



Infrared Heaters For Controlled Concentrated Heating

Model 4185



FAST. FOCUSED. CONTROLLED.

Infrared Heat. Instantaneous Results.

The Model 4185 StripIR® infrared heater is a lamp and formed reflector heating system that provides even heat distribution across a 1.7" wide strip. The Model 4185 heater uses T-3, halogen lamps backed by a ceramic reflector to provide heat and offer the users benefits of a high density heating solution.

It is available in a variety of heated lengths to accommodate different heating requirements. With its self-cleaning ceramic reflector, the heater can operate at high temperatures without water-cooling or air-cooling. Instant on/instant off capability makes it ideal for applications such as curing, drying and precise heating.

Applications

- Curing Epoxy
- Curing Rubber Coating on Steel
- Drying and Curing Paint
- Drying and Curing Adhesive
- Forming plastic
- Heating Acrylic
- Preheating
- Reglossing
- Shrink Insulation
- Thermoforming
- Weld Stress Relief

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- The lamp reaches 90 percent of full operating temperature within three seconds of a cold start.
- The radiant energy dissipates to ten percent, five seconds after the power supply is disconnected.
- Localized heat focuses only on the desired area without heating the rest of the product.
- Non-contact heat source does not come in contact with product being heated.
- The infrared energy emitted from these heaters can be adjusted to match the heating requirements of a variety of applications.
- Repeatable results can be achieved for consistent process outputs.
- The power controller equipped to control these heaters is included as a part of the package.

Product Description-StripIR 4185

The product is comprised of two major components, the heater module and the power controller.

Heater Module

The heater module is designed to operate without any external water or forced air cooling. It uses natural convection cooling to keep these surfaces of the heater and the lamps in an appropriate operating temperature range.

Ceramic Reflector

The ceramic reflector focuses the heat on a 1.7 inch strip immediately below the heater. It heats and cools rapidly when the lamps is turned off or on. During operation the reflector also heats up and acts as a secondary emitter of medium wavelength infrared energy.

Lamps

A variety of high intensity, short wave, T-3, halogen lamps are available for the different lengths for the Model 4185. The tungsten emitter in the lamps has an operating temperature of up to 4000F (2205C) with a spectral energy peak wavelength of 1.15 microns. Each heater Model 4185 will heat a strip that is 1.7 inch (43mm) wide and is available in heated lengths of 5, 10, 16, 25 and 38 inches (127, 254, 406, 635 and 965mm). Specify heated length when ordering. Heated lengths should be at least 20% larger than work-piece.

Power Cord

Each heater has an 10 foot power cord to connect the heater module to the power controller.

Mounting

The back of the Model 4185 has six 10-32 NF threaded holes for mounting purpose.



The ceramic reflector directs energy down onto a strip 1.7" wide.

Power Controller Options

The Model 4185 Heater comes equipped with a power controller to precisely regulate the voltage being applied to the heater. The output of the heating element is very repeatable and is dependent on the voltage supplied to it. The power controllers are designed as part of this system to optimize the heater performance. The controllers can be ordered with one of several command signals options to allow you to choose how the heat output is controlled. The controller options for the Strip Model 4185 are:

Model 5420 Power Controller

The Model 5420 Power Controller has an off/on switch and a manual one-turn potentiometer that will vary the output voltage form 0% to 97% of the line voltage. The controller comes complete with a power cord and plug and a terminal block connection to install the wiring from the heater.

