bodycote**

1975 N Ruby Street  
Melrose Park, IL 60160  
708-344-4080  
www.bodycote.com

### **Certified Heat Treating Company**

8917 North University Street  
Peoria, IL 61615  
309-693-7711  
www.certifiedheat.com

### **Chem-Plate Industries Inc**

1250 Morse Avenue  
Elk Grove Village, IL 60007  
847-640-1600  
www.chemplateindustries.com

### **Diamond Heat Treat**

3691 Publishers Drive  
Rockford, IL 61109  
815-873-1348  
www.diamondht.com

### **FPM Heat Treating**

648 U.S. Rte. 20  
Cherry Valley, IL 61016  
815-332-4961  
www.fpmht.com

### **FPM Heat Treating**

1501 South Lively Boulevard  
Elk Grove Village, IL 60007  
847-228-2525  
www.fpmht.com

### **General Surface Hardening Inc**

2108 W. Fulton Street  
Chicago, IL 60612  
312-226-5472  
www.gshinc.net



### **GFI Metal Treating**

1531 Preston Street  
Rockford, IL 61102  
815-968-0094  
www.gfimetaltreating.com

### **Induction Heat Treating Corporation**

775 Tek Drive  
Crystal Lake, IL 60014  
815-477-7788  
www.ihtcorp.com

### **Metals Technology Corporation**

120 North Schmale Road  
Carol Stream, IL 60188  
630-221-2500  
www.metals technology.com

### **Morgan Ohare Inc**

701 Factory Road  
Addison, IL 60101  
630-543-6780  
www.morganohare.com

### **Nitrex Chicago Operations**

1900 Plain Avenue  
Aurora, IL 60502  
630-851-5880  
www.nitrex.com

### **Progressive Steel Treating**

922 Lawn Drive  
Loves Park, IL 61111  
815-877-2571  
www.progressivesteeltreating.com

### **Rockford Heat Treaters Inc**

4704 American Road  
Rockford, IL 61109  
815-874-0089  
www.rockfordheattreaters.com

### **Rogers Metal Services Inc**

7330 North Monticello Avenue  
Skokie, IL 60076  
847-679-4642  
www.rogersmetal.com

### **Schmolz + Bickenbach USA Heat Treatment**

365 Village Drive  
Carol Stream, IL 60188  
800-323-1233  
www.schmolz-bickenbach.us

### **Scientific Metal Treating**

106 Chancellor Drive  
Roselle, IL 60172  
630-582-0071  
www.scientificmetaltreating.com

### **TC Industries Inc**

3703 State Route 31  
Crystal Lake, IL 60012  
815-459-2400  
www.tcindustries.com

### **Tri-City Heat Treat**

2020 5th Street  
Rock Island, IL 61201  
309-786-2689  
www.tcht.com



## INDIANA

### Advanced Nitriding Solutions

1688 Lammers Pike  
Batesville, IN 47006  
812-932-1010  
www.ans-ion.net

### Applied Thermal Technologies Inc

2169 North 100 East  
Warsaw, IN 46582  
866-998-6029  
www.appliedthermaltechnologies.com

### Ashley Ward Inc

56883 Elk Court  
Elkhart, IN 46516  
800-555-1212  
www.ashleyward.com

### Bodycote

55226 C. R. 1 N.  
Elkhart, IN 46514  
574-295-2491  
www.bodycote.com

### Bodycote

3715 E Washington Boulevard  
Fort Wayne, IN 46803  
260-423-1691  
www.bodycote.com

### Bodycote

1930 North Montgomery Road  
Greensburg, IN 47240  
812-663-4114  
www.bodycote.com

### Bodycote

500 West 21st Street  
Indianapolis, IN 46202  
317-924-4321  
www.bodycote.com

### Chicago Flame Hardening Company

5200 Railroad Avenue  
East Chicago, IN 46312  
219-397-6475  
www.cflame.com

### Circle City Heat Treating Inc

2243 Massachusetts Avenue  
Indianapolis, IN 46218  
317-638-2252  
www.circlecityheattreating.com

### Contour Hardening

8401 Northwest Boulevard  
Indianapolis, IN 46278  
888-867-2184  
www.contourhardening.com

### Dependable Metal Treating Inc

902 East Dowling Street  
Kendallville, IN 46755  
260-347-5744  
www.dependablemetaltreating.com

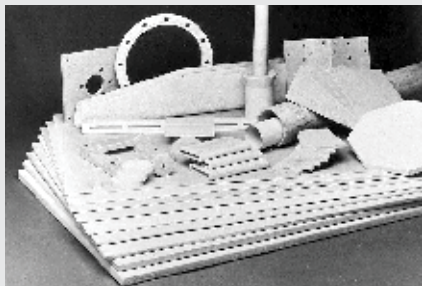
### Electro-Spec Inc

1800 Commerce Parkway  
Franklin, IN 46131  
317-738-9199  
www.electro-spec.com

### Exotic Metal Treating

6234 East Hanna Avenue  
Indianapolis, IN 46203  
317-784-8565  
www.exoticmetaltreating.com

## HIGH PERFORMANCE HIGH TEMPERATURE STRUCTURAL INSULATION PRODUCTS



Refractory sheet boards, cylinders and custom shapes are engineered fiber reinforced structural alumina and silica composites.

- Thermal, structural and electrical insulating applications
- Exceptional flexural and compressive strengths
- Temperatures to 2000°C (3632°F).
- Non-Wetting with molten non-ferrous metals or glass
- Excellent thermal shock resistance
- Ideal as induction coil liners, box plates, coil posts

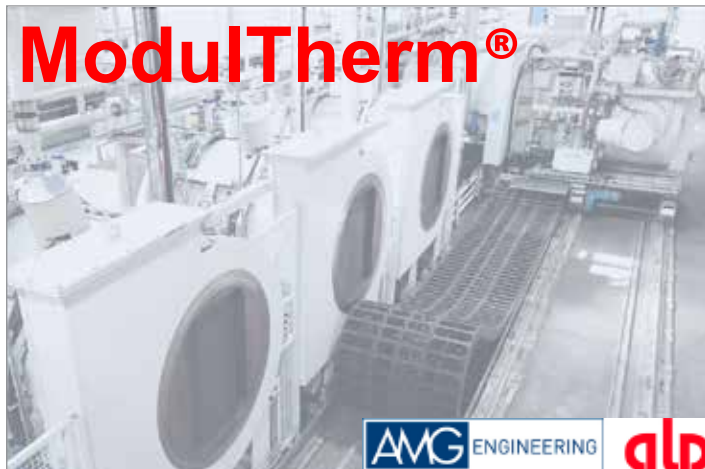


### ZIRCAR Refractory Composites, Inc.

P.O. Box 489, Florida, NY 10921  
Phone: 845-651-2200 Fax: 845-651-1515  
e-mail: sales@zrci.com

Visit our home page at [www.zrci.com](http://www.zrci.com)

## ModuTherm®



### ALD ModuTherm Advanced process control for repeatable heat treat quality.

ModuTherm offers optimum **process flexibility**, **reduced costs**, and **environmental sustainability**. The outcome is predictably **minimized distortion** and **repeatable quality**. ALD's in-house process team and experienced service support provide unmatched assurances that your operation continues to run smoothly. Let us demonstrate why we are the preferred choice!

For Equipment Sales contact: For Heat Treatment Services contact:

Andrew Chan  
achan@ald-usa.com  
1 (860) 463-5698

Chris Totten  
ctotten@aldtt.net  
1 (810) 300-3601

# COMMERCIAL HEAT TREATERS ///

## HTI

500 West Clinton Street  
Logansport, IN 46947  
574-722-2814  
www.callhti.com

## Lake City Heat Treating Corporation

2427 North Boeing Road  
Warsaw, IN 46582  
574-269-9484  
www.lakecityheattreating.com

## Master Induction Heat Treat

3999 Hupp Road Building R-6-1  
Laporte, IN 46350  
219-393-1310  
www.master-induction.com

## Nitrex Inc. Indiana Operations

350 Blue Chip Court  
Franklin, IN 46131  
317-346-7700  
www.nitrex.com

## Precision Heat Treating Corporation

2711 Adams Ctr. Rd.  
Ft. Wayne, IN 46803  
260-749-5125  
www.phtc.net

## Quality Steel Treating LLC

3860 Prospect Street  
Indianapolis, IN 46203  
317-357-8691  
www.qualitysteeltreating.com

## Wirco

201 Nicholas Place  
Avilla, IN 46710  
800-348-2880  
www.wirco.com

## IOWA

### Advanced Heat Treat Corporation

2825 MidPort Blvd  
Waterloo, IA 50703  
319-232-5221  
www.ahtweb.com

### Advanced Heat Treat Corporation

2839 Burton Avenue  
Waterloo, IA 50703  
319-232-0745  
www.ahtweb.com

## Donohoo Steel Treating

423 33rd Street  
Bettendorf, IA 52722  
563-355-1805  
www.donohoosteel.com

## KANSAS

### Bodycote Wichita Mclean

1019 South Mclean Blvd  
Wichita, KS 67213  
316-267-0239  
www.bodycote.com

### Bodycote Wichita West

1009 West Street  
Wichita, KS 67213  
316-943-3288  
www.bodycote.com

### Farrar Corporation

301 Levee Drive  
Manhattan, KS 66502  
785-537-7733  
www.farrarusa.com

## IGBT/MFDC FURNACE CONTROL

RoMan's Electronic IGBT Turnkey System!

**RoMan**  
MANUFACTURING  
"THE POWER TO TRANSFORM"

### BENEFITS

- Improved Three-Phase Balance
- Variable Frequency
- Improved Power Factor
- Lower Peak Demand
- Lower Power Consumption
- Reduced Transformer Footprint

### FLEXIBLE

- Ethernet I/P
- ProfiNet - Optical or RJ45
- Analog Input - 0-10V
- DeviceNet

Scan for more  
information



Grand Rapids, MI | 616.530.8641 | romanmfg.com

# LINDBERG/MPH



## High Performance Integral Quench Systems

The Lindberg/MPH Integral Quench Furnace System is highly productive and efficient. It is available as either gas-fired or electrically heated and features obstruction-free chambers and strategically located heated sources to ensure rapid heat transfer, low energy use, and excellent temperature and carbon uniformity. As a leading OEM supplier our aftermarket team is trained to provide parts and service support on any industrial furnace or oven regardless of manufacturer.

## Equipment Features

- Excellent uniformity for consistent processing
- Highly productive & efficient for quick, quality results
- Environmentally friendly with low energy use
- Chamber size and load movement configurations to suit your exact needs
- Fully automatic load movement
- Programmable logic controller

## Companion Equipment

Pacemaker® Companion Washer | Pacecar | Pacemaker® Companion Draw Furnace



[www.lindbergmph.com](http://www.lindbergmph.com) • Email: [lindbergmph@lindbergmph.com](mailto:lindbergmph@lindbergmph.com) • Phone: (269) 849-2700 • Fax: (269) 849-3021



Lindberg/MPH is a brand of Thermal Product Solutions, LLC.

# COMMERCIAL HEAT TREATERS ///

## Globe Engineering Company Inc

1539 South St. Paul Street, P.O. Box 12407  
Wichita, KS 67213  
316-943-1266  
www.globeeng.com

## KENTUCKY

### Bodycote

200 Industry Lane  
Princeton, KY 42445  
270-365-0100  
www.bodycote.com

### Kentucky Heat Treating Company

1180 Enterprise Drive  
Winchester, KY 40391  
859-744-9551  
www.kyheatreat.com

### National Metal Processing Inc

450 North Estill Avenue  
Richmond, KY 40475  
859-623-9291  
www.nmpheattreat.com

## LOUISIANA

### Bodycote

116 Southpark Road  
Lafayette, LA  
337-837-9273  
www.bodycote.com

## MASSACHUSETTS

### Bodycote

155 River Street  
Andover, MA 01810  
978-470-1620  
www.bodycote.com

### Bodycote

11C Old Right Road  
Ipswich, MA 01938  
978-356-3818  
www.bodycote.com

### Bodycote

284 Grove Street  
Worcester MA 01605  
508-754-1724  
www.bodycote.com

### EBTEC – EDAC Technologies

120 Shoemaker Lane  
Agawam, MA 01001  
413-786-0393  
www.ebteccorp.com

## Hardline Heat Treating Inc

134 Ashland Avenue  
Southbridge, MA 01550  
508-764-6669  
www.hardlineheattreating.com

## MICHIGAN

### Aalberts Surface Technologies

12202 Newburgh Rd  
Livonia, MI 48150  
734-464-8000  
www.aalberts-ht.us/

### Advanced Heat Treat Corporation

1625 Rose Street  
Monroe, MI 48162  
734-243-0063  
www.ahtweb.com

### Ajax Tocco Magnethermic Corporation

30100 Stephenson Highway  
Madison Heights, MI 48071  
800-468-4932  
www.ajaxtocco.com

### ALD Thermal Treatment Inc

2656 24th Street  
Port Huron, MI 48060  
810-990-5514  
www.ald-vt.com

### American Metal Processing Company

22720 Nagel Street  
Warren, MI 48089  
586-757-7337  
www.amph.com

### Bodycote

8580 Haggerty Road  
Canton, MI 48187  
734-451-0338  
www.bodycote.com

### Bodycote

8468 Ronda Drive  
Canton, MI 48187  
734-459-8514  
www.bodycote.com

### Bodycote

3700 Eastern Avenue SE  
Grand Rapids, MI 49508  
616-245-0465  
www.bodycote.com

### Bodycote

3270 John F Donnelly Drive  
Holland, MI 49424  
616-399-6880  
www.bodycote.com

## Bodycote

31888 Glendale Drive  
Livonia, MI 48150  
734-427-6814  
www.bodycote.com

## Century Sun Metal Treating

2411 West Aero Park Court  
Traverse City, MI 49686  
800-800-5806  
www.century-sun.com

## Commercial Steel Treating Corporation

31440 Stephenson Highway  
Madison Heights, MI 48071  
248-588-3300  
www.commercialsteel.com

## Detroit Steel Treating Company

1631 East Highwood  
Pontiac, MI 48340  
248-334-7436  
www.detroitsteeltreating.com

## East-Lind Heat Treat Inc

32045 Dequindre  
Madison Heights, MI 48071  
248-585-1415  
www.eastlind.com

## EFD Induction Inc

31511 Dequindre Road  
Madison Heights, MI 48071  
248-658-0700  
www.efd-induction.com

## Engineered Heat Treat Inc

31271 Stephenson Highway  
Madison Heights, MI 48071  
248-588-5141  
www.ehtinc.com

## Hansen Balk Steel Treating Company

1230 Monroe Avenue NorthWest  
Grand Rapids, MI 49505  
616-458-1414  
www.hansenbalk.com

## Heat Treating Services

217 Central Avenue  
Pontiac, MI 48341  
248-858-2230  
www.htsmi.com

## HiTech Steel Treating Inc

2720 Roberts Street  
Saginaw, MI 48601  
800-835-8294  
www.hitechsteel.com

## HyVac Technologies Inc

15701 Glendale Street  
Detroit, MI 48227  
313-838-2800  
www.hyvaccgroup.com

### Induction Services Inc

24800 Mound Road  
Warren, MI 48091  
586-754-1640  
www.inductionservicesinc.com

### Industrial Steel Treating Company

613 Carroll Street  
Jackson, MI 49202  
800-253-9534  
www.indstl.com

### Magnum Induction

51517 Industrial Drive  
New Baltimore, MI 48047  
586-716-4700  
www.magnuminduction.com

### Metallurgical Processing Co

23075 Warner Avenue  
Warren, MI 48091  
586-758-3100  
www.mpc-mi.com

### Modern Metal Processing Inc

3448 Corwin Road  
Williamston, MI 48895  
517-655-4402  
www.modernmetalprocessing.com

### Nitrex Inc Michigan Operations

822 Kim Drive P.O. Box 155  
Mason, MI 48854  
517-676-6370  
www.nitrex.com

### Nitro-Vac Heat Treat Inc

23080 Dequindre  
Warren, MI 48091  
586-754-4350  
www.nitrovac.com

### Plymouth Brazing Inc

575 Amelia Street  
Plymouth, MI 48170  
734-453-6274  
www.plymouthbrazing.net

### Specialty Steel Treating Inc

31610 West Eight Mile Road  
Farmington Hills, MI 48336  
248-478-5900  
www.sst.net

### Specialty Steel Treating Inc

34501 Commerce Rd  
Fraser, MI 48026  
586-415-8346  
www.sst.net

### Sun Steel Treating Inc

550 North Mill Street P. O. Box 759  
South Lyon, MI 48178  
877-471-0840  
www.sunsteeltreating.com

### Superior Heat Treat LLC

36125 Groesbeck Highway  
Clinton Township, MI 48035  
586-792-9500  
www.superiorheattreat.com

### Trojan Heat Treat Inc

809 South Byron Street  
Homer, MI 49245  
517-568-4403  
www.trojanheattreat.com

### VacMet Inc

7236 Murthum Avenue  
Warren, MI 48092  
586-264-8100  
www.vac-met.com

### Westside Flame Hardening Inc

38200 Executive Drive North  
Westland, MI 48185  
734-729-1665  
www.westsideflame.com

## Nadcap Accredited HEAT TREATING AND BRAZING



**Aluminum  
Solution Treating  
Aging  
Stress Relieving  
Annealing**

**Vacuum  
Homogenize  
Solution  
Age  
Annealing  
Harden & Temper  
Brazing**



15701 Glendale, Detroit, MI 48227  
sales@hyvacgroup.com • (313) 838-2800  
www.Hy-Vac.com

## SHAPING THE FUTURE OF INDUCTION

Global  
Sales &  
Service



## INDUCTION HEATING SOLUTIONS



### Global Service, Support, & Manufacturing

- Scanners
- Single Shot
- Seamless
- Lift & Rotate
- Tooth x Tooth
- Ovens
- Intensive Quench
- Power Supplies
- Coil Repair
- Parts & Service
- Installation & Construction

World Headquarters  
1745 Overland Avenue  
Warren, Ohio USA 44483  
+1-330-372-8511  
+1-330-372-8608 Fax



www.ajaxtocco.com

# COMMERCIAL HEAT TREATERS ///

## Woodworth Heat Treating

Pontiac, MI 48185  
248-481-2354  
www.woodworthheattreating.com

## Wyatt Services Inc

6425 Sims Drive  
Sterling Heights, MI 48313  
586-264-8000  
www.wyattservices.net

## Zion Industries Inc

1180 Comet Lane  
Grand Ledge, MI 48837  
517-622-3409  
www.zioninduction.com

## MINNESOTA

### Arrow Tank & Engineering Company

650 North Emerson  
Cambridge, MN 55008  
763-552-3318  
www.arrows-tank.com

### Bodycote

10150 Crosstown Circle  
Eden Prairie, MN 55344  
952-944-5500  
www.bodycote.com

### Despatch – ITW EAE

8860 207th Street West  
Minneapolis, MN 55044  
952-469-5424  
www.despatch.com

### Flame Metals Processing Corporation

12450 Ironwood Circle  
Rogers, MN 55374  
763-428-2596  
www.flamemetals.com

### MedTek Inc

2639 2nd Street NorthEast  
Minneapolis, MN 55418  
612-789-3527  
www.med-tekinc.com

