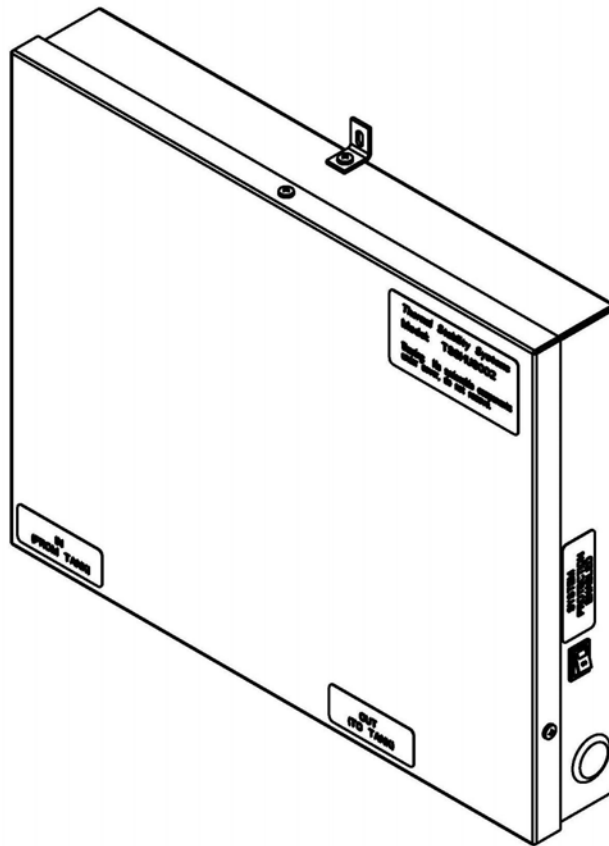


Thermal Stability Systems

Installation Instructions for Oil Tank Heating Unit

Model:
TSSHU6002



PLEASE READ THESE INSTRUCTIONS PRIOR TO INSTALLATION. THESE INSTRUCTIONS MUST BE LEFT WITH THE USER AND SHOULD BE RETAINED FOR FUTURE REFERENCE BY QUALIFIED SERVICE PERSONNEL.

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SAFETY:

⚠️WARNING: IF THE INFORMATION IN THESE INSTRUCTIONS IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY DAMAGE, PERSONAL INJURY, OR LOSS OF LIFE.

⚠️WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE, OR MAINTENANCE CAN CAUSE INJURY OR PROPERTY DAMAGE. REFER TO THIS MANUAL. FOR ASSISTANCE OR ADDITIONAL INFORMATION CONSULT A QUALIFIED INSTALLER OR SERVICE AGENCY.

⚠️WARNING: THERMAL STABILITY SYSTEMS HEATING UNITS ARE DESIGNED TO HEAT NO. 1, NO. 2 OR UP TO B20 BIOFUEL[®] FUEL OIL. NEVER USE GASOLINE OR A MIXTURE OF OIL AND GASOLINE.

⚠️WARNING: ALL INSTALLATION AND SERVICES MUST BE PERFORMED BY QUALIFIED SERVICE PERSONNEL.

This page contains various warnings and cautions found throughout the Oil Tank Heating Unit Installation Instructions. Please read and comply with the statements below.

⚠️CAUTION: Installation MUST conform to local building codes.

⚠️WARNING: This heating unit must only be installed indoor.

⚠️WARNING: Disconnect all power to the boiler or furnace prior to installation. Failure to do so may cause injury from electrical shock.

⚠️WARNING: This heating unit must only be connected to a boiler or furnace primary controller.

INTRODUCTION:

This Oil Tank Heating Unit is intended for use within a two line residential or light commercial oil heating installation. The heating unit is installed inline with the return line to the oil storage tank. The heating unit obtains power from the boiler or furnace primary controller. The heating unit will sense the temperature of the heating oil returning to the oil storage tank. If the temperature of the heating oil is below the set point temperature, the heating unit will activate it's heating coil. The heating unit will only become active if the heating oil is below the set point temperature AND the boiler or furnace is active.

INSTALLATION:

MOUNTING –

⚠WARNING: This heating unit must only be installed indoor.

The model TSSHU6002 heating unit is to be spliced into the return line from the boiler or furnace to the oil storage tank. Locate the unit on a vertical surface. The unit can be located on the boiler or furnace or indoor wall along the return line from the boiler or furnace to the oil storage tank. Once location has been determined, mount the unit utilizing the three mounting feet (see Figure A). If unit is to be mounted on a sheet metal wall, use three #8 x 3/4" self tapping sheet metal screws. If unit is to be mounted on an indoor wall, use three appropriate mounting fasteners with no less than size #8 screws.

ELECTRICAL POWER –

⚠WARNING: Disconnect all power to the boiler or furnace prior to installation. Failure to do so may cause injury from electrical shock.

⚠WARNING: This heating unit must only be connected to a boiler or furnace primary controller.

⚠CAUTION: All installation and services must be performed by qualified service personnel.

⚠CAUTION: Installation MUST conform to local building codes.

The model TSSHU6002 heating unit obtains electrical power from the boiler or furnace primary controller. The unit comes equipped with 6" Line and Neutral wire leads within the unit that must be spliced into the boiler or furnace primary controller. The unit is also equipped with a ground screw located near the Line and Neutral wire leads. The unit will except metal-clad cable or conduit through the port located under the power switch. Remove the black grommet before installing the cable or conduit connector. The units wiring must be mechanically protected by the use of metal-clad cable or conduit per local building code. Utilizing the appropriate wire connectors, connect the unit's black lead to the load side of the primary controller (burner motor lead). Connect the unit's white lead to the neutral lead of the primary controller. Connect the unit's ground screw to the field grounding connection.

