

# Industrial Heating

THE INTERNATIONAL JOURNAL OF THERMAL TECHNOLOGY

## 2009 BUYERS GUIDE PRODUCT LISTING BOOKLET

Please Note: New product selections for the 2008 edition appear in boldface italic type

### A. FURNACES, OVENS AND KILNS

00040 Aging  
**Aluminum Brazing:**  
00080 Atmosphere  
00100 Salt Bath  
00120 Vacuum  
00140 Aluminum Homogenizer  
00160 Aluminum Solution Heat Treating  
00180 Annealing  
00200 Atmosphere Furnaces  
00220 Austempering  
00240 Batch  
00260 Bell  
00280 Belt  
00300 Bench  
00320 Billet  
00340 Blast  
00360 Blueing  
00380 Boilers  
00400 Bonding, Structural  
00420 Box  
00440 Brazing  
00460 Burn-Off  
00480 Cabinet  
00500 Car Bottom  
**Carburizing:**  
00540 Atmosphere  
00560 Atmosphere Plasma  
00580 Ion  
00600 Nitro-Carburizing  
00620 Vacuum  
00640 **Continuous:**  
00660 Caster  
00680 Microwave  
00700 Conveyor  
00720 CVD  
00740 Dielectric  
00760 Drop Bottom  
00780 Drum - Rotating  
00800 Dryers  
00820 Electric Arc  
00840 Electric Resistance  
00860 Electron Beam  
00880 Flexible Heat Treating Cells  
00900 Fluidized Bed  
00920 Fluoride Ion Cleaning  
00940 Forging  
00960 Galvanizing  
00980 Gantry  
**Gas:**  
01020 Fired  
01040 Nitriding  
01060 Quench  
01080 Quench, High Pressure  
01100 Glass Melting (Lehrs)  
01120 Gradient  
01140 Harden, Quench & Draw/Temper  
**Hearth:**  
01180 Elevator Hearth  
01200 Open Hearth  
01220 Reciprocating Hearth  
01240 Roller Hearth  
01260 Rotary Hearth  
01280 Shaker Hearth  
01300 Walking Hearth  
01320 Heat Treat  
**Heaters:**  
*01325 Electric, Infrared*  
*01350 Gas, Infrared*

*01335 Imaging Systems, Infrared*  
01340 High Speed Steel  
01360 Holding  
01380 Immersion Heater  
01400 In-Line Heating Stations  
01420 **Incinerators:**  
01440 Rotary  
**Induction:**  
01480 Annealing  
01500 Coils  
01520 Heating  
01560 Melting  
01580 Scanners  
01600 Skull Melting  
01620 Transformers  
01640 Vacuum  
01720 Integral Quench  
01740 Ion Nitriding  
01760 Ion Vapor Aluminum Deposition  
**Kiln:**  
01800 Electric  
01820 Gas Fired  
*01840 Microwave*  
01860 Roller Hearth  
01880 Shuttle  
01900 Tunnel  
01920 Laboratory  
01940 Laser  
01960 Lead Bath  
01980 Magnetic Field Heating  
02000 Martempering  
02020 Melting  
02040 Mesh Belt  
02060 Microwave + Accessories  
02080 Muffle  
02100 Neutral Hardening  
02120 Oil-Fired  
**02140 Ovens**  
**Oxidizers:**  
02180 Fume  
02200 Thermal  
02220 Panel  
02240 Pit  
02260 Plasma  
02280 Pot  
02300 Powder Atomization  
02320 Preheating  
02340 Pusher  
02360 PVD Coating Equipment  
02380 Radiant Tube  
02400 Recuperative  
02420 Reheating  
02440 Remelting  
02460 Resistance  
02480 Retort  
02500 Reverberatory  
02520 Rotary Retort  
02540 **Salt Bath:**  
02560 Austenitizing  
02580 Blueing  
02600 Carbide Brazing Conditioning  
02620 Curing  
02640 Glass Strengthening  
02660 Nitriding  
02680 Patenting  
02700 Precipitation Hardening  
02720 Shape Setting Ni-Ti Memory Wire  
02740 Silver Annealing  
02760 Temper/Draw

02780 Tool & Die  
02800 Waste Treatment Systems  
02820 Slab  
02840 Slot Forge  
02860 Soaking Pit  
02880 Solution Annealing  
02900 Spheroidizing  
02920 Strip  
02940 Temper/Draw  
02960 Temper Furnace (Draw)  
02980 Tip-Up  
03000 Tool Room  
03020 Tube  
**Vacuum:**  
03060 Brazing  
03080 Degassing  
03100 **Furnace:**  
03120 Carburizing  
03140 Convection Assisted Heating  
03160 Hardening  
03180 High Pressure Gas Quench (3+ Bar)  
03200 Hot Zone (refer to Components, Supplies & Materials: Hot Zones, Vacuum Furnaces)  
03220 Low Pressure Gas Quench (0 to 2 Bar)  
03240 Semi-Continuous  
03260 Sintering  
03280 Tempering  
03300 Tool Room  
03320 Melting/Casting  
03340 Walking Beam  
03360 Wrap-Around Heaters