### Metal Treaters Inc

878 Prior Avenue North  
St. Paul, MN 55104  
651-646-1316  
www.metaltreaters.com

## MISSISSIPPI

### Precision Heat Treating Corporation

218 Yerger Street  
Jackson, MS 39203  
601-355-4208  
www.precisionheattreating.biz

### Southern Cast Products Inc

1010 Wile Road P O Box 3644  
Meridian, MS 39303  
601-482-8518  
www.southerncastproducts.com

## MISSOURI

### Missouri Heat Treat - A Division of Unitherm Furnace LLC

55 May Road P.O. Box 362  
Wentzville, MO 63385  
636-327-5777  
www.unithermfurnace.com

### Paulo – Corporate Headquarters

5711 West Park Avenue  
St. Louis, MO 63110  
314-647-7500  
www.paulo.com

### Paulo – Kansas City Division

4827 Chelsea Avenue  
Kansas City, MO 64130  
816-861-7500  
www.paulo.com

### Trojan Heat Treat Inc

1070 Missouri Avenue  
Joplin, MO 64801  
417-623-8200  
www.trojanheattreating.com

### Valley Heat Treat Company

555 Saint Louis Avenue  
Saint Louis, MO 63088  
636-225-5222  
www.valley-tech.com

## NEBRASKA

### Lawrence Industries Inc

2720 South Cornhusker Avenue  
Hastings, NE 68901  
402-463-3158  
www.lawrenceindustriesheattreat.com

## NEVADA

### Nevada Heat Treating Inc

12 Industrial Parkway Unit C  
Carson City, NV 89706  
775-246-1040  
www.nevadaheattreating.com

### Nitrex Inc – Nevada Operations

201 East Mayflower Avenue  
North Las Vegas, NV 89030  
702-399-1554  
www.nitrex.com

## NEW HAMPSHIRE

### Bodycote

187 Water Street  
Laconia, NH 03246  
603-524-7886  
www.bodycote.com

### Brazecom Industries LLC

45 B & B Lane  
Weare, NH 03281  
603-529-2080  
www.brazecom.com

### Madgetech

6 Warner Road  
Warner, NH 03278  
877-671-2885  
www.madgetech.com

### MuShield Company

9 Ricker Avenue  
Londonderry, NH 03053  
888-669-3539  
www.mushield.com

## NEW JERSEY

### American Aluminum Company

230 Sheffield Street  
Mountainside, NJ 07092  
908-233-3500  
www.amalco.com

### Benedict-Miller LLC

123 North 8th Street  
Kenilworth, NJ 07033  
800-526-6372  
www.benedict-miller.com

### Bennett Heat Treating & Brazing

690 Ferry Street  
Newark, NJ 07105  
973-589-0590  
www.bennettheat.com

#### **Bodycote**

304 Cox Street  
Roselle, NJ 07203  
908-245-0717  
www.bodycote.com

#### **Braddock Metallurgical**

123 Chimney Rock Road  
Bridgewater, NJ 08807  
732-356-2906  
www.braddockmt.com

### **NEW YORK**

#### **Axim Mica**

32 Gazza Blvd  
Farmingdale, NY 11735  
516-248-0045  
www.aximmica.com

#### **B & W Heat Treating Company Inc**

2780 Kenmore Avenue  
Tonawanda, NY 14150  
716-876-8184  
www.bwheattreating.com

#### **Bodycote**

620 Buffalo Road  
Rochester, NY 14611  
585-436-7876  
www.bodycote.com

#### **Burke Forging & Heat Treating Inc**

30 Sherer Street  
Rochester, NY 14611  
585-235-6060  
www.burkeforging.com

#### **Charles A. Hones**

355 Route 49  
Cleveland, NY 13042  
315-623-2124  
www.charlesahones.com

#### **Elmira Heat Treating Inc**

407 South Kinyon Street  
Elmira, NY 14904  
607-734-8904  
www.elmiraht.com

#### **Great Lakes Metal Treating Inc**

300 East Niagara Street  
Tonawanda, NY 14150  
716-694-1240  
www.greatlakesheattreat.com

#### **Hercules Heat Treating**

101-113 Classon Avenue  
Brooklyn, NY 11205  
718-625-1266  
www.herculesht.com

#### **Jasco Heat Treating Inc**

75 Macedon Center Road  
Fairport, NY 14450  
585-388-1040  
www.jascoheattreating.com

#### **Rochester Steel Treating Works Inc**

962 East Main Street  
Rochester, NY 14605  
585-546-3348  
www.rstwinc.com

#### **Syracuse Heat Treating Corporation**

7055 Interstate Island Road  
Syracuse, NY 13209  
315-451-0000  
www.syracuseheattreating.com

### **NORTH CAROLINA**

#### **American Metal Treating Inc**

500 Manley Street  
High Point, NC 27260  
336-889-3277  
www.americanmetaltreatinginc.com

#### **Braddock Metallurgical**

410 Sam Wilson Road  
Charlotte, NC 28214  
704-940-7222  
www.braddockmt.com

#### **East Carolina Metal Treating Inc**

1117 Capital Blvd  
Raleigh, NC 27603  
919-834-2100  
www.ecmtinc.com

#### **JF Heat Treating Inc**

409 Airport Road  
Gastonia, NC 28056  
704-879-2755  
www.jfheattreatinc.com

#### **Thermal Metal Treating Inc**

9546 Highway 211 East  
Aberdeen, NC 28315  
800-849-5662  
www.thermalmetal.com

#### **Zion Industries Inc**

9480 Neuville Avenue  
Hildebran, NC 28637  
828-397-2701  
www.zioninduction.com

### **OHIO**

#### **Advanced Flame Hardening Inc**

1209 South Marquette Street  
Cleveland, OH 44114  
216-431-0370  
www.advancedflame.com



**Thermcraft**  
thermcraftinc.com • (336) 784-4800

# **INDUSTRIAL & LABORATORY FURNACES, OVENS & HEATERS**

- Batch or Continuous Processing
- Durable Construction
- Standard or Fully Customizable
- Up to 1800°C, 3272°F
- Single or Multi-Zone
- PLC Controls Available
- Made in the USA Since 1971

# COMMERCIAL HEAT TREATERS ///

## **Akron Steel Treating Company**

336 Morgan Avenue  
Akron, OH 44311  
800-364-2782  
www.akronsteeltreating.com

## **American Heat Treating**

1346 Morris Avenue  
Dayton, OH 45417  
937-461-1121  
www.ahtdayton.com

## **American Metal Treating**

1043 East 62nd Street  
Cleveland, OH 44103  
216-431-4492  
www.americanmetaltreating.com

## **American Steel Treating**

525 West Sixth Street  
Perrysburg, OH 43551  
419-874-2044  
www.americansteeltreating.com

## **Bodycote**

710 Burns Street  
Cincinnati, OH 45204  
513-921-2300  
www.bodycote.com

## **Bodycote**

5475 Avion Park Drive  
Cleveland, OH 44143  
440-473-2020  
www.bodycote.com

## **Bodycote**

1515 Universal Road  
Columbus, OH 43207  
614-444-1181  
www.bodycote.com

## **Bodycote**

443 East High Street  
London, OH 43140  
740-852-4955  
www.bodycote.com

## **BOS Services Company**

4741 East 355th Street  
Willoughby, OH 44094  
440-946-5101  
www.bosheattreating.com

## **Bowdil Company**

2030 Industrial Place SouthEast  
Canton, OH 44707  
800-356-8663  
www.bowdil.com

## **Byron Products Inc**

3781 Port Union Road  
Fairfield, OH 45014  
513-870-9111  
www.byronproducts.com

## **CAS Dataloggers**

8437 Mayfield Rd, Unit 104A  
Chesterland, OH 44026  
440-729-2570  
www.dataloggerinc.com

## **Certified Heat Treating Inc**

1807 West Pleasant Street  
Springfield, OH 45506  
800-766-3098  
www.heattreating.com

## **Certified Heat Treating Inc**

Miamisburg, OH 45342  
800-766-3098  
www.heattreating.com

## **Cincinnati Steel Treating Company**

5701 Mariemont Avenue  
Cincinnati, OH 45227  
513-271-3173  
www.steeltreating.com

## **Cryo Plus Inc**

2429 North Millborne Rd  
Wooster, OH 44691  
330-683-3375  
www.cryoplus.com

## **Dayton Forging & Heat Treating**

215 North Findlay Street  
Dayton, OH 45403  
800-723-0648  
www.daytonforging.com

## **Derrick Company Inc**

4560 Kellog Avenue  
Cincinnati, OH 45226  
513-321-8122  
www.derrickcompany.com

## **Erie Steel Ltd**

5540 Jackman Road  
Toledo, OH 43613  
419-478-3743  
www.erie.com

## **Euclid Heat Treating Company**

1408 East 222nd Street  
Cleveland, OH 44117  
800-962-2909  
www.euclidheattreating.com

## **Expert Brazing & Heat Treating Inc**

1300 Nave Road SouthEast  
Massillon, OH 44646  
330-834-1983  
www.expertbrazing.com

## **Franklin Brazing & Metal Treating Inc**

2025 McKinley Boulevard  
Lebanon, OH 45036  
800-450-7782  
www.franklinbrazing.com

## **General Metal Heat Treating Inc**

941 Addison Road  
Cleveland, OH 44103  
216-391-0886  
www.generalmetalheat.com

## **H & M Metal Processing Company**

1414 Kenmore Boulevard  
Akron, OH 44314  
330-745-3075  
www.blacknitride.com

## **HI TecMetal Group – Aero**

34800 Lakeland Boulevard  
Eastlake, OH 44095  
440-946-2280  
www.htg.cc

## **HI TecMetal Group – Brite Brazing**

34800 Lakeland Blvd  
Eastlake, OH 44095  
440-946-2280  
www.htg.cc

## **HI TecMetal Group – Commercial Induction**

28910 Lakeland Avenue  
Wickliffe, OH 44092  
216-426-6801  
www.htg.cc

## **HI TecMetal Group – Metal Treating**

1101 East 55th Street  
Cleveland, OH 44103  
216-881-8100  
www.htg.cc

## **HI TecMetal Group – Walker**

10601 Briggs Road  
Cleveland, OH 44111  
216-941-0440  
www.htg.cc

## **Jones Metal Products Company**

200 North Center Street  
West Lafayette, OH 43845  
888-868-6535  
www.jmpforming.com

## **Kowalski Heat Treating**

3611 Detroit Avenue  
Cleveland, OH 44113  
216-631-4411  
www.khtheat.com

## **MT Heat Treating Inc**

8665 Station St  
Mentor, OH 44035  
440-255-3211  
www.mtheat-treat.com

## **Ohio Metallurgical Service**

1033 Clark Street  
Elyria, OH 44035  
440-365-4104  
www.ohiomet.com



**GREEN  
GAS  
READY**®

Your High Quality Gas Heating System:

# Future-Proof Efficient Low-Emission Flexible

Secure your competitive advantage  
with innovative gas heating solutions  
based on decades of experience.

As owner-operated company,  
WS is independent from corporate strategies  
and concentrates on one thing only:

**The best possible heating solution  
for your application.**

German **2011**  
Environmental Award

**WS Thermal Process Technology is »Green Gas Ready!«**

**FLOX**®



**I N N O V A T I V E   B U R N E R   T E C H N O L O G Y**

WS Wärmeprozessstechnik GmbH · Dornierstrasse 14 · D-71272 Renningen · Germany

Fon: +49 (71 59) 16 32-0 · Fax: +49 (71 59) 27 38 · E-Mail: ws@flox.com

WS Thermal Process Technology Inc. · 8301 West Erie Avenue · Lorain, OH 44053 · USA

Fon +1 (440) 385 6829 · Fax +1 (440) 960 5454 · E-Mail: wsinc@flox.com



# COMMERCIAL HEAT TREATERS ///

## **Ohio Vertical Heat Treat**

8000 Marble Avenue  
Cleveland, OH 44105  
216-965-0124  
www.ov-ht.com

## **P & L Heat Treating & Grinding Inc**

313 East Wood Street  
Youngstown, OH 44503  
330-746-1339  
www.plheattreating.com

## **Parker Trutec Inc**

4700 Gateway Boulevard  
Springfield, OH 45502  
937-323-8833  
www.parkertrutec.com

## **Paulo**

4428 Hamann Parkway  
Willoughby, OH 44094  
440-946-5900  
www.paulo.com

## **Queen City Steel Treating**

2980 Spring Grove Avenue  
Streetsboro, OH 44241  
513-541-6300  
www.qcst.com  
www.Viking Forge

## **Viking Forge**

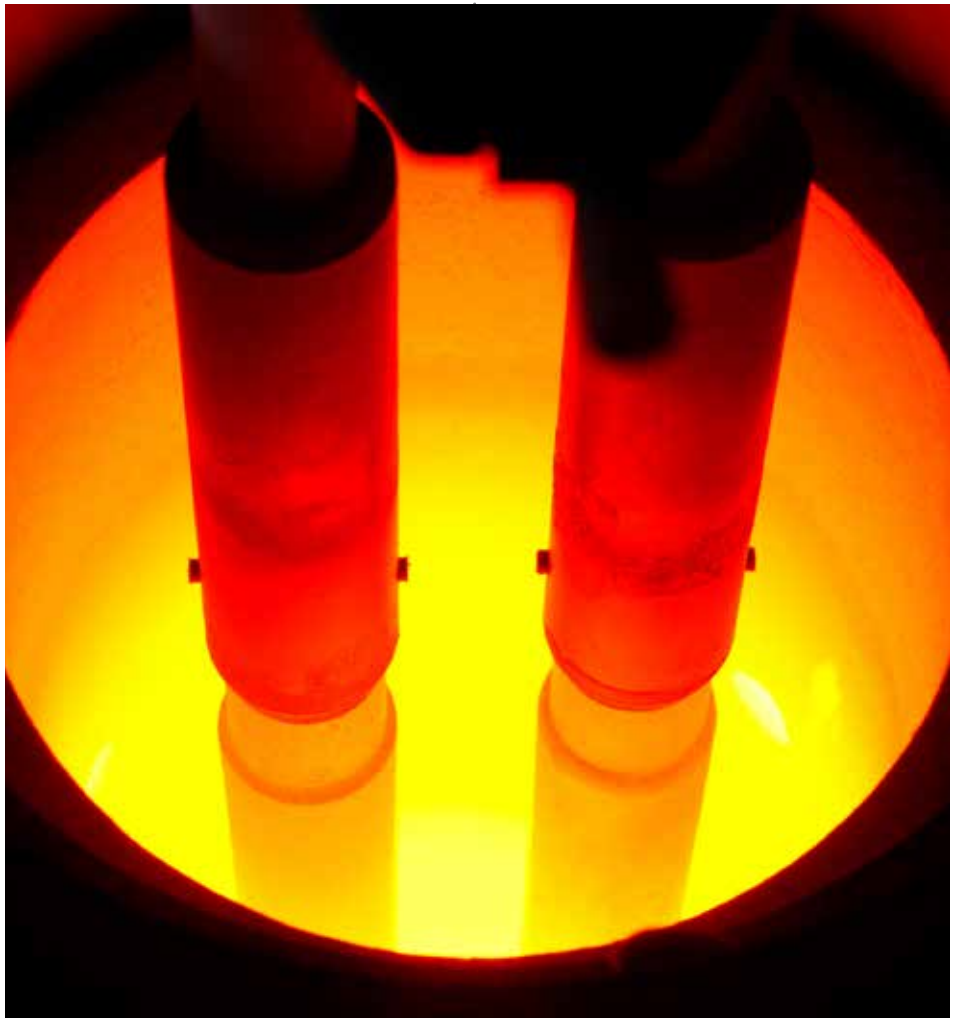
4500 Crane Centre Dr  
Cincinnati, OH 45225  
330-562-3366  
www.viking-forge.com

## **Weiss Industries Inc – Heat Treating Division**

2480 North Main Street  
Mansfield, OH 44901  
419-526-2480  
www.weissind.com

## **Winston Heat Treating Inc**

711 East Second Street  
Dayton, OH 45402  
800-523-0110  
www.winstonht.com



## **Zion Industries Inc**

6229 Grafton Road  
Valley City, OH 44280  
330-483-4650  
www.zioninduction.com

## **OKLAHOMA**

### **Bodycote**

6924 South Eastern Avenue  
Oklahoma City, OK 73149  
405-670-5710  
www.bodycote.com

### **Bodycote**

4208 South 74th East Avenue  
Tulsa, OK 74145  
918-627-7324  
www.bodycote.com

### **Cargill Heat Treat**

1626 SouthEast 40th  
Oklahoma City, OK 73129  
405-510-3404  
www.cargillht.com

## **Thermal Specialties**

6314 East 15th Street  
Tulsa, OK 74112  
918-836-4800  
www.thermalspecialties.com

## **VALCO Manufacturing Company**

4524 Enterprise Place  
Oklahoma City, OK 73128  
405-228-0932  
www.valcomfg.com

## **OREGON**

### **Oregon Induction + Thermal**

911 NW Eastwind Drive  
Troutdale, OR 97060-9544  
503-661-1123  
www.oregoninductioncorp.com

### **Stack Metallurgical Services Inc**

5938 N Basin Avenue  
Portland, OR 97217  
503-285-7703  
www.stackmet.com

**Thermal Modification Technologies**

19830 South West Teton Avenue  
Tualatin, OR 97062  
503-654-6511  
www.thermalmodtech.com

**PENNSYLVANIA**

**Abbott Furnace**

1068 Trout Run Road  
Saint Marys, PA 15857  
814-781-6355  
www.abbottfurnace.com

**Bennett Heat Treating & Brazing**

82 Richard Road  
Ivyland, PA 18974  
215-674-8120  
www.bennetheat.com

**Bluewater Thermal Solutions**

337 North Broad Street  
Ridgeway, PA 15853  
814-389-1103  
www.bluewaterthermal.com

**Bodycote**

270 Emig Road  
York, PA 17316  
717-767-6757  
www.bodycote.com

**Chiz Bros.**

2117 Lincoln Boulevard  
Elizabeth, PA 15037  
412-384-5220  
www.chizbros.com

**Evans Heat Treating**

360 Red Lion Road  
Huntingdon Valley, PA 19006  
215-938-8791  
www.evansheattreating.com

**Metlab**

1000 East Mermaid Lane  
Wyndmoor, PA 19038  
800-319-7359  
www.metlabheattreat.com

**Modern Industries Inc**

613 West 11th Street  
Erie, PA 16501  
814-455-8061  
www.modernind.com

**Modern Industries Inc –  
Kersey Plant**

135 Greens Road  
Kersey, PA 15846  
814-885-8514  
www.modernind.com

**Penna Flame Industries**

1856 State Route 588  
Zelienople, PA 16063  
800-245-5084  
www.pennaflame.com

**Pennsylvania Metallurgical Inc**

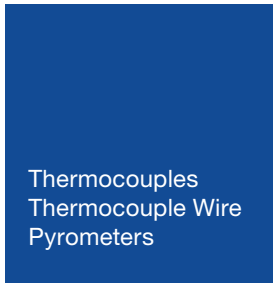
315 Columbia Street  
Bethlehem, PA 18015  
610-691-1313  
www.pmiheattreat.com

**Peters Heat Treating Inc**

5790 West Road  
McKean, PA 16426  
814-476-1880  
www.petersheattreat.com



800-490-2150 | fremont-customer-service@basf-catalystmetals.com



For over 60 years, BASF has been a trusted provider of high-quality temperature sensing products. We manufacture thermocouples and pyrometers that exceed our customers needs and expectations. Simply the best technology, products, and service ... period.