FLUID CONNECTIONS –

⚠WARNING: Clear all heating oil from return line prior to connecting to unit.

⚠CAUTION: Installation **MUST** conform to local building codes.

The model TSSHU6002 heating unit utilizes two 3/8" bulkhead female NPT connectors for the fluid connections to/from the oil storage tank. These connectors are used to splice the unit inline with the return line from the boiler or furnace to the oil storage tank. The return line must conform to local building codes. Using the appropriate 3/8" male NPT connectors (not supplied), splice the return line into the unit. **⚠CAUTION:** The 3/8" bulkhead female NPT connector nuts must be held with a suitable wrench during the tightening of the 3/8" male NPT connectors. The line from the boiler or furnace is to be connected to the port labeled "IN (FROM TANK)" (see Figure A). The line from the unit to the oil storage tank is to be connected to the port labeled "OUT (TO TANK)" (see Figure A). The portion of the line from the unit to the oil storage tank that is outdoor may be wrapped in an insulating material according to local building codes.

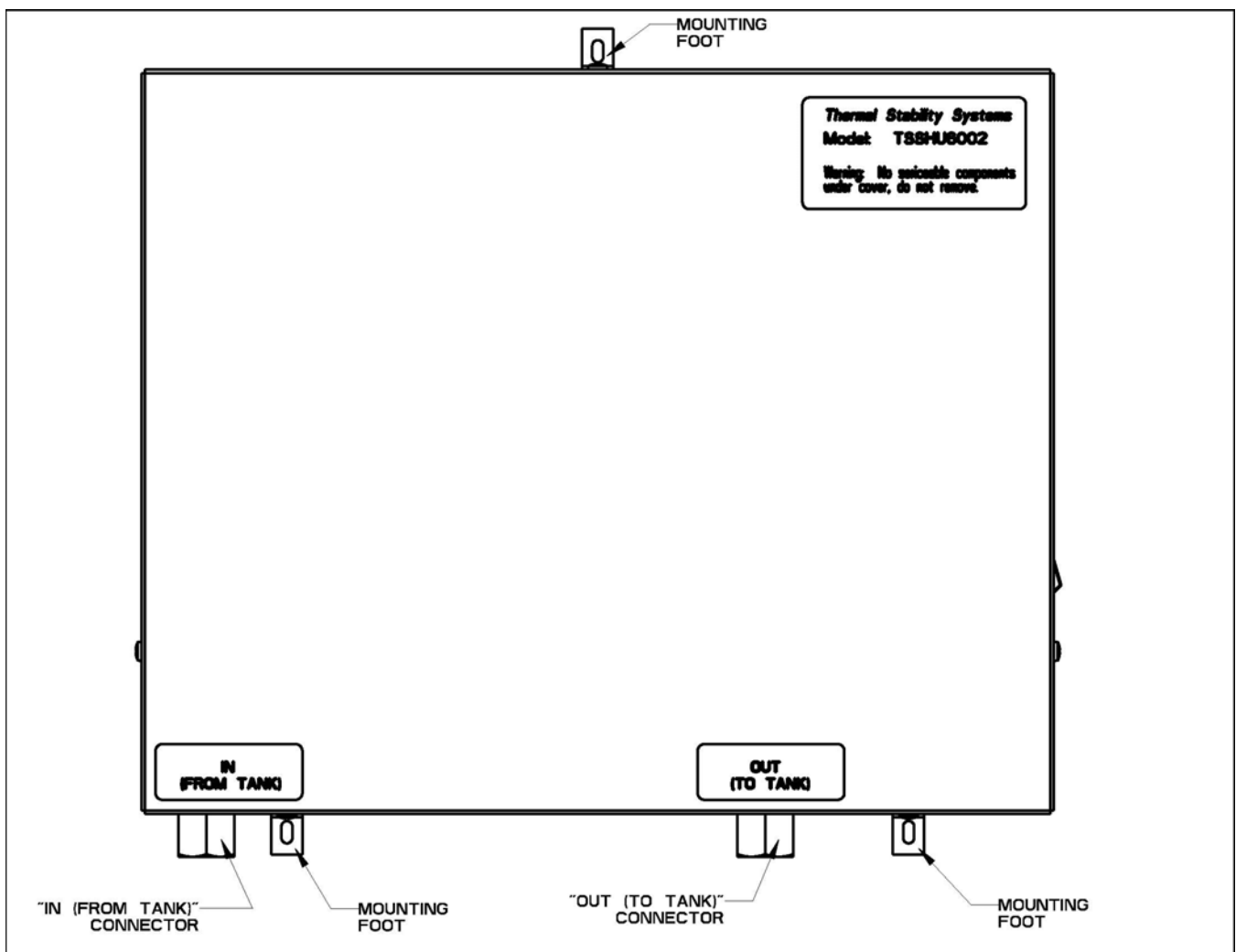



Figure A

TESTING –

Once all electrical and fluid connections have been checked, the unit is powered by switching the “SYSTEM PROTECTION ENABLED” switch “ON” (located on the right side of the unit). The switch will light green showing the unit has electrical power. Temporarily activate the boiler or furnace and check for any fluid leaks. Retighten fluid connections if necessary. **Note:** the unit’s heating coil will not energize if the heating oil is above the set point temperature.

TROUBLESHOOTING –

 **WARNING:** There are no serviceable components located under the unit’s cover; do not remove cover.

If unit’s “SYSTEM PROTECTION ENABLED” switch does not light green once the switch is “ON”, recheck wired connections at the boiler or furnace primary controller. If unit is properly connected, contact supplier where unit was purchased or Thermal Stability Systems customer service.

If heating oil leakage is detected from within unit, contact supplier where unit was purchased or Thermal Stability Systems customer service.