

Infrared Heaters For Controlled Concentrated Heating

Model 5306



FAST. FOCUSED. CONTROLLED.

Infrared Heat. Instantaneous Results.

The Model 5306 StripIR® infrared heater is a lamp and polished aluminum reflector heating system that provides even heat distribution across a 1.5" wide strip. The Model 5306 heater uses a T-3, halogen lamp backed by an aluminum 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. Instant on / instant off capability makes it ideal for applications such as curing, drying and precise heating

Applications

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



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Features and Benefits-StripIR 5306

- 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 is focused 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 other heaters is included as a part of the package.

Product Description-StripIR 5306

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

Heater Module

The heater module has a highly polished surface that focuses the infrared energy to a 1.5 inch wide strip. It uses water cooling to keep the reflector at a cool operating temperature. Safe electrical connections are made in the heaters end castings.

System Controllers

The StripIR 5306 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.

Lamps

A variety of high intensity, short wave, T-3, halogen lamps are available for the different lengths of the Model 5306. 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 5306 will heat a strip that is 1.5 inch (43mm) wide and is available in heated lengths of 2, 5, 10, 16, 25 and 38 inches (65, 127, 254, 406, 635 and 965mm). Specify heated length when ordering. Heated lengths should be at least 20% larger than work-piece.

Power Cord

An Module has an 8 foot power cord to connect the heater module to the power controller.

Mounting

There are four 10-32 x ½ inch mounting screws located on the top surface of the end castings (see dimensional drawing for locations)

Power Controller Options

System Controllers

The Model 5306 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 SpotIR Model 5306 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

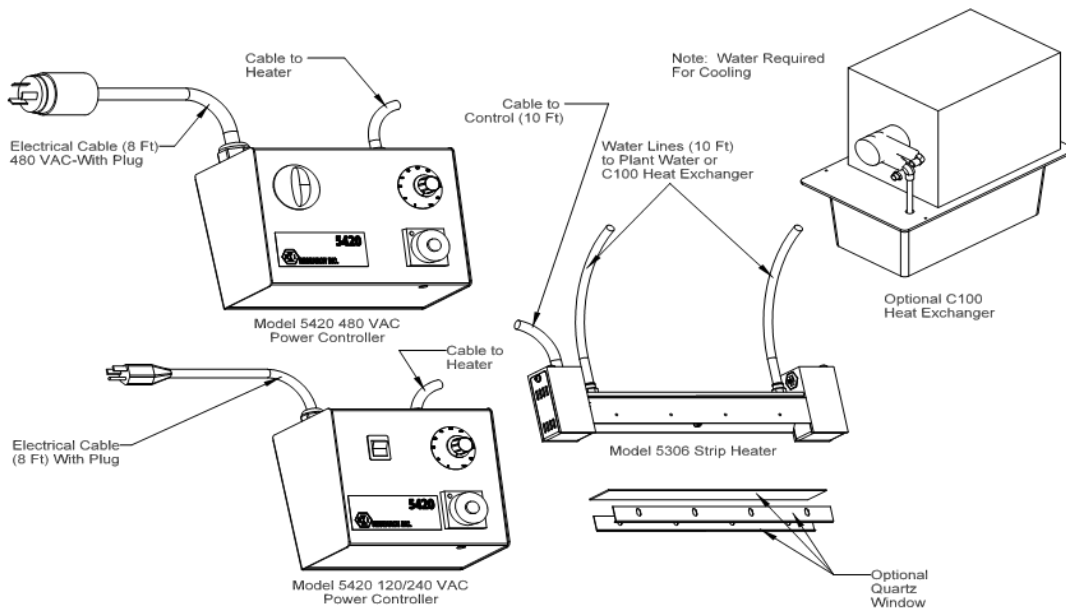
The Model 5420E Power Controller has an off/on switch, a manual one-turn potentiometer that will vary the output voltage form 0% to 97% of the line voltage, and a timer. The time has a 50 increment dial and may be set to adjust the voltage on time between 0 to 5.0 sec, 0 to 50 sec, 0 to 5.0 min, 0 to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

Product Drawing StripIR Model 5306

Strip IR Model 5306 Product Drawing / Featuring Controller Model Number 5420



Technical Information – StripIR 5306

Target Product Sizes

The Model 5306 generates radiant energy and directs it into a strip approximately 1.5 inches (38 mm) wide and 2.5 to 38 inches (64 to 965 mm) long. For best results, it is recommended that the Model 5306 be operated at a distance of 1.5 inches from the product.