# COMMERCIAL HEAT TREATERS ///

## **Peters Heat Treating Inc**

215 Race Street  
Meadville, PA 16335  
814-333-1782  
www.petersheattreat.com

## **Pittsburgh Metal Processing Co. Inc**

1850 Chapman Street, P.O. Box 7824  
Pittsburgh, PA 15215  
800-323-7331  
www.pmpco.com

## **Rex Heat Treat**

Bedford County Business Park  
Bedford, PA 15522  
814-623-1701  
www.rexht.com

## **Robert Wooler Company**

1755 Susquehanna Road  
Dresher, PA 19025  
215-542-7600  
www.robertwooler.com

## **Solar Atmospheres**

1969 Clearview Road  
Souderton, PA 18964  
800-347-3236  
www.solaratm.com

## **Solar Atmospheres**

30 Industrial Road  
Hermitage, PA 16148  
866-982-0660  
www.solaratm.com

## **Vacu-Braze**

111 North Seventh Street  
Perkasie, PA 18944  
215-453-0414  
www.vacubraze.net

## **RHODE ISLAND**

### **Metallurgical Solutions Inc**

94 Aldrich Street  
Providence, RI 02905  
877-322-5162  
www.met-sol.com

### **Rhode Island Heat Treating**

81 Aldrich Street  
Providence, RI 02905  
401-467-9200  
www.riheattreating.com

### **S & P Heat Treating Inc**

16 Dewey Avenue  
Warwick, RI 02886  
401-737-9272  
www.spheattreating.com

## **Spectrum Thermal Processing**

818 Wellington Avenue  
Cranston, RI 02910  
401-808-6249  
www.spectrumtp.com

## **SOUTH CAROLINA**

### **Bluewater Thermal Solutions**

126 Millport Circle Suite 201  
Greenville, SC 29607  
864-990-0050  
www.bluewaterthermal.com

### **Bodycote**

100 Hunts Bridge Road  
Fountain Inn, SC 29644  
864-862-3516  
www.bodycote.com

### **IMT Duncan LLC**

235 Commerce Court  
Duncan, SC 29334  
864-433-8231  
www.imtduncan.com

### **IMT York LLC**

1688 Fairhope Road  
York, SC 29745  
803-684-2548  
www.imtyork.com

### **Ionic Technologies Inc**

207 Fairforest Way  
Greenville, SC 29607  
864-288-9111  
www.ionic-tech.com

### **Solar Atmospheres – Southeast**

108 Progressive Court  
Greenville, SC 29611  
864-970-0111  
www.solaratm.com

## **TENNESSEE**

### **Coleman Commercial Heat Treating Inc**

1324 North Hollywood Street  
Memphis, TN 38108  
901-323-0550  
www.colemancht.com

### **Mid South Metallurgical**

742 Old Salem Road  
Murfreesboro, TN 37129  
615-896-6212  
www.midsouthmetallurgical.com

## **Parker Trutec – MMI Inc**

134 River Bend Drive  
Sevierville, TN 37876  
865-453-9186  
www.parkertrutec.com

### **Paulo**

1307 Rutledge Way  
Murfreesboro, TN 37129  
615-896-1385  
www.paulo.com

### **Paulo**

3206 Ambrose Avenue  
Nashville, TN 37207  
615-228-2526  
www.paulo.com

## **TEXAS**

### **Bodycote**

428 Dodson Lake Drive  
Arlington, TX 76012  
817-265-5878  
www.bodycote.com

### **Bodycote**

1301 Hays Street  
Houston, TX 77009  
713-225-6050  
www.bodycote.com

### **Bodycote**

5151 World Houston  
Suite 150  
Houston, TX 77032  
281-227-8222  
www.bodycote.com

### **Gulf Coast Combustion Services LLC**

4225 Greenleaf Drive  
Spring, TX 77389  
713-425-3773  
www.gulfcoastcombustion.com

### **Houston Heat Treat**

13802 Chrisman  
Houston, TX 77039  
281-590-9600  
www.houstonheattreat.com

### **K & D Heat Treat Inc**

2115 Humble Westfield  
Houston, TX 77073  
281-821-0033  
www.kdheattreat.com

**Katy Heat Treat LLC**

5354 1st Street  
 Katy, TX 77493  
 281-392-4805  
[www.katyheattreat.com](http://www.katyheattreat.com)

**Lark Heat Treating Inc**

6640 Mayard Road  
 Houston, TX 77041  
 713-937-9089  
[www.larkheat.com](http://www.larkheat.com)

**Lone Star Heat Treating Corporation**

3939 Blaffer Street  
 Houston, TX 77026  
 713-672-6616  
[www.lsht.com](http://www.lsht.com)

**Magnum Metal Treating Inc**

4400 North Frazier Street  
 Conroe, TX 77303  
 888-623-9213  
[www.magnummetaltreating.com](http://www.magnummetaltreating.com)

**Modern Heat Treat Inc**

2550 Austin Road  
 Richland Hills, TX 76118  
 817-616-0333  
[www.modernht.com](http://www.modernht.com)

**National Heat Treat LLC**

6923 Brittmoore Road  
 Houston, TX 77041  
 855-648-4328  
[www.nationalheattreat.com](http://www.nationalheattreat.com)

**Penatek Foundry & Machining Inc**

6830 East Business Loop 20  
 Odessa, TX 79762  
 800-736-2835  
[www.penatek.com](http://www.penatek.com)

**Q-Tech Heat Treat**

2727 Ruder Street  
 Dallas, TX 75212  
 214-630-8262  
[www.qtechht.com](http://www.qtechht.com)

**Republic Heat Treat**

8902 North Main  
 Houston TX 77022  
 713-692-3410  
[www.republicht.com](http://www.republicht.com)

**SEI Heat Treat**

6910 Fulton  
 Houston, TX 77022  
 713-699-3892  
[www.seiheat.com](http://www.seiheat.com)

**SouthWest Metal Treating Corporation**

9516 Lynwood  
 Fort Worth, TX 76134  
 817-551-1295  
[www.southwestmetaltreating.com](http://www.southwestmetaltreating.com)

**Specialty Heat Treat Incorporated**

11307 West Little York  
 Houston, TX 77041  
 713-937-3101  
[www.specialtyheattreat.com](http://www.specialtyheattreat.com)

**Texas Heat Treating Inc**

5113 North Freeway  
 Fort Worth, TX 76106  
 972-263-9755  
[www.texasheattreating.com](http://www.texasheattreating.com)

**Texas Heat Treating Inc**

155 Texas Avenue  
 Round Rock, TX 78664  
 512-255-5884  
[www.texasheattreating.com](http://www.texasheattreating.com)

**Thermal Specialties of Texas LLC**

212 Page Street  
 Fort Worth, TX 76110  
 817-921-5100  
[www.thermalspecialties.com](http://www.thermalspecialties.com)

# CAN-ENG FURNACES ENGINEERING SOLUTIONS TO LAST

## CUSTOM SYSTEMS FOR CUSTOM PRODUCTS



CAN-ENG Furnaces International Limited specializes in the design of unique, high-volume batch and continuous industrial furnace systems for today's and tomorrow's demanding applications.

Propelling industry toward tomorrow's opportunities, whether for Automotive, Aerospace, Steel, Military, or Oil and Gas applications, CAN-ENG has the experience and expertise to enable your success.



P.O. Box 235, Niagara Falls, New York 14302-0235 | T. 905.356.1327 | F. 905.356.181



To explore how CAN-ENG's custom systems can help with your individual needs visit us online [www.can-eng.com](http://www.can-eng.com) or email [furnaces@can-eng.com](mailto:furnaces@can-eng.com)

# COMMERCIAL HEAT TREATERS ///

## UTAH

### **Blanchard Metal Processing**

1115 South Pioneer Road  
Salt Lake City, UT 84104  
801-972-5590  
www.bmproc.com

### **Industrial Heat Treat Company – A Division of May Foundry & Machine Company**

430 West 600 North  
Salt Lake City, UT 84103  
801-363-7318  
www.industrialheattreat.com

### **Pilkington Metal Finishing LLC**

1225 South Legacy View Street Salt Lake City, UT 84104  
801-972-2146  
www.pilkingtonmetalfinishing.com

## VIRGINIA

### **Progressive Heat Treating Company**

1701 West Hundred Road  
Chester, VA 23836  
800-868-5457  
www.pecgears.com

### **SouthWest Specialty Heat Treat**

255 East Marshall Street  
Wytheville, VA 24382  
276-228-7739  
www.swhtva.com

### **Virginia Metal Treating East Carolina Metal Treating**

3117 Odd Fellows Road  
Lynchburg, VA 24501  
434-333-4412  
www.ecmtinc.com

## WASHINGTON

### **Bodycote**

4605 Northwest Pacific Rim Blvd  
Camas, WA 98607  
360-833-1120  
www.bodycote.com

### **Cascade Metallurgical Inc**

21213 76th Avenue South  
Kent, WA 98032  
253-872-6161  
www.cascademet.com

### **Inland Metallurgical Services Inc**

16203 East Marietta Avenue  
Spokane Valley, WA 99216  
800-379-2231  
www.inlandmet.com

### **Pacific Metallurgical**

925 5th Avenue South  
Kent, WA 98032  
253-854-4241  
www.pacmet.com

### **Stack Metallurgical Group Inc**

16203 East Marietta Avenue  
Spokane Valley, WA 99216  
509-922-7663  
www.stackmet.com

## WISCONSIN

### **Bodycote**

16167 West Rogers Drive  
New Berlin, WI 53151  
262-782-5553  
www.bodycote.com

### **Bodycote**

7316 Durand Avenue  
Sturtevant, WI 53177  
262-554-8770  
www.bodycote.com

### **Fox Valley Heat Treat Inc**

2110 Harrison Street  
Oshkosh, WI 54901  
920-231-0955  
www.fvht.com

### **FPM Heat Treating**

11200 Heather Avenue  
Milwaukee, WI 53224  
414-355-7900  
www.fpmht.com

### **Gallos Metal Solutions Inc**

10536 West Glenbrook Court  
Milwaukee, WI 53224  
414-355-5353  
www.gallosmetal.com

### **Metals Engineering – DePere**

1883 Commerce Drive  
De Pere, WI 54115  
920-339-8590  
www.metalsengineering.net

### **Midwest Thermal-Vac Inc**

5727 95th Avenue  
Kenosha, WI 53144  
262-605-4848  
www.mtvac.com

### **Precision Thermal**

**Processing Inc**  
219 Warren Hansen Drive  
Clintonville, WI 54929  
715-823-8650  
www.precisionthermal.com

### **Service Heat Treating Inc**

9320 North 107th Street  
Milwaukee, WI 53224  
414-355-1020  
www.serviceht.com

### **Steelwind Industries Inc**

7550 South 10th Street  
Oak Creek, WI 53154  
414-571-6000  
www.steelwindindustries.com

### **Thermet Inc**

203 Travis Lane  
Waukesha, WI 53189  
262-544-9800  
www.thermet.com

### **ThermTech**

301 Travis Lane  
Waukesha, WI 53189  
800-752-6917  
www.thermtech.net

### **Treat All Metals**

5140 North Port Washington Road  
Milwaukee, WI 53217  
414-395-4127  
www.treatallmetals.com

### **United Gear & Assembly Heat Treating**

1700 Livingstone Road  
Hudson, WI 54016  
715-386-5867  
www.ugaco.com





# WISCONSIN OVEN

## HORIZONTAL QUENCH SYSTEM

### For Solution Heat Treating Aluminum

A cost effective alternative to a drop bottom furnace that optimizes floorspace, with quench times as low as 5 seconds, and load ratings of 8,000 lbs or more! The horizontal quench system has maximum temperature ratings up to 1,250° F and provides excellent temperature uniformity capable of meeting the strictest Aerospace and Automotive requirements.



**DataSense**  
TECHNOLOGIES  
Available with DataSense™  
Technologies IoT Based  
Performance Monitoring System

#### **Benefits:**

- **Lower capital cost** than a comparable drop bottom furnace, with a significantly smaller footprint
- **Quench times** as low as 5 seconds
- **Load sizes** of 12' long and larger
- **High load capacity** of 8,000 lbs or more, for castings, extrusions, sheets and others
- **Automated quench process** for a streamlined production process and consistent results
- **Designs that meet stringent specifications** such as AMS2750 and CQI9
- **Floor level design** for convenient, safe maintenance access, unlike drop bottom furnaces, which are elevated
- **Fully factory assembled and tested** prior to shipment to reduce installation and start-up delays (customers are encouraged to witness final equipment testing at Wisconsin Oven)
- **Includes the DataSense™ Technologies IoT Based Performance Monitoring System**



**WISOVEN.COM**

Wisconsin Oven Corporation  
2675 Main Street • PO Box 873 • East Troy, WI 53120



Wisconsin Oven is a brand of  
Thermal Product Solutions, LLC

## GENERAL

### Across International LLC

111 Dorsa Avenue  
Livingston, NJ 07039  
888-988-0899  
www.acrossinternational.com

### Across USA Incorporated

1480 Beachey Place  
Carson, CA 90746  
310-635-3555  
www.acrosscc.com

### Air Products and Chemical Incorporated

7201 Hamilton Blvd  
Allentown, PA 18195  
866-826-6035  
www.airproducts.com

### Ajax Electric Company

60 Tomlinson Road  
Huntingdon Valley, PA 19006  
215-947-8500  
www.ajaxelectric.com

### Alhern-Martin Industrial Furnace Company

2155 Austin Street  
Troy, MI 48083  
248-689-6363  
www.alhern-martin.com

### Alpha 1 Induction Service Center Inc.

1525 Old Alum Creek Drive  
Columbus, OH 43219  
614-253-8900  
www.alpha1induction.com

### Applied Test Systems

154 East Brook Lane  
Butler, PA 16002  
724-283-1212  
www.atspa.com

### Babcock & Wilcox MEGTEC

830 Prosper Street  
De Pere, WI 54115  
920-336-5715  
www.megtec.com

### BTU International

23 Esquire Road  
North Billerica, MA 1862  
978-667-4111  
www.btu.com

### Can-Eng Furnaces International Ltd

P.O. Box 235  
Niagara Falls, NY 14302  
905-356-1327  
www.can-eng.com

### Cashvac Certified Vacuum Pumps

1019 Rail Drive  
Woodstock, IL 60098  
800-397-1600  
www.cashvac.com

### Casso-Solar Technologies LLC

506 Airport Executive Park  
Nanuet, NY 10954  
845-354-2010  
www.cassosolartechnologies.com

### CeraMaterials

525 Silver Lake Road  
Dingmans Ferry, PA 18328  
518-701-6722  
www.ceramaterials.com

### Cober Incorporated

30 Moffitt Street  
Stratford, CT 06615  
203-855-8755  
www.cober.com

### Consolidated Engineering Company

1971 McCollum Parkway Northwest  
Kennesaw, GA 30144  
770-422-5100  
www.cec-intl.com

### Despatch - ITW EAE

8860 207th Street  
Minneapolis, MN 55044  
800-726-0110  
www.despatch.com

### DMP CryoSystems

2010 Bassett Avenue  
El Paso, TX 79901  
915-351-8500  
www.cryosystems.com

### Dry Coolers Incorporated

575 South Glaspie Street  
Oxford, MI 48371  
800-525-8173  
www.drycoolers.com

### East Coast Induction Incorporated

506 North Warren Avenue  
Brockton, MA 2305  
508-587-2800  
www.eastcoastind.com

### EMSCO Incorporated

1000 Nave Road SE  
Massillon, OH 46646  
877-773-6726  
www.emsco.com

### Epcon Industrial Systems LP

P.O. Box 7060  
The Woodlands, TX 77387  
936-273-3300  
www.epconlp.com

### Goessling USA Incorporated

748 Mountain Veiw Drive  
Piney Flats, TN 37686  
423-915-0472  
www.goesslingusa.com

### Graphite Insulation

525 Silver Lake Road, Suite B  
Dingmans Ferry, PA 18328  
518-701-6722  
www.graphiteinsulation.com

### Harrop Industries Incorporated

3470 East 5th Avenue  
Columbus, OH 43219  
614-231-3621  
www.harropusa.com

### HeatTek, Inc.

W1285 Industrial Drive  
Ixonia, WI 53036  
800-575-7077  
www.heattek.com

### Heat Treat Equipment Company

42056 Michigan Avenue  
Canton, MI 48188  
734-331-3939  
www.heattratequip.com

### HTF Incorporated

1447 Shiloh Road  
Sturgeon Bay, WI 54235  
317-405-7047  
www.heatreatfurnaces.com

### Inductoheat Incorporated

32251 North Avis Drive  
Madison Heights, MI 48071  
800-624-6297  
www.inductoheat.com

### Inductotherm Corporation

10 Indel Avenue  
Rancocas, NJ 08073  
609-267-9000  
inductotherm.com

### Infosight Corporation

20700 US Hwy. 23  
Chillicothe, OH 45601  
740-642-3600  
www.infosight.com



**JN Machinery**

1081 Rock Road Lane  
 East Dundee, IL 60118  
 224-699-9161  
[www.jnmachinery.com](http://www.jnmachinery.com)

**Jorgensen Conveyors Incorporated**

10303 North Baehr Road  
 Mequon, WI 53092  
 800-325-7705  
[www.jorgensenconveyors.com](http://www.jorgensenconveyors.com)

**JPW Industrial Ovens and Furnaces**

6080 State Route 14  
 Trout Run, PA 17771  
 570-995-5025  
[www.jpwdesign.com](http://www.jpwdesign.com)

**Keir Manufacturing**

133 McLean Road  
 Brevard, NC 28712  
 828-885-8444  
[www.keirmfg.com](http://www.keirmfg.com)

**L&L Special Furnace Company Inc.**

20 Kent Road  
 Aston, PA 19014  
 877-846-7628  
[www.llfurnace.com](http://www.llfurnace.com)

**Lanly Company**

26201 Tungsten Road  
 Cleveland, OH 44132  
 216-731-1115  
[www.lanly.com](http://www.lanly.com)

**Menges Roller Co. – Heat Transfer Division**

260 Industrial Drive  
 Wauconda, IL 60084  
 888-856-1753  
[www.mengesroller.com](http://www.mengesroller.com)

**Metallurgical High Vacuum Corporation**

6708 124th Avenue  
 Fennville, MI 49408  
 269-543-4291  
[www.methivac.com](http://www.methivac.com)

**Mokon**

2150 Elmwood Avenue  
 Buffalo, NY 14207  
 716-876-9951  
[www.mokon.com](http://www.mokon.com)

**National Element Incorporated**

7939 Lochlin Drive  
 Brighton, MI 48116  
 248-486-1810  
[www.nationalelement.com](http://www.nationalelement.com)

**Nel Hydrogen PEM**

10 Technology Drive  
 Wallingford, CT 06492  
 203-949-8697  
[www.nelhydrogen.com](http://www.nelhydrogen.com)

**North American Cronite Inc.**

37162 Sugar Ridge Road  
 North Ridgeville, OH 44039  
 440-353-6594  
[www.safe-industry.com](http://www.safe-industry.com)

**Pillar Induction**

6600 Burroughs Street  
 Sterling Heights, MI 48314  
 586-254-8470  
[www.pillar.com](http://www.pillar.com)

**Power Parts International**

742 South Indiana Avenue  
 West Bend, WI 53095  
 262-335-2777  
[www.powerpartsinc.com](http://www.powerpartsinc.com)

**Premier Furnace Specialists Incorporated**

23850 Freeway Park Drive  
 Farmington Hills, MI 48335  
 248-596-9000  
[www.premierfurnace.com](http://www.premierfurnace.com)

**Procedyne Corporation**

11 Industrial Drive  
 New Brunswick, NJ 08901  
 732-249-8347  
[www.procedyne.com](http://www.procedyne.com)

**Proceq USA Inc.**

117 Corporation Drive  
 Aliquippa, PA 15001  
 800-839-7016  
[www.proceq-usa.com](http://www.proceq-usa.com)

**Radyne Corporation**

211 West Boden Street  
 Milwaukee, WI 53207  
 800-236-8360  
[www.radyne.com](http://www.radyne.com)

# Diff-Therm®

## DIFFUSION PUMP HEATERS

- Over 100 casting sizes and electrical combinations in stock.
- For 2" thru 48" diffusion pumps made by Agilent, CVC, Edwards, Leybold, Varian, and many others.
- One-piece design for easy replacement, better heat transfer, and longer life.



TO REQUEST A SELECTOR GUIDE  
 OR CHECK STOCK, CONTACT US:

**978-356-9844**  
**sales@daltonelectric.com**  
**www.daltonelectric.com**

## **Rock Valley Oil & Chemical Co.**

1911 Windsor Road  
Rockford, IL 61111  
815-654-2400  
www.rockvalleyoil.com

## **Russells Technical Products Incorporated**

1883 Russell Court  
Holland, MI 49423  
616-392-3161  
www.russells-tech.com

## **Skako Vibration**

260-450-1754  
www.skako.com/skako-vibration

## **Stirweld**

1 Rue Jean de Thevenot  
35760 Saint-Gregoire  
www.stirweld.com/en/home-2/

## **Surface Combustion Inc.**

1700 Indian Wood Circle  
Maumee, OH 43537  
800-537-8980  
www.surfacecombustion.com

## **Thermal Care Incorporated**

5680 West Jarvis Avenue  
Niles, IL 60714  
847-966-2260  
www.thermalcare.com

## **Thermal Fluid Systems Incorporated**

3046 Matlock Drive  
Kennesaw, GA 30144  
770-425-5556  
www.tfsheat.com

## **Thermcraft Inc.**

3950 Overdale Road  
Winston Salem, NC 27107  
336-784-4800  
www.thermcraftinc.com

## **Thermo-Stack LLC**

P.O. Box 1696  
Hockessin, DE 19707  
888-332-7654  
www.thermo-stack.com

## **Tinius Olsen Testing**

1065 Easton Road  
Horsham, PA 19044  
215-675-7100  
www.tiniusolsen.com

## **Wisconsin Oven Corporation**

2675 Main Street  
East Troy, MI 53120  
262-642-3938  
www.wisoven.com

## **CONTROLS**

### **Advanced Energy Industries Inc.**

1625 Sharp Point Drive  
Fort Collins, CO 80525  
800-446-9167  
www.advanced-energy.com

### **Agilent Technologies Vacuum Products**

5301 Stevens Creek Blvd  
Santa Clara, CA 95051  
877-424-4536  
www.agilent.com

### **Alhern-Martin Industrial Furnace Co.**

2155 Austin Street  
Troy, MI 48083  
248-689-6363  
www.alhern-martin.com

### **Applied Test Systems**

154 East Brook Lane  
Butler, PA 16002  
724-283-1212  
www.atspa.com

### **AQI Engineering Company**

P.O. Box 911  
Cuyahoga Falls, OH 44223  
330-926-0861  
www.aqieng.com

### **Atmosphere Engineering Company**

419 West Boden Street  
Milwaukee, WI 53207  
414-331-2457  
www.atmoseng.com

### **Avatar Instruments Incorporated**

16587 Coastal Highway  
Lewes, DE 19958  
302-703-6865  
www.avatarinstruments.com

### **AVS Inc.**

60 Fitchburg Road  
Ayer, MA 01432  
800-272-0710  
www.avsinc.com

### **Bloom Engineering Company Inc.**

5460 Horning Road  
Pittsburgh, PA 15236  
412-653-3500  
www.bloomeng.com

### **Carbolite Gero Ltd.**

11 Penns Trail, Suite 300  
Newtown, PA 18940  
866-473-8724  
www.carbolite-gero.com

### **Chromalox**

103 Gamma Drive  
Pittsburgh, PA 15238  
412-967-3800  
www.chromalox.com

### **Conax Technologies**

2300 Walden Avenue  
Buffalo, NY 14225  
800-223-2389  
www.conaxtechnologies.com

### **Conrad Kacsik Instrument Systems Inc.**

30925 Aurora Road  
Solon, OH 44139  
800-666-1165  
www.kacsik.com

### **Control Concepts Inc.**

8077 Century Boulevard  
Chanhassen, MN 55317  
800-765-2799  
www.ccjpower.com

### **Durex Industries**

190 Detroit Street  
Cary, IL 60013  
847-639-5600  
www.durexindustries.com

### **Eurotherm by Schneider Electric**

44621 Guilford Drive, Suite 100  
Ashburn, VA 20147  
703-724-7300  
www.eurotherm.com

### **Fireye Inc. – UTC Climate Controls & Security**

3 Manchester Road  
Derry, NH 03038  
603-432-4100  
www.fireye.com

### **Fives North American Combustion Inc.**

4455 East 71st Street  
Cleveland, OH 44105  
216-271-6000  
www.fivesgroup.com

### **Fluke Process Instruments**

6920 Seaway Blvd  
Everett, WA 98203  
800-443-5853  
www.fluke.com

### **G M Enterprises**

525 Klug Circle  
Corona, CA 92880  
951-340-4646  
www.gmenterprises.com

**Gefran Incorporated**

Via Sebina, 74  
25050 Provaglio D'Iseo (BS)  
39-0-309-8881  
www.gefran.com

**GeoCorp Incorporated**

9010 River Road  
Huron, OH 44839  
419-433-1101  
www.geocorpinc.com

**George T Hall Company**

1605 Gene Autry Way  
Anaheim, CA 92805  
714-939-7100  
www.georgethall.com

**Heat Treating Services Unlimited Inc.**

222 LaDean Court Suite G  
Simpsonville, SC 29680  
864-289-0644  
www.manta.com

**Heraeus Sensor Technology**

Heraeus Holding GmbH  
Heraeusstr. 12-14  
63450 Hanau  
49-0-618-1350  
www.heraeus.com

