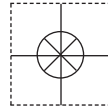


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FTH SERIES

Industrial Flow Through Heaters



FTH SERIES HEATERS INSTALLATION, OPERATION AND MAINTENANCE

Omega® flow through heaters are designed primarily for providing heat that regulates liquid temperature from 90°F to 190°F. The heaters have a titanium element that resists corrosion. The 304 Stainless Steel flow through tube is 15 inches long and has 1-½ inch NPT female pipe connections. Each heater has a 6 ft SJTW 12/3 or a 6 ft SJTW 14/3 power cord. The 115 V units have a 15P plug and the 240 V units have pig tails. The safety high limit trip point for the heater is 210°F. The 7.9" x 5.7" x 3.5" enclosure is made of ABS plastic and is water resistant.

WARNING: Not for use as a Spa or Hot Tub heater

WARNING: Read all instructions before installation and operation.

WARNING: Heater will fail if energized without proper fluid flow – 15 GPM minimum.

WARNING: Pump must be running and fluid flowing before turning on power to the Heater.

WARNING: Heater must be powered down for one to five minutes before turning off the pump and stopping fluid flow

WARNING: Bleed the system of any air before applying power to the heater.

WARNING: Heater failures due to insufficient flow or due to dry firing the heater are not covered under warranty.

WARNING: Heater should always be mounted so that the water outlet is elevated a minimum of 3 inches above the water inlet. (See Figure A)

WARNING: When using piping smaller than 1-1/2 inch, the heater is to be mounted in a vertical orientation. Fluid flow is to enter at the bottom and exit out the top. (See Figure B)

WARNING: Minimum connecting pipe diameter is ¾ inch.

WARNING: Piping connections are to meet all local plumbing codes.

WARNING: Electrical connections must be performed in accordance with Articles 250 and 680 of the National Electric Code and by a qualified electrician.

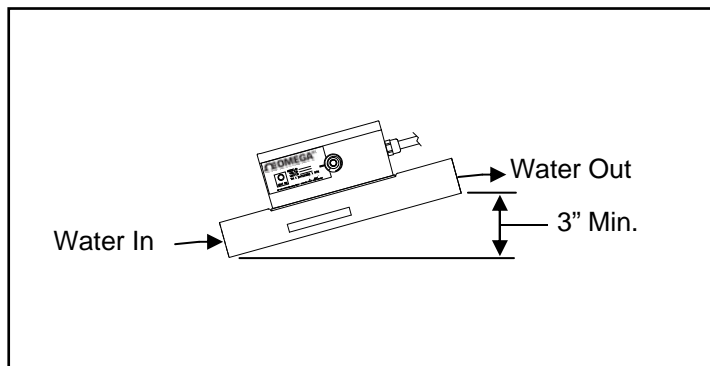


Figure A – Mounting Method for 1-½ Inch Pipe

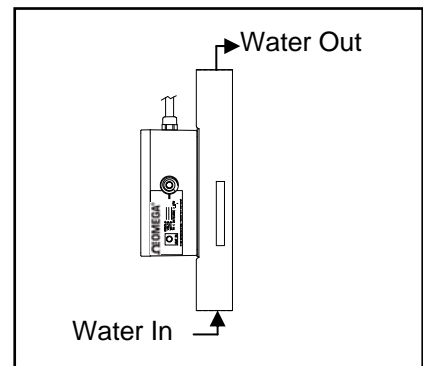


Figure B – Mounting Method for Piping less than 1-½ Inch



| Model Number | Series | Wattage | Voltage | Phase | AMP Draw |
|--------------|--------|---------|---------|-------|----------|
| FTH-1500-120 | FTH | 1500 | 120 | 1 Ø | 12.5 |
| FTH-2000-240 | FTH | 2000 | 240 | 1 Ø | 8.3 |
| FTH-3000-240 | FTH | 3000 | 240 | 1 Ø | 12.5 |
| FTH-4000-240 | FTH | 4000 | 240 | 1 Ø | 16.7 |
| FTH-5000-240 | FTH | 5000 | 240 | 1 Ø | 20.8 |
| FTH-6000-240 | FTH | 6000 | 240 | 1 Ø | 25.0 |

Chart A – Electrical Specifications

UNPACKING AND INSPECTION UPON RECEIPT

The FTH series heaters are shipped fully assembled and ready for installation. Check for any damage sustained during shipment and report damage to seller.

