Chromalox®

Installation, Operation

and

MAINTENANCE INSTRUCTIONS

SERVICE REFERENCE	
DIVISION 4	SECTION TTUH
SALES REFERENCE	PD451
	161-304755-004
DATE SEPTEMBER, 2003	

Water Immersion Heater Type TTUHI-BXX, TTUHI-CO-BXX and TTUHI-COR-BXX

Special for Franklin Machine Products

GENERAL

⚠WARNING

FIRE/EXPLOSION HAZARD. This heater is not intended for use in hazardous atmospheres where flammable vapors, gases, liquids or other combustible atmospheres are present as defined in the National Electrical Code. Failure to comply can result in personal injury or property damage.

Chromalox TTUHI-BXX, TTUHI-CO-BXX, and TTUHI-COR-BXX food equipment heaters are ideal for coffee urns, steam tables, kettles, humidifiers and other commercial uses.

⚠WARNING

The system designer is responsible for the safety of this equipment and should install adequate back-up controls and safety devices with their electric heating equipment. Where the consequences of failure could result in personal injury or property damage, back-up controls are essential.

INSTALLATION

⚠WARNING

ELECTRIC SHOCK HAZARD. Disconnect all power before installing or servicing heater. Failure to do so could result in personal injury or property damage. Heater must be installed by a qualified person in accordance with the National Electrical Code, NFPA 70.

⚠WARNING

FIRE HAZARD. Since heaters are capable of developing high temperatures, extreme care should be taken to:

A. Avoid mounting heaters in an atmosphere containing combustible gases and vapors.
B. Avoid contact between heaters and combustible materials.
C. Keep combustible materials far enough away to be free of the effects of high temperature.
D. Keep heater immersed at all times.

Instructions to install the heater into tank:

1. Cut a hole 2-7/16" in diameter in the bottom of the tank unless already done. Also see step 8 at this time.
2. Remove lock-nut from the heater (if installed).
3. Place gasket over threads of the heater.
4. Insert heater with gasket into the tank. (Use sealer if tank wall is corroded)
5. Place spacer (second gasket) over threads on underside of the tank.
6. Place base over threads.
7. Thread the lock-nut on finger tight. Ensure the lock-nut teeth face towards the tank.
8. Rotate base to position conduit openings to desired location and tighten lock nut.
9. Remove appropriate size conduit opening knockout by rotating the knockout until it falls out. This step may be done in conjunction with step 1 if desired.
10. Attach (customer provided) ground wire to the provided ground screw. (See photo 1)
11. Refer to step 12 of wiring instructions below relating to appropriate type of heater. Also refer to all warning and caution statements.

For TTUHI-BXX	"TTUHI-BXX Wiring Instructions"
For TTUHI-CO-BXX	"TTUHI-CO-BXX Wiring Instructions"
For TTUHI-COR-BXX	"TTUHI-COR-BXX Wiring Instructions" with internal relay mounting
For TTUH-COR-BXX	"TTUHI-COR-BXX Wiring Instructions" with external relay mounting

© 2010 Chromalox, Inc.

WIRING

⚠WARNING

ELECTRIC SHOCK HAZARD. Any installation involving electric heaters must be performed by a qualified person and must be effectively grounded in accordance with the National Electrical Code to eliminate shock hazard.

⚠CAUTION

Use copper conductors only.

1. Be sure line voltage matches heater voltage (on nameplate).
2. Electric wiring to heater must be installed in accordance with the National Electrical Code and with local codes by a qualified person.
3. When element wattages are not equal, heaters must not be connected in series.
4. Make necessary wiring connections as shown on wiring diagram (Figures 1, 2, 3).

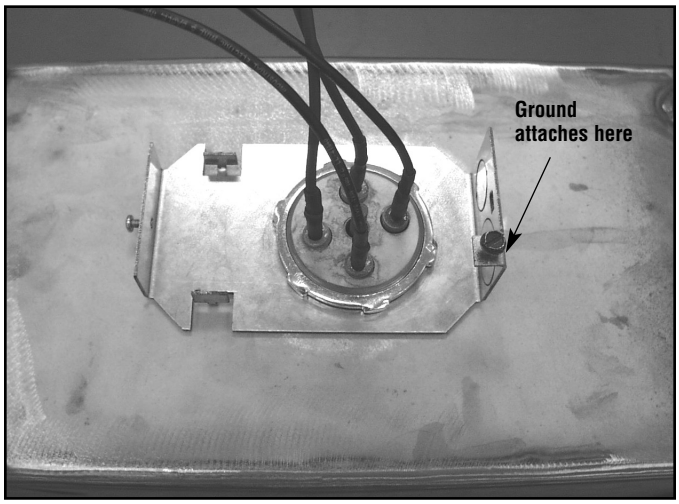
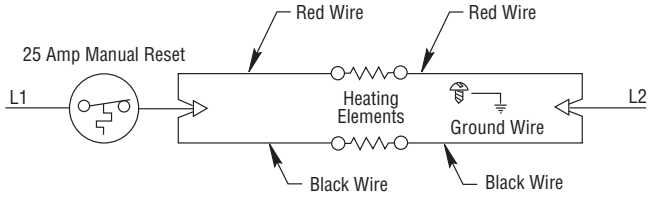