**Hi-Temp Products Corp.**

88 Taylor Street  
Danbury, CT 06810  
800-822-4335  
www.hi-tempproducts.com

**INDEECO**

425 Hanley Industrial Court  
St. Louis, MO 63144  
800-243-8162  
www.indeeco.com

**Ircon Incorporated**

1201 Shaffer Road  
Santa Cruz, CA 95060  
800-227-8074  
www.ircon.com

**J L Becker Company**

41150 Joy Road  
Plymouth, MI 48170  
734-656-2000  
www.jlbecker.com

**Karl Dungs Incorporated**

3890 Pheasant Ridge Drive NE Suite 150  
Blaine, MN 55449  
763-582-1700  
www.dungs.com

**Kurt J Lesker Company**

1925 Route 51  
Jefferson Hills, PA15025  
800-245-1656  
www.lesker.com

**Leister Technologies Process Heat**

1275 Hamilton Parkway  
Itasca, IL 60143  
855-534-7837  
www.leister.com

**Lenox Instrument Company Incorporated**

265 Andrews Road  
Trevose, PA 19053  
800-356-1104  
www.lenoxinst.com

**Mokon**

2150 Elmwood Avenue  
Buffalo, NY 14207  
716-876-9951  
www.mokon.com

**Nanmac Corporation**

425 Fortune Blvd, Suite 206  
Milford, MA 01757  
800-786-4669 • 001.508.872.4811  
www.nanmac.com

**Nitrex Metal Incorporated**

3474 Poirier Blvd  
St-Laurent, Québec H4R 2J5  
514 335 7191  
www.nitrex.com

**Omega Engineering Incorporated**

One Omega Drive  
Stamford, CT 06907  
203-359-1660  
www.omega.com

**Premier Furnace Specialists Incorporated**

23850 Freeway Park Drive  
Farmington Hills, MI 48335  
248-596-9000  
www.premierfurnace.com

**Process Development & Control LLC**

1075 Montour West Industrial Park  
Coraopolis, PA 15108  
724-695-3440  
www.pdcvalve.com

**Protection Controls Incorporated**

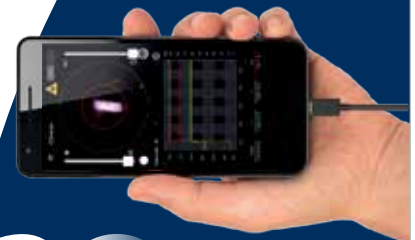
7317 North Lawndale Avenue  
Skokie, IL 60076  
847-674-7676  
www.protectioncontrolsinc.com

# Hot.



IR Cameras. Pyrometers. Accessories.  
Software. Non-contact temperature  
measurement from -58 °F to +5432 °F.  
Visit: [www.optris.com](http://www.optris.com)  
Phone: (603) 766-6060

Incredible image clarity delivered by the on-board visual camera that supports precise positioning of the measurement spot on the target. Rugged, compact ratio sensor with motorized focus and cooling accessories. Smart Ratio Mode (SRM) that optimizes emissivity settings for accurate metal temperature measurements. Engineering support to quickly guide you to the best solution.

**New**

**Optris**  
when temperature matters

## **SBS Corporation**

7160 15th Street  
Sarasota, FL 34243  
800-662-8776  
www.sbscorporation.com

## **Super Systems Inc.**

7205 Edington Drive  
Cincinnati, OH 45249  
800-666-4330  
www.supersystems.com

## **Surface Combustion Inc.**

1700 Indian Wood Circle  
Maumee, OH 43537  
800-537-8980  
www.surfacecombustion.com

## **Thermalogic Corporation**

22 Kane Industrial Drive  
Hudson, MA 01749  
800-343-4492  
www.thermalogic.com

## **Thermcraft Inc.**

3950 Overdale Road  
Winston Salem, NC 27107  
336-784-4800  
www.thermcraftinc.com

## **Watlow Electric Manufacturing Company**

12001 Lackland Road  
St. Louis, MO 63144  
800-928-5692  
www.watlow.com

## **Yokogawa Corporation of America**

12530 West Airport Blvd  
Sugar Land, TX 77478  
281-340-3800  
www.yokogawa.com/US

## **FORGING**

### **CeraMaterials**

525 Silver Lake Road  
Dingmans Ferry, PA 18328  
518-701-6722  
www.ceramaterials.com

### **Cor-Met Incorporated**

12500 Grand River Road  
Brighton, MI 48116  
800-848-2719  
www.cor-met.com

### **Graphite Insulation**

525 Silver Lake Road, Suite B  
Dingmans Ferry, PA 18328  
518-701-6722  
www.graphiteinsulation.com

## **Inductoheat Incorporated**

32251 North Avis Drive  
Madison Heights, MI 48071  
800-624-6297  
www.inductoheat.com

## **FURNACES/OVENS/KILNS**

### **Abbott Furnace Company**

1068 Trout Run Road  
St. Marys, PA 15857  
814-781-6355  
www.abbottfurnace.com

### **Ace Industrial Manufacturing**

39250 Green Meadow Road  
Temecula, CA 92592  
951-302-2212  
www.aceindustrialmanufacturing.com

### **Across International LLC**

111 Dorsa Avenue  
Livingston, NJ 07039  
888-988-0899  
www.acrossinternational.com

### **AFC-Holcroft**

49630 Pontiac Trail  
Wixom, MI 48393  
248-624-8191  
www.afc-holcroft.com

### **Air & Energy Systems Incorporated**

P.O. Box 1218  
Matthews, NC 28106  
704-814-9221  
www.airandenergyinc.com

### **Ajax Electric Company**

60 Tomlinson Road  
Huntingdon Valley, PA 19006  
215-947-8500  
www.ajaxelectric.com

### **Alhern-Martin Industrial Furnace Company**

2155 Austin Street  
Troy, MI 48083  
248-689-6363  
www.alhern-martin.com

### **Applied Test Systems**

154 East Brook Lane  
Butler, PA 16002  
724-283-1212  
www.atspa.com

### **Arrow Tank & Engineering Company**

650 North Emerson  
Cambridge, MN 55008  
763-552-2218  
www.arrowtank.com

## **AVS Inc.**

60 Fitchburg Road  
Ayer, MA 01432  
800-272-0710  
www.avsync.com

## **BTU International**

23 Esquire Road  
North Billerica, MA 01862  
978-667-4111  
www.btu.com

## **Can-Eng Furnaces International Ltd**

P O Box 235  
Niagara Falls, NY 14302  
905-356-1327  
www.can-eng.com

## **Carbolite Gero Ltd.**

11 Penns Trail, Suite 300  
Newtown, PA 18940  
866-473-8724  
www.carbolite-gero.com

## **Casso-Solar Technologies LLC**

506 Airport Executive Park  
Nanuet, NY 10954  
845-354-2010  
www.cassosolartechnologies.com

## **CEIA USA Ltd**

9155 Dutton Drive  
Twinsburg, OH 44087  
330-405-3190  
www.ceia-usa.com

## **Centorr Vacuum Industries**

55 Northeastern Blvd  
Nashua, NH 03062  
603-595-7233  
www.centorr.com

## **CHE Furnaces**

1270 N. Red Gum Street  
Anaheim, CA 92806  
714-630-4491  
www.chefurnaces.com

## **Charles A. Hones, Inc.**

355 Route 49, P.O. Box 405  
Cleveland, NY 13042  
315-623-2124  
www.charlesahones.com

## **Cober Incorporated**

30 Moffitt Street  
Stratford, CT 06615  
203-855-8755  
www.cober.com

**Consolidated Engineering Company**  
1971 McCollum Parkway Northwest  
Kennesaw, GA 30144  
770-422-5100  
www.cec-intl.com

**Cyprium Induction**  
42770 Mound Road  
Sterling Heights, MI 48314  
586-884-4982  
www.cypriuminduction.com

**Despatch - ITW EAE**  
8860 207th Street  
Minneapolis, MN 55044  
800-726-0110  
www.despatch.com

**DMP CryoSystems**  
2010 Bassett Avenue  
El Paso, TX 79901  
915-351-8500  
www.cryosystems.com

**East Coast Induction Incorporated**  
506 North Warren Avenue  
Brockton, MA 02301  
508-587-2800  
www.eastcoastind.com

**ECM USA**  
9505 72nd Ave Suite 400  
Pleasant Prairie, WI 53158  
262-605-4810  
www.ecm-usa.com

**Elnik Systems LLC**  
107 Commerce Road  
Cedar Grove, NJ 07009  
973-239-6066  
www.elnik.com

**ENRX**  
31511 Dequindre Road  
Madison Heights, MI 48071  
248-658-0700  
www.enrx.com

**Epcon Industrial Systems LP**  
P.O. Box 7060  
The Woodlands, TX 77387  
936-273-3300  
www.epconlp.com

**Furnacare Inc.**  
100 Corporate Dr. Suite A  
Spartanburg, SC 29303  
864-599-9955  
www.furna.care.com

**Furnace Brokers Incorporated**  
40 Industrial Park Road  
Tolland, CT 06084  
860-875-3712  
www.furnacebrokers.com

**Gasbarre Thermal Processing Systems**  
310 State Street  
St. Marys, PA 15857  
814-834-2200  
www.gasbarre.com

**GES-AGM**  
12300 Snow Rd.  
Parma, OH 44130  
800-842-8805  
www.ges-agm.com



## Specialist for difficult load types

- Reduction of electricity costs due to uniform energy demand without reactive power and current peaks.
- Increased system availability by reducing disturbances caused by flicker and harmonics.
- Extended service life when using MoSi heating elements thanks to protection against overloads.
- Reduced operating costs due to low maintenance, when using SiC elements



**Electronic transformer  
JUMO IPC 300**

www.jumousa.com

**ATS APPLIED TEST SYSTEMS**  
THE MARK OF RELIABILITY

## PROCESS HEATING BUILT YOUR WAY

*Request a free quote for custom ovens, furnaces, temperature control systems, and ATS manufactured elements!*



[www.atspa.com/requestaquote](http://www.atspa.com/requestaquote)

[sales@atspa.com](mailto:sales@atspa.com)

+1-724-283-1212

## **Graphite Furnace Systems LLC**

36 LaChance Street  
Gardner, MA 01440  
508-845-4768  
www.graphitefurnace.com

## **Graphite Machining Incorporated**

240 Main Street  
Topton, PA 19562  
610-682-0080  
www.graphitemachininginc.com

## **Harper International Corporation**

4455 Genesee Street Suite 123  
Buffalo, NY 14225  
716-276-9900  
www.harperintl.com

## **Harrop Industries Incorporated**

3470 East 5th Avenue  
Columbus, OH 43219  
614-231-3621  
www.harropusa.com

## **HeatTek, Inc.**

W1285 Industrial Drive  
Ixonia, WI 53036  
800-575-7077  
www.heattek.com

## **Heat Treat Equipment Company**

42056 Michigan Avenue  
Canton, MI 48188  
734-331-3939  
www.heattratequip.com

## **Heavy Carbon Company**

3200 South Jerome Road  
Pittsford, MI 49271  
517-523-3685  
www.heavycarbon.com

## **Hi-Temp Products Corp.**

88 Taylor Street  
Danbury, CT 06810  
800-822-4335  
www.hi-tempproducts.com

## **HTF Incorporated**

1447 Shiloh Road  
Sturgeon Bay, WI 54235  
317-405-7047  
www.heatreatfurnaces.com

## **Induction Systems Incorporated**

209 Travis Lane  
Waukesha, WI 53189  
888-856-2096  
www.isipwr.com

## **Induction Tooling Incorporated**

12510 York Delta Drive  
North Royalton, OH 44133  
440-237-0711  
www.inductiontooling.com

## **Inductoheat Incorporated**

32251 North Avis Drive  
Madison Heights, MI 48071  
800-624-6297  
www.inductoheat.com

## **Inductotherm Corporation**

10 Indel Avenue  
Rancocas, NJ 08073  
609-267-9000  
www.inductotherm.com

## **International Thermal Systems LLC**

4697 West Greenfield Avenue  
Milwaukee, WI 53214  
414-672-7700  
www.internationalthermalsystems.com

## **JN Machinery**

1081 Rock Road Lane  
East Dundee, IL 60118  
224-699-9161  
www.jnmachinery.com

## **JPW Industrial Ovens and Furnaces**

6080 State Route 14  
Trout Run, PA 17771  
570-995-5025  
www.jpwdesign.com

## **KGO GmbH**

Altenhofer Weg 56 58300  
Wetter/Ruhr, Germany  
02335/6303-3  
www.kgo-gmbh-de

## **Kolene Corporation**

12890 Westwood St.  
Detroit, MI 48223  
313-273-9220 • 800-521-4182  
www.kolene.com

## **L&L Special Furnace Company Inc.**

20 Kent Road  
Aston, PA 19014  
877-846-7628  
www.llfurnace.com

## **Lanly Company**

26201 Tungsten Road  
Cleveland, OH 44132  
216-731-1115  
www.lanly.com

## **Lindberg/MPH**

3827 Riverside Road  
Riverside, 49084  
269-849-2700  
www.lindbergmph.com

## **Lucifer Furnaces, Inc.**

2048 Bunnell Road  
Warrington, PA 18976  
215-343-0411  
www.luciferfurnaces.com

## **Metallurgical High Vacuum Corporation**

6708 124th Avenue  
Fennville, MI 49408  
269-543-4291  
www.methivac.com

## **Mowry Enterprises Incorporated**

P O Box 210  
Northborough, MA 01532  
508-845-4768  
www.mowryenterprises.com

## **Nabertherm Incorporated**

54 Reads Way  
New Castle, DE 19720  
302-322-3665  
www.nabertherm.com

## **Nitrex Metal Incorporated**

3474 Poirier Blvd  
St-Laurent, Québec H4R 2J5  
514-335-7191  
www.nitrex.com

## **Noble Industrial Furnace Company Inc.**

40 Woolam Road  
East Windsor, CT 06088  
860-623-9256  
www.noblefurnace.com

## **Oerlikon Leybold Vacuum USA**

5700 Mellon Road  
Export, PA 15632  
724-327-5700  
www.oerlikon.com

## **Oxy-Gon Industries Inc**

42 Old Route 28  
Epsom, NH 03234  
603-736-8422  
www.oxy-gon.com

## **Power Parts International**

742 South Indiana Avenue  
West Bend, WI 53095  
262-335-2777  
www.powerpartsinc.com

**Premier Furnace Specialists Incorporated**

23850 Freeway Park Drive  
Farmington Hills, MI 48335  
248-596-9000  
www.premierfurnace.com

**Procedyne Corporation**

11 Industrial Drive  
New Brunswick, NJ 08901  
732-249-8347  
www.procedyne.com

**Pyradia Incorporated**

5125 rue J-A Bombardier  
Saint-Hubert, Québec Z 1G4  
888-797-2342  
www.pyradia.com

**Russells Technical Products Incorporated**

1883 Russell Court  
Holland, MI 49423  
616-392-3161  
www.russells-tech.com

**Sargent & Wilbur Incorporated**

20 Monticello Place  
Pawtucket, RI 02861  
401-726-0013  
www.sargentandwilbur.com

**SECO/Warwick**

180 Mercer Street  
Meadville, PA 16335  
814-332-8400  
www.secowarwick.com

**Signature Vacuum Systems, Inc.**

PO Box 190  
Harmonsburg, PA 16422  
814-333-1110  
www.signaturevacuum.com

**Solar Manufacturing**

1500 E Clymer Ave  
Sellersville, PA 18960  
267-384-5040  
www.solarmfg.com

**Surface Combustion Inc.**

1700 Indian Wood Circle  
Maumee, OH 43537  
800-537-8980  
www.surfacecombustion.com

**TAV Vacuum Furnaces**

Via Dell'Industria 11  
24043 Caravaggio BG, Italy  
39-0-3633-5571  
www.tav-vacuumfurnaces.com

**Taylor-Winfield Technologies Incorporated**

3200 Innovation Place  
Youngstown, OH 44509  
800-523-4899  
www.taylor-winfield.com

**Tech Induction Corporation**

13129 23 Mile Road  
Shelby Township, MI 48315  
(586) 469-8324  
www.techinduction.com

# TempTAB

A straight forward, cost-effective method to determine process temperatures in furnaces without the use of wires or electronics.

## Features

- ✓ Verify Temperature Uniformity
- ✓ Usable in Air, Vacuum, & Non-Oxidizing Environments
- ✓ Monitor Between 850 - 1750°C
- ✓ Pretreated, Will Not Contaminate Process
- ✓ Process Control Software Included Free

## Applications

- ✓ Heat Treat Processes
- ✓ Brazing, Sintering, Annealing



Orton Ceramic Foundation  
8091 Old JC Highway  
Huntsville, Ohio 45003 USA  
1-814-689-2863  
www.tempTAB.com

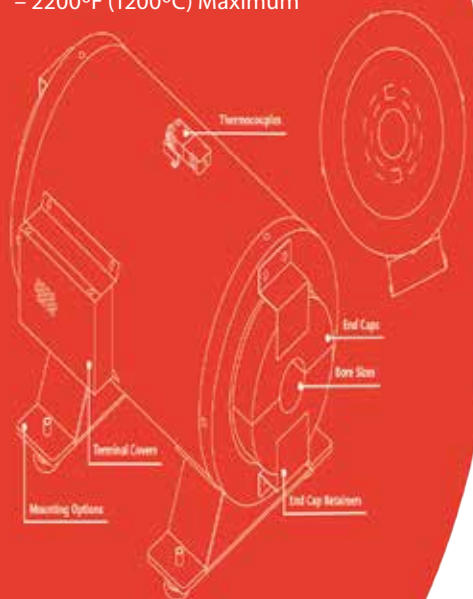
TempTAB



WWW.ORTONCERAMIC.COM

# Series 3110/3210 Custom Furnaces

Tube/Split-Tube Furnaces  
– 2200°F (1200°C) Maximum



**ATS**  
APPLIED TEST SYSTEMS

sales@atspa.com | www.atspa.com

*Built to your Specifications*

### Custom Made

- Inside Diameters
- Outside Diameters
- Heated Lengths
- Number of Heated Zones
- Viewports
- Mounting Options

### Custom Options

- Sealed Terminal Covers
- Perforated Heat Shields
- Temperature Controllers
- Various Mounting Arrangements

Request a Quote Today!

