

LATTNER BOILER COMPANY

Adjustment of Pressure Controls for Boilers Equipped with Low / High / Low Burners

Explanation

Low / High / Low burners operate on either high or low fire, maintaining your required working pressure and improving the overall efficiency of your boiler.

For example, assume you require a working pressure of 100 psi. When you turn on your boiler, it will operate on high fire until it reaches 100 psi. When it reaches 100 psi, it will continue operating but on low fire. It will operate on low fire until your steam demand increases and your pressure drops below 100 psi. When it drops below 100 psi, it will operate on high fire until it reaches 100 psi again. It will operate in this fashion perpetually unless your steam demand decreases.

If your steam demand decreases, the boiler will operate on low fire until it reaches 120 psi. At 120 psi, the burner will stop firing. The burner will start firing again, on low fire, when the pressure is reduced to 115 psi.

Summarizing, with a Low / High / Low burner, in this example your boiler will always operate on low fire between 100 psi and 120 psi. It will always operate on high fire below 100 psi. It will always maintain, at a minimum, your required working pressure. And it will minimize costly burner cycling.

Instructions

Low / High / Low boilers are equipped with three Honeywell pressure controls (four if the boiler has a pressure control for night operation).

The controls operate as follows:

1. "Low Fire" – This control instructs the burner when to switch to low fire (at your required working pressure).
2. "Controller" – This control instructs the burner when to stop firing and when to start firing again.
3. "Limit" – This control is a manual reset safety device that stops the burner from firing if the "Controller" fails.

The controls should be set as follows:

1. Adjust the "Low Fire" control to your required working pressure. Adjust the differential to 2 psi.
2. Adjust the "Controller" control to 20 psi above the "Low Fire" control. Adjust the differential to 5 psi.
3. Adjust the "Limit" to 10 psi above the "Controller".



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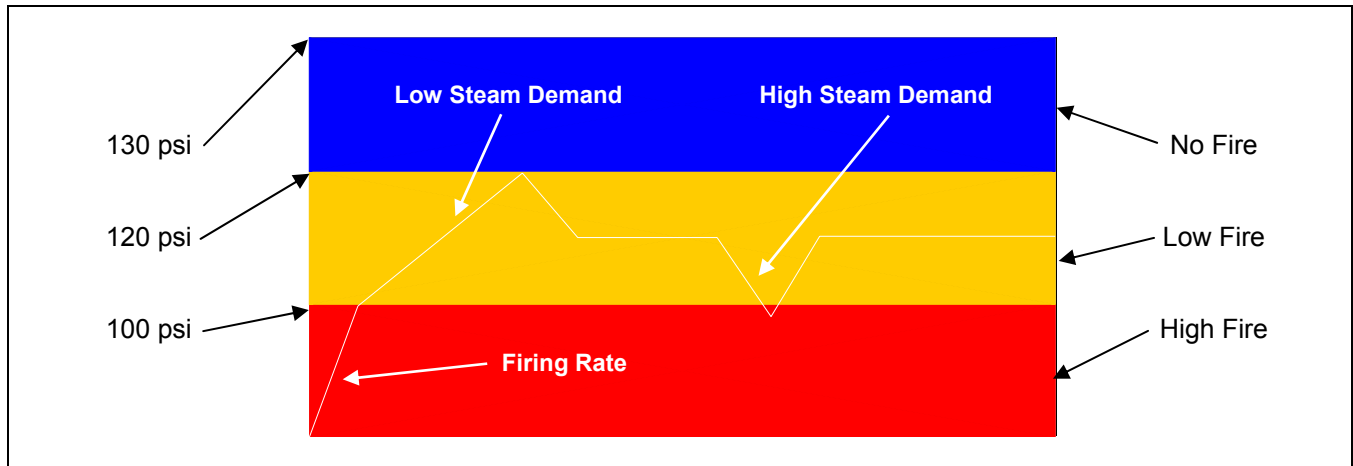
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Example

1. Set the "Low Fire" control to 100 psi. Adjust the differential to 2 psi.
2. Set the "Controller" control to 120 psi. Adjust the differential to 5 psi.
3. Set the "Limit" to 130 psi.

In this example, the boiler will operate on high fire until it reaches 100 psi. It will operate on low fire until it reaches 120 psi. At 120 psi, it will stop firing until the pressure drops to 115 psi. At 115 psi, it will fire at low fire again. If the pressure drops below 100 psi at any point, the boiler will operate on high fire (again, until it reaches 100 psi).



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