INSTALLATION

Prior to installation remove any packing material from inside the heater. The FTH series heaters have 1-1/2 NPT female pipe threads. The equivalent male fittings are required to plumb the heater for installation. Seal both pipe joints with an approved sealant. Although the heater assembly is equipped with a water resistant enclosure, it is not intended for direct exposure to weather or immersion in water.

TROUBLESHOOTING/PRECAUTIONS

Minimum guidelines for properly installed heater to achieve effective operation:

- 1) Proper Flow Rate: 15GPM minimum.
- 2) Thermostats are designed for heater control only and are not to be used for control of motors or other components. Heater should be turned on/off at the supply breaker or switch, not the thermostat, when heater is being serviced.
- 3) Heater should be plumbed below the lowest operating liquid level of the piping system.
- 4) If the heater experiences a high temperature condition, the high limit thermostat will shut down the heater. Disconnect power to the heater and check for inadequate flow (clogged filter or line), or for possible air that may have accumulated in the system. Correct the problem, start the fluid flowing, and then reconnect power to the heater.
- 5) To reset the heater controls, disconnect power to the heater and allow the fluid temperature to cool to 90°F. Then reconnect power to the heater.
- 6) The power supply to the heater must be disconnected before draining the piping system and do not reconnect power until the piping system is refilled and the fluid is flowing.
- 7) The power applied to the heater must be single phase. The heater must be protected by a circuit breaker or fused disconnect switch rated for the appropriate Amp draw. (See Chart A) A ground fault circuit must be incorporated into the system.