### B. FURNACE ATMOSPHERES AND GASES

03400 Acetylene  
03420 Ammonia  
03440 Ammonia Dissociators  
03460 Argon  
03480 Carbon Dioxide  
03500 Carburizing Gases  
03520 Helium  
03540 Hydrogen  
03560 Inert Gases  
03580 Methane  
**Nitrogen:**  
03620 Liquid  
03640 Membrane  
03660 PSA Generators  
03680 Oxidizing Gases  
03700 **Oxygen:**  
03720 PSA Generators  
03740 Propane  
03760 Reducing Gases  
03780 Steam

### C. COMPONENTS, SUPPLIES AND MATERIALS

03820 Absorbents  
03840 Alarms  
03860 **Alloys:**  
03880 Castings  
03900 Fabricators  
03920 Heat Resistant  
03940 Low Melting  
03960 Baffles  
03980 Baskets

04000 Bearings  
**Belts:**  
04040 High Temperature  
04060 Wire Mesh  
04080 Woven Wire  
04100 Billet Feeders  
04120 Blowers  
**Brazing Suppliers:**  
04160 Alloys  
04180 Nickel Alloy Preforms  
04200 Paste  
04220 Paste, Fluxes  
04240 Powder  
**Burners:**  
04280 Burner Nozzles  
04300 Atomizing  
04320 Dual-Fuel  
04340 High-Velocity  
04360 Low NOX  
04380 Low-Velocity  
04400 Luminous Flame  
04420 Oxy-Fuel  
04440 Pre-Mix  
04460 Radiant Cup  
04480 Radiant Tube  
04500 Recuperative  
04520 Regenerative  
04540 Ribbon  
04560 Temperature Flame  
04580 Catalyst, Endothermic/Exothermic  
04600 Centrifuge  
04620 Ceramic Film  
04640 Ceramic Parts/Supplies  
04660 Chains  
04680 Chillers  
04700 Chilling Chambers  
04720 Cladding  
**Cleaning Equipment:**  
04760 Aqueous  
04780 Blast  
04800 Ultrasonic  
**Coatings:**  
04840 Ceramic  
04860 CVD  
04880 Diamond  
04900 Dip  
04920 High Temperature  
**04930 Nano**  
04940 PVD  
04960 Scale Retardant  
04980 Composites  
**Compounds:**  
05020 Caustic  
05040 Corrosion-Preventive  
05060 Degreasing  
05080 Descaling  
05100 Rust-Removing  
05120 Stop-Off  
05140 Computers/Computer Software  
05160 Conveyors  
05180 Cooling Systems, Closed Loop  
05200 Cooling Towers  
05220 Cranes  
05240 Crucibles  
05260 Cryogenics  
**Curtains:**  
05300 Metallic  
05320 Refractory  
05340 Dampers  
05360 Dies  
05380 Doors, Water-Cooled  
05400 Ducting, Flexible High Temperature  
05420 Electrodes  
05440 Electron Guns  
**Elements:**  
05480 Electric

05500 Graphite  
05520 Molybdenum  
05540 Molybdenum Disilicide  
05560 Ribbon  
05580 Silicon Carbide  
05600 Tungsten  
05620 Fans  
05640 Fasteners  
05660 Fiber Optics  
**Filters:**  
05700 Air  
05720 Gas  
05740 High Temperature Glass  
05760 Metal  
05780 Oil  
05800 Fittings, Molybdenum  
05820 Fixtures  
05840 Fixtures, Carbon/Carbon  
05860 Flooring, High Temperature  
05880 Foil Wrap  
05900 Freezers  
05920 Flux Field Concentrators  
05940 Furnace Loaders  
05960 **Gas Generators:**  
05980 Endothermic Generators  
06000 Exothermic Generators  
06020 Hydrogen Generators  
06040 Plasma  
**06050 Gas Recovery**  
06060 Gaskets  
06080 Gaskets, High Temperature  
06100 Graphite  
06120 Grids  
06140 Grinders  
06160 Hearth Plates  
06180 Heat Exchangers  
06200 Heat Transfer Fluids  
06220 Hoists  
06240 Hoods  
06260 Hot Zones, Vacuum Furnaces  
06280 Impellers  
06300 Joints, Expansion  
06320 Kiln Furniture  
06340 Ladles  
06360 Liners, Wire Mesh  
06380 Lubricants  
06400 Marking Systems  
06420 Material Handling Equipment  
06440 Membranes  
06460 Molds  
06480 Molybdenum Products  
06500 Motors  
06520 Muffles  
06540 Oil Filtration/Purification  
06560 Oil Skimmers  
06580 Oil/Water Separator  
06600 Parts Feeders  
06620 Parts Loaders  
06640 Parts Sorters  
06660 Piers  
06680 Pollution Control Equipment  
06700 Pots  
06720 **Powder Metals:**  
06740 HIP Furnaces  
06760 Hot Isostatic Press  
06780 Injection Molding  
06800 **Metal Injection Molding (MIM):**  
06820 Debinding  
**06840 Debinding Microwave**  
06860 Sintering  
**06880 Sintering Microwave**  
06900 Equipment  
06920 Sintering (P/M)  
06940 Powders, Brazing  
06960 Power Supplies, RF  
**Presses:**