Photo 1

TTUHI-BXX, TTUHI-CO-BXX and TTUHI-COR-BXX
Wiring Instructions:
(See Tables and Figures 1, 2 & 3)

Part Number	Model No.	FMP P/N	Wiring Label P/N
158-305373-001	TTUHI-CO-50BXX	144-1025	170-304712-012
158-305373-002	TTUHI-CO-20BXX	144-1022	170-304712-012
158-305373-003	TTUHI-CO-30BXX	144-1023	170-304712-012
158-305373-004	TTUHI-CO-40BXX	144-1024	170-304712-012
158-305373-007	TTUHI-CO-20BXX	144-1030	170-304712-012
158-305373-008	TTUHI-CO-30BXX	144-1031	170-304712-012
158-305373-009	TTUHI-CO-50BXX	144-1033	170-304712-012
158-305373-010	TTUHI-CO-60BXX	144-1034	170-304712-012



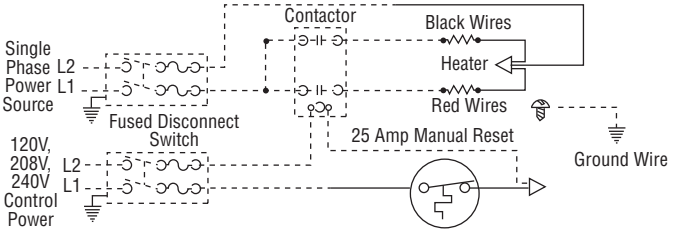
Wiring Label P/N 170-304712-012

Legend:
Supplied by Customer - - - - - - - - - - - -
Supplied by Chromalox ————————

Figure 1

Part Number	Model No.	FMP P/N	Wiring Label P/N
158-305373-005	TTUHI-CO-60BXX	144-1026	170-304712-013
158-305373-006	TTUHI-CO-70BXX	144-1027	170-304712-013
158-305373-011	TTUHI-CO-70BXX	144-1035	170-304712-013

Legend:
Supplied by Customer - - - - - - - - - - - -
Supplied by Chromalox ————————

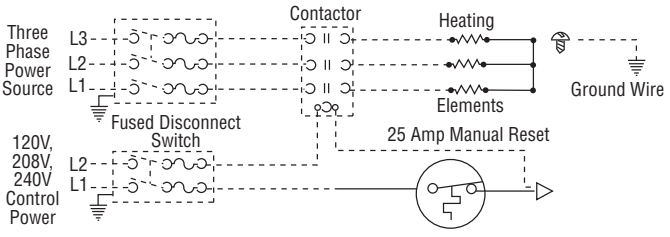


Wiring Label P/N 170-304712-013

Figure 2

Part Number	Model No.	FMP P/N	Wiring Label P/N
158-305376-001	TTUHI-CO-503BXX	144-1028	170-304712-014
158-305376-002	TTUHI-CO-703BXX	144-1029	170-304712-014
158-305376-003	TTUHI-CO-403BXX	144-1032	170-304712-014
158-305376-004	TTUHI-CO-503BXX	144-1036	170-304712-014
158-305376-005	TTUHI-CO-703BXX	144-1037	170-304712-014

Legend:
Supplied by Customer - - - - - - - - - - - -
Supplied by Chromalox ————————



Wiring Label P/N 170-304712-014

Figure 3

OPERATION

1. Do not operate at voltages in excess of that stamped on the heater since excess voltage will shorten heater life.

⚠WARNING

FIRE HAZARD. Energized heaters must be completely immersed in liquid. Minimum liquid level should be maintained 1/2" above heating element to avoid equipment damage.

IMPORTANT NOTE: The Thermal cutout on the TTUHI provides run dry burn-out protection only. Partial immersion of the elements while energized can shorten element life. The cutout is a safety device only and should not be used continuously as a low-liquid-level control. See warnings under General Instructions.

MAINTENANCE

IMPORTANT: It is the responsibility of the purchaser of the heater to make the ultimate choice of sheath material based upon his knowledge of the chemical composition of the corrosive solution, character of the materials entering the solution, and controls which he maintains on the process.

⚠WARNING

Sheath corrosion can result in a ground fault which, depending upon the solution being heated, can cause an explosion or fire.

Disconnect all power before servicing heater. Refer to Electric Shock Hazard warning in installation section of instructions

1. Heaters need to be checked periodically for coatings and corrosion and cleaned if necessary.
2. Tank needs to be checked regularly for sediment around the heater. Sediment can act as an insulator and shorten heater life.
3. Check for loose terminal connections.
4. If corrosion is indicated in the terminal housing, check terminal box gasket and replace if necessary, and check conduit layout to correct conditions that allow corrosion to enter the terminal housing.
5. Clean terminal ends of all contamination.

RENEWAL PARTS IDENTIFICATION

- Gasket P/N 132-010737-005

Limited Warranty:
Please refer to the Chromalox limited warranty applicable to this product at
http://www.chromalox.com/customer-service/policies/termsofsale.aspx.

Chromalox®
PRECISION HEAT AND CONTROL

2150 N. RULON WHITE BLVD., OGDEN, UT 84404
Phone: 1-800-368-2493 www.chromalox.com

TA - Q0 - EF
Litho in U.S.A.