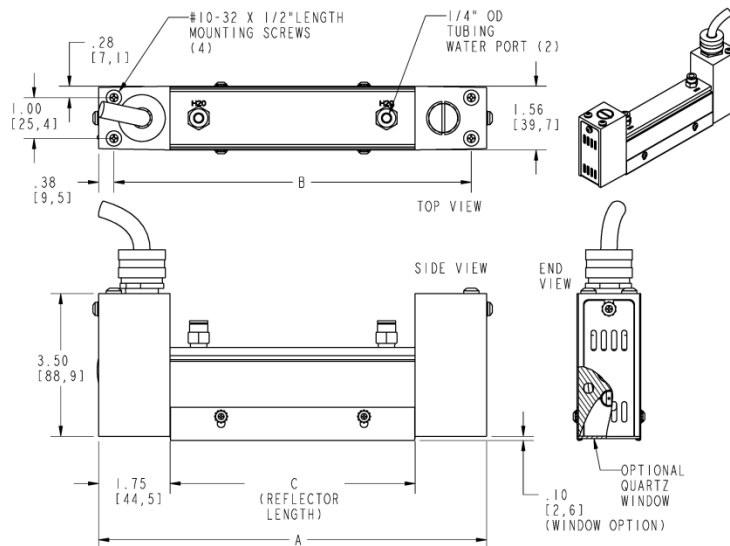
Mounting two or more heaters side-by-side can create different heated areas. For example, Figure 4 shows five heaters installed in a line to provide heat across a wide area.

Product Temperatures

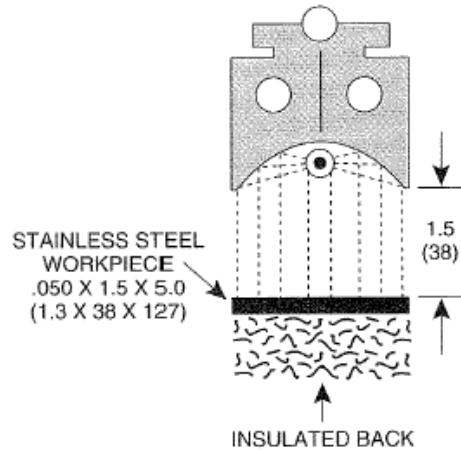
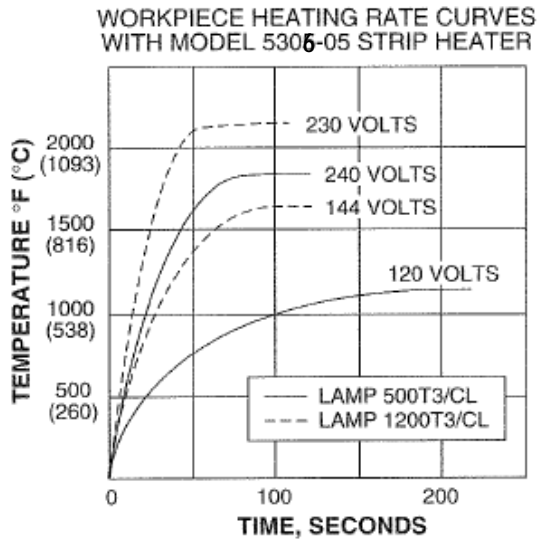
The maximum work-piece temperature depends upon the ability of the work-piece to absorb radiant energy, the amount of heat loss, and the voltage applied to the heater emitter. A reflector or thermal insulator behind the work piece permits more rapid heating rates and higher work piece temperatures.

DIMENSIONS			
Model Number	A Inches (mm)	B Inches (mm)	C Inches (mm)
5306-02	6 (152.4)	5.24 (133.4)	2.5 (63.5)
5306-05	9.5 (241.3)	8.74 (222.3)	6 (152.4)
5306-10	14.5 (368.3)	13.74 (349.3)	11 (279.4)
5306-16	20.1 (510.5)	19.34 (491.5)	16.6 (421.5)
5306-25	29.5 (749.3)	28.74 (730.3)	26 (660.4)
5306-38	42.5 (1079.5)	41.74 (1060.5)	39 (990.6)

