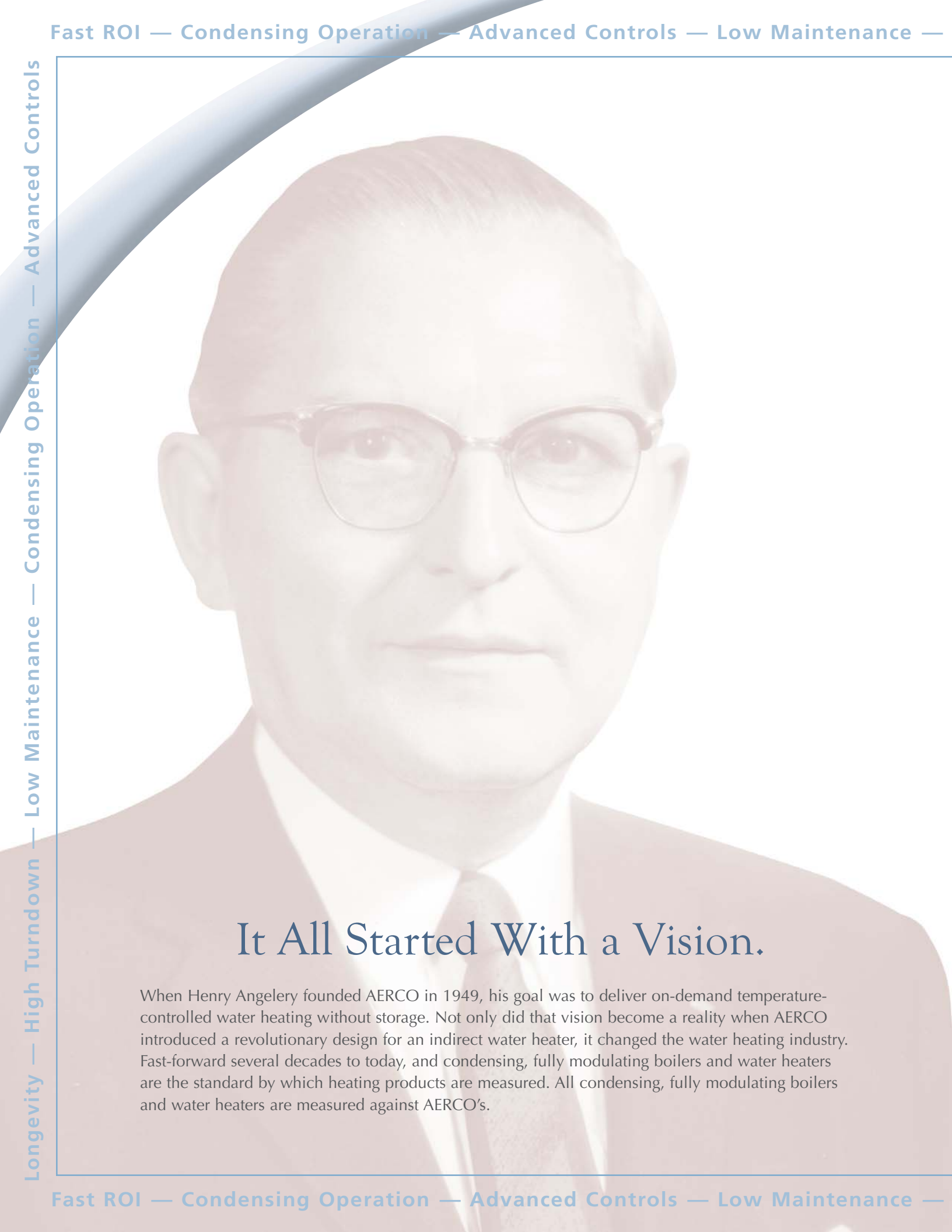
AERCO

The Leader in High Efficiency Innovation

AERCO



It All Started With a Vision.

When Henry Angelery founded AERCO in 1949, his goal was to deliver on-demand temperature-controlled water heating without storage. Not only did that vision become a reality when AERCO introduced a revolutionary design for an indirect water heater, it changed the water heating industry. Fast-forward several decades to today, and condensing, fully modulating boilers and water heaters are the standard by which heating products are measured. All condensing, fully modulating boilers and water heaters are measured against AERCO's.

