

## OSRAM SYLVANIA ADDS SUREHEAT® MAX HT 900°C AIR HEATERS TO PRODUCT LINE. HIGHER AIR TEMPERATURES BRING INCREASED PRODUCTIVITY.

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### **Introduction**

OSRAM SYLVANIA has been producing electric process air heaters for over 40 years to provide precise/repeatable heat that can be targeted where needed. New heater designs are constantly being added to meet changing requirements in the industry. OSRAM SYLVANIA is now expanding their product line into higher temperatures by adding a 900°C air heater in response to industry needs. The SUREHEAT® MAX HT reduces down-time resulting from rugged element design while extending heater life vs. standard heaters when run at lower temperatures.

### **Problem Statement**

The need for higher temperatures has grown for several reasons; increased productivity demands higher equipment speeds which require higher process air temperatures, new products being developed require higher processing temperatures, and in addition, many applications which used gas flames are being converted to hot air. Existing heaters that were being run at their design maximum temperatures could be pushed to run at slightly higher temperatures, but only with dramatically shortened heater life.

### **Previous Options**

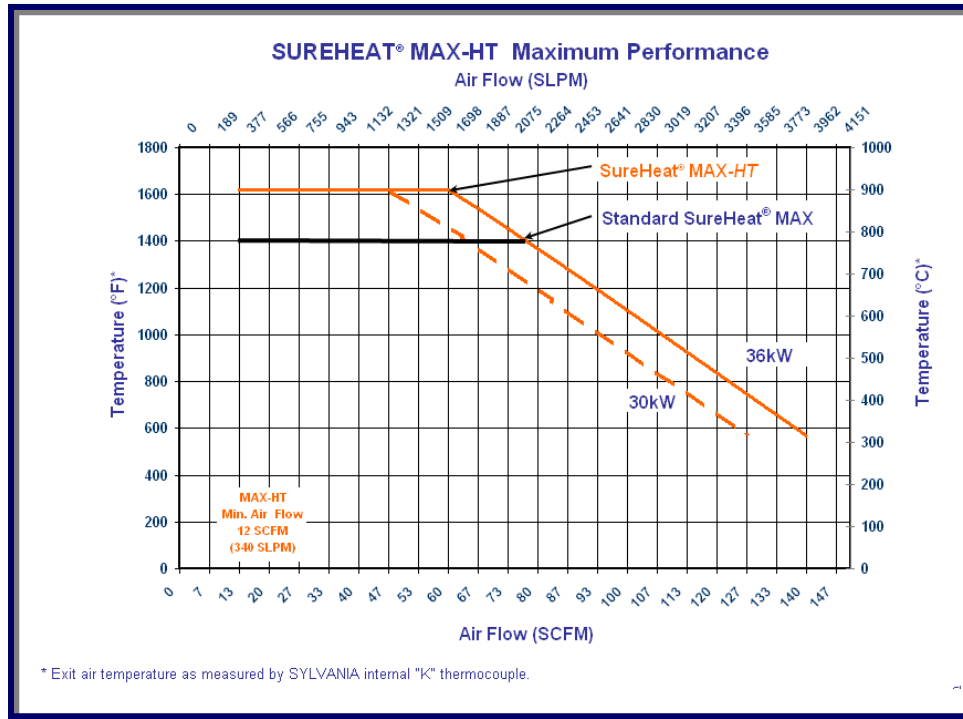
The options for companies needing air temperatures above the normal range were very limited. One option was to run existing heaters at temperatures above their design temperature and plan on the expenses of frequent heater replacement and increased downtime. The increase in productivity had to be carefully balanced against the increased operating costs.

A second option available, in a few cases, was to connect two heaters in a series, using the second heater to provide a slight boost to the temperature exiting in the first heater. This option is limited to heaters specifically designed for high inlet temperatures such as the SYLVANIA flanged heaters and threaded inline heaters.



### The OSRAM SYLVANIA Solution

The SUREHEAT<sup>®</sup> Max HT is designed to heat air to 1652°F (900°C) over a wide range of air flows, not just at one flow rate, and in a real world production environment of vibrations and movement. The 1652°F temperature is 252°F (140°C) higher than the standard SUREHEAT Max.



The increase in air temperature is made possible by increasing the length of the heater slightly which allows for an increase in the surface area of the element wire and an increase in the dwell time of the air inside the heater while supporting the element winding over its entire length, not just on the ends of the windings.

By increasing the overall length of the element, OSRAM SYLVANIA is able to increase the element wire length and diameter while maintaining the same wattage. The increased wire diameter makes a more rugged element and increasing the diameter and length increases the surface area available to transfer energy from the element to the air. The increased length also increases the dwell time of the air inside the heater which also improves the transfer of energy and allows the air temperature to more closely approach the wire temperature.

The key to being able to make a longer element without sacrificing heater robustness, is our serpentine winding and the supporting threaded ceramic rod. Each turn of the element winding is individually supported on the center threaded rod to eliminate the potential for the element to sag towards one end due to vibration, gravity and air flow pressure. Standard helical coils are supported on the ends only and tend to sag over time. The problem of helical coils sagging increases with increased coil length. As the element turns bunch up at the exit end of the heater, the watt density and element temperatures increase which dramatically shortens heater life.



#### Additional Features:

- Small size – 4” diameter body
- Threaded inlet and exit ports for convenient air connections in systems
- Built in terminal strip and high temperature plastic wiring enclosure
- Rugged stainless steel heater body
- Stainless steel mounting base
- Built in type K thermocouple
- Exposed wire low mass element for fast heat up/cool down
- Rated for pressures up to 60 PSI (4 bar)
- Available in a range of wattages, voltages up to 36 KW, 480 Volt, single or three phase

#### Installation

We offer assistance in selecting the proper heater model and control system for your application. The convenient electrical connections, integral thermocouple and threaded air ports make mounting the heater quick and easy.

#### Summary

OSRAM SYLVANIA announces the introduction of a new process air heater that will allow manufacturers to increase productivity through increased speeds and allows processes requiring higher temperatures to run without excessive heater replacements and down time.

This new heater was designed and built to meet industry demands for increased productivity. OSRAM SYLVANIA offers standard and custom designed heaters to meet your needs and requirements. See our standard product line at [www.sylvaniaheaters.com](http://www.sylvaniaheaters.com) or contact us at 603-772-4331.