

# USER MANUAL

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## TMT-HA300 HOT AIR TOOL

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## **WARRANTY**

All equipment and accessories are warranted by Thermaltronics to be free from defects in materials and workmanship as follows:

<b>Part Number</b>	<b>Description</b>	<b>Warranty Period</b>
TMT-HA300-1	100-110V Hot Air Tool	1 Year
TMT-HA300	220-240V Hot Air Tool	1 Year
HA-HE300-1	100-110V Heating Element	30 Days
HA-HE300	220-240V Heating Element	30 Days

This warranty does not apply to equipment or goods which have been tampered with, misused, damaged through improper installation or used in a manner contrary to supplier instructions. Normal “wear and tear” of equipment or goods is not covered by this warranty. If the product should become defective within the warranty period, Thermaltronics will repair or replace it free of charge at its sole option. Warranty period is from the date of purchase by the original owner. If the date of purchase cannot be substantiated the date of manufacture will be used as the start of the warranty period.

### **WARNING:**

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

This tool must be placed on its stand when not in use.

## TMT-HA300 SPECIFICATIONS

Input Line Voltage:	TMT-HA300-1	100-110 VAC
	TMT-HA300	220-240 VAC
Power:		500 Watts
Temperature Range:		100C - 480C
Pump:		Diaphragm
Air Flow (Max):		23L / min
Fuse:	TMT-HA300-1	250V 5A
	TMT-HA300	250V 3A
Size (W x H x D):		188mm x 127mm x 246mm
Weight:		3 KG
Certification Marks:		CE, ETL

## INTRODUCTION

Congratulations on your purchase of the TMT-HA300 hot air tool. This unit has been tested and inspected by Thermaltronics prior to shipment, and with proper maintenance will give you years of reliable performance.

## SYSTEM FEATURES

The TMT-HA300 hot air tool can be used for surface mount component removal and reflow on components such as SOIC, CHIP, QFP, PLCC and others.

### Functions and Features

1. Digital display shows temperature and status.
2. Airflow meter provides visual feedback of air flow.
3. Electrostatic discharge free (ESD) safe.
4. Adjustable, easy to use temperature and air flow control knobs
5. Large selection of high quality nozzles for rework on QFP, SOP, PLCC and SOJ components.

# SAFETY PRECAUTIONS

## Warning

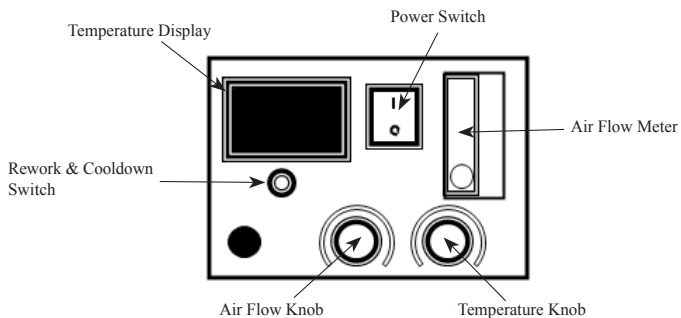
A fire may result if this equipment is not used with care and for intended applications. To avoid electric shock or injury, please follow the instructions below strictly:

1. The unit must be properly grounded.
2. The unit can reach extremely high temperatures when switched ON.
  - Do not use the device near flammable materials or gases
  - Do not touch heated parts, which can cause severe burns
  - Do not point the nozzle towards any part of the body
3. Never operate the equipment with wet hands.
4. Always disconnect the power cord and allow the unit ample time to cooldown before performing maintenance.
5. Use only genuine replacement parts.

## Caution

1. Use this equipment in a well-ventilated area, away from combustible equipment.
2. Disconnect the power cord if the unit is not used for an extended period of time.
3. Place handle in stand when not in use.
4. Handle with care.
  - Never drop or sharply jolt the unit.
  - The unit contains delicate parts that can be damaged if subjected to physical force.
  - Do not spill any liquids into the unit.
5. Do not operate on uneven surfaces.
6. Allow to cool down before storage.
7. Turn off the power when the unit is not in use.
8. Do not alter the unit in any manner.
9. When resting the handle in the handle holder, make sure there are no objects within 30cm of the nozzle, as nearby objects maybe damaged.
10. Do not apply excessive force when installing and removing nozzles.
11. Do not use pliers to pull the edges of the nozzle.
12. Do not over tighten the screw when installing a new nozzle.

