

# Installation Instructions

## Electric Thermolier Unit Heater



**ATTENTION: Read carefully before attempting to install, operate or service the Thermolier Electric Unit Heater. Retain the installation instructions for future use.**

### PRODUCT FEATURES

#### Standard Heating Capacities

3.3kW 230V & 415V 3phase and Neutral  
5kW 230V & 415V 3phase and Neutral  
7.5kW 230V & 415V 3phase and Neutral  
10kW 415V 3phase and Neutral  
15kW 415V 3phase and Neutral  
20kW 415V 3phase and Neutral

Optional wall/ceiling or vertical mounting brackets (as required).

Four-position M8 nut certs supplied in the case located on the top and the back for field mounting by threaded rods. Or, eye bolts with chain (hardware supplied by others)

The heavy duty Electric Thermolier Fan Heater is a high-capacity electric unit heater with a powerful fan, producing a high-volume airflow which distributes the heat generated evenly and effectively around the environment in which they are installed. Units are designed for vertical or horizontal mounting and air discharge.

Ideal for space heating in larger areas such as factories, warehouses, workshops, sports halls and open plan stores and for anti-condensation heating in plant rooms.



High ceiling locations inevitably benefit from Thermolier as part of an effective heating solution. Easy to install and control, features include improved air circulation, moisture resistance and no need for wall space.

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Turnbull & Scott Group  
Burnfoot Industrial Estate,  
Roxburghshire,  
Scotland, TD9 8SL  
[www.Turnbull-scott.co.uk](http://www.Turnbull-scott.co.uk)  
[info@turnbull-scott.co.uk](mailto:info@turnbull-scott.co.uk)  
**01450 372053**

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#### Get In Touch

 Call: 0845 6880112  
 Email: [info@adremit.co.uk](mailto:info@adremit.co.uk)

#### Our Address

Puravent, Adremit Limited, Unit 5a, Commercial Yard,  
Settle, North Yorkshire, BD24 9RH

## PRODUCT LOCATION INSTRUCTIONS

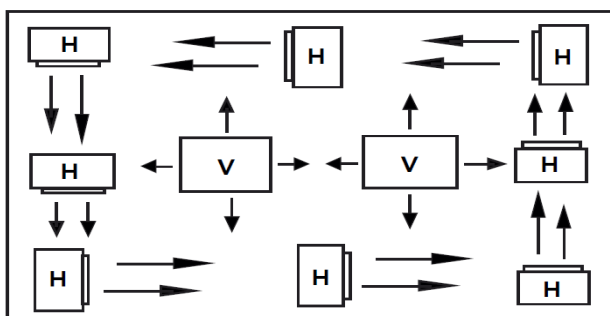
Once the total heating load is calculated, the quantity and capacity of the unit heaters must be determined. A large number of low-capacity heaters provides more uniform heat distribution. This is recommended when the area will be occupied by a relatively large number of working people.

A large number of smaller capacity unit heaters tends to prevent hot drafts, reduce noise levels, and increases diversity of load to help reduce electrical demand and operating costs.

In warehouses where even heat distribution and constant temperatures are less important, a smaller number of high capacity units can be used – in many cases reducing installation cost. To maintain reasonable heat distribution and reduce severe stratification, even in lower bay areas, the total air volume of the space should pass through the unit heaters about three times per hour.

It is important that the rated voltage of the heating equipment matches the supply voltage. Supply voltage in excess of the heater rated voltage can damage equipment. Supply voltage lower than the rated heater voltage will decrease heater output as well as run the risk of damaging some components.

Horizontal unit heaters are recommended in low bay areas with max. 5m ceilings. These should be concentrated along outside walls or other areas of greatest heat loss; spaced to set up a generally circular air movement, each heater supporting the air stream of the other. Additional vertical downflow unit heaters with appropriate accessories can be located to counteract ceiling heat losses.



## GENERAL SAFETY INFORMATION

The heaters should be installed in accordance with the latest edition of BS7671 Requirements for Electrical Installation.

To avoid possible electric shock, be sure the electrical current is turned off at the main switch prior to wiring or servicing the unit.

If the power disconnect is not integral and is out of sight, lock it in the open position and tag to prevent the unexpected application of power prior to performing any service or maintenance of the unit.

Make certain that the power source conforms to the requirement of your equipment.

Check heater voltage and phase on the rating label to confirm that it matches the electrical service supply.