+1.724.283.1212



## **Thermaltek Incorporated**

2800 Armentrout Drive  
Concord, NC 28025  
704-784-3001  
www.thermaltek.com

## **Thermcraft Inc.**

3950 Overdale Road  
Winston Salem, NC 27107  
336.784.4800  
www.thermcraftinc.com

## **Tucker Induction Systems Inc.**

50550 Rizzo Drive  
Shelby Township, MI 48315  
586-247-9100  
www.tuckerinductionsystems.com

## **Ultraflex Power Technologies**

10 Colt Court  
Ronkonkoma, NY 11779  
631-467-6814  
www.ultraflexpower.com

## **Upton Industries Incorporated**

30435 Groesbeck Highway  
Roseville, MI 48066  
800-541-1204  
www.uptonindustries.com

## **VAC AERO International Incorporated**

1371 Speers Road  
Oakville, Ontario L 2X5  
905-336-0673  
www.vacaero.com

## **W H Kay Company**

30925 Aurora Road  
Cleveland, OH 44139  
440-519-3800  
www.whkay.com

## **Williams Industrial Service Incorporated**

2120 Wood-Bridge Blvd  
Bowling Green, OH 43402  
419-353-2120  
www.wisfurnaces.com

## **Wisconsin Oven Corporation**

2675 Main Street  
East Troy, MI 53120  
262-642-3938  
www.wisoven.com

## **METAL CUTTING**

### **Arrow Tank & Engineering Company**

650 North Emerson  
Cambridge, MN 55008  
763-552-2218  
www.arrowshtank.com

### **Rock Valley Oil & Chemical Co.**

1911 Windsor Road  
Rockford, IL 61111  
815-654-2400  
www.rockvalleyoil.com

### **Stirweld**

2791 Research Drive  
Rochester Hills, MI 48309  
www.stirweld.com/en/home-2

### **Taylor-Winfield Technologies Inc.**

3200 Innovation Place  
Youngstown, OH 44509  
800-523-4899  
www.taylor-winfield.com

## **PARTS CLEANING**

### **International Thermal Systems LLC**

4697 West Greenfield Avenue  
Milwaukee, WI 53214  
414-672-7700  
www.internationalthermalsystems.com

### **HeatTek, Inc.**

W1285 Industrial Drive  
Ixonia, WI 53036  
800-575-7077  
www.heattek.com

## **USED EQUIPMENT**

### **Can-Eng Furnaces International Ltd**

P.O. Box 235  
Niagara Falls, NY 14302  
905-356-1327  
www.can-eng.com

### **CeraMaterials**

525 Silver Lake Road  
Dingmans Ferry, PA 18328  
518-701-6722  
www.ceramaterials.com

### **Conrad Kacsik Instrument Systems Inc.**

30925 Aurora Road  
Solon, OH 44139  
800-666-1165  
www.kacsik.com

### **Graphite Insulation**

525 Silver Lake Road, Suite B  
Dingmans Ferry, PA 18328  
518-701-6722  
www.graphiteinsulation.com

### **Hi-Temp Products Corp.**

88 Taylor Street  
Danbury, CT 06810  
800-822-4335  
www.hi-tempproducts.com

### **Metallurgical High Vacuum Corporation**

6708 124th Avenue  
Fennville, MI 49408  
269-543-4291  
www.methivac.com

### **Mowry Enterprises Incorporated**

P.O. Box 210  
Northborough, MA 01532  
508-845-4768  
www.mowryenterprises.com

### **Premier Furnace Specialists Incorporated**

23850 Freeway Park Drive  
Farmington Hills, MI 48335  
248-596-9000  
www.premierfurnace.com

### **Taylor-Winfield Technologies Inc.**

3200 Innovation Place  
Youngstown, OH 44509  
800-523-4899  
www.taylor-winfield.com

### **Thermcraft Inc.**

3950 Overdale Road  
Winston Salem, NC 27107  
336.784.4800  
www.thermcraftinc.com

### **Tim Bolduan Equipment, LLC**

P.O. Box 40  
Clermont, GA 30527  
770-337-5515  
www.boldequip@att.net

### **W H Kay Company**

30925 Aurora Road  
Cleveland, OH 44139  
440-519-3800  
www.whkay.com



*Our leading edge vacuum technology provides precise control and repeatability for consistently superior parts.*



## ***Vacuum Heat Treating & Brazing Services***

Annealing • Aging • Carburizing • Nitriding • Stress Relieving • Degassing • Brazing • Harden and Temper  
Sintering • Solution Treat and Age (STA) • Homogenizing • Creep Forming • Hydriding / Dehydriding

Solve your toughest thermal processing challenges by utilizing our brain-trust of metallurgists, chemists and engineers.

- Over 70 vacuum furnaces – lab-sized to 48 feet long
- Argon, nitrogen and helium quenching up to 20 bar
- Operating range of -320°F to +3,600°F
- On-site metallurgical testing lab
- 24/7 Operations



1-855-WE-HEAT-IT  
[solaratm.com](http://solaratm.com)



ISO9001  
AS9100  
Registered



Eastern PA • Western PA • California • South Carolina • Michigan

## GENERAL

### A-VAC Industries

1845 Lewis Street  
Anaheim, CA 92805  
800-747-2821  
www.avac.com

### Across International LLC

111 Dorsa Avenue  
Livingston, NJ 07039  
888-988-0899  
www.acrossinternational.com

### Across USA Incorporated

1480 Beachey Place  
Carson, CA 90746  
310-635-3555  
www.acrosscc.com

### Advanced Energy Industries Inc.

1625 Sharp Point Drive  
Fort Collins, CO 80525  
800-446-9167  
www.advanced-energy.com

### AFFRI Incorporated

111 South Lombard Road Unit #4  
Addison, IL 60101  
224-374-0931  
www.affri.com

### Agilent Technologies

5301 Stevens Creek Blvd  
Santa Clara, CA 95051  
877-424-4536  
www.agilent.com

### Ajax Electric Company

60 Tomlinson Road  
Huntingdon Valley, PA 19006  
215-947-8500  
www.ajaxelectric.com

### Alcon Industries Incorporated

7990 Baker Avenue  
Cleveland, OH 44102  
216-961-1100  
www.alconalloys.com

### Alhern-Martin Industrial Furnace Company

2155 Austin Street  
Troy, MI 48083  
248-689-6363  
www.alhern-martin.com

### American Isostatic Presses Incorporated

1205 South Columbus Airport Road  
Columbus, OH 43207  
800-375-7108  
www.aiphp.com

### Analytical Technology Incorporated

6 Iron Bridge Drive  
Collegeville, PA 19426  
800-959-0299  
www.analyticaltechnology.com

### Applied Test Systems

154 East Brook Lane  
Butler, PA 16002  
724-283-1212  
www.atspa.com

### Atmosphere Engineering Company

419 West Boden Street  
Milwaukee, WI 53207  
414-331-2457  
www.atmoseng.com

### Avion Manufacturing Company

2950 Westway Drive, Suite 106  
Brunswick, OH 44212  
330-220-2779  
www.avionmfg.com

### AVS Inc.

60 Fitchburg Road  
Ayer, MA 01432  
800-272-0710  
www.avsinc.com

### AWT World Trade Incorporated

4321 North Knox Avenue  
Chicago, IL 60641  
773-777-7100  
www.awt-gpi.com

### Axim Mica

32 Gazza Blvd  
Farmingdale, NY 11735  
516-248-0045  
www.aximmica.com

### Bloom Engineering Company Incorporated

5460 Horning Road  
Pittsburgh, PA 15236  
412-653-3500  
www.bloomeng.com

### Burns Engineering

10201 Bren Road East  
Minnetonka, MN 55343  
952-935-4400  
www.burnsengineering.com

### Busch LLC

516 Viking Drive  
Virginia Beach, VA 23452  
800-872-7867  
www.buschusa.com

### C I Hayes

33 Freeway Drive  
Cranston, RI 02920  
401-467-5200  
www.cihayes.com

### Cambridge Sensotec

29 Stephenson Road  
St. Ives, Cambridgeshire  
United Kingdom PE27 3WJ  
+44 01480 462142  
www.cambridge-sensotec.co.uk

### Carbon Composites

12 Jytek Park  
Leominster, MA 01453  
978-840-0707  
www.carboncompositesinc.com

### CAS Dataloggers

8437 Mayfield Rd, Unit 104A  
Chesterland, OH 44026  
440-729-2570  
www.dataloggerinc.com

### Cashvac Certified Vacuum Pumps

1019 Rail Drive  
Woodstock, IL 60098  
800-397-1600  
www.cashvac.com

### Casso-Solar Technologies LLC

506 Airport Executive Park  
Nanuet, NY 10954  
845-354-2010  
www.cassosolartechnologies.com

### Castalloy Corp.

1701 Industrial Lane  
Waukesha, WI 53189  
262-547-0070  
www.castalloycorp.com

### Castolloy Incorporated

7990 Baker Avenue  
Cleveland, OH 44102  
216-961-7990  
www.castolloy.com

### CEIA USA Ltd

9155 Dutton Drive  
Twinsburg, OH 44087  
330-405-3190  
www.ceia-usa.com

### CeraMaterials

525 Silver Lake Road  
Dingmans Ferry, PA 18328  
518-701-6722  
www.ceramaterials.com

### Ceramics Solutions Incorporated

P.O. Box 1266  
Conroe, TX 77305  
936-588-2646  
www.csi-na.com

### Charles A. Honess, Inc.

355 Route 49 • P.O. Box 405  
Cleveland, NY 13042  
315-623-2124  
www.charlesahoness.com

### Chiz Bros

2117 Lincoln Boulevard  
Elizabeth, PA 15037  
412-384-5220  
www.chizbros.com

### Chromalox

103 Gamma Drive  
Pittsburgh, PA 15238  
412-967-3800  
www.chromalox.com

### Cleveland Electric Labs – Temperature

1776 Enterprise Parkway  
Twinsburg, OH 44087  
800-447-2207  
www.clevelandelectriclabs.com

### Conax Technologies

2300 Walden Avenue  
Buffalo, NY 14225  
800-223-2389  
www.conaxtechnologies.com

### Control Concepts Inc.

8077 Century Boulevard  
Chanhausen, MN 55317  
800-765-2799  
www.ccpower.com

### Control Instruments Corporation

25 Law Drive  
Fairfield, NJ 07004  
973-575-9114  
www.controlinstruments.com

### Cooley Wire Products Mfg. Co. Inc.

5025 N River Rd  
Schiller Park, IL 60176  
847-678-8585  
www.cooleywire.com

### Coorstek

14143 Denver West Parkway  
Golden, CO 80401  
303-271-7000  
www.coorstek.com

### Cor-Met Incorporated

12500 Grand River Road  
Brighton, MI 48116  
800-848-2719  
www.cor-met.com

### Cress Manufacturing Company

4736 Convair Drive  
Carson, NV 89706  
800-423-4584  
www.cressmfg.com

### Dalton Electric Heating Co. Inc.

28 Hayward Street  
Ipswich, MA 01938  
978-356-9844  
www.daltonelectric.com

### Datapaq Inc. – Fluke Process Instruments

3 Corporate Park Drive Unit 1  
Derry, NH 03038  
603-537-2680  
www.datapaq.com

# Heat Treat EQUIPMENT



## Ready to Deliver. Ready for Production.



### Wisconsin Oven Gas-Fired Batch Oven

Model EWN-820-8G • U-3788

**Working Dim's** 96" wide x 288" deep x 96" high

**Power** 480V / 3-Phase / 60Hz, 35 Amps

**Max Temp** 650°F

**Heating** Natural gas, 1.0 MM BTU

**Controls** Control panel mounted on oven

**General** Front & Rear Doors (vertical rising)



### Surface Comb Endothermic Gas Generator

Model RX-2T-BES

**Capacity** 6,000 CFH

**Fuel** Natural Gas, 520 CF per hour, 1000 BTU/CF

**Power** 480 Volts, 3-Phase, 60 Hz

**Max Temp** 1950°F

**Flow Meters** Waukee

**General** Control panel mounted to generator frame

# Heat Treat EQUIPMENT

Established by John L. Becker

42056 Michigan Avenue • Canton, MI 48188

Phone: 734-331-3939 • Fax: 734-331-3915 • [heattreatequip.com](http://heattreatequip.com)

**Dekalb Blower Inc.**

P.O. Box 516  
Yorkville, IL 60560  
630-553-8831  
www.dekalbblower.com

**Duffy Company**

283 E. Hellen Rd  
Palatine, IL 60067  
847-202-0000  
www.duffycompany.com

**Dura-Pack**

7641 Holland Road  
Taylor, MI 48180  
313-299-9600  
www.dura-pack.com

**Duraloy Technologies Incorporated**

120 Bridge Street  
Scottsdale, PA 15683  
724-887-5100  
www.duraloy.com

**Durex Industries**

190 Detroit Street  
Cary, IL 60013  
847-639-5600  
www.durexindustries.com

**ECM USA**

9505 72nd Ave Suite 400  
Pleasant Prairie, WI 53158  
262-605-4810  
www.ecm-usa.com

**Ed Fagan Incorporated**

769 Susquehanna Avenue  
Franklin Lakes, NJ 07417  
201-891-4003  
www.edfagan.com

**Edwards Vacuum LLC**

6416 Inducon Drive West  
Sanborn, NY 14132  
800-848-9800  
www.edwardsvacuum.com

**Eldec LLC**

3355 Bald Mountain Road, Unit 30  
Auburn Hills, MI 48326  
248-364-4750  
www.eldec-usa.com

**Elnik Systems LLC**

107 Commerce Road  
Cedar Grove, NJ 07009  
973-239-6066  
www.elnik.com

**Eurotherm by Schneider Electric**

44621 Guilford Drive, Suite 100  
Ashburn, VA 20147  
703-724-7300  
www.eurotherm.com

**Fives North American Combustion Inc.**

4455 East 71st Street  
Cleveland, OH 44105  
216-271-6000  
www.fivesgroup.com

**G M Enterprises**

525 Klug Circle  
Corona, CA 92880  
951-340-4646  
www.gmenterprises.com

**Gansu Haoshi Carbon Fiber Company Ltd.**

No 66 Anning East Road  
Lanzhou City Gansu Province  
86-0-931-7753206  
www.hscf-group.com

**Gefran Incorporated**

Via Sebina, 74  
25050 Provaglio D'Iseo (BS)  
39-0-309-8881  
www.gefran.com

**GeoCorp Incorporated**

9010 River Road  
Huron, OH 44839  
419-433-1101  
www.geocorpinc.com

**George T Hall Company**

1605 Gene Autry Way  
Anaheim, CA 92805  
714-939-7100  
www.georgethall.com

**Grammer Vacuum Technologies Inc.**

3857 South Bonnell Road  
Coeur D'Alene, ID 83814  
208-765-6854  
www.gvtinc.com

**Grand Power Systems**

1500 Marion  
Grand Haven, MI 49417  
844-383-8644  
www.grandpowersystems.com

**Graphite Insulation**

525 Silver Lake Road, Suite B  
Dingmans Ferry, PA 18328  
518-701-6722  
www.graphiteinsulation.com

**Graphite Machining Incorporated**

240 Main Street  
Topton, PA 19562  
610-682-0080  
www.graphitemachininginc.com

### Graphite Metallizing Corporation

1050 Nepperhan Ave  
Yonkers, NY 10703  
914-968-8400  
www.graphalloy.com

### Harbison Walker International

1305 Cherrington Parkway Suite 100  
Moon Township, PA 15108  
412-375-6600  
www.thinkhwi.com

### Harbridge Systems LLC

P O Box 247  
North Lake, WI 53064  
262-966-2712  
www.harbridge.com

### Harrop Industries Incorporated

3470 East 5th Avenue  
Columbus, OH 43219  
614-231-3621  
www.harropusa.com

### Heat Treat Equipment Company

42056 Michigan Avenue  
Canton, MI 48188  
734-331-3939  
www.heatstreatequip.com

### Heat Treating Services Unlimited Inc.

222 LaDean Court Suite G  
Simpsonville, SC 29680  
864-289-0644  
www.HTSU.com

### Heatbath Corporation/Park Metallurgical

107 Front Street  
Indian Orchard, MA 01151  
413-452-2000  
www.heatbath.com

### Heraeus Sensor Technology

Heraeus Holding GmbH  
Heraeusstr. 12-14  
63450 Hanau  
49-0-618-1350  
www.heraeus.com

### Hi-Temp Products Corp.

88 Taylor Street  
Danbury, CT 06810  
800-822-4335  
www.hi-tempproducts.com

### HTF Incorporated

1447 Shiloh Road  
Sturgeon Bay, WI 54235  
317-405-7047  
www.heatstreatfurnaces.com

### I Squared R Element Co. Inc.

12600 Clarence Center Road  
Akron, NY 14001  
716-542-5511  
www.isquaredrelement.com

### Induction Systems Incorporated

209 Travis Lane  
Waukesha, WI 53189  
888-856-2096  
www.isipwr.com

### Inductoheat Incorporated

32251 North Avis Drive  
Madison Heights, MI 48071  
800-624-6297  
www.inductoheat.com

### Industrial Furnaces Interiors Incorporated

35160 Stanley Drive  
Madison Heights, MI 48312  
586-977-9600  
www.ifi-inc.com

### INEX Inc.

9229 Olean Road  
Holland, NY 14080  
716-537-2270  
www.inexinc.net



## Creating and Innovating

GES-AGM is your primary choice for several grades of carbon and graphite products, and advanced machining to exacting specifications.

Our grades serve various market applications including: metal processing/casting equipment, ceramics, aerospace, semiconductor, furnace parts, sintering fixtures, heat treating assemblies, and drill bit manufacturing.

When searching for the solution to your graphite requirements, call GES-AGM or email us at [customersupport@ges-agm.com](mailto:customersupport@ges-agm.com).



12300 Snow Road, Parma, OH 44130  
800-842-8805 | [ges-agm.com](http://ges-agm.com)



## HIGHEST QUALITY HEATING ELEMENTS



OVER 50 YEARS OF RELIABILITY AND SERVICE



Starbar® and Moly-D® elements are made in the U.S.A. with a focus on providing the highest quality heating elements and service to the global market.

CALL US  
716-542-5511

EMAIL US  
[sales@isquaredrelement.com](mailto:sales@isquaredrelement.com)

## **Innovative Sensor Tech. – USA Division**

9516 W. Flamingo Rd, Suite 210  
Las Vegas, NV 89147  
702-894-9891  
www.ist-ag.com/en-us

## **Ircon Incorporated**

1201 Shaffer Road  
Santa Cruz, CA 95060  
800-227-8074  
www.ircon.com

## **Irwin Car and Equipment**

9953 Broadway Route 993  
Irwin, PA 15642  
724-864-8900  
www.irwincar.com

## **J L Becker Company**

41150 Joy Road  
Plymouth, MI 48170  
734-656-2000  
www.jlbecker.com

## **Jackson Transformer Company**

6800 Benjamin Road  
Tampa, FL 33634  
813-879-5811  
www.jacksontransformer.com

## **Jiangsu Fengdong Thermal Tech. Co. Ltd.**

No 333 Nanxiang Road W  
Dafeng City, Ji 24100  
086-515-8351-3872  
www.fengdong.com

## **Jorgensen Conveyors Incorporated**

10303 North Baehr Road  
Mequon, WI 53092  
800-325-7705  
www.jorgensenconveyors.com

## **Karl Dungs Incorporated**

3890 Pheasant Ridge Drive NE Suite 150  
Blaine, MN 55449  
763-582-1700  
www.dungs.com

## **Kanthal Heating Technology**

15 Hazelwood Drive, Suite 100  
Amherst, NY 14228  
716-691-4010  
www.kanthal.com

## **Keir Manufacturing**

133 McLean Road  
Brevard, NC 28712  
828-885-8444  
www.keirmfg.com

## **KGO GmbH**

Altenhofer Weg 56 58300  
Wetter/Ruhr, Germany  
49 0 2335 6303-3  
www.kgo-gmbh-de

## **Kurt J Lesker Company**

1925 Route 51  
Jefferson Hills, PA 15025  
800-245-1656  
www.lesker.com

## **Lanly Company**

26201 Tungsten Road  
Cleveland, OH 44132  
216-731-1115  
www.lanly.com

## **LECO Corporation**

3000 Lakeview Avenue  
Saint Joseph, MI 49085  
269-985-5496  
www.leco.com

## **Leister Technologies Process Heat**

1275 Hamilton Parkway  
Itasca, IL 60143  
855-534-7837  
www.leister.com

## **Linde**

7000 High Grove Boulevard  
Burr Ridge, IL 60527  
844-445-4633  
www.lindeus.com

## **Linn High Therm GmbH**

Heinrich-Hertz-Platz 1  
92275 Hirschbach, Germany  
49 0 9665 9140-0  
www.linn-high-therm.de