AERCO HAS CONTINUED TO LEAD THE WAY THROUGH THE YEARS. NO OTHER MANUFACTURER HAS AS IMPRESSIVE A LIST OF INNOVATIONS:

- **Introduced the first high-efficiency, commercial, gas-fired, domestic water heater and hydronic boiler in the U.S., where AERCO is the longest-selling provider of condensing products with unmatched modulation.**
- **First boiler manufacturer to publish comprehensive efficiency curves that included part-load performance, changing how the industry looked at operating efficiency.**
- **First boiler manufacturer to pursue and achieve third-party confirmation of performance efficiency. The world-renowned Underwriter's Laboratories (UL), Inc., witnessed and reviewed the efficiency testing of AERCO's Benchmark 2.0 Low NOx boiler.**
- **Leader in advanced control of multiple-unit boiler plants. AERCO's boiler management system (BMS) leverages the unparalleled turndown of AERCO boilers so that multiple-unit customers reap maximum efficiency benefits.**
- **Advanced integration and data capture capabilities make AERCO a trusted choice among controls industry leaders. The control components for all AERCO products maximize their performance and are easy to integrate into building and energy management systems.**
- **Leader in overall system design and education. As a pioneer of high-efficiency products, AERCO has a history of educating the engineering community to rethink overall system design to fully leverage the benefits of condensing and modulating equipment.**

UL-Confirmed Efficiency — Subcooling — Self-Descaling— Precise Temperature Control

...Focused on Technology

There's certainly more to come, as AERCO has never wavered from its commitment to innovation. AERCO was the first to introduce condensing, fully modulating products, and has decades of experience proving — and improving upon — the longevity of its advanced designs.

AERCO is expert in combustion technology; that is what separates AERCO products from other water heaters and boilers. Our high-turndown products maintain stable combustion over exceptionally wide operating ranges — from 50,000 BTU/hr. to 1 million BTU/hr., from 200,000 BTU/hr. to 3 million BTU/hr., and so on. Such wide spans of noncycling operation are unrivaled in the marketplace.

AERCO's fully modulating design precisely matches firing rate to actual building demand. Drawing only enough fuel to meet actual load changes, each unit gradually increases its capacity — in precise 1% increments — up to 100% full capacity. Not only is less fuel burned as a result of this design, but heat transfer is enhanced when the AERCO units operate at part-load. At low fire, the heat exchanger becomes effectively oversurfaced — relative to the BTU input. This promotes even greater energy transfer and cooler exhaust gases. In fact, AERCO equipment features an inverse efficiency curve, performing best at lowest loads.

AERCO also utilizes high-quality materials to take advantage of condensing operation in all of its products. That's because condensing increases operating efficiency by as much as 13% — turning more of a unit's fuel into usable heat. And AERCO products are designed to drain freely, so the acidic condensate cannot pool and damage them over time. Whereas some other manufacturers dissuade customers from designing condensing systems and don't warranty for condensate corrosion, AERCO offers its customers years of market-proven performance, backed by warranty, as proof of the longevity of its product designs.

...Leadership

While green design is relatively new to many other manufacturers, energy efficiency has been the exclusive focus of AERCO since the company opened its doors in 1949. All AERCO gas-fired products are also available with low NOx burners to make these products even more environmentally friendly. AERCO is committed to being informed about and involved in current events and trends, with employees participating in many premier associations, including:

- **Association for Manufacturing Excellence (AME) — www.ame.org**
- **American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) — www.ashrae.org**
- **Gas Appliance Manufacturers Association (GAMA) — www.gamanet.org**
- **American Society of Mechanical Engineers (ASME) — www.asme.org**
- **American Society of Plumbing Engineers (ASPE) — www.aspe.org**
- **American Society for Quality (ASQ) — www.asq.org**

AERCO's leadership has also been recognized by outside organizations. Frost & Sullivan presented a Technology Leadership Award to AERCO, and a number of industry publications have given its boilers and water heaters Top Products awards. AERCO has also been recognized by The American Business Awards for its success and executive leadership.

...Service and Support

Success is achieved one customer at a time. AERCO practices disciplined product development, uses state-of-the-art manufacturing methods, and employs rigorous quality management programs to deliver each order on time and to provide the best service to every customer.

AERCO's engineering strength is a direct reflection of its people. In addition to a large new product development team, you'll find manufacturing and quality engineers on the shop floor and throughout the company's sales and executive staff. AERCO has also assembled a nationwide network of highly skilled sales representatives to help customers leverage the advantages of AERCO equipment through the overall system design. AERCO even has a team of dedicated applications engineers in-house to properly size equipment and provide venting recommendations for every customer project.

AERCO provides training to factory-certify the service contractors who maintain the equipment. Plus, AERCO has designed www.aerco.com with educational and design tools that can help consulting-specifying engineers, building managers, and facility owners make the best decisions for their needs.