## CONTROL PANEL



# UNPACKING/ASSEMBLY/OPERATION

Please read this manual and follow the directions before using the equipment. The carton contains:

1. TMT-HA300 Hot Air Tool
2. Handpiece holder
3. HTN-D30, HTN-D50, HTN-D80, HTN-D100 nozzles
4. HA-HE300 Heating Element
5. IC Popper

**Important: Keep all shipping materials until satisfactory operation has been verified.**

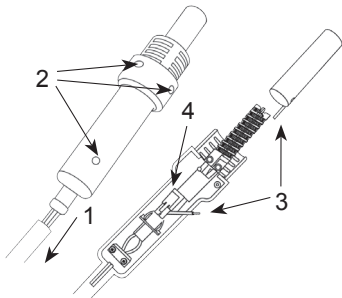
### Assembly and Operation

1. Remove TMT-HA300 Hot Air Tool from its box and place on a suitable work bench.
2. Install the handpiece holder onto the side of the system with a screw driver.
3. Remove the screw on the bottom of the unit marked in red wax. This screw is used to prevent the air pump from moving during shipping.
4. Select the proper nozzle and secure it to the handle.
5. Ensure the hot air gun is placed in the handpiece holder.
6. Connect the AC plug to a suitable AC power outlet.
7. Switch the power switch to the "on" position
8. The digital display will display "OFF" indicating it is in the standby state.
9. To start rework press the "Rework / Cooldown switch" (see control panel diagram). The display will momentarily show the set temperature with a large C suffix, then switch to showing the actual temperature with a small c suffix after a few seconds.
10. Adjust the air flow and temperature.
11. Wait for the actual temperature (small "c") to reach the set temperature (large "C"). The unit should then be ready.

### Power Off

1. Place the hot air gun back into the holder.
2. Press the "Rework / Cooldown switch" (see control panel diagram). This will start the auto cool process to accelerate cooling down the hot air gun. The display will show "COOL" once the heating element temperature has gone down below 100C.
3. Switch off the unit, unplug if not used for extended periods of time.

### Replacing the Heating Element

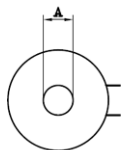


**Caution: Disconnect power before replacing heater element.**

1. Pull back the air tube from the back of the hot air gun
2. Remove the three screws holding the hot air tool together and open the cover.
3. Disconnect and remove the heater pipe.
4. Disconnect the heater connector, pull back the heat shrink tube and desolder thermocouple wires.
5. Insert a new heating element (HA-HE300).
6. Reassemble the hot air gun in the reverse order it was disassembled.

# ORDERING GUIDE

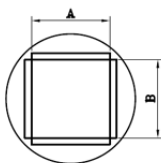
## SPARE PARTS & NOZZLES



PART#	DESCRIPTION
HA-HE300-1	100-110V Heating Element for TMT-HA300-1
HA-HE300	220-240V Heating Element for TMT-HA300

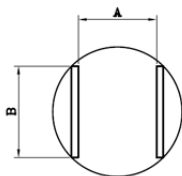
PART#	DESCRIPTION	A mm (in)
HTN-D30	Nozzle 3.0mm	3.0
HTN-D50	Nozzle 5.0mm	5.0
HTN-D80	Nozzle 8.0mm	8.0
HTN-D100	Nozzle 10.0mm	10.0

