



Performance Comparison of Forced Draft Fuel Burners

Weishaupt and "standard" burner

Sabathini Community Center is a non-profit center whose building houses numerous agencies that profit their neighborhood and the City of Minneapolis. In the fall of 1998 they undertook a capital campaign that included updating their heating boilers.

Two reputable firms repaired both boilers to like-new condition. Each 250 HP boiler is of the firebox, low pressure steam design. One boiler was fitted with a standard technology burner and the other with a modern, Weishaupt burner.

The buyer at Sabathini was interested in determining if the more expensive Weishaupt burner would save them a significant amount of fuel. A means of determining that was quite simple, since each boiler has a dedicated boiler feed pump and a gas meter is dedicated only to the boilers. By means of measuring the water used and the gas used, the fuel-to-steam efficiency was easily calculated.

Normally, boilers are compared based upon their combustion efficiency at high fire only. Since most burners, running at high fire, are capable of their best performance, we expected that each boiler would have identical combustion efficiencies. We found, however, that the boiler with the "standard" burner was a better boiler and ran at a full percentage point higher than the Weishaupt equipped boiler even though the burner ran more efficiently. The stack temperature on the boiler with the "standard" burner was 46 degrees lower due to it's condition.

Using conventional logic, that boiler should have lower fuel costs but it didn't.

The boiler with the Weishaupt burner needed much less fuel, due to the Weishaupt performance. There was a 10% savings on the boiler with the Weishaupt burner!

Inferior boiler, superior burner : 10% fuel savings using -weishaupt