07000 Compacting  
07020 Extrusion  
07040 Isostatic  
07060 Straightening  
07080 Pressure Vessels  
07100 Protective Clothing  
**Pumps:**  
07140 Cryogenic  
07160 Oil  
07180 Vacuum  
07200 Vacuum Fluids  
**Quench:**  
07240 Agitators  
07260 Fans  
07280 Nozzles, Gas  
07300 Oil Coolers  
07320 Oil Heaters  
07340 Presses  
07360 Tanks  
07380 Quenchant Cooling Systems  
**Quenchants:**  
07420 Air  
07440 Gas  
07460 Oil  
07480 Polymer  
07500 Salt  
07520 Water  
07540 Racks  
07560 Radiant Tubes  
07580 Radiant Tubes, Ceramic  
07600 Rails  
07620 Rails, Overhead  
07640 Reactors  
07660 Reactors, Variable  
07680 Recuperators  
07700 Regenerators  
07720 Rollers, Silicon Carbide  
**Salt:**  
07760 Heat Treating  
07780 Pots  
07800 Pumps  
07820 Reclamation Systems  
07840 Screens, Wire Mesh  
07860 Shields, Molybdenum  
07880 Sight Glass  
07900 Solder  
07920 Solvent Drying Systems  
07940 Spark Igniters  
**Steels:**  
07980 Alloy  
08000 Carbon  
08020 Specialty  
08040 Stainless  
08060 Stainless, Fibers  
08080 Tank Fabrications  
08100 Tantalum Products  
08120 Tongs  
08140 Tool Wrap  
08160 Transformers  
08180 Trays  
**Tubes:**  
08220 Electron  
08240 Oscillator  
08260 Power  
08280 Tungsten Products  
08300 Vent Systems  
08320 Ventilation Equipment  
08340 Vibratory Trays  
08360 View Ports  
08380 Washers, Parts, Water Based  
08400 Waste Water Reclamation  
08420 Water Treatment Chemicals  
08440 Weldments  
08460 Wheel Assemblies, Powered  
08480 Wire, High Temperature  
08500 Wire Cloth

## D. REFRACTORIES AND INSULATION

### Insulation:

08560 Ceramic Fiber  
08580 Felt, Graphite  
08600 Fiberglass  
08620 Fire Retardant  
08640 Fireproof  
08660 Furnace  
08680 High Temperature  
08700 Mica  
08720 Microporous Silica  
08740 Mineral Fiber Block  
08760 Structural  
08780 Magnesite  
08800 Mica, Slip-Plane  
08820 Mortar  
08840 Mullite  
08860 Patching Material

### Refractories:

08900 Alumina  
08920 Binders  
**08930 Bonded**  
08940 Boron Nitride  
08960 Brick  
08980 Castables  
09000 Cement  
09020 Ceramic Fiber  
09040 Coatings, Glazing and Energy Savings  
09060 Cordierite  
09080 Dolomite  
09100 Fiber Block  
09120 Firebrick  
09140 Fireclay  
09160 Foam, Ceramic/Graphite/Carbon  
09180 Fused Alumina  
09200 Fused Cast  
09220 Fused Silica  
09240 Graphite/Carbon  
09260 Gunning Material  
09280 Ladle  
09300 Monolithic  
09320 Plastic  
09340 Pre-Cast Shapes  
09360 Quartz Wool  
09380 Ramming Mixes  
09400 Refractory Adhesives, High Temperature  
09420 Refractory Anchors  
09440 Refractory Guns & Pumps  
09460 Refractory Mixers  
09480 Refractory Systems, Suspended  
09500 Shotcrete  
09520 Silica  
09540 Silicon Carbide  
09560 Specialty  
09580 Steel Fibers  
09600 Windows, High Temperature  
09620 Silica Brick  
09640 Silicon Nitride  
09660 Textiles, High Temperature  
09680 Tundishes  
09700 Yttria  
09720 Zirconia