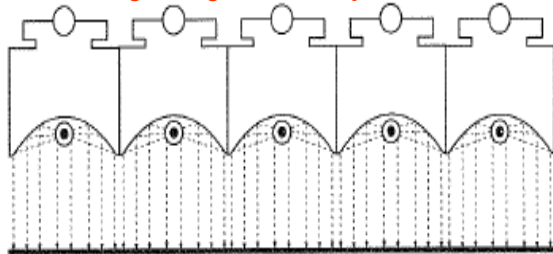
Product Dimensions – StripIR Model 5306



Technical Information – StripIR 5306

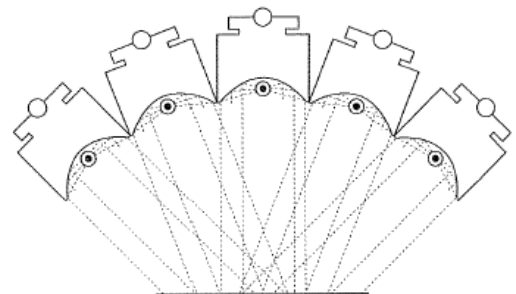


Multi-Heating Arrangement Examples



AREA HEATING

Figure # 4



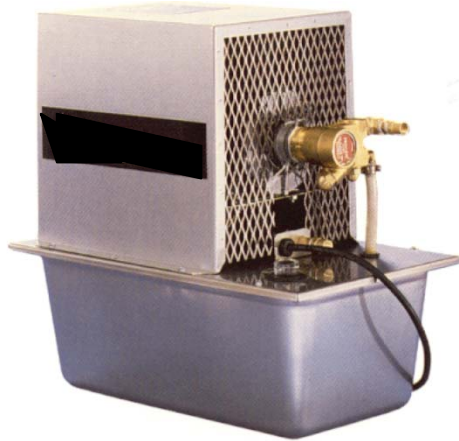
CONCENTRATED HEATING

Figure # 5

Additional Components and Accessories

Model C100 CoolIR Cooling System

The Model C100 is designed to provide 'stand alone' water cooling for the Model 5306. The base cooling unit includes a self-contained pump, cooling coil, blower unit, and 6-gallon tank. The cooler can be configured for 120 or 240 volt operation. Also available is a Protection Kit (PK option). This option includes a 0.5 gallon per minute flow switch and a 160 degree F thermostat enclosed in a stainless steel housing with all the fittings to connect easily to the 5306 heater. The housing is added to the water cooler and is plumbed and installed at the factor. A 10 foot cable is connected to the flow switch and thermostat to be hooked into a production safety circuit.



Optional Quartz Window

A quartz window is available for installation on the front of the heater module. When installed in the heater, the quartz window protects the aluminum reflector and lamp from contaminants released during the heating process resulting in maximum efficiency of the heater. The quartz window is sold separately from the heater.



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Specifications – StripIR Model 5306

Specifications	5306-02	5306-05	5306-10	5306-16	5306-25	5306-38
Weight, Pounds	1.6 (0.60)	2.2 (0.82)	3.1 (1.2)	4.1 (1.5)	5.8 (2.2)	8.1 (3.0)
Lamp Type	QIH120-1000R12	QIH240-1000R12	QIH 240-2000R12	QIH240 3000	QIH600-5000R12	QIH480-3800R12
Lamp Part Number	106587-001	103390-002	103390-004	103390-012	103390-008	103390-010
Lighted Length, Inches (mm)	2.56 (65)	5.0 (129)	11.0 (280)	16.0 (406)	25.0 (638)	38.0 (965)
Watt Density (W/in)	390	200	182	187	140	100
Rated Voltage	120	240	240	240	480	480
Total Power Dissipated @ Rated Voltage Watts	1000	1000	2000	3000	3500	3800
Total Current @ Rated Voltage, Amps	8.3	4.2	8.3	12.5	7.3	7.9
Cooling Water Flow 2, GPM (1pm)	0.15 (0.5)	0.15 (0.5)	0.25 (0.9)	0.4 (1.5)	0.6 (2.2)	0.45 (1.7)

Cooling water must be used on all Model 5306 heaters while in operation.

