

Solaronics

Gas INFRARED Heaters

**This Fastener
Manufacturer
Cools Down
High Fuel
Costs With
Energy-Efficient
Infra-Red Heat**

SPS Technologies achieved energy savings of over \$180,000 per year and brought a warm, comfortable environment to its Cleveland facility with the installation of Solaronics Infra-Red Heaters.

2-STAGE Low Intensity Gas Infra-red Heaters

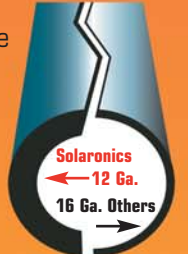
FEATURES

New!
**TRUE
DUAL®**

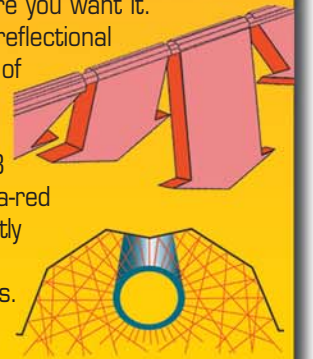
MODULATING
HEATERS



- Patented 2-STAGE design provides precise matching of air/gas flows at both high and low fire stages
- Optimum combustion 100% of the time
- Heavy Duty 12 gauge heat exchanger
- Factory installed wave turbulator
- CSA International Design Certified to ANSI/CGA Standards
- Burner fully assembled and tested — ready to hang
- Burner controls fully enclosed and isolated from combustion air
- Safe, reliable operation:
 - Direct spark electronic ignition control
 - 100% safety shut-off
 - Pre/Post purge cycles
 - System validation light



- Brite aluminum reflectors (98% reflectivity) rotate from 0° to 30° to direct the heat where you want it. Superior reflectional efficiency of 91.7% (shape) directs 33 of 36 infra-red rays directly to floor/work areas.

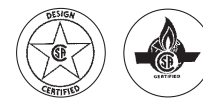


■ Options: Stainless Steel Models

**Manufacturers
Achieve Higher
Comfort Levels,
Lower Operating
Costs with
Rugged,
Dependable
Solaronics
Infra-Red
Heaters.**

Solaronics

Gas INFRARED Heaters



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Saving energy and improving comfort for over 100 employees topped the list of priorities for Adam Leiferman, project engineer for the Cleveland building of SPS Technologies. This automotive and aerospace certified manufacturer with operations worldwide produces high strength industrial fasteners and precision components for commercial and military applications, jet engines, automobiles and power generation industries.

Leiferman maintains that while employee comfort is paramount in any workplace, it is especially important in a manufacturing environment because it correlates directly to on the job safety, productivity and finished goods quality.

And energy-efficiency is particularly significant here because the company's operations are heavily dependent on natural gas.

CONTAINING ENERGY COSTS

"When the price of natural gas increased to over \$10/mcf, SPS Technologies realized it had to reduce its energy costs and stay competitive with factories based in warmer climates," says Leiferman. "But the company's process operations (heat treating) consume most of the required energy, with little or no possibility for higher efficiencies."

Energy savings would have to come from other areas.

As the building's self-proclaimed "Energy Czar," a title Leiferman mentions while sporting a subtle grin, he scrutinized the heating, lighting and air compressor systems to determine what improvements were needed, and the amount of energy savings that could be rung out of a 50-year-old building with air infiltration issues.

Fixing the building's heating problem was of immediate concern, however. "They told me to fix the boiler system," he states. Two 14.5 million BTU boilers from the early 1990s supplied steam to forced air unit heaters located on the ceiling. A third boiler was fired up on especially cold days. "The system was very inefficient – steam had to be pushed over 500 ft. to

REPLACEMENT SYSTEM CHOICES

"We looked at in-house remedies such as heat recovery from the process furnaces and compressors as well as forced air heating, but dismissed those ideas," says Leiferman. Because of the known energy-efficiencies and the way they direct heat to work areas, gas-fired infra-red heating systems were investigated.

SPS Technologies replaced aged boilers with energy-efficient Solaronics Infra-Red Heaters, saving over \$180,000 YEARLY. A warm, comfortable workplace included.

the heaters and then pumped back to the boilers," says Leiferman. Many of the heaters were in need of repair. To make matters worse, heat stratified to the ceiling; heat at the floor was uneven. Employee comfort was less than ideal. And the cost to maintain the boilers was approaching \$33,000 a year.

The Solaronics system was chosen for its energy-efficiency, the way heat is directed to work areas, and 'the best warranty.'

Estimates received for restoring the boiler system to good working order exceeded \$500,000. "Considering the system's age and problems, eliminating the inefficient boilers would be the first step in reducing the heating bill and improving employee comfort levels," he adds.

He continues, "A half dozen infra-red companies were sourced. We selected Solaronics after contacting companies using their heaters for their comments. A contributing factor in Solaronics's favor was that they offered the best warranty."

Scott Campbell of Western Reserve Energy Corp., the Ohio representative for Solaronics, Inc., analyzed the building's heating requirements to determine heater placement and sizings appropriate for the various manufacturing and warehouse areas. Twenty-eight low intensity tubular heaters were specified along with four high intensity heaters to warm the loading dock employees.

