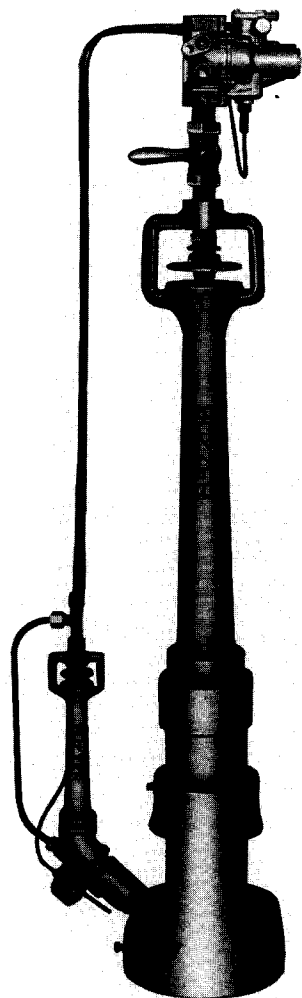


A complete line of "Buzzer" immersion heater burners, which are designed to *heat liquids by firing into a tube submerged in the liquid*, is available from **Charles A. Hones, Inc.**, North Amityville, New York. Unlike underfiring burners, this type encloses most of the flame inside the tube, increasing efficiency in that only the spent products of combustion from the flue escape. The immersion burners are ideal for degreasing metal parts, cleaning articles for plating, and for refinishing processes prior to spraying. They are also recommended for heating oils, asphalt, and other materials. In addition, they are highly suitable for chemical baths and the manufacture of chemicals and varnishes, as well as food processing



Charles A. Hones, Inc.

applications, such as candymaking, deep fat frying, outdoor cooking, etc. Circle (63)

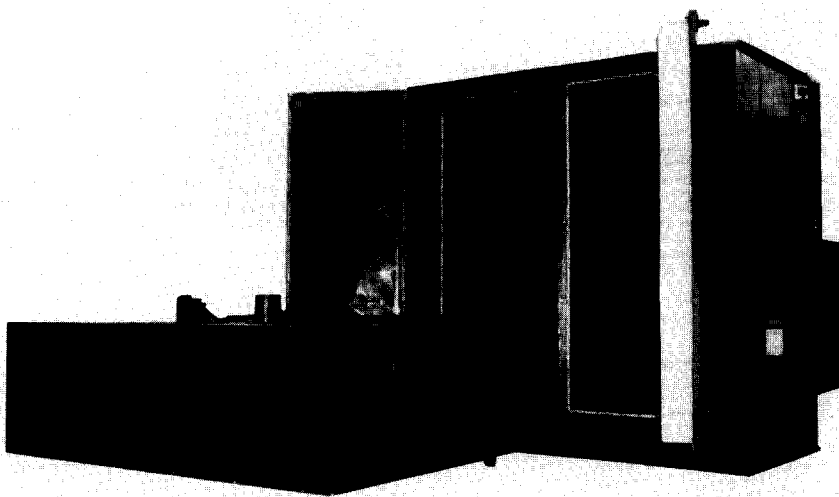
Kelsey-Hayes, Romulus, Michigan, is using an *infrared furnace to reduce costs and improve the quality of heat treating* its cast aluminum wheels. The furnace uses 30 tungsten-filament quartz lamps for a temperature of 950 ± 10 °F. Although no significant energy savings was realized, a faster heat-up time and a more uniform temperature distribution was accomplished. Circle (64)

A high-temperature electric furnace has been developed by **Carbolite**, Watertown, Wisconsin, for *research into high-alumina refractory materials*. The equipment enables samples to be tested up to 1800 °C in accordance with ASTM and other procedures. Fast heating and cooling cycles simulate actual production operating conditions. The use of low thermal mass insulation enables the furnace to reach maximum temperature in approximately 2 h. The low heat loss also results in low energy costs and cooler working conditions for operators. A special hearth design, which is lowered for loading and unloading and then raised into position for the heating sequence, makes sample handling as convenient as possible. Circle (65)

The No. 726 from **Grieve Corp.**, Round Lake, Illinois, is a 1200 °F electric cabinet oven currently being used *for curing ceramic aircraft parts*. The installed heat in-

put capacity of the No. 726 is 120 kW. A 12,500 CFM blower, driven by a 10-hp motor, provides a combination horizontal air flow. There are two compartments, each with a workspace of 36 × 50 × 108 in. The floor of each compartment has been reinforced for 6000-lb loading. The walls are insulated 10 in. thick and consist of 2 in. of 1900 °F block and 8 in. of 10-lb density rockwool. The inner door gasket seals directly against the door plug, which the outer door gasket seals directly against the front face of the oven. Safety equipment for holding flammable solvents at a maximum operating temperature of 1100 °F includes a purge timer manual reset excess temperature controller, 975 CFM stainless steel forced exhauster, powered forced exhauster air flow safety switch, recirculating blower air flow safety switch, separate heating element control contactors, and a separate heat chamber limit controller. Circle (66)