Gas-fired Boilers and Water Heaters

BENCHMARK BOILER SYSTEMS

The market leader for the last decade, the Benchmark boiler series reduces total project and lifecycle costs while delivering energy efficiency, quiet acoustics and lower operating costs. Condensing boilers with turndowns of 20:1 and 15:1, Benchmark boilers can deliver significant fuel savings in a variety of hydronic systems — conventional space-heating loops, heat pump, radiant heat, snow-melt systems, and process applications.

All three sizes — 1.5 million BTU/hr., 2 million BTU/hr., and 3 million BTU/hr. — come fully assembled and fit through a standard doorway. These units eliminate and/or minimize ancillary equipment requirements in both new installations and retrofits, which simplifies system designs to lower both initial project costs and long-term maintenance.

- **Unmatched 20:1 and 15:1 turndown maximizes seasonal efficiency**
- **Small footprint supports zero side clearance installations**
- **No primary/secondary piping required**
- **Superior materials of construction**
- **Low NOx emissions across the full line**
- **Support for low water temperatures and variable-flow systems**
- **Dual fuel (natural gas/propane)**
- **Flexible venting**

KC–1000 FAMILY OF WATER HEATERS AND BOILERS

A breakthrough when introduced in 1988, the KC-1000 family remains one of the most innovative and successful condensing products on the market. Both the KC-1000 commercial water heater and hot water boiler deliver best-in-class seasonal efficiencies (as high as 99% for the water heater and 95% for the boiler) to a variety of applications.

With a capacity of 1 million BTU/hr. and turndown of 20:1, KC-1000 units meet the demands of commercial and industrial applications using natural gas or propane. Quiet and cost-effective to operate, the KC-1000 family can also be equipped, or retrofitted, with AERCO's low NOx burner to minimize emissions in environmentally friendly installations. When designed with the low NOx burner, the natural gas unit has 11:1 turndown.

- **Precise temperature control**
- **High turndown**
- **Compact, space-efficient design**
- **Natural gas or propane**

MODULEX BOILERS

AERCO Modulex condensing and fully modulating boilers bring unprecedented operating reliability and energy efficiency to hydronic heating projects requiring a capacity of 300,000 to 1 million BTU/hr. A unique, multiple-thermal-module design delivers the advantages of a multiple-boiler plant in a single package.

As is the case with all AERCO gas-fired products, AERCO Modulex boilers deliver superior turndown for a range of noncycling operation and seasonal efficiency unrivaled in its class. The boilers are whisper-quiet, so they can be installed in noise-sensitive environments such as schools, nursing homes, and hospitals. AERCO Modulex boilers are approved for installation on combustible flooring with zero side clearance.

- **Unmatched turndown (6:1 to 23:1 depending upon unit)**
- **Whisper-quiet operation (<50 dBa)**
- **Low NOx emissions (<14 ppm)**
- **Direct or conventional vent with PVC, CPVC, or AL-29-4C materials**
- **Small, doorway-size footprint**
- **Flexible piping and venting connections**
- **Optional sealed combustion**
- **Superior reliability via built-in redundancy**

CONTROLS

Coordinating the operation of multiple gas-fired units, the AERCO Boiler Management System (BMS) offers remote access and control of multiple boiler installations to create even more energy savings. Put simply, it requires less energy for a group of AERCO modulating boilers, each firing at a lower load, to heat a building than if one or two boilers, operated at full or high fire, carried the entire workload. Since its introduction in 1990, the AERCO BMS has been consistently selected by leading control integration contractors, including Honeywell and Siemens. The BMS also supports easy integration to buildingwide energy management software and programs. AERCO also offers a Communication Gateway for all its products to support integration with BACnet, Lonworks and Johnson N2 systems.

- **Increase system turndown to maximize operating efficiency**
- **Control up to 40 boilers**
- **Automatic load matching precisely meets demand changes**
- **User-friendly software simplifies programming**
- **Full-information LCD display**
- **Complete control of auxiliary boiler equipment**
- **Easy integration to BAS or EMS via Modbus**
- **Optional gateway for BACnet, Lonworks and N2 translation**

Indirect-fired Water Heaters

WATERWIZARD B+II

AERCO's most popular steam-to-water package, the WaterWizard heater features a dedicated subcooling design for enhanced operating efficiency. Based on AERCO founder Henry Angelery's original concepts for a helical heat exchanger design, fully modulating steam input, and temperature-control approach, this time-tested design has been consistently improved to meet the needs of the 21st century. Compatible with steam pressures up to 150 pounds, the WaterWizard heater is an excellent choice for a variety of commercial or institutional water heating applications.

