

The Front Burner

A Quarterly Newsletter Highlighting Product & Industry News

Siloxanes in Landfill Gas and what it may mean for us.

What is the issue? Siloxanes can cause gas controls to shut down.



What are Siloxanes? A chain of silicon and oxygen atoms, also known as silicones. Siloxanes are used in a variety of commercial and industrial applications including: cosmetics, electronics, plastics, medical devices and even in our food products. They can make skin look silky and shiny, help electronics be heat resistant, provide plastics flexibility and be an oil substitute for low-calorie foods.

What is the impact? As we all know, methane gas from landfills is considered a valuable renewable fuel source and is sometimes mixed in with natural gas. Ever-increasing amounts of Siloxanes end up in landfills and become a form of contamination in the landfill gas (LFG). During combustion, the Siloxanes break down and leave silica micro-particulates on surfaces throughout the burner and the appliance. Over time, a significant problem is created when a coating of silica develops on flame sense rods that acts as an insulator. This condition reduces the current in the electrical circuit which is perceived by the control as a loss of flame detection and causes the gas control to safely shut down.

What can we do about it? Understanding and identifying the buildup of Siloxanes is likely the first corrective step. Identifying and reporting this to gas companies will increase awareness and hopefully lead to increased filtration. There are several methods of filtering Siloxanes such as: passing through silica gel, utilizing activated carbon filters and even UV lamps in direct contact with the biogas stream.

What do we do now? Weak flame current may show itself in two ways: it may result in a failure to light, or a loss of flame that triggers re-ignition attempts. Users should clean the flame sense rod with a mild abrasive like fine sandpaper or an abrasive pad such as a scouring pad. This method can be effective for all types of flame sense rods.

Customizing the 35-67 Gas Ignition Control for Blossman Gas



We take great pride in our ability to customize products to meet the needs of our customers. Blossman Gas, a large distributor of propane gas and appliances in the South East U.S., recognized a need for window-sized furnaces. Blossman created WarmFront, a vented propane heater that can be installed in homes without central heating. The window-mounted heaters are initially installed with propane bottles for situations with immediate heating needs. Working together, an existing gas ignition control was adapted to meet Blossman's needs and reduce product costs.



"We are happy to have a partner like Fenwal Controls for the WarmFront Heater and are excited about introducing the product to consumers later this year."

- Jake Weidie, Project Manager, WarmFront

Blossman's prototype furnace used a hot surface ignition gas control to quietly ignite the furnace with a time delay relay to activate the room air fan after heating to prevent blowing cold air into the room. The Fenwal Controls 35-67 hot surface control is equipped with an extra relay that is used as a lockout indicator. By developing special software and repurposing the additional relay, the 35-67 can now control the hot surface gas ignition, the inducer blower and the room air fan using a single control board. As with all Fenwal Controls special configurations, it is agency reviewed and approved.



"Blossman Services has worked with Fenwal Controls throughout our project and our experience has been exceptional. We are bringing a new, innovative product to the market and they have supported us every step of the way. In addition, Blossman tested more than 30 options and by far, Fenwal Control's was superior in both quality and performance."

- Stuart Weidie, President and CEO, Blossman Gas



The Fenwal Controls 35-67 provides proven hot surface technology to ensure the gas is not turned on until the heating element is ready for safe ignition. Engineered to meet the new harmonized standard for gas ignition controls well in advance of the 2023 deadline, this design will ensure Blossman's product is ready for today and the future.

[Click here to learn about the 35-67...](#)

THERMOSWITCH® Temperature Setting

Many models of the Thermoswitch® temperature controls are purchased without a factory temperature setting. This option allows the user to set the activation temperature to specific application needs. Here are a few tips to help you set the temperature.



1. The arrow on the head of the control indicates the direction to turn the adjusting screw to increase the temperature setting. A single turn equates to 70-100°F, depending on the model.
2. Thermoswitch controls are 100% factory tested, typically set at room temperature. This should be considered your starting place before adjustments are made.
3. The controls should be mounted in a manner similar to the final installation during normal operation.
4. The control should be operated through several cycles of heating and cooling (50% of the time in heating and 50% of the time in cooling) to permit the control to stabilize.
5. The contacts will either close or open depending on the model. Utilize an OHM meter to detect activation.
6. Turn the adjusting screw to reach the desired set point temperature.
7. Check the temperature set point by heating above and below the set point at a rate not to exceed 1°F per minute. (50% of the time above, 50% below).
NOTE: Changing the temperature at a faster rate will make confirming the temperature setting more challenging.
8. Repeat steps 6 and 7 until your desired set point accuracy is achieved.

[Read the Thermoswitch installation instructions...](#)

[Learn more about the Thermoswitch...](#)

Questions with your control systems?

Contact our Sales Managers: [Bill Sager](#) or [Mark Tully](#)
Or find a representative near you at fenwalcontrols.com

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