



Getting the Best Performance from Your Boiler

Boilers have a long, useful life. Many large commercial and industrial boilers operate for 25 years or more; however, inefficiencies often increase with age. One of the best investments is to install an integrated control system on a boiler.

There are several key features of newer control systems, including centralized operation, remote capabilities, enhanced diagnostic tools, and an emphasis on energy efficiency. More specifically, an advanced system will improve operating efficiency at all loads, but particularly at part load, where a conventional control system cannot closely manage boiler operations. By installing an integrated control system, a facility can expect to see better performance, enhanced safety, lower maintenance, and reduced operating costs.

A key benefit of an advanced control is that a boiler can be remotely monitored and manipulated. Operators can monitor boiler status via email, text messaging, voice mail, the Internet, or an internal system. In the event of a boiler system alarm or malfunction, the control system can automatically alert an operator in a nearby or remote location, permitting the more efficient use of an operator's time.

When researching an advanced control system, ensure that the one selected is compatible with the facility's boiler/burner. It is vital that any control integration system does not compromise or change the safety interlocks on the boiler. To ensure the correct control system is installed, consult the boiler manufacturer's trained service technician and the building management system supplier.

It is also critical that the equipment be selected to meet minimum and maximum load-demand requirements without permitting excessive equipment cycling. Control strategies must be determined through a complete understanding of systems to ensure available output capacity for a given period of time with an associated load demand.

One of the most flexible control systems in the industry today is the Hawk, which works with Building Automation System, SCADA, and other remote monitoring systems. The Hawk has the ability to monitor and control multiple aspects of boiler control, such as O₂ levels, stack temperature, lead/lag sequencing, boiler efficiency, water level, temperature/pressure hot standby, and combustion control.

[Decas Cranberry Products](#), located in Carver, Mass., counts on its 1998 Cleaver-Brooks CBLE 500 HP boiler to process more than 50 million pounds of cranberries annually. In 2010, the facility added a Hawk control system to its boiler. As a result, the facility has realized an annual energy savings of 6.1 percent and has reduced its CO₂ emissions by 462 metric tons and NO_x emissions by 6 percent.

To learn more about integrated boiler controls, including the Hawk, click [here](#).