- **Accurate temperature control (+/-4˚F)**
- **Low surface temperature**
- **Choice of electronic or pneumatic controls**
- **Compact footprint (<4 ft^2)**
- **Automatic self-descaling heat exchanger design**
- **Impervious to thermal shock**
- **All copper or copper alloy wetted surfaces**
- **Automatic condensate subcooling — no traps required**
- **Low- or high-pressure applications**

A-PLUS STEAM-TO-WATER HEATERS

Designed to support smaller steam-to-water applications, A-Plus water heaters are perfect for potable water heating needs in commercial and institutional environments. As with all AERCO single-wall units, these heaters utilize a parallel stack of helically wound coils that form a cross-counter-flow, self-descaling heat exchanger — one of the most efficient designs on the market. Its unique subcooling design eliminates the need for traps, simplifies maintenance, and extends the life of these water heaters.

- **Accurate temperature control (+/-4˚F)**
- **Choice of electronic or pneumatic controls**
- **Automatic self-descaling**
- **Impervious to thermal shock**
- **Low surface temperature**
- **Compact footprint (<2 ft^2)**
- **All copper or copper alloy wetted surfaces**
- **Supports a variety of applications**

E-PLUS WATER-TO-WATER HEATER

AERCO has designed the E-Plus series for water-to-water applications requiring a reliable, efficient water heater that is easy to maintain and has a long life. The E-Plus commercial heater is compatible with low- or high-temperature boiler water.

- **Accurate temperature control (+/-4˚F)**
- **Choice of electronic or pneumatic controls**
- **Packaged with 2-way or 3-way control valve**
- **Compact footprint (<4 ft^2)**
- **Impervious to thermal shock**
- **All copper or copper alloy wetted surfaces**
- **Supports low- and high-temperature applications**

DW+ DOUBLE WALL HEATERS

AERCO's commitment to providing advanced solutions to virtually any water-heating application is evident with its DW+ Double Wall Heater. This line brings all the inherent advantages of AERCO's temperature control capabilities to steam-to-water and water-to-water applications where code requires double wall construction set by BOCA (National Plumbing Code), IAPMO (Uniform Plumbing Code) and NAPHCC (National Standard Plumbing Code).

- **Accurate temperature control (+/-4˚F)**
- **Choice of electronic or pneumatic controls**
- **UL-listed as double wall heat exchanger for potable hot water use**
- **Compact footprint (<4 ft^2)**
- **All stainless, TFE, copper, or copper alloy wetted surfaces**
- **Fully modulating variable primary input**

STEAM GENERATORS

AERCO's clean steam-generating package produces clean steam from fresh, potable water, using treated boiler plant steam as the heat source. With primary steam in the tubes, the SS1B+'s design makes it compatible with mid- or high-primary steam pressures.

- **Accurate pressure control**
- **Compact, space efficient**
- **Standard operating range 2-70 PSIG**
- **Available with all 316 stainless steel wetted parts for deionized or reverse-osmosis water applications**
- **Applicable for 40 to 150 PSIG primary steam supply**
- **Clean steam production from 100 to 1,500 lbs./hr.**
- **Complete factory-packaged controls**

CONTROLS

Valve with electronic actuator

AERCO water heaters are packaged to meet the remote control and integration needs of 21st century building managers. The most popular Electronic Control System (ECS) combines the speed and performance of an electronic actuator with the precision and convenience of a digital controller as a standard controls package available with all AERCO steam-to-water and water-to-water heaters. Together, these components maximize the performance of AERCO's patented control valve. In addition, the ECS supports easy integration with building-wide energy management software. Highly reliable pneumatic controls are also available with all AERCO indirect heaters.

- **Faster, more accurate response than pneumatic or mechanical valves**
- **High reliability**
- **Full integration to BAS software**
- **Fail-safe auto shutdown response to over-temperature conditions**
- **Remote access to monitor/control performance settings**
- **Easy one-touch start-up**

SALES REPRESENTATIVES

Blackmore & Glunt
Cincinnati, OH - 513-489-5225
Lenexa, KS - 913-469-5715
Maryland Heights, MO - 314-878-4313

