



## Primary School Saves 8-10% in Fuel Costs

*"We are very pleased with the Limpsfield and Autoflame equipment, and CSI Services Installation Technicians performed the work on schedule and on budget. They are always a phone call away, and very prompt with any service or guidance we need or request. I would recommend CSI Services and the products they sell very highly to the commercial, industrial, and institutional platform."*

**Harry Eimerbrink, Facilities Director,  
Central York School District**

Sinking Springs Elementary School in Central York School District (CYSD), PA, USA has two 30HP boilers that were installed in 1999 with Gordon Piatt burners. The burners installed were controlled with mechanical linkage and were not suitable for the application due to a very limited turndown ratio. Due to this limited turndown ratio the boilers were dry cycling frequently and causing damage to the boilers with thermal stresses cracking sections within the boilers.

To overcome this issue the school's burner service company/local Autoflame Technology Centre, CSI Services, recommended that the existing burners should be replaced with high efficiency Limpsfield LCNP9 burners with integrated Autoflame Mini Mk7 Controls. This combination of upgrading both the controls and burners allowed CSI to accurately forecast a reduction in fuel usage of 8 to 10% for the school.

As a result of the upgrade: the new Limpsfield burners now have a 6 to 1 turn down ratio, which has eliminated the excessive cycling and reduced the thermal stresses on the boiler. With Limpsfield burners guaranteed to run at 3% O<sub>2</sub> throughout the entire firing range the combustion efficiency has also been significantly improved. A final improvement on the boiler control was made with the addition of the Autoflame Outdoor Temperature Control Module, which allowed the boiler setpoint to automatically vary according to the outdoor air temperature.

### Existing Equipment:

Two 30HP boilers

### Solution:

Limpsfield LCNP9 Burners with  
integrated Autoflame Mini  
Mk7 Controllers

### Benefits:

- Guaranteed 3% O<sub>2</sub> emissions (often less) with zero CO
- 8-10% fuel usage reduction
- Reduced labour and maintenance costs
- Lower turndown ratio resulting in reduced cycling
- Reduced thermal stress

**Cost of systems recouped in fuel  
savings in 1-2 years**

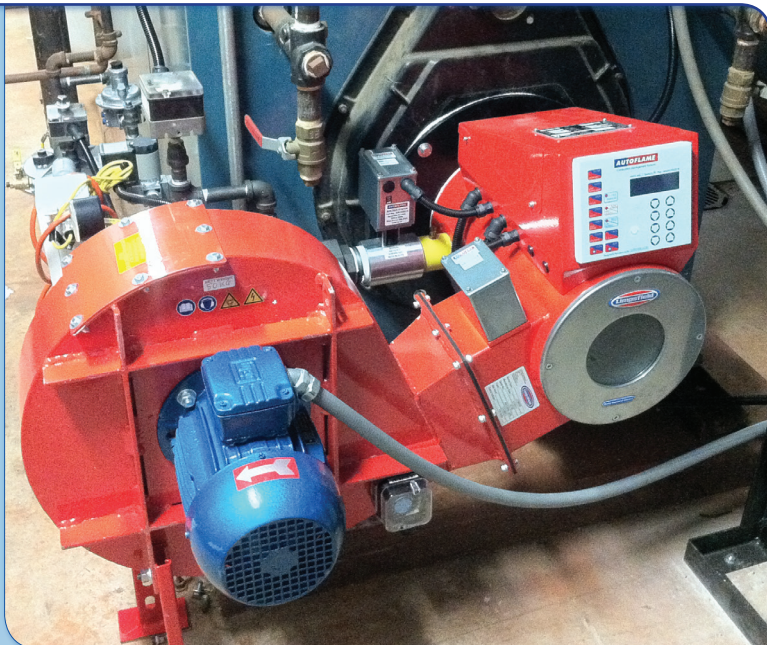
### Implemented by:

CSI Services, an Autoflame-  
Authorized Technology Center



### Before:

- ♦ Mechanical linkage-based system
- ♦ Complex to maintain
- ♦ System is prone to degrading performance due to play in linkage over time (hysteresis)



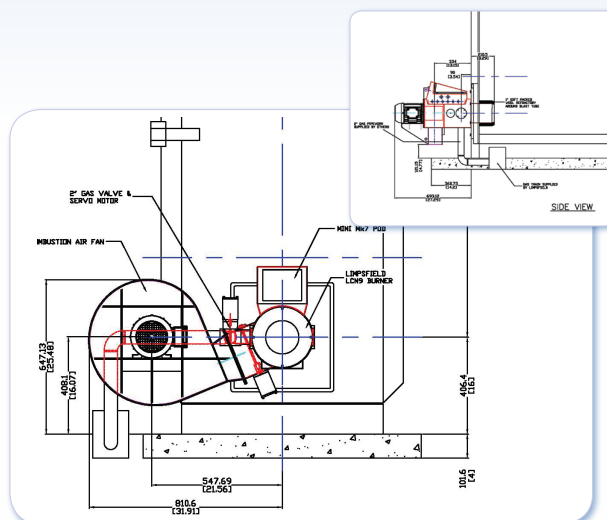
### After:

- ♦ Servomotor-based system
- ♦ Built-in controller simplifies installation/maintenance and reduces labour
- ♦ System will operate to commissioned settings for years without adjustment

The savings on this project have far exceeded any expectations and based on the success of the burner project at Sinking Springs Elementary, CYSD is moving forward to replace the burners at Roundtown Elementary, North Hills Elementary and other facilities within the next couple of years.



Autoflame operates worldwide with 60+ technology centres performing installation and support. Founded in 1972, Autoflame is a British manufacturer based near London. It ensures industry-leading quality control and innovation by performing in-house R&D, engineering, software development, manufacturing production, and technical support.



Project General Assembly Drawings

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