According to Campbell, Solaronics heaters are easily mounted via safety chain high above and out of the way of work areas – which in this particular application involved an overhead crane. Without moving air, the heaters beam infra-red energy that is converted into warm, radiant heat as it reaches work surfaces, machinery, tools, concrete floors and people

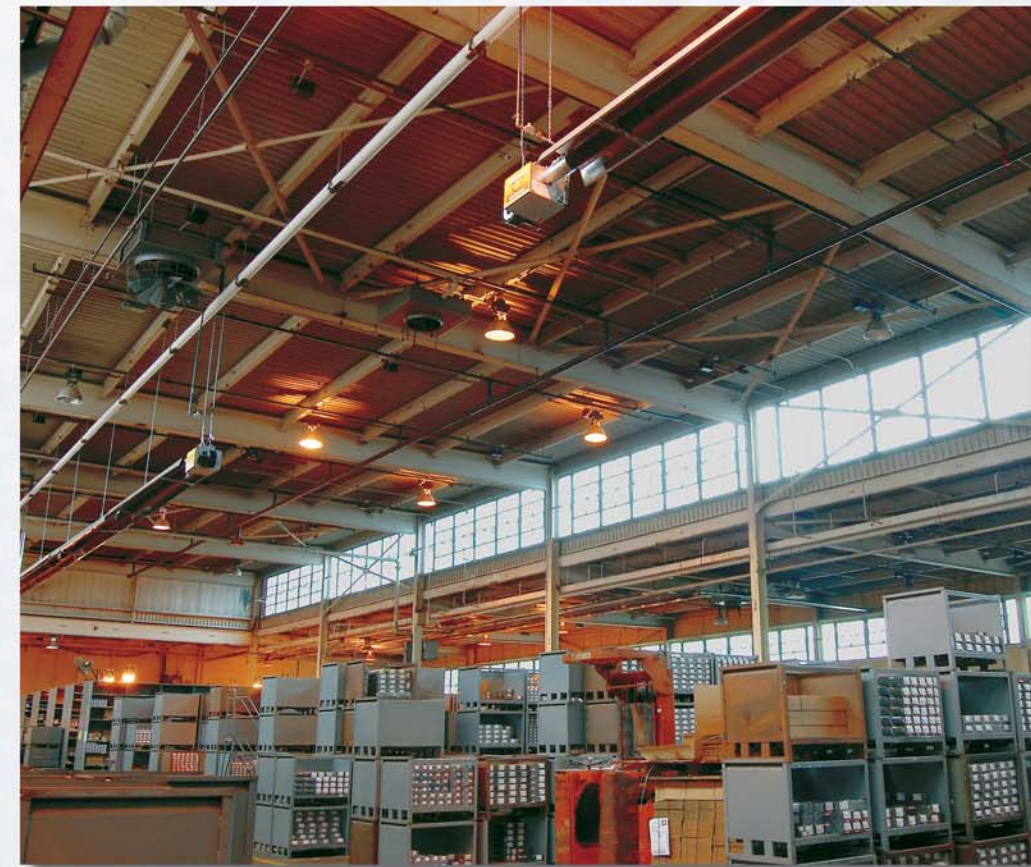
below. Similar to how we are warmed by the sun, the heat is retained where it's directed, so people are comfortable and equipment and floors are warm to the touch.

Tom Gross, Terry Falb and two additional employees of Gross Construction Company, licensed for heating, plumbing and electrical work, installed the Solaronics system over a six week period, working around the employees' three shifts without interrupting their production. "In

and warm air unit heaters, according to Robert Rush, the company's vice president of sales and marketing.

Compact, silent fans are the only moving parts. The heaters utilize a patented reflector design for optimum infra-red dispersion and have a reflectional efficiency exceeding 90%. Each 10 ft. reflector section is constructed of Brite finish aluminum and can be precisely angled to direct the heat where needed. Long runs of

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Solaronics heaters are easily mounted via safety chain high above and out of the way of work areas. In this building, necessary clearances involved an operating overhead crane.

the end, the employees get a better heating system," says Gross.

Energy-efficient Solaronics heaters are CSA International Design Certified to ANSI/CGA Standards and are fueled economically by Natural Gas or widely available Propane Gas (LP). Customarily specified for new construction and retrofits to existing commercial and industrial buildings, they can achieve fuel cost savings of up to 75% when compared to conventional boilers

radiant tube were required in the Cleveland building, and that's not a problem for the Solaronics units, says Campbell of Western Reserve Energy Corp. Up to 70 ft. lengths can be utilized, with inputs up to 200,000 BTUH.

Following the first full heating season with the Solaronics system, Leiferman reports that energy savings totaled \$150,000, plus \$33,000 saved from not having to maintain the old boiler system.

Continuous research and innovation has enabled Solaronics, the leader in gas infra-red technology and products, to develop important new energy saving heating solutions for which the company has received U.S. patents. The recently introduced True Dual® infra-red heating system features the patented 2-STAGE design that provides precise matching of air/gas flows at both high and low fire stages for optimum efficiency.