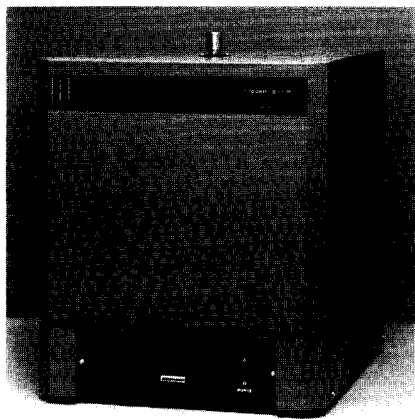
Procedyne Corp., New Brunswick, New Jersey, announces a new line of *highly efficient natural gas-heated fluid bed heat treating furnaces* for through hardening and surface hardening heat treatments. The SJA product line is heated by a patented Slot Jet Assembly gas-fired heat mantle, which is capable of achieving heating rates four to five times the rate of conventional gas-fired mantles. In addition, SJA mantles are equipped with heat recuperating burners, which achieve a fuel utilization efficiency of 60 to 70%, more than four times the



Grieve Corp.

typical efficiency achieved by conventional gas-fired mantles. Circle (67)

A new-generation line of **Moldatherm[®] box furnaces** with integral microprocessor-based programmable temperature controllers is available from **Lindberg/Blue M**, A General Signal Company, Watertown, Wis-

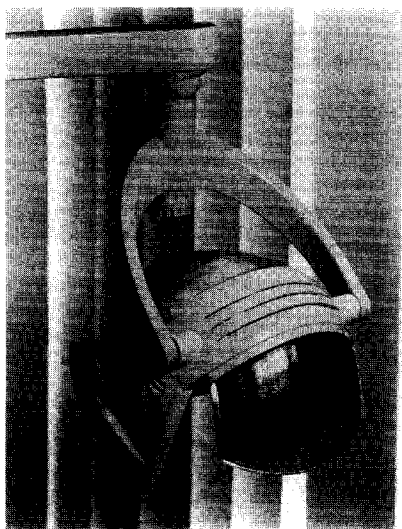


Lindberg/Blue M

consin. The exclusive Moldatherm insulation and heating element composite provides uniform heat distribution and energy conservation through its fast heat-up and recovery rates. The built-in controllers enhance the versatility of the furnaces to better meet critical process requirements.

Circle (68)

New infrared (IR) radiation technology developed by **Process Thermal Dynamics**, Alexandria, Minnesota, in cooperation with **Miles, Inc.**, Pittsburgh, Pennsylvania, al-



Miles, Inc.

lows a range of medical devices and other components molded of makrolon polycarbonate resins to be **annealed in a small fraction of the time required for conventional oven annealing**. Circle (69)

Formulated without fats, oils, or greases, Aqua Quench[®] 3600 and 3610 heat treating products from **E.F. Houghton & Co.**, Valley Forge, Pennsylvania, provide **waste treatment benefits including low BOD and COD levels**. These organic polymers combine with corrosion inhibitors and other additives to quench ferrous, aluminum, and nickel alloys. Nonpolluting to the atmosphere or in the plant environment, these polyethyloxazoline-based products do not generate oil smoke or fire hazard. Parts clean easily, usually with plain water. Other advantages include lower drag out than conventional glycol quenchants and a residual film after processing that is completely dry, without stickiness on workpiece, machines, furnaces, or shop floors. Applications include surface hardening, forgings, and castings. Circle (70)

A free product bulletin describing the VSM-95 precision induction hardening machine is available from **Inductoheat**, Madison Heights, Michigan. The VSM-95 performs **vertical-scanning and static heat applications** including single-shot hardening, tempering, annealing, and gear hardening. This heavy-duty system, designed to meet machine tool standards, is capable of processing cylindrical parts up to 80 in. long weighing up to 400 lb. It features a high-speed index capability for increased productivity, a self-contained quench, and a programmable keyboard system with up to 900 presets for maximum flexibility.

