



#### **SPECIAL FEATURES**

##### **HORIZONTAL OR VERTICAL OPERATION**

The Casso-Solar SWL Unitube is a short wavelength infrared heater that can be provided to operate in the horizontal or vertical position.

##### **VARIETY OF END TERMINALS**

The SWL Unitube Heater can be provided with a variety of end termination configurations to suit design requirements. Cooling air is directed to the terminals, protecting the filament to terminal seal.

##### **CUSTOM DISPERSION ANGLES**

The infrared emission can be dispersed from the SWL Unitube Heater window at standard dispersion angles of 90°, 120° and 180° as well as custom dispersion angles. Casso-Solar Technologies can recommend the most efficient IR dispersion angle for your application.

##### **CUSTOM WATTAGE AND VOLTAGES**

The SWL Unitube Heater is available in watt densities up to 200 watts per lineal inch, much greater than com technology for supplying cooling air. Custom Configurations for heated length, terminal design, power and voltage are available.

**W**ith new product and process technology under continuous development, production equipment is required to give precise and flexible control over production quality, while operating efficiently with minimum maintenance. For over forty years, Casso-Solar Corporation has been providing our customers the competitive edge.

#### **NO REFLECTORS REQUIRED**

The Casso-Solar SWL Unitube Infrared Heater contains an integral gold film reflector or high temperature ceramic flame coated reflector that directs the infrared energy to the product without the need for the typical external reflector. Reflectors are maintenance free. Gold is the most efficient reflector material for all infrared energy, as it will not oxidize like other metallic reflectors. Ceramic will run at higher temperatures.

#### **CONSERVES ENERGY**

The SWL Unitube® provides energy efficiencies of up to 85%, drastically reducing electrical power consumption over competitive tubular heaters.

Like all Casso Solar Infrared Heaters®, the SWL Unitube can be tuned to match the peak absorption point of the material being heated over the usable wavelength range of 0.76-4.0 microns, with emitter temperatures of up to 5000°F.

SWL Unitubes can be arranged to provide temperature profiling, or can be shut down to conserve energy with narrow products or when there is no product in the oven. Shortwave energy penetrates into most products to provide uniform heating through the product's thickness.

#### **FAST RESPONSE**

Rapid warm-up is an important feature of the SWL Unitube. Peak radiant output can be achieved in less than one second with complete saturation in under one minute. Complete cool down can be within seconds of a line stoppage with the aid of a purge blower, thus protecting valuable product.

#### **EXTRA LONG LIFE**

Cooling air flow around the heater to protect the gold from vaporization and/or on the terminal ends to extend lamp seal life; common failure areas in competitive products. Energy intensity remains stable throughout the life of the heater.

#### **EASY TO CONTROL**

Through the use of fast cycle zero-crossing SCRs, or phase angle firing SCR power controllers for precision applications, the SWL Unitube can maintain product temperature to within  $\pm 2^\circ\text{F}$  across the web. Optional optical pyrometers can measure product temperature and automatically control the process.

#### **DESIGN FLEXIBILITY**

SWL Unitubes® can be mounted together to form banks; prewired into single or multiple zones. Supply and exhaust air systems can be provided for moisture removal or use in solvent environments. Applications include drying pretreatment and primer on coil lines, paint and powder drying/curing, preheating and drying.

#### **Sales & Technical Information**

**1-845-354-2010**

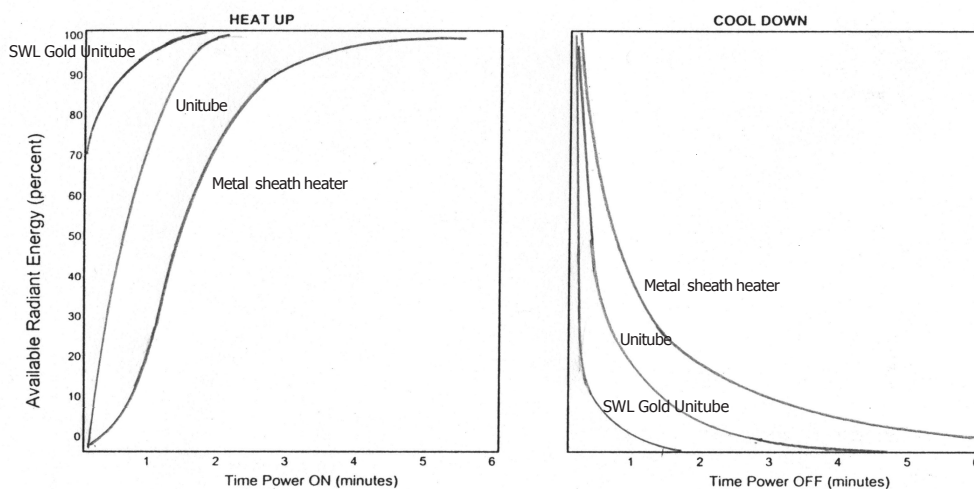
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Continuous Coil Line

### HEAT-UP AND COOL DOWN CURVES

The curves below demonstrate the rapid response time of the SWL Unitube.



### **SPECIFICATIONS:**

- WATT DENSITIES:** Up to 200 watts per lineal inch (32 watts per centimeter) generating watt densities up to 200 watts per square inch (12.6 watts/cm<sup>2</sup>).
- VOLTAGES:** Voltage depends on heated length, 240-600 volts.
- SIZES:** Please contact our Sales Department
- REFLECTIVE COATING:** Gold and White Ceramic Reflective Coatings available
- WAVELENGTH EMISSION:** 0.76 - 4.0 microns, peak adjustable by emitter temperature.
- TEMPERATURE RANGE:** Up to 5000°F(2800°C) filament temperature.
- AIRCOOLING:** Required for many applications. Low density applications may be run without cooling air. Consult our Engineering Department.
- LIFE EXPECTANCY:** With cooling, 5,000-10,000 hours, depending upon the application.