## **MadgeTech**

6 Warner Road  
Warner, NH 03278  
877-671-2885  
www.madgetech.com

## **Menges Roller Co. – Heat Transfer Division**

260 Industrial Drive  
Wauconda, IL 60084  
888-856-1753  
www.mengesroller.com

## **Metallurgic High Vacuum Corporation**

6708 124th Avenue  
Fennville, MI 49408  
269-543-4291  
www.methivac.com

## **Mid-Mountain Materials Incorporated**

5602 2nd Avenue, South  
Seattle, WA 98108  
206-762-7600  
www.mid-mountain.com

## **Nabertherm Incorporated**

54 Read's Way  
New Castle, DE 19720  
302-322-3665  
www.nabertherm.com

## **Nanmac Corporation**

6 Warner Road  
Warner, NH 03278  
800-786-4669  
www.nanmac.com

## **National Element Incorporated**

7939 Lochlin Drive  
Brighton, MI 48116  
248-486-1810  
www.nationalelement.com

## **National Plastic Heater Sensor Control Inc.**

5839 16th Sideroad  
Schomberg, On G 1T0  
905-859-8225  
www.nphheaters.com

## **Nippon Carbon of America LLC**

17706 Rough River Court  
Humble, TX 77346  
832-799-2006  
www.carbon.co.jp/english

## **Nitrex Metal Incorporated**

3474 Poirier Blvd  
St-Laurent, Québec H4R 2J5  
514-335-7191  
www.nitrex.com

## **NitroFreeze Cryogenic Solutions**

78 Chilmark Street  
Worcester MA 01604  
800-739-7949  
www.nitrofreeze.com

## **North American Cronite Inc.**

37162 Sugar Ridge Road  
North Ridgeville, OH 44039  
440-353-6594  
www.cronite-group.com

## **Nutec Bickley**

Carr. Saltillo – Monterrey No. 100  
Santa Carina, Nuevo Leon 66359  
+52 1 (81) 2621 41  
www.nutecbickley.com

## **Oerlikon Leybold Vacuum USA**

5700 Mellon Road  
Export, PA 15632  
724-327-5700  
www.oerlikon.com

### Omega Engineering Incorporated

One Omega Drive  
Stamford, CT 06907  
203-359-1660  
www.omega.com

### Optris

200 International Drive, Suite 170  
Portsmouth, NH 03801  
603-766-6060  
www.optris.com

### Orton Ceramic

6991 Old 3C Highway  
Westerville, OH 43082  
614-895-2663  
www.ortonceramic.com

### Park Thermal International Corporation

257 Elmwood Avenue Suite 300  
Buffalo, NY 14222  
877-834-4328  
www.parkthermal.com

### Pelican Wire

3650 Shaw Boulevard  
Naples, FL 34117  
239-597-8555  
www.pelicanwire.com

### Phoenix™ LLC

4500 140th Avenue North, Suite 101  
Clearwater, FL 33762  
727-608-4314  
www.phoenixtm.com

### Plibrico

1935 Techny Road-Unit 16  
Northbrook, IL 60062  
312-337-9000  
www.plibrico.com

### Power Parts International

742 South Indiana Avenue  
West Bend, WI 53095  
262-335-2777  
www.powerpartsinc.com

### Premier Furnace Specialists Incorporated

23850 Freeway Park Drive  
Farmington Hills, MI 48335  
248-596-9000  
www.premierfurnace.com

### Pro-Tech Company Incorporated

2802 Hitchcock Avenue  
Downers Grove, IL 60515  
800-766-8324  
www.protechcompanyinc.com

### Proceq USA Inc.

117 Corporation Drive  
Aliquippa, PA 15001  
800-839-7016  
www.proceq-usa.com

### Process Development & Control LLC

1075 Montour West Industrial Park  
Coraopolis, PA 15108  
724-695-3440  
www.pdcvalve.com

### Protection Controls Incorporated

7317 North Lawndale Avenue  
Skokie, IL 60076  
847-674-7676  
www.protectioncontrolsinc.com

### Pyradia Incorporated

5125 rue J-A Bombardier  
Saint-Hubert, Qu Z 1G4  
888-797-2342  
www.pyradia.com

## Conrad Kacsik SCADA *Powerful, Economical, and Adaptable*

Let Conrad Kacsik show you how a customized SCADA system can positively impact the performance at your company. Our process starts with an engineering evaluation of your current controls and data acquisition system, then we'll make recommendations that will enable you to achieve your goals and optimize performance.



### POWERFUL

- Supervisory Control
- Precision Batching and Recipe Management
- Control multiple furnace lines from a centralized location
- Bulletproof Data Acquisition and Documentation (Nadcap / AMS2750E / CQI-9/ CFR-21)
- Store and Retrieve Data
- Reporting, Trending, Date & Time Stamping with Operator Signature capability

### ADAPTABLE

- System is easily customized to meet your requirements
- Spectrum of service from simple Data Acquisition to Full Blown Automation and Control
- Touch Screen Capability

### ECONOMICAL

Our SCADA solution can be implemented in phases in order to fit your budget. For example, begin with the data acquisition component, later add the supervisory control functionality to complete your SCADA System.

- Open Architecture
- Non-Proprietary System – customers are not bound to a single OEM
- Unlimited software “Tags” allow for maximum value when programming our system (minimizes software investment as compared to other HMI software packages)
- System will often work with existing instrumentation, via communication cards - minimizing investment in new equipment

Contact us today to help you  
with your SCADA system solution.



1-800-666-1165  
www.kacsik.com

**Qual-Fab Incorporated**

34250 Mills Road  
Avon, OH 44011  
440-327-5000  
www.qual-fab.net

**Raytek Corporation**

1201 Shaffer Road  
Santa Cruz, CA 95060  
800-227-8074  
www.raytek.com

**Rock Valley Oil & Chemical Co.**

1911 Windsor Road  
Rockford, IL 61111  
815-654-2400  
www.rockvalleyoil.com

**RoMan Manufacturing**

861 47th Street SW  
Grand Rapids, MI 49509  
616-530-8641  
www.romanmfg.com

**Sargent & Wilbur Incorporated**

20 Monticello Place  
Pawtucket, RI 02861  
401-726-0013  
www.sargentandwilbur.com

**SBS Corporation**

7160 15th Street  
Sarasota, FL 34243  
800-662-8776  
www.sbscorporation.com

**Selas Heat Technology Company LLC**

11012 Aurora Hudson Road  
Streetsboro, OH 44241  
800-883-9218  
www.selas.com

**SGL Group – The Carbon Company**

900 Theresia St  
St. Mary's, PA 15857  
814-781-2600  
www.sglgroup.com

**Siemens Building Technologies Division**

1000 Deerfield Parkway  
Buffalo Grove, IL 60089  
800-743-6367  
www.usa.siemens.com

**Solar Manufacturing**

1500 E Clymer Ave  
Sellersville, PA 18960  
267-384-5040  
www.solarmfg.com

**Sun-Tec Corporation**

46590 Ryan Court  
Novi, MI 48377  
248-669-3100  
www.sunteccorp.com

**Super Systems Inc.**

7205 Edington Drive  
Cincinnati, OH 45249  
800-666-4330  
www.supersystems.com

**Taylor-Winfield Technologies Incorporated**

3200 Innovation Place  
Youngstown, OH 44509  
800-523-4899  
www.taylor-winfield.com

**TE Wire & Cable LLC**

107 North 5th Street  
Saddle Brook, NJ 07663  
201-845-9400  
www.tewire.com

**Teledyne Hastings Instruments**

804 Newcombe Avenue  
Hampton, VA 23669  
800-950-2468  
www.teledyne-hi.com

**Thermal Care Incorporated**

5680 West Jarvis Avenue  
Niles, IL 60714  
847-966-2260  
www.thermalcare.com

**Thermal Fluid Systems Incorporated**

3046 Matlock Drive  
Kennesaw, GA 30144  
770-425-5556  
www.tfsheat.com

**Thermaltek Incorporated**

2800 Armentrout Drive  
Concord, NC 28025  
704-784-3001  
www.thermaltek.com

**Thermalogic Corporation**

22 Kane Industrial Drive  
Hudson, MA 01749  
800-343-4492  
www.thermalogic.com

**Thermo Calc Software Incorporated**

Norra Stationsgatan 93  
E-1 kholm  
46-8-5459-5930  
www.thermocalc.com

**Thermocouple Technology, LLC**

350 New Street  
Quakertown, PA 18951  
215-529-9394  
www.tteconline.com

**Tinius Olsen Testing**

1065 Easton Road  
Horsham, PA 19044  
215-675-7100  
www.tiniusolsen.com

**Trent Incorporated**

201 Leverington Avenue  
Philadelphia, PA 19127  
215-482-5000  
www.trentheat.com

**Tucker Induction Systems Incorporated**

50550 Rizzo Drive  
Shelby Township, MI 48315  
586-247-9100  
www.tuckerinductionsystems.com

**Ultraflex Power Technologies**

10 Colt Court  
Ronkonkoma, NY 11779  
631-467-6814  
www.ultraflexpower.com

**Ulvac Technologies**

401 Griffin Brook Drive  
Methuen, MA 01844  
978-686-7550  
www.ulvac.com

**Unifrax Corporation**

600 Riverwalk Parkway Suite 120  
Tonawanda, NY 14150  
716-768-6500  
www.unifrax.com

**Upton Industries Incorporated**

30435 Groesbeck Highway  
Roseville, MI 48066  
800-541-1204  
www.uptonindustries.com

**Vacuum Research Corporation**

100 Chapel Harbor Drive, #4  
Pittsburgh, PA 15238  
800-426-9340  
www.vacuumresearch.com

**Watlow Electric Manufacturing Company**

12001 Lackland Road  
St. Louis, MO 63144  
800-928-5692  
www.watlow.com

**Wellman Furnaces Incorporated**

1111 West Mckay Road  
Shelbyville, IN 46176  
317-398-4411  
www.wellmanfurnaces.com



**WS Thermal Process Technologies Inc.**

8301 West Erie Avenue  
Lorain, OH 44053  
440-385-6829  
www.flox.com

**Yokogawa Corporation of America**

12530 West Airport Blvd  
Sugar Land, TX 77478  
281-340-3800  
www.yokogawa.com/US

**ZAR-TECH**

17 Malcolm Hoyt Drive  
Newburyport, MA 01950  
978-462-0200  
www.zartech.com

**ZIRCAR Ceramics Inc.**

100 North Main Street  
Florida, NY 10921  
845-651-6600  
www.zircarceramics.com

**ZIRCAR Refractory Composites Incorporated**

P.O. Box 489  
Florida, NY 10921  
845-651-2200  
www.zrci.com

**CERAMICS**

**AdValue Technology**

3158 S. Chrysler Ave.  
Tucson, AZ 85713  
520-514-1100  
www.advaluetech.com/

**Axim Mica**

32 Gazza Blvd  
Farmingdale, NY 11735  
516-248-0045  
www.aximmica.com

**CeraMaterials**

525 Silver Lake Road  
Dingmans Ferry, PA 18328  
518-701-6722  
www.ceramaterials.com

**Ceramic Solutions Incorporated**

12621 TX-105  
Conroe, TX 77304  
936-483-2438  
www.ceramicsolutionsconroe.com

**Chiz Bros**

2117 Lincoln Boulevard  
Elizabeth, PA 15037  
412-384-5220  
www.chizbros.com

**Coorstek**

14143 Denver West Parkway  
Golden, CO 80401  
303-271-7000  
www.coorstek.com

**CVD Equipment Corporation**

355 South Technology Drive  
Central Islip, NY 01722  
631-981-7081  
www.cvdequipment.com

**Keir Manufacturing**

133 McLean Road  
Brevard, NC 28712  
828-885-8444  
www.keirmfg.com

**JACKSON<sup>®</sup>  
TRANSFORMER CO.**

*Quality Magnetic Products*

*Air or Water Cooled*

*Open or Encapsulated*

*Single or Three Phase*

*DC to over 1 MHz*

*5 VA to over 15,000 kVA*

**CORE MATERIALS**

• Air • Iron • Ferrite

**CORE STYLES**

• Stacked • Wound • Toroidal

**TYPE**

• Isolation • Reactor • Zig Zag  
• Auto • Choke • Rectifier  
• Current • Scott "T" • Plate  
• Potential • Coils • Saturable Core Reactor  
• VIT<sup>®</sup> (Variable Impedance)

**APPLICATIONS**

• Forging • Power • Melting • Induction Heating  
• Furnace • Laser • Inverter • Resistance Heating  
• Welding • RF Heating • D.C. Drives • Others

**Repair *and* Recondition Services**

Who else would know more about rebuilding transformers than a company who develops, designs and manufactures them?

For quality repair or complete rebuild of reactors, transformers, and other magnetic products

**THINK QUALITY...THINK JACKSON<sup>®</sup>**

6800 Benjamin Road, Tampa, FL 33634 USA  
www.jacksontransformer.com

For more information, contact us:

**(813) 879-5811**

*Quality Magnetic Products Since 1955*

## Mid-Mountain Materials Incorporated

5602 – 2nd Avenue, South  
Seattle, WA 98108  
206-762-7600  
www.mid-mountain.com

## National Element Incorporated

7939 Lochlin Drive  
Brighton, MI 48116  
248-486-1810  
www.nationalelement.com

## Nutec Bickley

Carr. Saltillo – Monterrey No. 100  
Santa Carina, Nuevo Leon 66359  
+52 1 (81) 2621 41  
www.nutecbickley.com

## Orton Ceramic

6991 Old 3C Highway  
Westerville, OH 43082  
614-895-2663  
www.ortonceramic.com

## Plibrico

1935 Techny Road-Unit 16  
Northbrook, IL 60062  
312-337-9000  
www.plibrico.com

## Thermcraft Inc.

3950 Overdale Road  
Winston Salem, NC 27107  
336-784-4800  
www.thermcraftinc.com

## Unifrax Corporation

600 Riverwalk Parkway Suite 120  
Tonawanda, NY 14150  
716-768-6500  
www.unifrax.com

## ZAR-TECH

17 Malcolm Hoyt Drive  
Newburyport, MA 01950  
978-462-0200  
www.zartech.com

## ZIRCAR Ceramics Inc.

100 North Main Street  
Florida, NY 10921  
845-651-6600  
www.zircarceramics.com

## COATINGS

### Axim Mica

32 Gazza Blvd  
Farmingdale, NY 11735  
516-248-0045  
www.aximmica.com



## CeraMaterials

525 Silver Lake Road  
Dingmans Ferry, PA 18328  
518-701-6722  
www.ceramaterials.com

## Ceramic Solutions Incorporated

12621 TX-105  
Conroe, TX 77304  
936-483-2438  
www.csi-na.com

## Control Concepts Inc.

8077 Century Boulevard  
Chanhassen, MN 55317  
800-765-2799  
www.cci-power.com

## Coorstek

14143 Denver West Parkway  
Golden, CO 80401  
303-271-7000  
www.coorstek.com

## Cotronics Corporation

131 47th Street  
Brooklyn, NY 11232  
718-788-5533  
www.cotronics.com

## Graphite Insulation

525 Silver Lake Road, Suite B  
Dingmans Ferry, PA 18328  
518-701-6722  
www.graphiteinsulation.com

## Mid-Mountain Materials Incorporated

5602 2nd Avenue South  
Seattle, WA 98108  
206-762-7600  
www.mid-mountain.com

## Minteq International Pyrogenics Group

640 North 13th Street  
Easton, PA 18042  
484-541-7090  
www.pyrographite.com

## Selas Heat Technology Company LLC

11012 Aurora Hudson Road  
Streetsboro, OH 44241  
800-883-9218  
www.selas.com

## ZIRCAR Ceramics Inc.

100 North Main Street  
Florida, NY 10921  
845-651-6600  
www.zircarceramics.com

## Zircar Refractory Composites Incorporated

P.O. Box 489  
Florida, NY 10921  
845-651-2200  
www.zrci.com

## COMPOUNDS

### CeraMaterials

525 Silver Lake Road  
Dingmans Ferry, PA 18328  
518-701-6722  
www.ceramaterials.com

### Duffy Company

283 E. Hellen Rd  
Palatine, IL 60067  
847-202-0000  
www.duffycompany.com

### Metallurgical Technologies Incorporated

160 Bevan Drive  
Mooresville, NC 28115  
704-663-5108  
www.met-tech.com

## Minteq International Pyrogenics Group

640 North 13th Street  
Easton, PA 18042  
484-541-7090  
www.pyrographite.com

## GAS ANALYZERS

### Advanced Energy Industries Inc.

1625 Sharp Point Drive  
Fort Collins, CO 80525  
800-446-9167  
www.advanced-energy.com

### Ametek Incorporated

1100 Cassatt Road  
Berwyn, PA 19312  
610-647-2121  
www.ametek.com

### Analytical Technology Incorporated

6 Iron Bridge Drive  
Collegeville, PA 19426  
800-959-0299  
www.analyticaltechnology.com  
www.

### Clemex Technologies Incorporated

800 Guimond  
Longueuil, Quebec G 1T5  
888-651-6573  
www.clemex.com

### Control Instruments Corporation

25 Law Drive  
Fairfield, NJ 07004  
973-575-9114  
www.controlinstruments.com

### Eltra Elemental Analyzers

11 Penns Trail, Suite 300  
Newtown, PA 18940  
866-473-8724  
www.eltra.com

### Fives North American Combustion Inc.

4455 East 71st Street  
Cleveland, OH 44105  
216-271-6000  
www.fivesgroup.com

### Heat Treating Services Unlimited Inc.

222 LaDean Court Suite G  
Simpsonville, SC 29680  
864-289-0644  
www.HTSU.com

### Premier Furnace Specialists Incorporated

23850 Freeway Park Drive  
Farmington Hills, MI 48335  
248-596-9000  
www.premierfurnace.com

### Super Systems Inc.

7205 Edington Drive  
Cincinnati, OH 45249  
800-666-4330  
www.supersystems.com

## INDUSTRIAL GASES

### Advanced Energy Industries Inc.

1625 Sharp Point Drive  
Fort Collins, CO 80525  
800-446-9167  
www.advanced-energy.com

### Air Products and Chemical Incorporated

7201 Hamilton Blvd  
Allentown, PA 18195  
866-826-6035  
www.airproducts.com



**Build the future of manufacturing with us.**  
Join a team in Sunnyvale, CA, that's blazing trails in manufacturing with highly automated, state-of-the-art facilities in a culture where your voice is heard and valued.

**NG**  
NORTHROP GRUMMAN

**EXPLORE OPPORTUNITIES AT**  
[ngc.com/manufacturing-careers](http://ngc.com/manufacturing-careers)

© 2022 Northrop Grumman is committed to hiring and retaining a diverse workforce. We are proud to be an Equal Opportunity/Affirmative Action Employer, making decisions without regard to race, color, religion, creed, sex, sexual orientation, gender identity, marital status, national origin, age, veteran status, disability, or any other protected class. U.S. Citizenship is required for most positions. For our complete EEO/AA and Pay transparency statement, please visit [www.northropgrumman.com/EEO](http://www.northropgrumman.com/EEO).



We don't just repair vacuum pumps

# WE ENGINEER EQUIPMENT TO UPGRADE YOUR VACUUM SYSTEMS

Our metallurgist, engineers, machinists and factory-trained technicians can help with troubleshooting and upgrading your systems – which can keep your equipment in service, improve quality and increase throughput.