Circle (71)

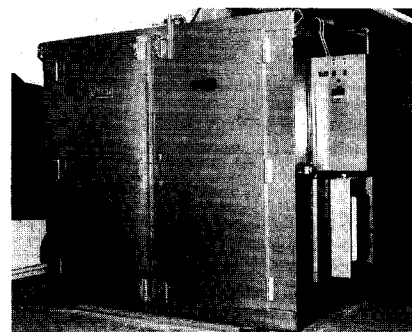
After a short 12-month delivery time, the capabilities of the **first Compact Chamber VIM Furnace** from **Leybold Durferit GmbH**, Hanau, Germany, have been demonstrated successfully at **Vacuumschmelze (VAC)**, Hanau, Germany. The new 2.5-ton VIM furnace is expandable to 4-ton heats. It features compact design with excellent accessibility, high product quality due to excellent homogenization of melt by electromagnetic stirring and gas purging, and a modern control system with remote operation from a central control room, guaranteeing high reproducibility of the process and products. VAC, where the furnace has operated, produces high class nickel- and iron-base materials for the electrical and electronics industries by means of vacuum metallurgical melting and remelting processes. Circle (72)

The **EPRI Center for Materials Production (CMP)**, Carnegie Mellon Research Institute, Pittsburgh, Pennsylvania, announces the availability of a new report, "Electric Arc Furnace Efficiency" (CMP 92-10). This major work examines the **relationship of equipment raw materials, energy input, and operating practices** to efficient electric arc furnace steel production. It is designed to provide operators and utility personnel with a better understanding of the changes in technology and operating practice that could improve the efficiency of electrical energy consumption. Authors are E.H. McIntyre and E.R. Landry, well-known consultants on electric furnace operations. Circle (73)

A **comprehensive line of protective atmosphere elevator quench furnaces**, combining preheat section, hardening chamber, cooling vestibule, and quench tank in one integrated unit, has been introduced by **Lucifer Furnaces, Inc.**, Warrington, Pennsylvania. Designed for 2100 °F operation, the furnaces are available in eight standard sizes, ranging in workload capacity from 15 to 55 lb. They are ideal for low-production, scale-free applications. To guard against exposure of the workload to the oxidizing effects of air, the system features a continuously controlled atmosphere, from hardening chamber through vestibule to quench tank, to maintain workload protection throughout the heat treating operation; an inner, vertical lift door, separating the work chamber from the vestibule; and an alloy retort, gasketed to the inner door assembly, to segregate atmosphere and workload from the refractory and heating elements.

Circle (74)

Trent, Inc., Philadelphia, has introduced a heavy-duty walk-in oven that can be used in the **manufacture of plastics and other coating processes**. The workspace dimensions are 72 × 72 × 72 in., with a temperature range to 850 °F. Electric elements are Trent F&F-type ribbon elements. The oven has a uniformity of ±10 °F and is controlled



Trent, Inc.

by a digital temperature controller with SCR power control. Circle (75)

The No. 500, from **The Grieve Corp.**, Round Lake, Illinois, is a *special 350 °F electrically heated monorail conveyor oven*, currently being used for baking a



The Grieve Corp.

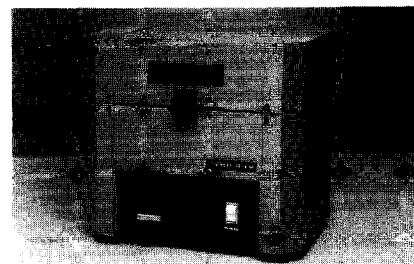
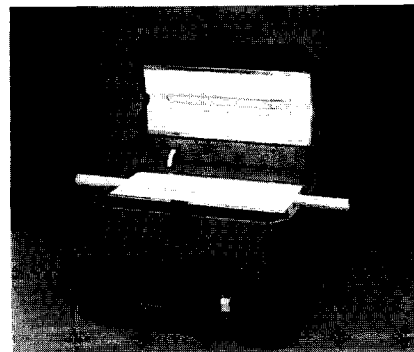
clear lacquer over polished brass lighting fixtures. The unit has vertical downward/combination air circulation, provided by two 1000 CFM recirculating blowers driven by two 1/2-hp electric motors. The temperature is controlled and maintained

via a digital indicating, solid-state temperature controller. Circle (76)

Inductoheat, Madison Heights, Michigan, has a Statitron®, *solid-state, radio frequency power supply that will run around the clock*—continuous duty—for use in hardening automotive valve tips and other selective hardening operations at production rates up to 30 parts/min. It is available in a number of different frequency and power combinations from 50 to 200 kHz, 1 to 50 kW for use in a variety of special induction heating and heat treating systems requiring continuous power. The company will custom-design/build an entire system to meet a manufacturer's individual needs, using its coils, water recirculating systems, and other standard and special products with a customer's existing equipment.

Circle (77)

The Model 55035 Mini-Mite™ 1000 °C split-hinge tube furnace from **Lindberg/Blue M**, A General Signal Co., Watertown, Wisconsin, has an *integral, advanced PID microprocessor-based, programmable temperature controller*. The split-hinge design permits easy observation, convenient placement of the process tube, rapid fixturing, and overall ease of operation. It



Lindberg/Blue M

also incorporates a heat-reflecting inner shell that dramatically reduces outer surface temperature. Circle (78)

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