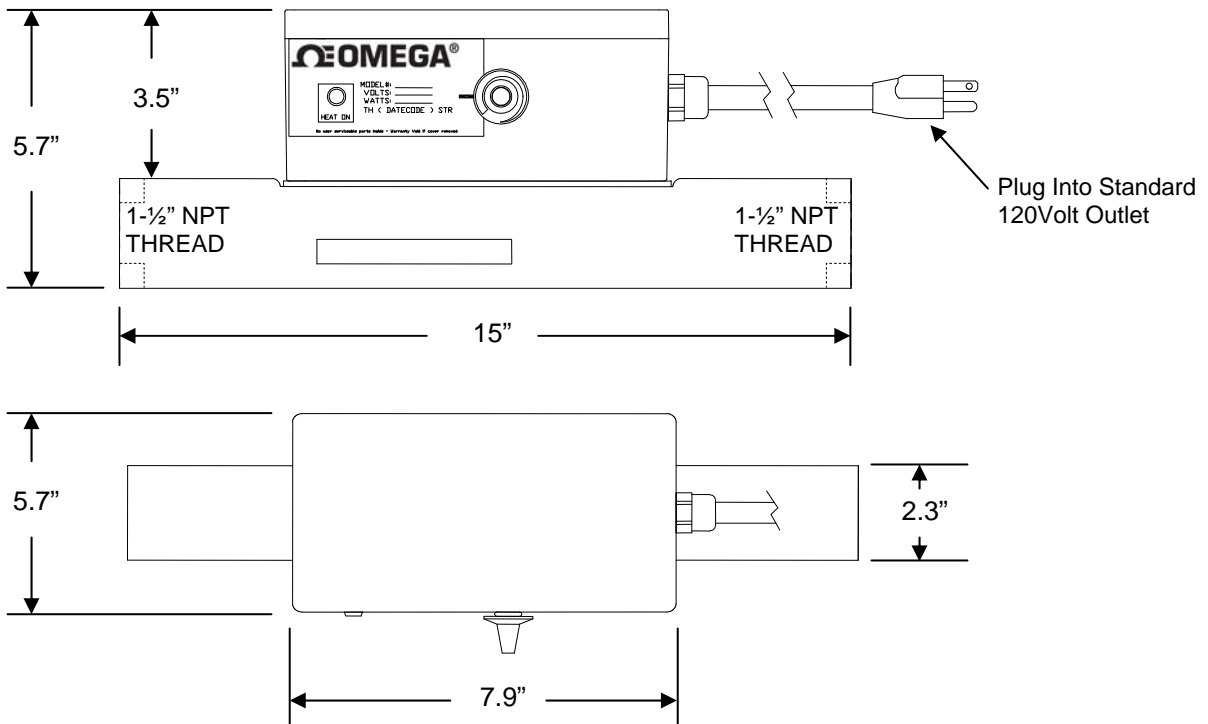
REPLACEMENT PARTS

For heaters that are beyond factory warranty, replacement High Limit and Control Thermostats can be acquired through electrical distributors. For heaters that are covered under warranty the heater assembly must be sent back to the seller for disposition. All returned heaters are subject to the terms and conditions of the warranty.

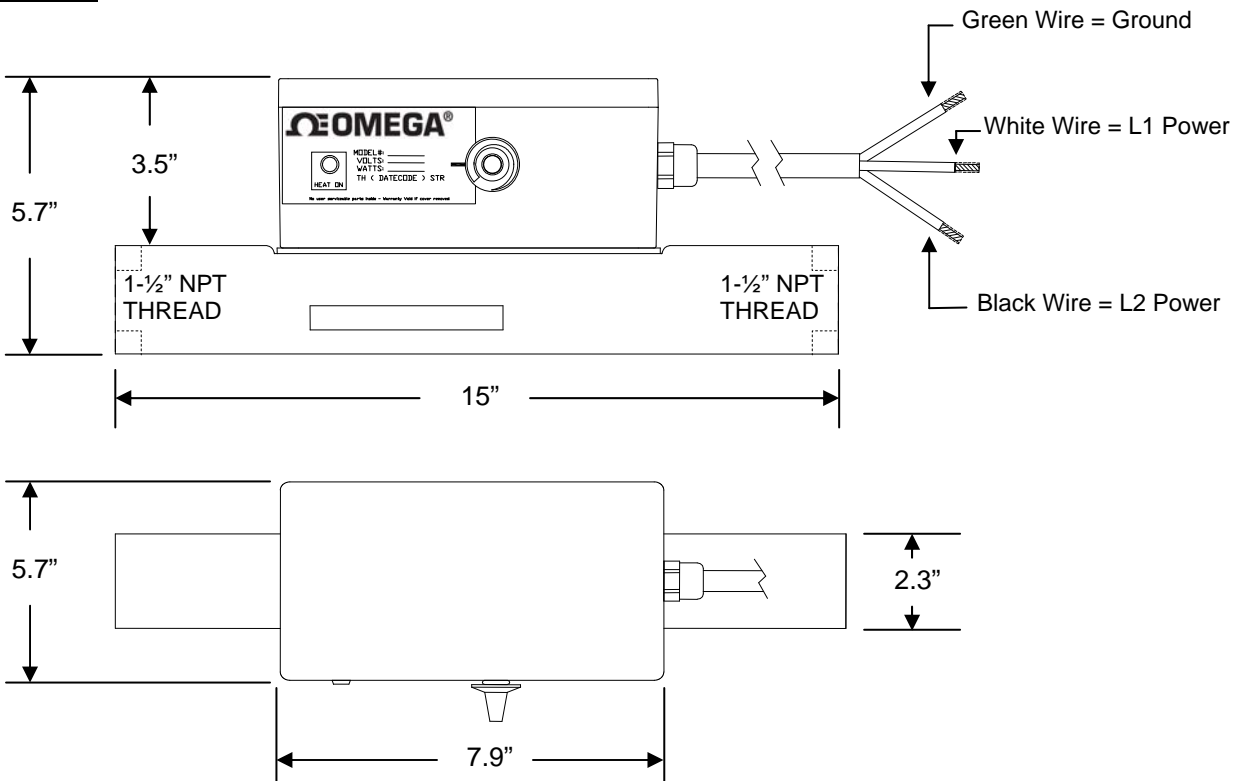


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WARNING: These products are not designed for use in, and should not be used for, human applications.



WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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