Model 5420E Power Controller

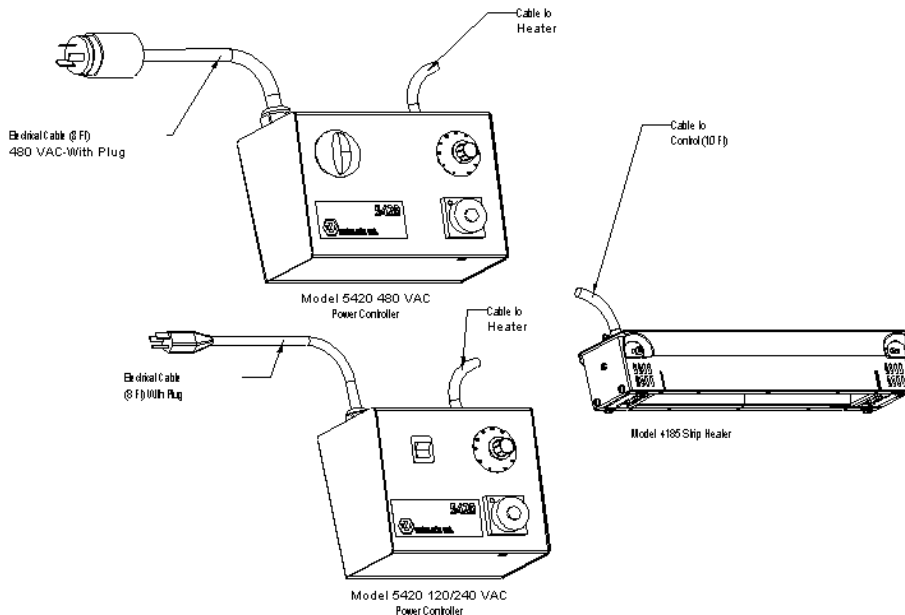
The Model 5420E Power Controller has an off/on switch, a manual one-turn potentiometer that will vary the output voltage form 0% to 97% of the line voltage and a timer. The time has a 50 increment dial and may be set to adjust the voltage on time between 0 to 5.0 sec, 0 to 50 sec, 0 to 5.0 min, 0 to 50min, 0 to 5.0 hour and 0 to 50 hour. The controller comes complete with a power cord with a plug and a terminal block connection to install the wiring from the heater.

Model 5420mA Power Controller

The Model 5420mA Power Controller has an off/on switch and a receptacle/plug to accept a 4 to 20 mA control signal from an external source to regulate the output voltage. The controller comes complete with a power cord and plug and a terminal block connection to install the wiring from the heater.

Product Drawing

Strip IR Model 4185 Product Drawing / Featuring Controller Model Number 5420



Technical Information – StripIR 4185

Product Temperatures

The maximum work-piece temperature depends upon a number of conditions: the ability of the work-piece to absorb radiant energy, the amount of heat loss, and the applied voltage to the heater emitter. For continuous heating processes, the maximum work-piece temperature should be less than 1300°F (704°C).

Product Sizes

A strip 1.7 inches (43 mm) in width and length from 5 to 38 inches (127 to 965 mm) can be heated with a single Model 4185. Mounting two or more heaters side-by-side can create different heated areas. For example, Figure 3 shows eight heaters installed cylindrically to provide high heat concentration on work-piece objects. Heating efficiency is highest on objects 1 inch or larger. Figure 4 shows three heaters installed to provide heat to a moving web of material. Additional heaters could be used in similar applications requiring greater heat flux density.

