



ADVANCED POWER SYSTEMS INTERNATIONAL, INC.

Toll Free-- 888-881-2774 or Ph. 860-496-7776 Fax. 860-496-7626

339 Main Street, Torrington CT. 06790

www.fitchfuelcatalyst.com

Fitch Fuel Catalyst Installation and Adjustment Instructions for Commercial Burners

Before commencing installation ensure there are no open flames. Consult the burner manufactures guidelines for correct burner settings and procedures for relief of fuel system pressure prior to installation of the Fitch Fuel Catalyst product.

Before installing the Fitch Fuel Catalyst the Furnace / Boiler burner must be in good electrical and mechanical condition. The Fitch Fuel Catalyst will not compensate for mechanical or electrical deficiencies. Optimum fuel efficiency will be achieved once the fuel in the tanks has circulated through the Fuel Catalyst several times and the new catalyst treated fuel is the system fuel. It is possible that higher fuel consumption and emission readings may be recorded immediately following installation, which is corrected through adjustment.

Installations – Take all necessary precautions relative to installing on an oil fired system. Locate a suitable location in the fuel line supply line at or near the pump-set recirculation line after the filter. In #4 & #6 (FO) oil installations locate the unit after the heater. Always install the Fitch with a bypass valve to allow for cleaning.

1. Clean the boiler then establish a baseline. Measure the exhaust gas composition and combustion efficiency and ensure the system is functioning to the burner manufacturer's recommendation before installing or engaging fuel flow through the Fitch Fuel Catalyst.
2. Install the Fitch Fuel Catalyst at the selected location in compliance with building / piping codes. If a filter is not in place it is required that one is installed before the Fitch Fuel Catalyst.
3. Once installed check for leaks and let the burner run at **100% for approx. 30 minutes** and take new exhaust gas and combustion efficiency measurement per (1).

Typical Observations

- i) Excess air may change
- ii) Stack temperature may increase*
- iii) CO and CO₂ may both change.
- iv) Flame color change.

* In rare cases a rise in stack temperature may not be recorded. To determine the increase in efficiency measure the timing of recycle pre and post installation. See Fitch Bulletin HO#1

4. Make the necessary adjustments to bring the burner to manufacturer's recommendation and maximum combustion efficiency.

Typical Adjustments

- i) **For pressure systems** reduce pump pressure and the nozzle size to reduce fuel flow and stack temp.
- ii) **For air atomizing systems** adjust modulation to reduce fuel flow and stack temperature.
- iii) Adjust for optimal stack temp, minimal soot, minimal CO.
- iv) Change air flow to optimum excess air.

48 hours - 1 weeks operational time after initial adjustment.

Typical for commercial boiler applications

5. Take a new exhaust gas and combustion efficiency measurement
6. Make the necessary adjustments to bring the burner to manufacturer's recommended reading.
7. The fuel filter will require more frequent cleaning than normal during the initial stages of the Fitch Fuel Catalysts installation. When used with heavy oil it is recommended that you flush the Fitch Fuel Catalyst with light oil, kerosene, or warm soapy water or suitable filter cleaning solution every 1,000 hours or 3 months to ensure maximum fuel efficiency is maintained throughout the products life.