### PLCC, QFP, BQFP



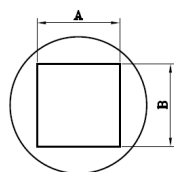
PART#	DESCRIPTION	A mm (in)	B mm (in)
HTN-PL20	Nozzle 11.9mm x 11.9mm, PLCC-20	11.9	11.9
HTN-PL28	Nozzle 14.5mm x 14.5mm, PLCC-28	14.5	14.5
HTN-PL32	Nozzle 16.9mm x 14.3mm, PLCC-32	16.9	14.3
HTN-PL44	Nozzle 19.5mm x 19.5mm, PLCC-44	19.5	19.5
HTN-PL52	Nozzle 22.0mm x 22.0mm, PLCC-52	22.0	22.0
HTN-PL68	Nozzle 27.0mm x 27.2mm, PLCC-68	27.0	27.2
HTN-PL84	Nozzle 32.4mm x 32.4mm, PLCC-84	32.4	32.4
HTN-QF48	Nozzle 8.4mm x 8.4mm, QFP-48	8.4	8.4
HTN-QF44	Nozzle 13.4mm x 13.4mm, QFP-44	13.4	13.4
HTN-QF80	Nozzle 17.3mm x 17.3mm, QFP-52,80	17.3	17.3
HTN-QF100	Nozzle 23.4mm x 18.1mm, QFP-64,80,100	23.4	18.1
HTN-QF160	Nozzle 31.2mm x 31.2mm, QFP-120,128,144,160	31.2	31.2
HTN-BQ100	Nozzle 22.4mm x 22.4mm, BQFP-100	22.4	22.4
HTN-QF240	Nozzle 34.5mm x 34.5mm, QFP-240	34.5	34.5
HTN-BQ196	Nozzle 37.7mm x 37.7mm, BQFP-196	37.7	37.7
HTN-QF208	Nozzle 29.8mm x 29.8mm, QFP-208	29.8	29.8

### SO, TSOP



HTN-SC16	Nozzle 6.8mm x 10.2mm, SOIC 14, 16	6.8	10.2
HTN-SL16	Nozzle 10.6mm x 10.8mm, SOL 14, 16	10.6	10.8
HTN-SL20	Nozzle 10.6mm x 13.3mm, SOL 20, 20J	10.6	13.3
HTN-SL24	Nozzle 10.6mm x 15.9mm, SOL 24, 24J	10.6	15.9
HTN-SL28	Nozzle 10.6mm x 18.4mm, SOL 28	10.6	18.4
HTN-SL44	Nozzle 16.0mm x 27.9mm, SOL 44	16.0	27.9
HTN-SJ32	Nozzle 13.5mm x 20.6mm, SOJ 32	13.5	20.6
HTN-SJ40	Nozzle 13.5mm x 25.4mm, SOJ 40	13.5	25.4
HTN-TS24	Nozzle 17.0mm x 7.1mm, TSOP 20-24 PIN	17.0	7.1
HTN-TS32	Nozzle 21.0mm x 9.1mm, TSOP 28-32 PIN	21.0	9.1
HTN-TS40	Nozzle 21.0mm x 10.8, TSOP 40 PIN	21.0	10.8
HTN-TS48	Nozzle 21.0mm x 13.3mm, TSOP 48 PIN	21.0	13.3
HTN-TS24B	Nozzle 10.2mm x 18.4mm, TSOP 20-24 PIN	10.2	18.4
HTN-TS44	Nozzle 12.7mm x 19.8mm, TSOP 24-28/40-44 PIN	12.7	19.8

### BGA



HTN-B1010	Nozzle 10.0mm x 10.0mm	10.0	10.0
HTN-B1313	Nozzle 13.0mm x 13.0mm	13.0	13.0
HTN-B1616	Nozzle 16.0mm x 16.0mm	16.0	16.0
HTN-B1919	Nozzle 19.0mm x 19.0mm	19.0	19.0
HTN-B2828	Nozzle 28.0mm x 28.0mm	28.0	28.0
HTN-B3030	Nozzle 30.0mm x 30.0mm	30.0	30.0
HTN-B3232	Nozzle 32.0mm x 32.0mm	32.0	32.0
HTN-B3636	Nozzle 36.0mm x 36.0mm	36.0	36.0
HTN-B3939	Nozzle 39.0mm x 39.0mm	39.0	39.0
HTN-B4141	Nozzle 41.0mm x 41.0mm	41.0	41.0
HTN-B4343	Nozzle 43.0mm x 43.0mm	43.0	43.0
HTN-B4545	Nozzle 45.0mm x 45.0mm	45.0	45.0