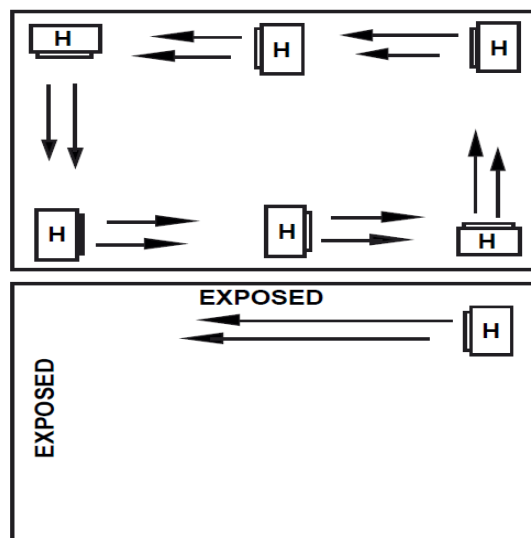
Wiring diagrams of the heater and supply connections are permanently attached to the inside of the heater access door. All terminals are coded in accordance with the wiring diagram. Accessory wiring is shown on the unit wiring diagram and supporting literature.

The heater must be mounted at least 2.2m above the floor to prevent accidental contact with the fan blade which could cause injury. Install the unit so there are no obstructions to the intake or discharge. Maintain clearances as shown below.

The wall/ceiling mounting structure and anchoring provisions must be of sufficient strength to support the combined weight of the heater and mounting bracket.

## CONTROL

On/off control of the heater and controls must be connected to the control circuit not the mains supply. This is to allow the fan to run when the heater is switched off. The heater must not be switched by breaking the main supply.



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**01450 372053**

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Puravent, Adremit Limited, Unit 5a, Commercial Yard,  
Settle, North Yorkshire, BD24 9RH

## PRINCIPLES OF OPERATION

Upon a call for heat from the remote low level or optional unit mounted thermostat, the unit fan motor and heating elements will be energised and remain ON until temperature reaches setting of thermostat; at which time the heating elements will be de-energised.

The optional unit mounted de-stratification thermostat will energise the unit heater fan motor upon a rise in temperature above its setting.

When the unit-mounted stratification thermostat closes on a temperature rise and at the same time the floor thermostat calls for heat, the motor will be energised immediately and the heating element will be energized, as previously described.

The automatic reset safety high limit shall de-energise the heating elements and control circuits should the temperature exceed the setting of the device. The fan safety override will energise the fan motor any time the setting of this device is exceeded to purge the heater casing of excess residual heat. When the fan switch is placed in the ON position the unit heater fan motor will be energised. Note –the wall thermostat should be set to the OFF position during this operation.

## SPECIFICATION

Cat No	Heater				Fan Motor		Air Volume	Max mtg ht(m)		Throw	Weight	Noise
	kW	Volts	Phase	Max A/phz	Watt	rpm	m <sup>3</sup> /hr	Horiz.	Vert.	m	kgs	dBa @ 3m
MP-TH-03-020	3.3	415	3P+N	5.4	7	1320	394	2.8	2.8	3.7	16.5	49
MP-TH-03-021	3.3	230	1P+N	14.4	7	1320	394	2.8	2.8	3.7	16.5	49
MP-TH-05-020	5	415	3P+N	8	7	1320	453	2.8	2.8	3.7	16.5	51
MP-TH-05-021	5	230	1P+N	21.5	7	1320	453	2.8	2.8	3.7	16.5	51
MP-TH-7.5-020	7.5	415	3P+N	12.16	18	1100	1214	3	3.7	6.7	21.12	58.1
MP-TH-10-020	10	415	3P+N	14.8	18	1100	1180	3	4.3	6.7	21.12	57



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All electric Thermolier's are shipped fully assembled. Installation includes hanging the unit, wiring of optional control devices and electrical wiring to the unit.

To ensure the proper delivery of the heated air to desired areas, follow the mounting height tables included in these instructions. See below for minimum wall and ceiling clearances.

Heaters may be mounted in the horizontal or vertical air discharge configuration using factory-supplied mounting equipment or using hardware facilities supplied by others.

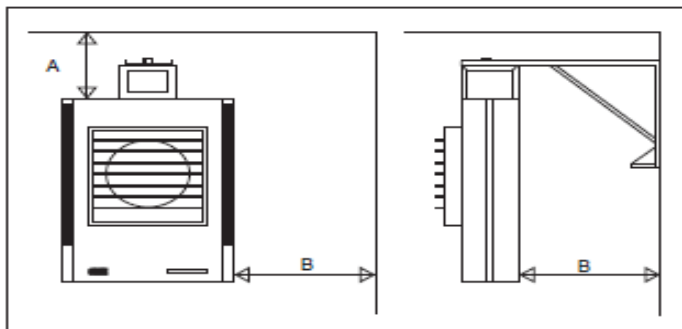
The wall and/or ceiling structure must be sufficient to support the combined weight of the heater and any mounting bracket and accessories.

