

# THE THERMO-CYCLER® OTC-400

*The Energy Efficient System for Comfort Heating and Heat Recovery in Commercial and Industrial Buildings*

## **STANDARD FEATURES**

- Heavy duty welded steel construction.
- Compact design requires little floor space.
- Control cabinet contains all factory mounted controls.
- Locking enclosures prevent unauthorized entry.
- Low pressure belt driven fan delivers air quietly and efficiently.
- Premium efficiency fan motor reduces electrical consumption.
- Automatic setback controls for energy efficient operation.
- Fan assisted combustion system for improved system efficiency.
- Burner air collar for direct introduction of outside combustion air.
- *Octatherm* heat exchanger with stainless steel primary chamber.
- 10 Year Limited Heat Exchanger Warranty



## **SPECIFICATIONS:**

Unit Size.....	45" x 45" x 11'1"
Ship Weight.....	Approx. 1550 lbs in 3 Sections
Electrical.....	Premium Efficiency 1 Hp/115V, Totally enclosed motor
Burner.....	Beckett® - 400 Mbh Input
Oil Firing Rate.....	2.9 GPH No. 1 or No. 2 Heating Oil
Flue Collar.....	8" ø approximately 8'4" above floor
Controls.....	Factory mounted including setback controls



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## THERMO-CYCLER® OTC-400 Installation Instructions Summary

- A) Carefully unload and inspect the unit for any damage which may have occurred in transit and file any necessary claims within prescribed time. A complete *Thermo-Cycler* will consist of one (1) base fan section with one (1) top discharge section bolted to the base for shipping, and one (1) center heat exchanger section shipped on two separate pallets. Any additional accessories ordered will be shipped separately.
- B) Carefully remove packaging materials, unbolt and remove sections from the shipping pallets. Keys to open the unit enclosures will be attached to the center and base sections. Locate the small parts bag (shipped in the burner enclosure cabinet) which contains the nuts, bolts, time clock control pins, control panel keys, and pipe fittings. Put the bag in a secure location for later use.
- C) Locate the unit on a smooth, level, surface which is structurally capable of supporting the *Thermo-Cycler* unit. For proper system performance and operation, unit should be located in accordance with the Thermo-Cycler Representative or Dealer's instructions. Maintain clearance to combustible materials in accordance with applicable codes and regulations. For additional information, please refer to the Thermo-Cycler Installation, Operation, and Maintenance Manual which is located in the control cabinet of the base fan section.
- D) Set the base fan section with the access door facing an area that will allow adequate access and space for service and maintenance.
- E) Carefully lift the center heat exchanger section using the lifting hook provided on the top of the heat exchanger. Make sure that the burner cover is located on the same side above the base section control panel and access door. Using a drift pin or other suitable tool for hole alignment, lower the heat exchanger on to the base section, insert bolts and secure with lock washers and nuts. Tighten securely after all bolts are inserted.
- F) Lift the top discharge section, install, and bolt together in the same manner as described in the previous step. Discharge air outlet screens should be positioned for air flow direction as recommended by the Thermo-Cycler Representative or Dealer.
- G) Check to make sure that all bolts, nuts, screws, and other parts are secure and have not loosened in transit or during installation.
- H) Connect electric power service to the main switch in accordance with all applicable local codes and regulations. In the absence of local codes, the installation must be installed in accordance with the latest edition of the National Electric Code (NFPA Standard 70), the Installation, Operation, and Maintenance Manual furnished with the unit, and the wiring diagram located on the inside cover of the control panel. A separate electric power circuit is recommended. All control wiring is factory installed within the Thermo-Cycler.
- I) Reconnect the flexible electric conduit from the control cabinet mounted on the base fan section, to the electric junction box mounted on the center heat exchanger section.
- J) Provide properly sized oil piping system in accordance with local codes. In the absence of local codes, the installation must be installed in accordance with the latest edition of the *NFPA Standard 31- Standard for the Installation of Oil-Burning Equipment* and the Installation, Operation, and Maintenance Manual furnished with the unit. Oil piping should be adequately sized to deliver **2.9 GPH of No. 1 or No. 2 Heating Oil**. Properly support oil piping to prevent strain on the burner connection.
- K) Attach a properly sized flue gas vent to unit in accordance with all local codes and regulations using approved venting materials and maintaining clearance to combustible materials in compliance with the type of venting materials selected. In the absence of local codes, the installation must be completed in accordance with the latest edition of the National Fuel Gas Code (NFPA Standard 54) and the Installation, Operation, and Maintenance Manual furnished with the unit.
- L) The *Thermo-Cycler* has a 4" x 14" collar for combustion air intake located on the burner cover enclosure. The combustion air may be directly connected and ducted to the outside wall if required by local codes or project conditions. Some conditions where ducted connection may be advisable include: 1) Negative building pressure condition due to operation of exhaust fans or other processes. 2) Possible presence of any corrosive gases such as chlorine, fluorine, halogen or refrigerant gases which could result in premature heat exchanger failure. 3) Dusty or dirty atmosphere which could result in improper burner operation.
- M) Although each *Thermo-Cycler* is test fired at the factory, for proper operation and efficiency the unit should be started, tested, and adjusted for actual project conditions in accordance with the instructions provided in the Installation, Operation, and Maintenance Manual furnished with the unit.