**METALLURGICAL**  
HIGH VACUUM CORPORATION

ASR  
ANAB  
ISO 9001-2015 CERTIFIED QMS

269-543-4291 • 269-543-4750 fax • [www.methivac.com](http://www.methivac.com)

## Consarc

100 Indel Avenue  
Rancocas, NJ 08073  
609-267-8000  
www.consarc.com

## Danieli Corporation

600 Cranberry Woods Drive Suite 200  
Cranberry Township, PA 16066  
724-778-5400  
www.danielicorp.com

## Fives North American Combustion Inc.

4455 East 71st Street  
Cleveland, OH 44105  
216-271-6000  
www.fivesgroup.com

## Linde

7000 High Grove Boulevard  
Burr Ridge, IL 60527  
844-445-4633  
www.lindeus.com

## METALS & ALLOYS (MATERIALS)

### Advanced Surface Technologies Inc.

6155 West 54th Avenue  
Arvada, CO 80002  
303-432-8500  
www.astfinishing.com

### Carbon Composites

12 Jytek Park  
Leominster, MA 01453  
978-840-0707  
www.carboncompositesinc.com

### Central Kentucky Processing Incorporated

2580 Palumbo Drive  
Lexington, KY 40509  
859-266-2247  
www.ckpinc.com

### CeraMaterials

525 Silver Lake Road  
Dingmans Ferry, PA 18328  
518-701-6722  
www.ceramaterials.com

### Cor-Met Incorporated

12500 Grand River Road  
Brighton, MI 48116  
800-848-2719  
www.cor-met.com

### Duffy Company

283 E. Hellen Rd  
Palatine, IL 60067  
847-202-0000  
www.duffycompany.com



### Duraloy Technologies Incorporated

120 Bridge Street  
Scottsdale, PA 15683  
724-887-5100  
www.duraloy.com

### Gerdau – Canton Facility

1501 Raff Road SouthWest  
Canton, OH 44710  
330-478-0314  
www.gerdau.com

### Gerdau – North Vernon Facility

1300 Industrial Drive  
North Vernon, IN 47265  
812-346-1275  
www.gerdau.com

### Gerdau – Mount Hope Facility

209-1 West Mt. Hope Avenue  
Lansing, MI 48910  
517-485-5246  
www.gerdau.com

### GKN Sinter Metals

2200 North Opdyke Road  
Auburn Hills, MI 48326  
248-296-7800  
www.gknsintermetals.com

### Graphite Furnace Systems LLC

36 LaChance Street  
Gardner, MA 01440  
508-845-4768  
www.graphitefurnace.com

### Graphite Insulation

525 Silver Lake Road, Suite B  
Dingmans Ferry, PA 18328  
518-701-6722  
www.graphiteinsulation.com

### Graphite Machining Incorporated

240 Main Street  
Topton, PA 19562  
610-682-0080  
www.graphitemachininginc.com

### Hi-Temp Products Corp.

88 Taylor Street  
Danbury, CT 06810  
800-822-4335  
www.hi-tempproducts.com

### Inductoheat Incorporated

32251 North Avis Drive  
Madison Heights, MI 48071  
800-624-6297  
www.inductoheat.com

**INEX Inc.**

9229 Olean Road  
 Holland, NY 14080  
 716-537-2270  
[www.inexinc.net](http://www.inexinc.net)

**Metals Engineering**

1800 South Broadway  
 Green Bay, WI 54304  
[www.metalsengineering.com](http://www.metalsengineering.com)

**Minteq International Pyrogenics Group**

640 North 13th Street  
 Easton, PA 18042  
 484-541-7090  
[www.pyrographite.com](http://www.pyrographite.com)

**National Plastic Heater Sensor Control Inc.**

5839 16th Sideroad  
 Schomberg, On G 1T0  
 905-859-8225  
[www.nphheaters.com](http://www.nphheaters.com)

**Premier Furnace Specialists Incorporated**

23850 Freeway Park Drive  
 Farmington Hills, MI 48335  
 248-596-9000  
[www.premierfurnace.com](http://www.premierfurnace.com)

**Progressive Alloy Steels Unlimited**

6180 North Hollywood Boulevard  
 Suite 102  
 Las Vegas, NV 89115  
 800-798-5619  
[www.progressivealloy.com](http://www.progressivealloy.com)

**Wall Colmonoy**

101 West Girard  
 Madison Heights, MI 48071  
 248-585-6400  
[www.wallcolmonoy.com](http://www.wallcolmonoy.com)

**ZIRCAR Refractory Composites Incorporated**

P.O. Box 489  
 Florida, NY 10921  
 845-651-2200  
[www.zrci.com](http://www.zrci.com)

**TESTING EQUIPMENT****Acadiana Testing & Heating**

318 Degraville Road  
 Amelia, LA 70340  
 985-631-2873  
[www.ath-btx.com](http://www.ath-btx.com)

**Advanced Energy Industries Inc.**

1625 Sharp Point Drive  
 Fort Collins, CO 80525  
 800-446-9167  
[www.advanced-energy.com](http://www.advanced-energy.com)

**AFFRI Incorporated**

50 Dillon Dr.  
 Wood Dale, IL 60191  
 224-374-0931  
[www.affri.com](http://www.affri.com)

**Agilent Technologies Inc.**

121 Hartwell Avenue  
 Lexington, MA 2421  
 800-882-7426  
[www.agilent.com/chem/vacuum](http://www.agilent.com/chem/vacuum)



**AEROSPACE TESTING & PYROMETRY**

*AEROSPACE TESTING & PYROMETRY, INC*  
 now offering

**AEROSPACE COMPLIANCE SOFTWARE**

*Innovated software solution for  
 complete calibration & test records  
 Visit [atp-cal.com](http://atp-cal.com) to learn more  
 about the ACS platform*



**AEROSPACE COMPLIANCE  
 SOFTWARE**



We don't just repair vacuum pumps

# WE REMANUFACTURE VACUUM PUMPS TO MEET/EXCEED OEM SPECIFICATION

Your pumping equipment is thoroughly analyzed and restored back to OEM specifications and tolerances. We then comprehensively test it to prove performance. Finally, if needed, we will provide recommendations for improvements.



**METALLURGICAL  
 HIGH VACUUM CORPORATION**



269-543-4291 • 269-543-4750 fax • [www.methivac.com](http://www.methivac.com)

# MARKETPLACE ///

## Agilent Technologies Vacuum Products

5301 Stevens Creek Blvd  
Santa Clara, CA 95051  
877-424-4536  
www.agilent.com

## Allied High Tech Products Incorporated

2376 East Pacifica Place  
Rancho Dominguez, CA 90220  
800-675-1118  
www.alliedhightech.com

## Buehler

41 Waukegan Road  
Lake Bluff, IL 60044  
847-295-6500  
www.buehler.com

## Cambridge Sensotec

29 Stephenson Road  
St. Ives, Cambridgeshire  
United Kingdom PE27 3WJ  
+44 (0)1480 462142  
www.cambridge-sensotec.co.uk

## CAS Dataloggers

8437 Mayfield Rd, Unit 104A  
Chesterland, OH 44026  
440-729-2570  
www.dataloggerinc.com

## Cashvac Certified Vacuum Pumps

1019 Rail Drive  
Woodstock, IL 60098  
800-397-1600  
www.cashvac.com

## Clemex Technologies Incorporated

800 Guimond  
Longueuil, Qu G 1T5  
888-651-6573  
www.clemex.com

## Cober Incorporated

30 Moffitt Street  
Stratford, CT 06615  
203-855-8755  
www.cober.com

## Columbia Steel Casting Company Inc.

10425 North Bloss Avenue  
Portland, OR 97203  
503-286-0685  
www.columbiasteel.com

## Control Instruments Corporation

25 Law Drive  
Fairfield, NJ 07004  
973-575-9114  
www.controlinstruments.com

## Kurt J Lesker Company

1925 Route 51  
Jefferson Hills, PA 15025  
800-245-1656  
www.lesker.com

## Metallurgic High Vacuum Corporation

6708 124th Avenue  
Fennville, MI 49408  
269-543-4291  
www.methivac.com

## Metallurgical Technologies Incorporated

160 Bevan Drive  
Mooresville, NC 28115  
704-663-5108  
www.met-tech.com



**SUN-TEC**  
HARDNESS TESTING SPECIALISTS

[sunteccorp.com](http://sunteccorp.com)



Divisions of STC

OVER 25 TIMES AROUND THE SUN  
**25**

## HARDNESS TESTING SOLUTIONS FOR ALL FACETS OF THE HEAT TREATING INDUSTRY

We provide a full line of affordable top quality "Rockwell," Brinell and Vickers/Knoop testers and accessories manufactured to meet the demands of the heat treating industry. Use the hardness testing equipment that heat treaters trust.

**For more information, call 248.669.3100 today!**



AUTOMOTIVE | AEROSPACE | DEFENSE | ENERGY GAS/OIL | MANUFACTURING | R&D/EDUCATION

**Metals Engineering – De Pere**

1883 Commerce Drive  
De Pere, WI 54115  
920-339-8590  
www.metalsengineering.net

**Pfeiffer Vacuum Incorporated**

24 Trafalgar Square  
Nashua, NH 03063  
800-248-8254  
www.pfeiffer-vacuum.com

**Selas Heat Technology Company LLC**

11012 Aurora Hudson Road  
Streetsboro, OH 44241  
800-883-9218  
www.selas.com

**Shimadzu Scientific Instruments**

7102 Riverwood Drive  
Columbia, MD 21046  
800-477-1227  
www.shimadzu.com

**Sun-Tec Corporation**

46590 Ryan Court  
Novi, MI 48377  
248-669-3100  
www.sunteccorp.com

**Super Systems Inc.**

7205 Edington Drive  
Cincinnati, OH 45249  
800-666-4330  
www.supersystems.com

**Teledyne Hastings Instruments**

804 Newcombe Avenue  
Hampton, VA 23669  
800-950-2468  
www.teledyne-hi.com

**Thermalogic Corporation**

22 Kane Industrial Drive  
Hudson, MA 01749  
800-343-4492  
www.thermalogic.com

**Tinius Olsen Testing**

1065 Easton Road  
Horsham, PA 19044  
215-675-7100  
www.tiniusolsen.com

**Ulvac Technologies**

401 Griffin Brook Drive  
Methuen, MA 01844  
978-686-7550  
www.ulvac.com

**Vacuum Research Corporation**

100 Chapel Harbor Drive, #4  
Pittsburgh, PA 15238  
800-426-9340  
www.vacuumresearch.com

**Verder Scientific Inc.**

11 Penns Trail  
Newtown, PA 18940  
866-473-8724  
www.verder-scientific.com

**Yokogawa Corporation of America**

12530 West Airport Blvd  
Sugar Land, TX 77478  
281-340-3800  
www.yokogawa.com/US

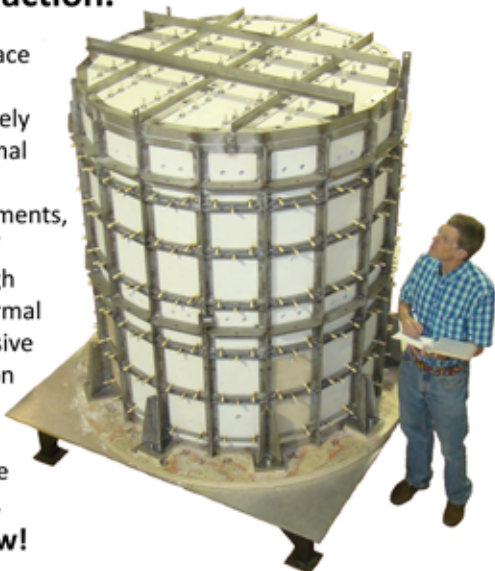


**1800°C In Air - 100% ZIRCAR Ceramics**

100% of the Engineering.  
100% of the Fabrication.  
100% of the Insulation.  
100% Satisfaction.



When OEM Furnace Builders and End Users have uniquely challenging thermal process furnace chamber requirements, ZIRCAR Ceramics' proven line of high temperature thermal insulation, extensive custom fabrication facilities and nearly 40 years experience can be the best solution.



Contact us now!

+1 845 651 6600 sales@zircarceramics.com  
www.zircarceramics.com

We don't just repair vacuum pumps

**WE PROVIDE ON-SITE OPTIMIZATION AND P.M.\* OF VACUUM SYSTEMS**

We can help you troubleshoot issues with your vacuum pumps, boosters, and systems. And we are ready to come to you. We thrive on partnering with you to learn your systems and improve efficiency.

\* Preventative maintenance



**METALLURGICAL**  
HIGH VACUUM CORPORATION



269-543-4291 • 269-543-4750 fax • www.methivac.com

## GENERAL

### **Aerospace Testing and Pyrometry**

4371 Saratoga Drive  
Bethlehem, PA 18020  
844-828-7225  
www.atp-cal.com

### **Air Products and Chemical Incorporated**

1940 Air Products Blvd  
Allentown, PA 18195  
800-654-4567  
www.airproducts.com

### **Conrad Kacsik Instrument Systems Inc.**

30925 Aurora Road  
Solon, OH 44139  
800-666-1165  
www.kacsik.com

### **Metallurgical High Vacuum Corporation**

6708 124th Avenue  
Fennville, MI 49408  
269-543-4291  
www.methivac.com

### **Super Systems Inc.**

7205 Edington Drive  
Cincinnati, OH 45249  
800-666-4330  
www.supersystems.com

## CERTIFICATION

### **Advanced Energy Industries Inc.**

1625 Sharp Point Drive  
Fort Collins, CO 80525  
800-446-9167  
www.advanced-energy.com

### **Aerospace Testing and Pyrometry**

4371 Saratoga Drive  
Bethlehem, PA 18020  
844-828-7225  
www.atp-cal.com

### **Arrow Tank & Engineering Company**

650 North Emerson  
Cambridge, MN 55008  
763-552-2218  
www.arrowsat.com

### **Can-Eng Furnaces International Limited**

P O Box 235  
Niagara Falls, NY 14302  
905-356-1327  
www.can-eng.com

### **Conax Technologies**

2300 Walden Avenue  
Buffalo, NY 14225  
800-223-2389  
www.conaxtechnologies.com

### **Inductoheat Incorporated**

32251 North Avis Drive  
Madison Heights, MI 48071  
800-624-6297  
www.inductoheat.com

### **Performance Review Institute**

161 Thorn Hill Road  
Warrendale, PA 15086-7527  
724-772-1616  
www.p-r-i.org

### **Rock Valley Oil & Chemical Co.**

1911 Windsor Road  
Rockford, IL 61111  
815-654-2400  
www.rockvalleyoil.com

### **Super Systems Inc.**

7205 Edington Drive  
Cincinnati, OH 45249  
(800)-666-4330  
www.supersystems.com

### **Taylor-Winfield Technologies Incorporated**

3200 Innovation Place  
Youngstown, OH 44509  
800-523-4899  
www.taylor-winfield.com

## CONSULTING

### **CeraMaterials**

525 Silver Lake Road  
Dingmans Ferry, PA 18328  
518-701-6722  
www.ceramaterials.com

### **Conrad Kacsik Instrument Systems Inc.**

30925 Aurora Road  
Solon, OH 44139  
800-666-1165  
www.kacsik.com

### **Dante Solutions**

7261 Engle Rd Suite 105  
Cleveland, OH 44130  
440-234-8477  
www.dante-solutions.com

### **Graphite Insulation**

525 Silver Lake Road, Suite B  
Dingmans Ferry, PA 18328  
518-701-6722  
www.graphiteinsulation.com

### **Olstrad Engineering**

600 Mogadore Road  
Kent, OH 44240  
330-678-4328  
www.olstrad.com

### **Premier Furnace Specialists Incorporated**

23850 Freeway Park Drive  
Farmington Hills, MI 48335  
248-596-9000  
www.premierfurnace.com

### **Thermal Fluid Systems Incorporated**

3046 Matlock Drive  
Kennesaw, GA 30144  
770-425-5556  
www.tfsheat.com

## INSTALLATION

### **Abbott Furnace Company**

1068 Trout Run Road  
St. Mary's, PA 15857  
814-781-6355  
www.abbottfurnace.com

### **Air & Energy Systems Incorporated**

P O Box 1218  
Matthews, NC 28106  
704-814-9221  
www.airandenergyinc.com

### **Ambrell Induction Heating Solutions**

1655 Lyell Avenue  
Rochester, NY 14606  
585-889-9000  
www.ambrell.com

### **Applied Test Systems**

154 East Brook Lane  
Butler, PA 16002  
724-283-1212  
www.atspa.com

### **Can-Eng Furnaces International Limited**

P O Box 235  
Niagara Falls, NY 14302  
905-356-1327  
www.can-eng.com

### **Case Tool Incorporated**

12589 Farmington Road  
Livonia, MI 48150  
734-261-2227  
www.casetoolinc.com



#### CEIA USA Ltd

6336 Hudson Crossing Parkway  
Hudson OH 44224  
330-405-3190  
www.ceia-usa.com

#### CeraMaterials

525 Silver Lake Road  
Dingmans Ferry, PA 18328  
518-701-6722  
www.ceramaterials.com

#### CHE Furnaces

1270 N. Red Gum Street  
Anaheim, CA 92806  
714-630-4491  
www.chefurnaces.com

#### Cyprium Induction

42770 Mound Road  
Sterling Heights, MI 48314  
586-884-4982  
www.cypriuminduction.com

#### DMP CryoSystems

2010 Bassett Avenue  
El Paso, TX 79901  
915-351-8500  
www.cryosystems.com

#### Dry Coolers Incorporated

575 South Glaspie Street  
Oxford, MI 48371  
800-525-8173  
www.drycoolers.com

#### Epcon Industrial Systems LP

P.O. Box 7060  
The Woodlands, TX 77387  
936-273-3300  
www.epconlp.com

#### Furnace Brokers Incorporated

40 Industrial Park Road  
Tolland, CT 06084  
860-875-3712  
www.furnacebrokers.com

#### Graphite Insulation

525 Silver Lake Road, Suite B  
Dingmans Ferry, PA 18328  
518-701-6722  
www.graphiteinsulation.com

#### HeatTek, Inc.

W1285 Industrial Drive  
Ixonia, WI 53036  
800-575-7077  
www.heattek.com

#### Hi-Temp Products Corp.

88 Taylor Street  
Danbury, CT 06810  
800-822-4335  
www.hi-tempproducts.com

#### Induction Tooling Incorporated

12510 York Delta Drive  
North Royalton, OH 44133  
440-237-0711  
www.inductiontooling.com

#### Inductoheat Incorporated

32251 North Avis Drive  
Madison Heights, MI 48071  
800-624-6297  
www.inductoheat.com






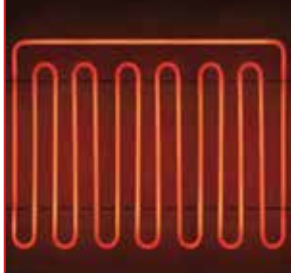
#### Inductotherm Corporation


10 Indel Avenue  
Rancocas, NJ 08073  
609-267-9000  
www.inductotherm.com

#### International Thermal Systems LLC

4697 West Greenfield Avenue  
Milwaukee, WI 53214  
414-672-7700  
www.internationalthermalsystems.com



 <p><b>BUNDLE ROD</b> Bundle Rod electrical elements give long life while at maximum power. Combined with radiant tubes, this is the complete package.</p>	 <p><b>G-BLOCK</b> Easy installation and replacement reduces cycle times and increases output. Three times the surface loading of NiCr.</p>
 <p><b>METALLIC ELEMENTS</b> Rapidly fabricated metallic elements of wire and strip. 50° C to 1350° C.</p>	 <p><b>FIBROTHAL</b> Panels, half-cylinders and cylinders. Easy installation and replacements. Up to 1100° C.</p>
 <p><b>CUSTOM DESIGN</b> Heating system design customized to industry specific requirements including glass, steel and heat treat.</p>	 <p><b>POWER BLOCK</b> Allows fast, easy element up to 1400° C. Designed to also protect mounting hardware.</p>

 **Hi-Temp Products Corp.** | Your Source for Heating Technology  
info@hi-tempproducts.com | www.hi-tempproducts.com  
Tel (203) 744-3025 | Toll Free (800) 822-4335 | Fax (203) 744-0322  
88 Taylor Street, Danbury, CT 06810

## SERVICES ///

### **JPW Industrial Ovens and Furnaces**

6080 State Route 14  
Trout Run, PA 17771  
570-995-5025  
www.jpwdesign.com

### **Lindberg/MPH**

3827 Riverside Road  
Riverside, MI 49084  
269-849-2700  
www.lindbergmph.com

### **Noble Industrial Furnace Company Inc.**

40 Woolam Road  
East Windsor, CT 06088  
860-623-9256  
www.noblefurnace.com

### **Omega Engineering Incorporated**

One Omega Drive  
Stamford, CT 06907  
203-359-1660  
www.omega.com

### **Power Parts International**

742 South Indiana Avenue  
West Bend, WI 53095  
262-335-2777  
www.powerpartsinc.com

### **Premier Furnace Specialists Incorporated**

23850 Freeway Park Drive  
Farmington Hills, MI 48335  
248-596-9000  
www.premierfurnace.com

### **Protection Controls Incorporated**

7317 North Lawndale Avenue  
Skokie, IL 60076  
847-674-7676  
www.protectioncontrolsinc.com

### **Radyne Corporation**

211 West Boden Street  
Milwaukee, WI 53207  
800-236-8360  
www.radyne.com

### **Retech Systems LLC**

168 Washington Ave Suite B  
Ukiah, CA 95482  
707-462-6522  
www.retechsystemsllc.com

### **Rock Valley Oil & Chemical Co.**

1911 Windsor Road  
Rockford, IL 61111  
815-654-2400  
www.rockvalleyoil.com



### **Surface Combustion Inc.**

1700 Indian Wood Circle  
Maumee, OH 43537  
800-537-8980  
www.surfacecombustion.com

### **Tech Induction Corporation**

13129 23 Mile Road  
Shelby Township, MI 48315  
(586) 469-8324  
www.techinduction.com