Be sure power is de-energised before installing heater. The power supply must incorporate a means of isolation having a contact separation of at least 3mm in all poles. Check heater voltage and phase listed on the rating plate to make sure they are the same as the electrical service supplied.

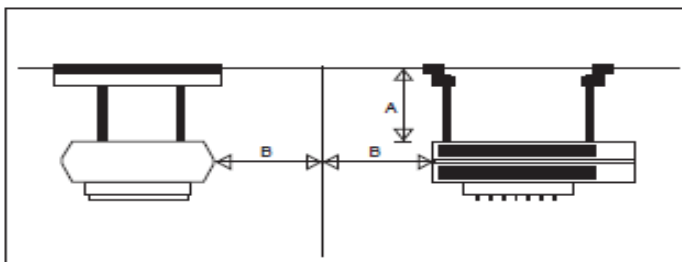
Install any optional accessories following their own installation instructions before mounting the unit. Following the correct unit/accessory wiring diagram, connect the power supply, electrical ground and accessories to the correct terminals or termination points using accepted practices.

**WARNING:- THE HEATER MUST BE EARTHED**

After installation is complete, replace the access panel. Set the controls (thermostat, switch, etc.) at their desired control point and apply power to the unit. Check correct operation.



Dimensions (mm)			
kW	Height	Width	Depth
3.3-5.0	560	370	205
7.5-10.0	630	550	240



Airflow	Heater	Bracket	A mm	B mm
Horizontal	3-5kW	MP-TH-BRACK-001	300	300
Vertical	3-5kW	MP-TH-BRACK-005	300	300
Horizontal	7-10kW	MP-TH-BRACK-002	450	600
Vertical	7-10kW	MP-TH-BRACK-006	450	600
Horizontal	15kW	MP-TH-BRACK-003	450	600
Vertical	15kW	MP-TH-BRACK-007	450	600
Horizontal	20kW	MP-TH-BRACK-004	450	600
Vertical	20kW	MP-TH-BRACK-008	450	600



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## Horizontal air discharge mounting

Swivel hanger brackets may be used to suspend unit heaters from either the wall or the ceiling. Attach hanger base (A) to top of heater with four M8 x 18mm cap screws and lockwashers provided.

Attach main hanger frame (B) to wall or ceiling in the desired location using suitable attachments (supplied by others).

Lift heater into position inserting stud (D) through hole in main hanger frame and attach lock nut provided (E) tightening within two turns of being tight.

Swivel heater to desired position, tighten locknut.

### SAFETY

The correct procedures for working at height must be adopted when installing this heater. Some units weigh over 20kg and care should be taken with their handling. The heater must be installed by a suitably qualified person in accordance with current regulations.

## Vertical – Air Discharge Mounting brackets

Securely fix bracket rails to ceiling or structure at desired height and location.

- Refer to table for min/max dimensions and weights.

The brackets are easiest to install with the heater mounting holes outermost, thus allowing tightening of the locknuts. They can be mounted the other way if this allows a more secure fixing.

3 and 5kW – The bracket rails can be mounted to the unit either horizontally or vertically with fixing hole centres of 284mm x 204mm

7 and 10kW – The bracket rails should be mounted horizontally with fixing hole centres 412mm x 330mm

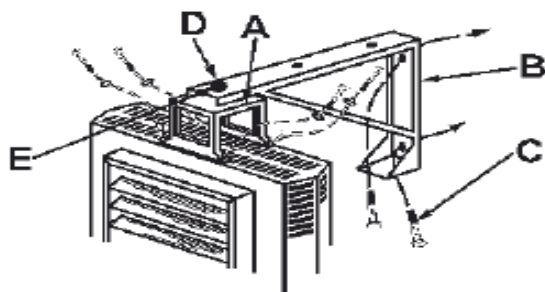
15kW – The bracket rails should be mounted horizontally with fixing hole centres 537mm x 326mm

20kW – The bracket rails should be mounted horizontally with fixing hole centres 678mm x 336mm

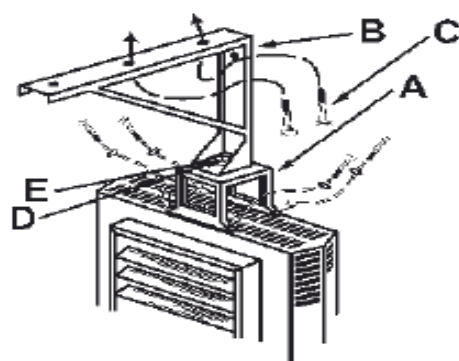
Assemble mounting studs, nuts and spring washers to the four threaded inserts in the rear of the heater ensuring the studs do not protrude more than 10mm inside the case. Tighten but against the heater. Run second nuts approx. 25mm down studs, put on plain washers. Locate studs in holes in bracket rails and secure with plain washers, spring washers, and nuts. Adjust nuts to squarely locate the heater without distorting the heater body. Ensure all nuts are tight and fixed securely.

