

PHASER

PORTABLE HEATER AND ANNEALING STATION

PORTABLE AIRCRAFT ENGINE REPAIR STATION

Annealing Welds

Localized heat treating

Brazing

Heating brazed joints for disassembly

Annealing titanium, nickel, aluminum

Stress relief around bosses, flanges and holes



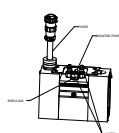
Infrared Heat. Instantaneous Results. Stress Relief.

The Phaser™ infrared annealing station is easily moveable and completely self contained. The various size heaters included with the station focus high intensity infrared energy precisely on an area to be annealed and not on adjacent parts.

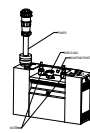
Because the heaters are electric and non contact, they do not contaminate adjacent parts. The unique gas flow ports in the heater body provide a convenient way to flood the annealed surface with inert gas to retard oxidation. The combination of the inert atmosphere and non contact heating keep the surface deposit free, even at high annealing temperatures.

The station is mounted on wheels and it is light enough to be pushed into position. All of the heaters are configured to operate on 240 volts and the station has a 10 foot long power cord terminated in a 240 volt plug with twist lock. The heaters can be fixed to an extension arm and positioned precisely above the area to be annealed.

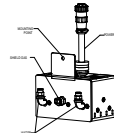
Heaters Included.....



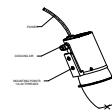
Model 5194-02-HT



Model 5194-04-HT



Model 5066-2x3-HT



Model 4085-HT



RESEARCH INC.
PROVIDING CONTROLLED ENERGY
DRYING • CURING • HEATING



Portable Heating and Annealing Station for Engine Repair

FAST. FOCUSED. CONTROLLED

Features and Benefits-Phaser

- Fast responding short wavelength lamps provide consistent, controllable heat source.
- Target temperatures as high as 2000 degrees F achievable for high temperature processes.
- Non contact heat source eliminates contamination at high temperatures.
- The variety of heaters in the PHASER allow heating of many shapes and geometries
- Inert gas can be introduced to the target through the heater to eliminate oxidation.
- Heaters are mounted on an adjustable arm for convenient positioning.
- Connectors on heaters for power, water, and gas allow easy set up and job change.
- Watlow controller provides convenient operator interface to create and store recipes.
- Yokagawa Chart recorder creates permanent paper record of temperature profile for each job.
- On board recirculating water chiller provides water to heaters without external water source.
- Ten foot power cord and locking 240 volt plug allow PHASER to be moved to different locations and quickly powered up.
- Light weight design and wheels make it easy for an operator to move the equipment to different work areas.
- Storage shelf provides storage for heaters when not in use.
- Chain and lock will secure a gas bottle to the side of the PHASER.

Controller

A Watlow (1/4 DIN) ramping controller/programmer precisely controls the energy output of the heaters. Up to 40 profiles (with a total of 256 steps) can be created and stored so that once a part has been profiled, the heating rate can be precisely reproduced

Chart Recorder

A six channel Yokagawa μ R1000 Industrial Chart Recorder will print a permanent paper record of a temperature profile. All six channels can be displayed simultaneously to facilitate ease in set up.

Mobile Base

The Mobile base comes equipped with a 10 foot long 240 volt power cord and plug for easy connection to power. It is on wheels for easy placement where ever work needs to be done and it houses the controller, chart recorder, and water chiller. In addition, it has storage space for heaters and two mounting bars for the adjustable heater support arm.

Adjustable Heater Support Arm

The heater support arm attaches to the mobile base on one end and the heater on the other. Its' hinge and swivel design allows maximum flexibility for heater positioning above a target in an awkward location. Water, power and gas lines run up the arm for easy connection to the heaters. The arm may be removed from the base and stored inside the storage compartment when the PHASER is not in use.



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