### **Ultraflex Power Technologies**

10 Colt Court  
Ronkonkoma, NY 11779  
631-467-6814  
www.ultraflexpower.com

### **Verder Scientific Inc.**

11 Penns Trail  
Newtown, PA 18940  
866-473-8724  
www.verder-scientific.com

## MAINTENANCE/REPAIR

### **Advanced Energy Industries Inc.**

1625 Sharp Point Drive  
Fort Collins, CO 80525  
800-446-9167  
www.advanced-energy.com

### **Aerospace Testing and Pyrometry**

4371 Saratoga Drive  
Bethlehem, PA 18020  
844-828-7225  
www.atp-cal.com

### **AFC-Holcroft**

49630 Pontiac Trail  
Wixom, MI 48393  
248-624-8191  
www.afc-holcroft.com

**Air & Energy Systems Incorporated**

P O Box 1218  
Matthews, NC 28106  
704-814-9221  
www.airandenergyinc.com

**Air Products and Chemical Incorporated**

1940 Air Products Boulevard  
Allentown, PA 18106-5500  
610-481-4911  
www.airproducts.com

**Alcon Industries Incorporated**

7990 Baker Avenue  
Cleveland, OH 44102  
216-961-1100  
www.alconalloys.com

**Arrow Tank & Engineering Company**

650 North Emerson  
Cambridge, MN 55008  
763-552-2218  
www.arrowtank.com

**Can-Eng Furnaces International Limited**

P O Box 235  
Niagara Falls, NY 14302  
905-356-1327  
www.can-eng.com

**Centorr Vacuum Industries**

55 Northeastern Blvd  
Nashua, NH 03062  
603-595-7233  
www.centorr.com

**CeraMaterials**

525 Silver Lake Road  
Dingmans Ferry, PA 18328  
518-701-6722  
www.ceramaterials.com

**CHE Furnaces**

1270 N. Red Gum Street  
Anaheim, CA 92806  
714-630-4491  
www.chefurnaces.com

**Conax Technologies**

2300 Walden Avenue  
Buffalo, NY 14225  
800-223-2389  
www.conaxtechnologies.com

**Conrad Kacsik Instrument Systems Inc.**

30925 Aurora Road  
Solon, OH 44139  
800-666-1165  
www.kacsik.com

**DMP CryoSystems**

2010 Bassett Avenue  
El Paso, TX 79901  
915-351-8500  
www.cryosystems.com

**Epcon Industrial Systems LP**

P.O. Box 7060  
The Woodlands, TX 77387  
936-273-3300  
www.epconlp.com

**Eurotherm by Schneider Electric**

44621 Guilford Drive, Suite 100  
Ashburn, VA 20147  
703-724-7300  
www.eurotherm.com

**Fluke Process Instruments**

6920 Seaway Blvd  
Everett, WA 98203  
800-227-8074  
www.flukeprocessinstruments.com

**Gefran Incorporated**

Via Sebina, 74  
25050 Provaglio D'Iseo (BS)  
39-0-309-8881  
www.gefran.com

**G M Enterprises**

525 Klug Circle  
Corona, CA 92880  
951-340-4646  
www.gmenterprises.com

**Graphite Insulation**

525 Silver Lake Road, Suite B  
Dingmans Ferry, PA 18328  
518-701-6722  
www.graphiteinsulation.com

**Hi-Temp Products Corp.**

88 Taylor Street  
Danbury, CT 06810  
800-822-4335  
www.hi-tempproducts.com

**Induction Tooling Incorporated**

12510 York Delta Drive  
North Royalton, OH 44133  
440-237-0711  
www.inductiontooling.com

**Inductoheat Incorporated**

32251 North Avis Drive  
Madison Heights, MI 48071  
800-624-6297  
www.inductoheat.com

**International Thermal Systems LLC**

4697 West Greenfield Avenue  
Milwaukee, WI 53214  
414-672-7700  
www.internationalthermalsystems.com

**Jackson Transformer Company**

6800 Benjamin Road  
Tampa, FL 33634  
813-879-5811  
www.jacksontransformer.com

**Jennison Manufacturing Corporation**

54 Arch Street  
Carnegie, PA 15106  
412-429-0500  
www.jennisonmfg.com

**Lindberg/MPH**

3827 Riverside Road  
Riverside, MI 49084  
269-849-2700  
www.lindbergmph.com

**Metallurgical High Vacuum Corporation**

6708 124th Avenue  
Fennville, MI 49408  
269-543-4291  
www.methivac.com

**Mokon**

2150 Elmwood Avenue  
Buffalo, NY 14207  
716-876-9951  
www.mokon.com

**National Element Incorporated**

7939 Lochlin Drive  
Brighton, MI 48116  
248-486-1810  
www.nationalelement.com

**Nanmac Corporation**

1657 Washington Street Building 3  
Holliston, MA 01746  
800-786-4669  
www.nanmac.com

**Noble Industrial Furnace Company Inc.**

40 Woolam Road  
East Windsor, CT 06088  
860-623-9256  
www.noblefurnace.com

**Power Parts International**

742 South Indiana Avenue  
West Bend, WI 53095  
262-335-2777  
www.powerpartsinc.com

## SERVICES ///

### **Premier Furnace Specialists Incorporated**

23850 Freeway Park Drive  
Farmington Hills, MI 48335  
248-596-9000  
www.premierfurnace.com

### **Procedyne Corporation**

11 Industrial Drive  
New Brunswick, NJ 08901  
732-249-8347  
www.procedyne.com

### **Qual-Fab Incorporated**

34250 Mills Road  
Avon, OH 44011  
440-327-5000  
www.qual-fab.net

### **Radyne Corporation**

211 West Boden Street  
Milwaukee, WI 53207  
800-236-8360  
www.radyne.com

### **Rock Valley Oil & Chemical Co.**

1911 Windsor Road  
Rockford, IL 61111  
815-654-2400  
www.rockvalleyoil.com

### **Super Systems Inc.**

7205 Edington Drive  
Cincinnati, OH 45249  
800-666-4330  
www.supersystems.com

### **Surface Combustion Inc.**

1700 Indian Wood Circle  
Maumee, OH 43537  
800-537-8980  
www.surfacecombustion.com

### **Taylor-Winfield Technologies Incorporated**

3200 Innovation Place  
Youngstown, OH 44509  
800-523-4899  
www.taylor-winfield.com

### **Tech Induction Corporation**

13129 23 Mile Road  
Shelby Township, MI 48315  
586-469-8324  
www.techinduction.com

## TESTING SERVICES

### **Advanced Energy Industries Inc.**

1625 Sharp Point Drive  
Fort Collins, CO 80525  
800-446-9167  
www.advanced-energy.com

### **Aerospace Testing and Pyrometry**

4371 Saratoga Drive  
Bethlehem, PA 18020  
844-828-7225  
www.atp-cal.com

### **Conrad Kacsik Instrument Systems Inc.**

30925 Aurora Road  
Solon, OH 44139  
800-666-1165  
www.kacsik.com

### **Cyprium Induction**

42770 Mound Road  
Sterling Heights, MI 48314  
(586) 884-4982  
www.cypriuminduction.com

### **Electroheat LLC**

4925 Krebs Drive  
Hartford, WI 53027  
800-925-8565  
www.electroheatllc.com

### **Epcon Industrial Systems LP**

P.O. Box 7060  
The Woodlands, TX 77387  
936-273-3300  
www.epconlp.com

### **Inductoheat Incorporated**

32251 North Avis Drive  
Madison Heights, MI 48071  
800-624-6297  
www.inductoheat.com

### **International Thermal Systems LLC**

4697 West Greenfield Avenue  
Milwaukee, WI 53214  
414-672-7700  
www.internationalthermalsystems.com

### **Interpower Induction**

3578 Van Dyke Avenue  
Almont, MI 48003  
810-798-9201  
www.interpowerinduction.com

### **Jesse Garant Metrology Center**

400 Renaissance Center, Suite 2600  
Detroit, MI 48207  
844-542-7268  
www.jgarantmcc.com

### **Metallurgical Technologies Incorporated**

160 Bevan Drive  
Mooresville, NC 28115  
704-663-5108  
www.met-tech.com

### **Nanmac Corporation**

1657 Washington Street Building 3  
Holliston, MA 01746  
800-786-4669  
www.nanmac.com

### **Pillar Induction**

6600 Burroughs Street  
Sterling Heights, MI 48314  
586-254-8470  
www.pillar.com

### **Premier Furnace Specialists Incorporated**

23850 Freeway Park Drive  
Farmington Hills, MI 48335  
248-596-9000  
www.premierfurnace.com

### **Quality Testing Incorporated**

1832 Wooddale Boulevard  
Baton Rouge, LA 70806  
888-611-3076  
www.qualitytestinginc.com

### **Radyne Corporation**

211 West Boden Street  
Milwaukee, WI 53207  
800-236-8360  
www.radyne.com

### **Surface Combustion Inc.**

1700 Indian Wood Circle  
Maumee, OH 43537  
800-537-8980  
www.surfacecombustion.com

### **Taylor-Winfield Technologies Incorporated**

3200 Innovation Place  
Youngstown, OH 44509  
800-523-4899  
www.taylor-winfield.com

### **Thermcraft Inc.**

3950 Overdale Road  
Winston Salem, NC 27107  
336-784-4800  
www.thermcraftinc.com

### **WS Thermal Process Technologies Inc.**

8301 West Erie Avenue  
Lorain, OH 44053  
440-385-6829  
www.flox.com

# SCR POWER CONTROLS

- 10-1200 Amps, 12-600 Volts.
- 5-Year Warranty
- 100% Amp Rating @ 50°C.
- Touch Safe Isolated Heat Sinks and SCRs
- Custom Engineered Power & Temperature Control Systems
- Fastest turnaround times: No Expediting Charges.
- Cost Effective, Competitive Pricing.
- Designed, built, assembled & tested in the USA



At Avatar Instruments, SCR power controls and systems are our main business. Not some accessory or acquisition. We understand the tough demands of industrial environments, power lines and processes. Our products are built to last decades of service.

Avatar Instruments has over 50 years of experience building with SCRs.



Contact us today to put our experience to your advantage.  
**302-703-6865** [scrpower.com](http://scrpower.com)

 **AVATAR**  
INSTRUMENTS

## MARKETPLACE ///

Manufacturing excellence through quality, integration, materials, maintenance, education, and speed.

Contact **Thermal Processing** at 800-366-2185 to feature your business in the Marketplace.



## High Vacuum Valves Electric Motor Actuators



All VRC Motor Actuators Provide Open/Close, Throttle, and Soft Start Using Your Existing PLC with 0 to 10 VDC or 4-20 mA Output.



If you want to optimize flow rates, minimize pressure drop, and reduce energy costs of your system, then this is the most vital piece of news you will read today.

Vacuum Gate Valves with Electric Motor Actuators from Vacuum Research, avoid premature repairs, increase system reliability, and eliminate performance gaps.

All our valves are (RoHS) 2015/863/EU compliant. To increase your system's efficiency today, call 800-426-9340 for a quote or email [VRC@vacuumresearch.com](mailto:VRC@vacuumresearch.com).



**Vacuum Research Corp.** • 100 Chapel Harbor Drive, #4  
Pittsburgh, PA 15238 USA • [www.vacuumresearch.com](http://www.vacuumresearch.com)  
800-426-9340 • email: [VRC@vacuumresearch.com](mailto:VRC@vacuumresearch.com)

©2021 Vacuum Research Corp.

# REACH MORE CUSTOMERS

Advertise with us in print and online, and you can reach over 16,000 readers – many who are key decision makers at their companies.

To learn more, contact vice president of sales Dave Gomez at [dave@thermalprocessing.com](mailto:dave@thermalprocessing.com) or call 800.366.2185 ext. 207

**Thermal**  
PROCESSING



# L&L Special Furnace

Precision Pyrolysis & Debinding Furnaces for Ceramic Matrix Composites & Additive Manufacturing

If you have high-value loads to process, look no further than L&L Special Furnace. Our furnaces are the most reliable on the market – at any price! Each one is Special!

- Precision
- Uniformity
- Value

XLC2448 set up for Pyrolysis with Multizone Heating Banks, Inert Atmosphere, and Rapid Cooling



20 Kent Road Aston, PA 19014  
Phone: 877.846.7628  
www.lfurnace.com

**L&L CAN MEET THE LATEST REVISION OF AMS2750 FOR AEROSPACE APPLICATIONS**

# Arrow

TANK AND ENGINEERING CO.



Arrow Tank and Engineering is a fabricator of pressure vessels – ASME, custom machinery and weldments.

We have two direct fired natural gas furnaces capable of stress relieving and lower temperature processes such as aging and annealing.

- Phone: 763-689-3360 • Fax: 763-689-1263
- E-mail: [jimg@arrowtank.com](mailto:jimg@arrowtank.com)

# NOBLE

## INDUSTRIAL FURNACE

### Celebrating 50 Years

'made to order' thermal processing furnaces for industrial and aerospace applications

1973

1980's

1990's



2000's

2010's

2023



[noblefurnace.com](http://noblefurnace.com) • [info@noblefurnace.com](mailto:info@noblefurnace.com) • 860-623-9256



The Voice of Manufacturing every Tuesday  
[www.mfgtalkradio.com](http://www.mfgtalkradio.com)



with Lewis Weiss and Tim Grady

## MAXIMIZE YOUR EXPOSURE

JOIN THE THERMAL PROCESSING COMMUNITY FOR ONLY \$350 PER YEAR



Connect your company to the heat treating industry with a storefront in the Thermal Processing Community.

Storefronts paint a portrait of your company with a 500-word description and include your logo, website link, phone number, email addresses, and videos.

For information on how you can participate in the ThermalProcessing.com community storefront, contact [dave@thermalprocessing.com](mailto:dave@thermalprocessing.com).

Dave Gomez  
vice president of sales  
800.366.2185 ext. 207



***YOU'VE GOT THE PRODUCTS.  
YOU'VE GOT THE SERVICES.  
NOW, LET US SHARE YOUR STORY.***

Thermal Processing wants to make sure the best possible audience knows your company. Through our print, online, and social media presence, our experienced staff can get your message to an industry that wants to know what you can do.

**Thermal**   
processing

To learn more, contact vice president of sales  
Dave Gomez at [dave@thermalprocessing.com](mailto:dave@thermalprocessing.com)  
or call 800.366.2185 ext. 207



# ADVERTISER INDEX ///

COMPANY NAME	PAGE NO.
Aerospace Testing & Pyrometry .....	55
AFC Holcroft .....	IFC
Ajax-Tocco Magnethermic .....	19
ALD Vacuum Thermal Technologies.....	15
All Metals & Forge Group .....	1, 61
Applied Test Systems .....	35, 37
Arrow Tank and Engineering Co.....	61
Avatar Instruments.....	59
BASF Catalysts Metals .....	25
Can-Eng .....	27
Conrad Kacsik Instrument Systems Inc .....	45
Dalton Electric Heating Co Inc .....	31
DMP CryoSystems.....	IBC
Duffy Company .....	60
Edward Orton Jr. Ceramic Company .....	37
GES-AEM .....	43
Heat Treat Equipment.....	41
Hi-Temp Products.....	55
HyVac Technologies .....	19
I Squared R Element Co. ....	43
Jackson Transformer.....	47
JUMO Process Control Incorporated .....	35
L&L Special Furnace Co. Inc. ....	61
Lindberh/MPH .....	17
Linde .....	25
Metallurgical High Vacuum Corporation .....	49, 51, 53
Noble Industrial Furnace.....	61
Northrop Grumman.....	49
Optris Infrared Sensors .....	33
RoMan Manufacturing.....	26
Solar Atmospheres.....	39
Solar Manufacturing .....	BC
Sun-Tech .....	52
Thermcraft.....	21
Thermocouple Technology.....	3
Vacuum Research Corp .....	60
Wirco.....	5
Wisconsin Oven.....	29
WS Thermal Process .....	23
Zircar Ceramics .....	53
Zircar Refractory Composites.....	15

## SUBSCRIBE TO YOUR INDUSTRY NEWS SOURCE FOR FREE

Thermal Processing magazine is a trusted source for the heat treating industry, offering both technical and educational information for gear manufacturers since 2012.

Each issue, Thermal Processing offers its readers the latest, most valuable content available from companies, large and small, as well as critical thoughts on what this information means for the future of the heat treating industry.

Best of all, it's **FREE** to you. All you need to do is subscribe.



**SUBSCRIBE  
FOR FREE**

Scan the QR code or go to  
[www.thermalprocessing.com](http://www.thermalprocessing.com)

**Thermal**  
processing

## Q&A /// INTERVIEW WITH AN INDUSTRY INSIDER



ERIC KEMPERMAN /// RESEARCH & QUALITY MANAGER ///  
ETCHFORM BV, PART OF THE MICROMETAL ETCHING GROUP

***“PCE offers several key beneficial characteristics that make it an attractive manufacturing method.”***

### **How can Etchform say it is the market leader in titanium etching?**

Our process is one that we developed ourselves from the ground up. This makes it different from other processes you will find elsewhere, which often copy and try to evolve existing processes. Also, we started with this large-scale development in the 1990s, which means we have over 30 years' concentrated focus on titanium etching. It was in the 1990s that we built our own pilot skill etching machine, and based on the results of that, we developed our production scale machine for series production. No other supplier can boast that amount of concentration on the etching of titanium.

### **In terms of the actual etching process itself, what is it that differentiates what Etchform does from alternative suppliers when it comes to processing titanium?**

It's mainly the etchant chemistry. I would say that 95 to 100 percent of PCE processes for titanium in the world are based on the use of hydrofluoric acid, which is a very hazardous substance. We and a number of our customers didn't want this chemical in our factory. This was the spur to us looking for other effective etchant chemistries.

### **Which sectors do you see as having significant demand for etched titanium parts, and why?**

There is the medical industry, a major driver here beyond the lightweight and strong nature of material being the fact that it is biocompatible. This makes it an ideal material for implants and pacemaker parts. In this latter application area, the titanium is used inside a closed box, so biocompatibility is less of an issue, but titanium also demonstrates a superior electronic capacity, which drives its use in this instance.

### **Obviously, the strength-to-weight ratio of titanium is important in industries such as aerospace. Do you cater for this sector as well?**

We do aerospace work, some with metals other than titanium, but where titanium is required, it is primarily because of the impressive strength-to-weight ratio. I would highlight two main aerospace applications that we cater for: One is the production of solar cell connectors, which are very, very, thin foils. Here, weight is not that big an issue, so we use metals other than titanium, but because the foils are so thin, PCE is pretty much the only process that can achieve the tolerances required. Another is the production of parts and components for rocket combustion, and here the use of titanium is required due to its inherent characteristics.

### **Quality is obviously key for all applications. What sort of processes do you have at Etchform in terms of metrology and quality control that ensures zero failure rates?**

We have a large and highly experienced inspection department.

Depending on the application, we do 100 percent inspection. For instance, the electronic parts for pacemakers require 100 percent visual and dimensional inspection. The controls are very strict. Of course, we make sure that our inspection equipment is certified and calibrated frequently. We are also interested in analyzing yields. If we detect yield variation, we instruct an expert team to investigate the process to find the root cause. This is highly sophisticated work, and requires immense expertise, and an innate and complete understanding of the etching process. We have that at Etchform, and success for us is in early detection and correction of issues, which obviously affects the cost and critically the time to produce the parts required at the quality required for end-use applications.

### **What are the main things that you would highlight as being most important when designing for PCE?**

PCE offers several key beneficial characteristics that make it an attractive manufacturing method. Firstly, it enables high-precision and intricate designs, allowing for the production of complex parts with tight tolerances. Secondly, the process is cost-effective, as it eliminates the need for expensive tooling, reducing upfront costs. Thirdly, it is a highly efficient technique that allows for rapid production and quick turnaround times. Furthermore, the method is well-suited for a wide range of materials, including metals and alloys, providing versatility in material selection. Lastly, photochemical etching is a low-stress process that preserves the material's integrity, resulting in burr-free and distortion-free components, making it ideal for applications where mechanical integrity is crucial.

When designing a part to be made using PCE, designers should be mindful of several key factors. First and foremost, they must consider part complexity, tolerance requirements, and surface finishes, all of which should be carefully addressed to optimize the overall manufacturability and functionality of the part through PCE.

### **I presume that tolerance attainment varies between the thicknesses of the material and the different types of titanium, but in general terms, what sort of tolerances are you able to repeatably attain with your PCE process?**

We advertise  $\pm 20$  percent of the material thickness for titanium, which is double the tolerances on less-difficult-to-process metals but still better than alternative suppliers. In practice, we achieve significantly better tolerances than that. This is due to the fact we have decades of experience, and we are using an in-house designed process, which means we have a complete understanding unique to Etchform. ♣

//////  
**MORE INFO** [www.micrometal.de](http://www.micrometal.de)

CRYOFURNACE | CRYOTEMPER | CRYOFREEZER

# MULTIPLE TEMPERS. ONE CYCLE.



**DMP**  
CryoSystems®

**INQUIRE TODAY!**

1 (800) 851-7302

[www.cryosystems.com](http://www.cryosystems.com)

# VACUUM HEAT TREATING FURNACES



Mentor®



Mentor® Pro



Internal and external quench



NEO™ oil quench



Vertical bottom loading



High capacity, car bottom loading

## SOLUTIONS THROUGH INGENUITY

Solar Manufacturing designs and manufactures high performance, technically advanced and energy efficient vacuum heat treat furnaces. Models range from compact R&D size furnaces to mid-size horizontal production furnaces to huge car-bottom vacuum furnaces for large heavy workloads. No matter what the application or size of workload, Solar Manufacturing has the versatile, feature-rich vacuum furnace solution to fit your needs. We back it all up with outstanding Aftermarket support: spare parts, service and replacement hot zones.



267.384.5040  
sales@solarmfg.com

solarmfg.com

Give us a call to learn  
more about our vacuum  
furnace ingenuity.