Note: When mounting the heater using M8 all-thread rod (by others) do not screw the rod more than 10mm beyond the inside of the case.

WALL MOUNT  
HORIZONTAL DISCHARGE



CEILING MOUNT  
HORIZONTAL DISCHARGE



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**01450 372053**

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Troubleshooting		
Symptom	Possible Causes(s)	Corrective action
Thermostat calls for heat, but heater does not function	<ol style="list-style-type: none"> <li>1. Open (blown) fuse</li> <li>2. Incorrect wiring</li> <li>3. Thermal cut-out open, de-energising heater element and control circuit</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace Fuses, check for cause. (see Replacement parts list for fuse size)</li> <li>2. Check Wiring Connections</li> <li>3. Check for the following: Correct supply volts and phz Correct control wiring (heater control must be through the thermostat control wiring section only) Power interruption to the heater during heater operation Restriction of air around heater 1-5 minutes fan purge after thermostat off.</li> </ol>
Fan motor runs hot	<ol style="list-style-type: none"> <li>1. Dust accumulation or excessive dirt on motor</li> <li>2. Dirt accumulation</li> <li>3. motor needs lubrication</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean fan motor and casing of grease and oil accumulation</li> <li>2. Clean louvres and between heating elements</li> <li>3. See Maintenance</li> </ol>
Fan motor runs but no heat	<ol style="list-style-type: none"> <li>1. Element contactor not operating correctly</li> <li>2. Element fuse blown (if fitted)</li> </ol>	<ol style="list-style-type: none"> <li>1. Check wiring for open circuit. Replace contactor if defective</li> <li>2. Replace fuses, check for cause</li> </ol>

## MAINTENANCE

### Caution

Make certain that the power source is disconnected before attempting to service or disassemble any component. If the power disconnect is out of the line of sight, lock in the open position and tag to prevent the application of power.

### Electrical

Once a year inspect the control panel wiring to make certain insulation is intact and all connections are tight. Inspect all heater and relay contacts. If the contacts appear badly pitted or burned, replace the contactor/relay and any corresponding cabling.

### Cleaning

Clean the unit casing, fan, and motor as required. A dirty motor will tend to run hot and eventually will be damaged internally. Any rust spots on the casing should be cleaned and repainted.

### Lubrication

All units have a permanently lubricated fan motor so that only occasional cleaning is required.



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## SPARE PARTS LIST

Model	Motor	Element	Auto Cutout	Fan Delay	Contact	terminal block	Fan	Louvre
MP-TH-03-020/21	EP-E019	EP-B100	EP-E017	EP-E018	EP-E001	EP-E004-06	EP-C100	MP-TH-03-012
MP-TH-05-020/21	EP-E019	EP-B101	EP-E017	EP-E018	EP-E001	EP-E004-06	EP-C100	MP-TH-03-012
MP-TH-7.5-020	EP-E008	EP-B102	EP-E017	EP-E018	EP-E001	EP-E004-06	EP-C103	MP-TH-10-012
MP-TH-10-020	EP-E008	EP-B103	EP-E017	EP-E018	EP-E001	EP-E004-06	EP-C103	MP-TH-10-012
MP-TH-15-020	EP-E020	EP-B104	EP-E017	EP-E018	EP-E001	EP-E004-06	EP-C104	MP-TH-10-012
MP-TH-20-020	EP-E021	EP-B105	EP-E017	EP-E018	EP-E001	EP-E004-06	EP-C105	MP-TH-10-012

Model	Fuse	Fuse holder
All Models	EP-E092	EP-E005

### Warranty

This product is guaranteed, in accordance with our conditions of sale, for a period of 12 months from the date of purchase. We will repair or replace, at our discretion, any part found to be defective. We cannot accept responsibility for any consequential liability or damages.

The warranty will be invalid if the heater has not been installed in accordance with these instructions.

This does not affect your statutory rights.

The manufacturers reserve the right to change the specification at any time without prior notice E&OE



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