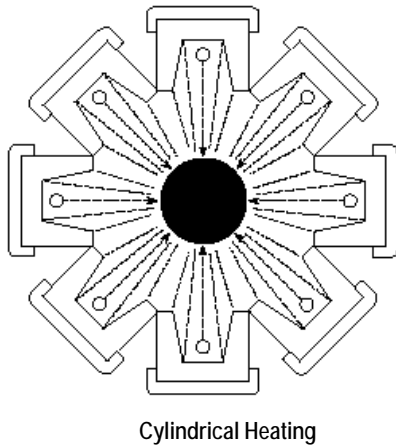


Figure # 3

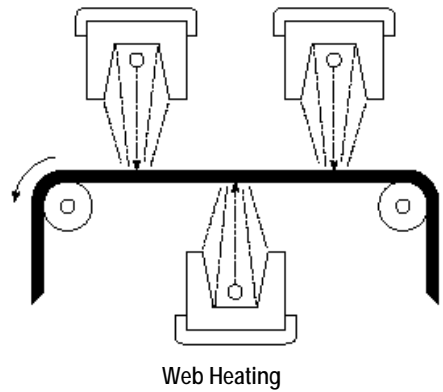
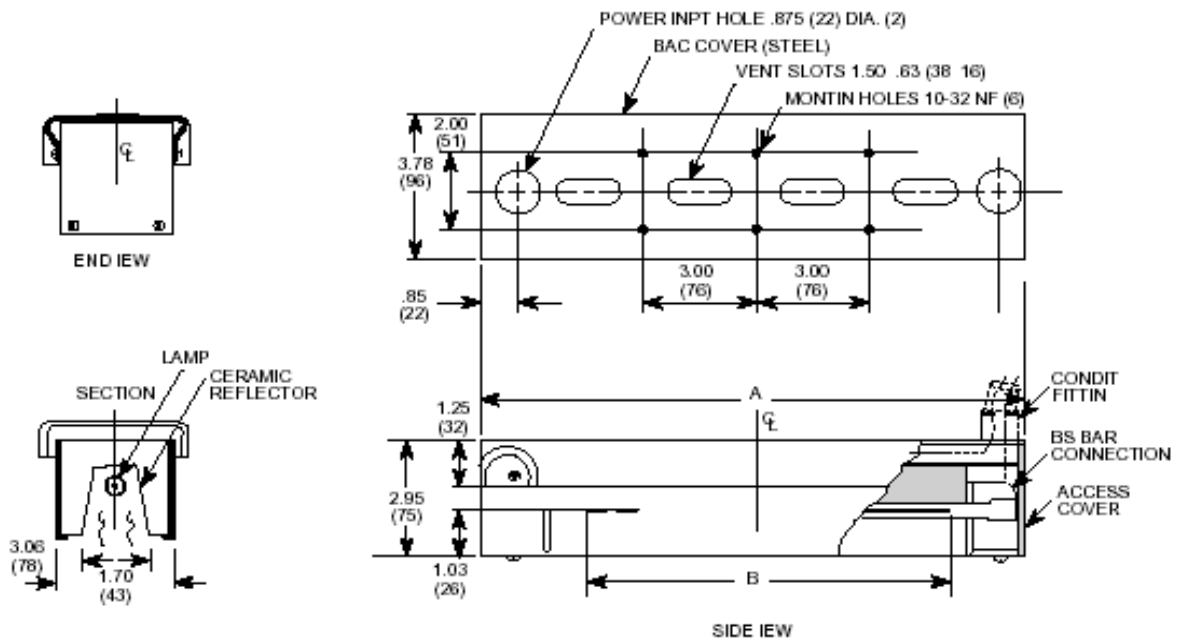


Figure # 4

Product Dimensions-StripIR Model 4185

DIMENSIONS STRIP IR 4185					
Dimension	4185-05	4185-10	4185-16	4185-25	4185-38
A Overall Length Inches (mm)	9.5 (241)	14.5 (368)	20.5 (521)	29.5 (749)	42.5 (1080)
B Lighted Length Inches (mm)	5 (127)	10 (254)	16 (406)	25 (635)	38 (965)





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Specifications – StripIR Model 4185

MODEL SPECIFICATIONS 4185					
Specifications	4185-05	4185-10	4185-16	4185-25	4185-38
Weight lb (kg)	2.0 (0.91)	3.3 (2.6)	5.4 (2.6)	8.4 (3.8)	12.8 (5.8)
Rated Voltage	120 Volt	240 Volt	240 Volt	480 Volt	480 Volt
Power at Rated voltage kw	0.5	1.0	1.6	2.5	3.8
Lamp	103390-001	103390-003	103390-005	103390-007	103390-010
Optical	clear	Clear	Clear	Clear	Clear
Part to Order	4185-05-500	4185-10-1000	4185-16-1600	4185-25-2500	4185-38-380