How to Order - StripIR Model 5306

MODEL 5306	
Part Number	Product Description - 2 inch Strip heaters (1000 watt, 120 volt)
5306-02-1000-01-00	5306-02 StripIR w ith Model 5420-120 controller (includes potentiometer)
5306-02-1000-02-00	5306-02 StripIR w ith Model 5420E-120 controller (includes potentiometer and timer)
5306-02-1000-03-00	5306-02 StripIR w ith Model 5420mA-120 controller (includes 4-20 mA input control)
	Product Description - 5 inch Strip heaters (1000 watt, 240 volt)
5306-05-1000-01-00	5306-05 StripIR w ith Model 5420-240 controller (includes potentiometer)
5306-05-1000-02-00	5306-05 StripIR w ith Model 5420E-240 controller (includes potentiometer and timer)
5306-05-1000-03-00	5306-05 StripIR w ith Model 5420mA-240 controller (includes 4-20 mA input control)
	Product Description - 10 inch Strip heaters (2000 watt, 240 volt)
5306-10-2000-01-00	5306-10 StripIR w ith Model 5420-240 controller (includes potentiometer)
5306-10-2000-02-00	5306-10 StripIR w ith Model 5420E-240 controller (includes potentiometer and timer)
5306-10-2000-03-00	5306-10 StripIR w ith Model 5420mA-240 controller (includes 4-20 mA input control)
	Product Description - 16 inch Strip heaters (3000 watt, 240 volt)
5306-16-3000-01-00	5306-16 StripIR w ith Model 5420-240 controller (includes potentiometer)
5306-16-3000-02-00	5306-16 StripIR w ith Model 5420E -240controller (includes potentiometer and timer)
5306-16-3000-03-00	5306-16 StripIR w ith Model 5420mA-240 controller (includes 4-20 mA input control)
	Product Description - 25 inch Strip heaters (3500 watt, 480 volt)
5306-25-3500-01-00	5306-25 StripIR w ith Model 5420-480 controller (includes potentiometer and timer control)
5306-25-3500-02-00	5306-25 StripIR w ith Model 5420E-480 controller (includes potentiometer and timer)
5306-25-3500-03-00	5306-25 StripIR w ith Model 5420mA-480 controller (4-20 mA input control)
	Product Description - 38 inch Strip heaters (3800 watt, 480 volt)
5306-38-3800-01-00	5306-38 StripIR w ith Model 5420-480 controller (includes potentiometer and timer control)
5306-38-3800-02-00	5306-38 StripIR w ith Model 5420E-480 controller (includes potentiometer and timer)
5306-38-3800-03-00	5306-38 StripIR w ith Model 5420mA-480 controller (includes 4-20 mA input control)



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Accessories and Replacement Parts - StripIR Model 5306

103390-002	Replacement lamps - 5 inch, 1000, 240v
103390-004	Replacement lamps - 10 inch, 2000, 240v
103390-012	Replacement lamps - 16 inch, 3000, 240v
103390-008	Replacement lamps - 25 inch, 3500, 480v
103390-010	Replacement lamps - 38 inch, 3800v 480v
	Quartz Window Kit
087851-011	Quartz Window Kit - 2 inch length
087851-001	Quartz Window Kit - 5 inch length
087851-003	Quartz Window Kit - 10 inch length
087851-005	Quartz Window Kit - 16 inch length
087851-007	Quartz Window Kit - 25 inch length
087851-009	Quartz Window Kit - 38 inch length
	Heater Modules
5306-02-1000	5306-02 Heater Module
5306-05-1000	5306-05 Heater Module
5306-10-2000	5306-10 Heater Module
5306-16-3000	5306-16 Heater Module
5306-25-3500	5306-25 Heater Module
5306-38-3800	5306-38 Heater Module
	120 volt power controllers
5420-120	Replacement Model 5420-120 power controller (includes potentiometer)
5420E-120	Replacement Model 5420E-120 power controller (includes potentiometer and timer)
5420mA-120	Replacement Model 5420mA-120 power controller (includes 4-20 mA input control)
	240 volt power controllers
5420-240	Replacement Model 5420-240 power controller (includes potentiometer)
5420E-240	Replacement Model 5420E-240 power controller (includes potentiometer and timer)
5420-mA-240	Replacement Model 5420mA-240 power controller (includes 4-20 mA input control)
	480 volt power controllers
5420-480	Replacement Model 5420-480 power controller (includes potentiometer)
5420E-480	Replacement Model 5420E-480 power controller (includes potentiometer and timer)
5420mA-480	Replacement Model 5420mA-480 power controller (includes 4-20 mA input control)
C100	C100 water to air heat exchanger
PK	Protection Kit added to C100
M5306	Additional operator's manual