## E. CONTROLS, INSTRUMENTATION AND TEST EQUIPMENT

09760 Actuators  
09780 Air-Gas Proportional Mixer

### Analyzers:

09820 Ammonia  
09840 Chemical  
09860 Flue Gas  
09880 Gas  
09900 Hydrogen

09920 Infrared  
09940 NOX  
09960 Oxygen  
09980 Particle Size  
10000 Power  
10020 Quench Rate  
10040 Sulphur Dioxide  
10060 Bond Testers

### Calibration:

10100 Instruments  
10120 Management Software

### Capacitors:

10160 Ceramic  
10180 Oil-Filled  
10200 Vacuum

### Controllers:

10240 Carbon Potential  
10260 Multi-Loop  
10280 Power  
10300 Programmable  
10320 Proportional  
10340 Single Loop

### Controls:

10380 Adapters, Retrofit  
10400 Atmosphere  
10420 Combustion  
10440 Computerized  
10460 Flame Safeguard  
10480 Fuel/Air Mix  
10500 Gas Nitriding  
10520 Motor  
10540 Pressure  
10560 Remote Data Acquisition  
10580 Solid State  
10600 Temperature  
10620 Crack Detection, Automatic  
10640 Creep Testing Devices  
10660 Dew Point Instruments  
10680 Dew Point/Moisture Transmitters  
10700 Digital Indicators  
10720 Dilatometers, Quench  
10740 Eddy Current  
10760 Extensometers  
10780 Fatigue Testing Devices  
10800 Flame Detectors  
10820 Flame Safeguard  
10840 Flow Meters  
10860 Flow Meters, Electronic Read Out  
10880 Fuel Meters  
10900 Galvanometers  
10920 Gas Metering Panels

### Gauges:

10960 Air Velocity  
10980 Thickness  
11000 Vacuum

### Hardness Testers:

11040 Accessories  
11060 Automatic  
11080 Brinell  
11100 Micro  
11120 Portable  
11140 Rockwell  
11160 Hygrometers  
11180 Leak Detectors  
11200 Metallographic Supplies  
11220 Metallographs  
11240 Meters, Gas Flow  
11260 Microprocessors  
11280 **Microscopes:**  
11300 Accessories  
11320 Mixers - Air-Fuel  
11340 Nondestructive Testing Instruments  
**PID Tuning Software:**  
11380 Off-Line  
11400 On-Line  
11420 Positioners

11440 Potentiometers  
11460 Pressure Transducers  
11480 Probes  
11500 Process Monitors  
11520 Programmers  
11540 Pyrometers  
11560 Quench Testing Devices  
11580 **Recorders:**  
11600 Computerized  
11620 Video  
11640 Recorder Supplies

### Regulators:

11680 Air  
11700 Gas  
11720 Oil  
11740 Resistors  
11760 Semiconductors  
11780 **Sensors:**  
11800 Analytical  
11820 Carbon  
11840 Oxygen  
11860 Temperature

### Software:

11900 Simulation  
11920 Complete Systems  
11940 Switches  
11960 Tensile Testing Devices  
**Thermal:**  
12000 Conductivity Devices  
12020 Expansion Devices  
12040 Imagers  
12060 Thermocouple Wire  
12080 Thermocouples  
12100 Thermometers  
12120 Thermometers, Infrared  
12140 Thermostats  
12160 Thyristors  
12180 Transmitters  
12200 Tubes, Protection  
12220 Ultrasonic Testing Instruments

### Valves:

12260 Butterfly  
12280 Flow Control  
12300 Hi-Temp  
12320 Plug  
12340 Shut-Off  
12360 Slide Gate  
12380 Solenoid Control  
12400 Vacuum  
12420 Weighing Systems

## F. PARTS WASHING EQUIPMENT/SUPPLIES

12460 Alkaline Cleaners  
12480 Dunk Washers  
12500 Emulsion Cleaners  
12520 Neutral Cleaners  
12540 Semiaqueous Cleaners  
12560 Spray and Dunk Washers  
12580 Spray Washers  
12600 Vapor Degreasers

## G. SERVICES

**12640 Energy Audit**  
**12660 Energy Conservation**  
**12670 Energy Recovery**  
**12680 Heat Recovery**  
**12700 Solvent Recovery**