Calloway Engineered Systems
Alpharetta, GA - 770-663-4339

Clyde Equipment Company
Lafayette, CA - 925-299-9180
Rocklin, CA - 916-624-1897

Commercial Products
Tampa, FL - 813-989-9104

Control Temp
Omaha, NE - 402-346-3422

Cougar Sales
Houston, TX - 832-912-7500

Dawson Company
Pomona, CA - 626-797-9710
San Diego, CA - 858-541-7867

Delval Equipment Corporation
Washington, PA - 724-743-0410

Dixie Engineering
Birmingham, AL - 205-956-0888

DMG Arizona
Tempe, AZ - 480-303-0237
Tucson, AZ - 520-624-5522

Feld-Hazer & Associates
Grimes, IA - 515-986-3671

Fink & Company
Indianapolis, IN - 317-639-1551

G.A. Fleet Associates
Harrison, NY - 914-835-4000

Heat Transfer Sales
of the Carolinas, Inc.
Charlotte, NC - 704-392-5228
Columbia, SC - 803-781-0410
Greensboro, NC - 336-294-3838
Greenville, SC - 864-297-8338
Raleigh, NC - 919-870-7867
Wilmington, SC - 910-763-2311

Heatran Corporation
Shreveport, LA - 318-459-1643

Hydro-Aire System Sales
Coral Springs, FL - 954-753-8700

Hydronic Systems, Inc.
Oklahoma City, OK - 405-528-7867
Tulsa, OK - 918-382-6978

Hydronic Technology
New Orleans, LA - 800-365-6746
Madison, MS - 601-939-2113

Illingworth Engineering
Jacksonville, FL - 904-262-4700

Industrial Heater Company
Bartlett, TN - 901-382-4761

Innovative Air, Inc.
Boise, ID - 208-331-3303

J. Wilcox Sales
Salt Lake City, UT - 801-486-0746

McCotter Energy Systems
Milwaukee, WI - 800-950-4822

Mechanical Marketing
Milford, CT - 203-877-5800

Mechanical Products Nevada
Las Vegas, NV - 702-228-8974

Meilner Mechanical Sales, Inc.
Arlington Heights, IL - 847-253-1040

Neal & Associates
Dallas, TX - 214-340-1464
Buda, TX - 512-312-9771

New England Combustion Products
East Weymouth, MA - 781-337-8888

Proctor Sales, Inc.
Anchorage, AK - 907-562-2608
Lynnwood, WA - 425-774-1441
Spokane, WA - 509-534-8101
Wilsonville, OR - 503-570-8689

R. L. Deppmann Company
Brecksville, OH - 440-526-2439
Bridgeport, MI - 989-652-3049
Grand Rapids, MI - 616-656-0821
Southfield, MI - 248-354-3710

R. M. Cotton Company
Brooklyn Park, MN - 888-658-5513

R. P. Fedder Corporation
East Amherst, NY - 716-689-4933
Rochester, NY - 585-288-1600
Syracuse, NY - 315-437-8451

Sam Desanto Company, Inc.
Richmond, VA - 804-288-9001
Rockville, MD - 301-424-9510

Taft Engineering, Inc.
Englewood, CO - 303-753-4584

Technology Plus, LLC.
Altamont, NY - 518-355-1178

The Baase Company
Warminster, PA - 215-364-8855

Thermco
Clifton, NJ - 973-777-6700

Vemco, Inc.
Billings, MT - 406-248-8373
Great Falls, MT, USA 406-727-5335
Missoula, MT - 406-549-6113
Rapid City, SD - 605-394-5790

CARIBBEAN SALES

Ken Cunningham, Inc.
Lake Placid, FL - 863-465-6323

CANADIAN SALES

Baymar Supply
London, ON - 519-964-0022
Windsor, ON - 519-974-5800

Cypress Sales Partnership
Regina, SK - 306-757-5656
Saskatoon, SK - 306-242-3333

Methot Controls, Inc.
Blainville, PQ - 800-638-4682

Michael Stuart Co. Ltd.
Concord, ON - 905-738-6008

Murray Mechanical
Surrey, BC - 604-542-1842

R-G Sales Co., Ltd.
Winnipeg, MB - 204-775-8455

W. Dalton Energy Corporation
Calgary, AB - 403-730-4420

MEXICAN SALES

Fritech, Inc.
Austin, TX - 512-261-6457

NAVY & MARINE SALES

AJS Associates
Chesapeake, VA - 757-483-6077

UL-Confirmed Efficiency — Subcooling — Self-Descaling— Precise Temperature Control

SALES REPRESENTATIVES THROUGHOUT THE WORLD

HEAT EXCHANGERS • WATER HEATERS • BOILERS • CONTROL VALVES • STEAM GENERATORS

AERCO INTERNATIONAL, INC. • NORTHVALE, NJ 07647
201-768-2400 • FAX 201-768-7789 • 1-800-526-0288
www.aerco.com • email: info@aerco.com

CB100
REV 12/10