



Understanding the Benefits of the IQ Outdoor Reset Option Card

when used on IQ Control System Equipped Burnham® Boilers

Several Burnham brand boilers manufactured by U.S. Boiler Company now include the exclusive Burnham IQ Boiler Control System. Boilers that currently include the IQ Control System as standard are the residential gas boilers, the ES2 and Series 3, and the residential oil boiler, the MPO-IQ.

Enhanced Energy Savings

One of the key options of IQ Control Systems is the IQ Outdoor Reset Option Card. The Outdoor Reset Option is a powerful energy savings device that can be easily added to IQ Control System equipped boilers by simply plugging the IQ Option Card into the convenient IQ Option Panel and attaching the outdoor sensor. This plug-and-play feature allows the quick and easy upgrade of an outdoor reset capability that offers homeowners improved system efficiency and energy savings.

Outdoor Reset Operation

The Outdoor Reset card is a boiler control option that is designed to adjust the heating system’s output based on the outdoor temperature. On colder days the building loses more heat to the outdoors and thus requires more heat to keep the building comfortable. On mild days the building loses less heat to the outdoors and therefore requires less heat to maintain comfort.

By adjusting the system temperature up or down, the **Outdoor Reset** Option Card helps assure that the boiler delivers only the amount of heat that is required based on how cold it is outside. This process allows the boiler to operate at peak efficiency that can **provide fuel savings of up to 16%-20%**.



Series 3

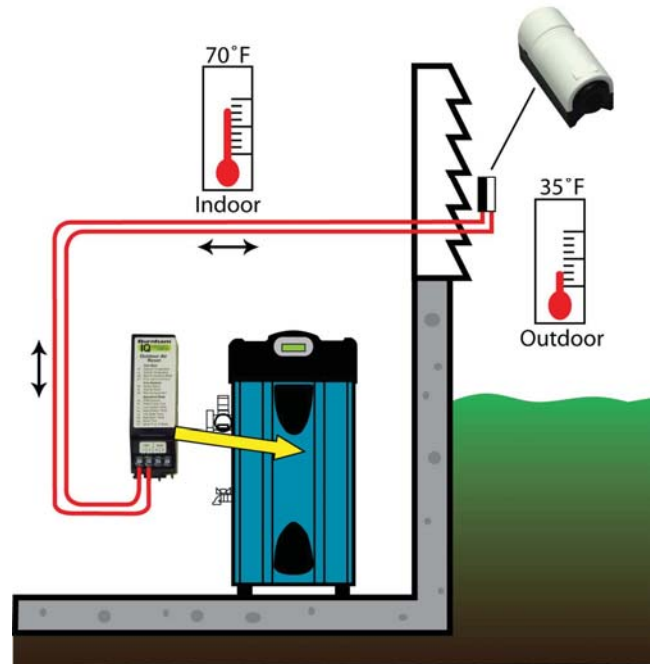
Additionally, the system heats more comfortably with Outdoor Reset. Since the water temperatures are more consistent, heating zones are less likely to overheat and the boiler is less likely to short cycle. Outdoor reset can be thought of as adding “cruise control” to the heating system because it operates at steadier, more consistent temperatures – similar to how cruise control maintains a steady, efficient speed in a car.



Installing an IQ Option Card

Outdoor Reset for Homes

Outdoor reset controls have been used in large commercial heating systems for several decades in order to provide fuel savings and improved comfort in large buildings. The hardware and controls required to add Outdoor Reset have traditionally been expensive as well as complicated to install and operate. For these reasons, Outdoor Reset has been relatively impractical for residential heating systems up to this point. Now, the IQ Outdoor Reset Option Card has made this process simple and easy to install. In addition, it can provide true return on your investment (ROI) with fuel savings that can even exceed the installation cost in just a few heating seasons, all while providing improved comfort for homeowners.



IQ Outdoor Reset Card Typical Installation

Extended System Return Water Temperatures

When combined with the IQ Outdoor Reset Option Card, Burnham ES2 and Series 3 gas-fired boilers as well as the Burnham MPO-IQ oil-fired residential boilers can provide heating system efficiency and an ROI that is unequalled by other competitive cast iron boilers.

ES2 and Series 3 gas-fired boilers feature the unique "G3" heat exchanger, which allows operation over a far greater temperature range than any competitor. Since the heating system efficiency improves as the water temperature is

