Summer 2006

A Publication for HVAC & Plumbing Engineers

Calloway QUARTERLY

Condensing Boiler—Now with Built-In REDUNDANCY

Looking for a way to reduce the amount of redundancy capacity required for boiler plant applications? Consider the Aerco Modulex condensing gas fired boiler. This new boiler not only offers quiet operation (<50dBa) and Low NOx Emissions (<30ppm), it also offers built-in redundancy.

The Aerco Modulex is available in 6 different units, each model including anywhere from 2 to 7 thermal modules. Each thermal module employs 151,500 BTU/hr capacity and has all the capability to keep the boiler operating if other modules fail. Each includes all of the following features:

- Controller with built-in combustion safeguard
- Variable speed fan
- Modulating gas valve
- Electronic ignition with flame detector
- 3:1 modulating burner
- Flow temperature sensor
-Over-temperature limiting thermostat
- Cast aluminum heat exchanger

Maximum Fuel Savings

The Aerco Modulex control system is designed for load sharing to maximize operating efficiency. Since thermal efficiency increases as firing rates drop, it is more efficient to operate multiple modules at low-fire than a single boiler at full fire. The built in 3:1 turndown ratio of each thermal module results in a highly incremental firing rate so the boiler precisely matches load without cycling or temperature overshoot.

At low fire and 60ºF return water temperature, the following thermal efficiencies can be achieved:

Model	No. of Thermal Modules	Turndown Ratio	Maximum Efficiency
MLX-303	2	6:1	96%
MLX-454	3	10:1	96%
MLX-606	4	13:1	96%
MLX-757	5	16:1	96%
MLX-909	6	20:1	96%
MLX-1060	7	23:1	96%

In addition to all of this, the largest Aerco Modulex has a footprint of only 49” x 27” and fits through any standard doorway. Flexible piping and venting connections make it particularly easy to install in a variety of configurations.

High-Efficiency Breakthrough for Light Commercial Applications

The Aerco Modulex condensing boilers are set to revolutionize the light commercial hydronic heating market. Available in six different sizes from 300,000 to 1 million BTU/hr., the line features best-in-class turndown – up to 23:1 – to maximize seasonal efficiency. Their unique design offers sinle-unit installations an unprecedented level of operating reliability, installation flexibility, whisper quiet operation and low NOx emissions.

For more information about Aerco, go to http://www.aerco.com.

Don't Miss Our NEW WEBSITE at:
www.callowayengineeredsystems.com.

12805 Wyngate Trail • Alpharetta, GA 30005 • Phone: 770-663-4339 • Fax: 770-663-4361 • Web Site: www.callowayengineeredsystems.com

Calloway
engineered systems

Mini-Mod Makes High Efficiency Control Possible for Smaller Existing Boilers

Small to mid-size facilities no longer have to settle for the limited control of their smaller sized boilers. Heat-Timer's Mini-Mod makes it possible to achieve today's higher standard modulating efficiency even on these boilers.

Heat-Timer introduced this small, powerhouse control in 2006 in response to a growing trend among facilities to use smaller modulating boilers. The base unit controls up to 4 stages with the capability to add more stages.

Modeled after Heat-Timer's extremely popular Multi-Mod, the Mini-Mod incorporates PID type logic to control the on/off and the modulation of each boiler stage. It accurately controls the output from 0 to 100% of modulation for a variety of modulating motors, including 05 V, 0-10 V, 1-5, 2-10 V, or 4-20 mA from 0 to 100% output. It's impressive list of features include:

- An easy-to-read alpha numeric display.
- Outdoor reset capability with adjustable reset ratio.
- Ability to be disabled via an Energy Management System or other controller when required.
-Day and nighttime setback to help reduce fuel consumption.
- Domestic hot water control with a domestic hot water priority option available.

All the Extras

Like the Multi-Mod, the Mini-Mod also provides a myriad of finer control characteristics that help maintain a worry-free system, such as "System Prove" input that checks the status of components before additional stages are activated. The control also provides a purge timer, a low fire adjustment, a firing point, a last stage hold adjustment, and much more.

For more information about the Mini-Mod, go to www.heat-timer.com or contact Caroline Calloway.

New Eco-Controller Provides an Even GREENER Alternative to Recirculation

If you've ever considered using hot water temperature maintenance cable as an alternative to recirculation, it's time to take a closer look at Raychem HWAT. Thanks to enhanced control, HWAT is more efficient and worry-free than ever before.

New Control Features Improve Efficiency

The new HWAT-Eco electronic controller is the first heat cable control to incorporate temperature setback and a heat-up cycle into the system. Now, users can maintain hot water temperatures according to *use*, not just a particular set point, thus saving electricity.

This is a major innovation in hot water maintenance systems. Now, instead of maintaining a domestic hot water loop at 120°F 24/7, the HWAT-Eco controller can be programmed to automatically lower the maintenance temperature to 105°F during low use hours. In addition, the controller can be programmed to provide a pre-heat cycle at the end of the setback cycle, in order to boost the water temperature in time for building occupation. This is provides a significant opportunity for

energy savings, particularly for buildings that are unoccupied for several hours at a time, or have very distinct high and low load patterns.

The controller provides several other beneficial functions including:

- Building Management System (BMS) interface that receives a DC voltage to determine the desired maintenance temperature.
- An alarm relay to signal power, temperature, or communication problems.
- A water heater sensor function that alarms and lowers the maintenance temperature if the water heater temperature is too low. This feature helps alert facility personnel that there is a problem with the water heating source, rather than overworking the heating cable system and masking the real problem.

For years, Raychem HWAT systems have provided facilities with immediate hot water at the tap without unnecessary water waste or the use of recirculation systems. Over 100,000 hotels, hospitals, apartments, offices, schools, healthcare facilities, etc. rely on Raychem HWAT for a "green" alternative to recirculation. Thanks to the introduction of the ECO controller, HWAT just got a little greener.

"Now, the world's most low maintenance hot water system is also one of the most efficient. The incorporation of setback and pre-heat functions creates more opportunity for energy conservation," remarked Gordon Roessler, HWAT Sales Manager. "For those that always think *recirculation* when it comes to hot water temperature maintenance, it's time to reconsider the increasing advantages of HWAT."