How to Order – StripIR Model 4185

MODEL 4185	
	Product Description - 5 inch Strip heaters (500 watt)
4185-05-500-01-00	4185-05 with Model 5420-120 controller (includes potentiometer)
4185-05-500-02-00	4185-05 with Model 5420E-120 controller (includes potentiometer and timer)
4185-05-500-03-00	4185-05 with Model 5420mA-120 controller (includes 4-20 mA input control)
	Product Description - 10 inch Strip heaters (1000 watt)
4185-10-1000-01-00	4185-10 with Model 5420-240 controller (includes potentiometer)
4185-10-1000-02-00	4185-10 with Model 5420E-240 controller (includes potentiometer and timer)
4185-10-1000-03-00	4185-10 with Model 5420mA-240 controller (includes 4-20 mA input control)
	Product Description - 16 inch Strip heaters (1600 watt)
4185-16-1600-01-00	4185-16 with Model 5420-240 controller (includes potentiometer)
4185-16-1600-02-00	4185-16 with Model 5420E-240 controller (includes potentiometer and timer)
4185-16-1600-03-00	4185-16 with Model 5420mA-240 controller (includes 4-20 mA input control)
	Product Description - 25 inch Strip heaters (2500 watt)
4185-25-2500-01-00	4185-25 with Model 5420-480 controller (includes potentiometer)
4185-25-2500-02-00	4185-25 with Model 5420E-480 controller (includes potentiometer and timer)
4184-25-2500-03-00	4185-25 with Model 5420mA-480 controller (includes 4-20 mA input control)
	Product Description - 38 inch Strip heaters (3800watt)
4185-38-3800-01-00	4185-38 with Model 5420-480 controller (includes potentiometer)
4185-38-3800-02-00	4185-38 with Model 5420E-480 controller (includes potentiometer and timer)
4185-38-3800-03-00	4185-38 with Model 5420mA-480 controller (includes 4-20 mA input control)

Accessories Replacement Parts – StripIR Model 4185

ACCESSORIES AND REPLACEMENT PARTS	
	Replacement Lamps (all lamps sold in pairs)
103390-001	5 inch, 500 watt,
103390-003	10 inch, 1000 watt
103390-005	16 inch, 1600 watt
103390-007	25 inch 2500 watt
103390-010	38 inch, 3800 watt
	Replacement Reflectors
037195-003	05 inch length (1 per heater)
037195-008	10 inch length (1 per heater)
037195-008 037195-003	16 inch length (1 of each per heater)
037195-002	25 inch length (4 per heater)
037795-002	38 inch length (6 per heater)
	Heater Modules
4185-05-500	4184-05-500 Heater Module
4185-10-1000	4185-10-1000 Heater Module
4185-16-1600	4185-16-1600 Heater Module
4185-25-2500	4185-25-2500 Heater Module
4185-38-3800	4185-38-3800 Heater Module
	120 volt Power Controllers
5420-120	Model 5420-120 Power Controller (includes potentiometer)
5420E-120	Model 5420E-120 Power Controller (includes potentiometer and timer)
5420mA-120	Model 5420mA-Power Controller (includes 4-20 mA input control)
	240 Volt Power Controllers
5420-240	Model 5420-240 Power Controllers (includes potentiometer)
5420E-240	Model 5420E-240 Power Controllers (includes potentiometer and timer)
5420mA-240	Model 5420mA-240 Power Controllers (includes 4-20 mA input control)
	480 Power Controllers
5420-480	Model 5420-480 Power Controllers (includes potentiometer)
5420E-480	Model 5420E-480 Power Controllers (includes potentiometer and timer)
5420mA-480	Model 5420mA-480 Power Controllers (includes 4-20 mA input control)