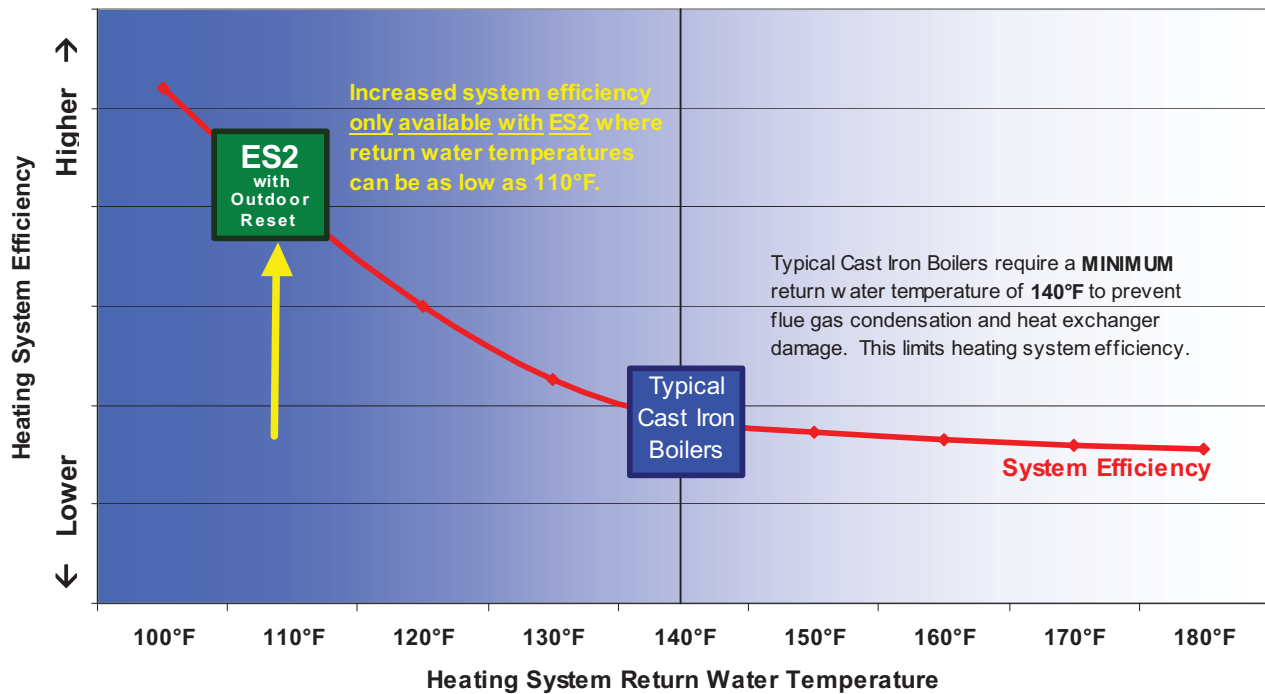


IQ Option Panel



reduced, the ability to operate at sustained return water temperatures as low as 110°F, allows ES2 and Series 3 boilers to outperform nearly any competitive boiler when equipped with the IQ Outdoor Reset controls. The graphic chart depicts how ES2 and Series 3 boilers deliver superior heating system efficiency with their low temperature capability.

Heating System Efficiency in Relationship to System Return Water Temperature



Increased heating system efficiencies are achievable with ES2 and Series 3 boilers Return water temperatures can be as low as 110°F

Unique Cast Iron Heat Exchangers

The bottom line is that lower system temperatures equal improved heating system efficiency and comfort. The ES2 and Series 3 boilers are designed with the unique cast iron heat exchangers and are equipped with the exclusive IQ boiler control system that

delivers superior results even when the heating system is operating at reduced temperature settings. The IQ Control System also provides enhanced efficiencies and improved operating results with cast iron, 3-pass designed, MPO-IQ oil-fired boilers.



MPO-IQ
87% AFUE

The unique G3 heat exchanger used on the ES2 and Series 3 boilers along with the 3-pass MPO-IQ cast iron heat exchangers are tough, proven cast iron heat exchangers that are built in the USA by Burnham Foundry LLC, and are only available from U.S. Boiler Company, exclusive manufacturer of Burnham brand products.

Wide Array of “Standard” Features

The IQ Outdoor Reset Option Card includes useful features normally included only on complex, stand-alone outdoor reset control panels. The IQ Outdoor Reset Option Card packs these energy saving features into a

simple plug and play device. Factory settings can be adjusted to custom tailor the IQ Outdoor Reset system to nearly any type of heating system, regardless what type of radiators or radiant systems are used in the heating system. Here is a brief explanation of some of the IQ Outdoor Reset Option Card’s major features:



| IQ Outdoor Reset Feature | Explanation of Feature |
|--|--|
| Adjustable Reset Curve | Control can easily be fine-tuned for nearly any type of heating system, in any climate, to maximize fuel savings and comfort. |
| Outdoor Reset Boost | Can increase the boiler temperature to ensure sufficient heat for the building. Ideal for heating systems with a mixture of low temperature and high temperature radiation and for systems that utilize night setback. |
| Domestic Hot Water Priority | Allows the boiler to provide full output to an indirect water heater for maximum performance when domestic hot water is needed. |
| Domestic Priority Protection | Returns the boiler to a heating demand after an adjustable delay period to prevent the building from cooling during an excessively long domestic hot water demand. |
| Designed specifically for use with Burnham IQ Control System | Installs quickly and easily - integrates seamlessly with the boiler. LED readout on boiler displays all settings, status, and error codes. Designed for Burnham products and is covered by a factory warranty. |
| Self-Diagnostic | Error codes simplify diagnostics and troubleshooting. |
| Service Friendly | Fast and easy to understand, install, and fine tune. Can easily be by-passed to provide normal boiler operation in the event of a problem or failure. |

The IQ Control System is designed to simplify boiler controls, improve heating system operation, and make installation and set-up easy. There has never been a simpler, more cost effective way to improve heating system efficiency and comfort than by selecting and using the IQ Outdoor Reset Option Card. While some control manufacturers offer universal controls that provide whittled-down features designed for the masses, the IQ Outdoor Reset Option Card combines full-scale outdoor reset functionality with superior performance, savings, and simplicity that is unmatched at any price... and is only available on Burnham brand boilers available exclusively from U.S. Boiler Company.

