

THE THERMO-CYCLER® GTC-480M

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.
- Energy management setback controls for 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 Dimensions.....	60" x 60" x 12'0"
Ship Weight.....	Approx. 1920 lbs in 3 Sections
Electrical.....	Premium Efficiency 1 ½ Hp, Totally enclosed motor
Gas Burner.....	Direct Spark Wayne Model EHG - 550 Mbh Input
	Intermit Pilot Midco Economite® - 580 Mbh Input
Gas Pressure Required.....	6 to 14 in. W.C. (Natural), 1 ¼" Piping Connection
Flue Collar.....	8"Ø approximately 8'8" above floor
Suggested Flue Venting Material.....	Building Heating Appliance Chimney
Controls.....	Factory mounted including programmable setback



THERMO-CYCLER INDUSTRIES, Inc.

PO Box 22 • 111 Hamilton St.

Union Mills, Indiana 46382-0022

Phone: (219) 767-2990

Fax: (219) 767-2991

www.thermocycler.com

GTC-480M

BURNER SPECIFICATIONS

THERMO-CYCLER® MODEL GTC-480MD

WAYNE GAS BURNER

MODEL EHG

- Direct Spark Ignition
- 550 MBH Input Capacity
- Gas Pressure Required:

Natural: 6" w.c. to 14" w.c.
Manifold Press: 3.8" w.c. (550Mbh)

Propane: 11" w.c. to 14" w.c.
Field Conversion Required
- 120 Volt Power/ 24 Volt Control
- Honeywell S89F Primary Safety Control
34 Second Prepurge, 4 Second Lockout
- Robertshaw Unitrol 7000HC Gas Valve
- 1/5 HP, 3450 RPM Blower Motor
- Flue Gas Flow - Apprx. 125 SCFM
- Suggested Flue Venting Material -
Building Heating Appliance Chimney

THERMO-CYCLER® MODEL GTC-480MI

MIDCO GAS BURNER

ECONOMITE® MODEL RE-4700BA

- Intermittent Spark Ignited Pilot
- 580 MBH Input Capacity
- Gas Pressure Required:

Natural: 6" w.c. to 14" w.c.
Manifold Press: 4.0" w.c.(580Mbh)

Propane: 11" w.c. to 14" w.c.
Field Conversion Required
- 120 Volt Power/ 24 Volt Control
- Honeywell S8680J Primary Safety Control
30 Second Prepurge, 15 Second Lockout
100% Safety Pilot Gas Shut-off
- Robertshaw Unitrol 7000HC Gas Valve
- 1/6 HP, 3450 RPM Blower Motor
- Flue Gas Flow - Apprx. 130 SCFM
- Suggested Flue Venting Material -
Building Heating Appliance Chimney

Economite® is the trademark of Midco International, Inc.



ADDITIONAL REQUIREMENTS & INFORMATION

THERMO-CYCLER® GTC-480M

Additional items which are not included as a part of the quotation but which may be required are:

A) INSTALLATION - Labor and equipment will be needed for unloading and assembly of equipment. Upon receipt, carefully examine the equipment for any damage which may have occurred during transportation. If damage has occurred, notify the transportation company immediately and file any necessary damage claims within the required time limit.

The standard unit will be shipped on two pallets and protected with a clear plastic stretch wrap covering. Any additional accessories such as an extension or a Thermo-Mixer® will be shipped on separate pallets. The top discharge section will be bolted to the fan base section for shipping purposes. The center heat exchanger section is shipped with the burner mounted in place. The total shipping weight is approximately 1800 lbs and the heaviest piece is approximately 910 lbs. A lifting lug is provided on the top of the heat exchanger for easier handling during installation.

The normal setting time would be 3-6 man-hours, although the actual time will vary with job conditions, available equipment, and labor crew skill. All nuts, bolts, and washers required for assembly are provided. The unit must be set on a level floor which is structurally capable of supporting the unit.

B) ELECTRICAL POWER WIRING - An electrical power circuit, with overcurrent protection must be provided to unit and connected to the wiring leads at the control panel. Circuit must be properly sized and grounded in accordance with ANSI/NFPA-70 and applicable code requirements. The transformer and operating controls are factory mounted. Reconnection of the wiring plug termination on the flexible conduit from the control panel to the junction in the burner enclosure will be required. Available voltages, minimum circuit ampacities, and maximum protective device sizes for the GTC-480 are:

Model E2	230V/1Ø	1½ HP	MCA: 15.0 Amps	MPD: 20 Amp
Model E3	208V/3Ø	1½ HP	MCA: 12.0 Amps	MPD: 15 Amp
Model E3T	230V/3Ø	1½ HP	MCA: 9.0 Amps	MPD: 10 Amp
Model E4	460V/3Ø	1½ HP	MCA: 4.0 Amps	MPD: 6 Amp

C) NATURAL GAS PIPING - The Thermo-Cycler GTC-480M requires natural gas with piping adequately sized to provide **6"w.c. to 14"w.c.** at the burner inlet. Burner gas consumption of **GTC-480M is up to 580 CFH**. For gas line pressure exceeding 14" w.c., an approved gas pressure regulator must be provided to reduce the outlet gas pressure to less than 14" w.c. at the unit. A manual shutoff valve should be provided at the unit as shown on the gas piping diagram provided with the unit or in accordance with local codes.

D) FLUE GAS VENTING - An approved flue gas vent system must be provided in accordance with all applicable codes and regulations. **A UL Listed Building Heating Appliance Chimney rated for 1000°F continuous operation would be acceptable for the GTC-480M.** Type "B" Flue Vent is not recommended for the GTC-480M. The Thermo-Cycler GTC-480M has an 8" diameter flue collar located approximately 8' 8" above floor level. A capped tee should be installed at the bottom of the stack for access and inspection. Maintain clearance to combustible material as required by the flue venting system selected and terminate vent in accordance with vent system manufacturer's recommendation.

E) COMBUSTION AIR INTAKE - A 4" x 14" collar is provided on the top of the burner enclosure for combustion air intake. Outside combustion air should be ducted to the unit if the building is operating under a negative pressure condition, if the air is dirty or contaminated, or if required by local codes or regulations.

F) FRESH AIR VENTILATION - Additional exhaust or makeup air may be required by local codes or regulations to maintain acceptable indoor air quality.

G) CODE COMPLIANCE & REGULATIONS - The specifier and/or purchaser has the final responsibility for determination of suitability for the fitness of purpose, acceptance by the local authorities having jurisdiction, and/or the approval of the fire insurance carrier regarding the application of the Thermo-Cycler system for this building and the intended occupancy.

H) EMERGENCY SHUTDOWN - The Thermo-Cycler GTC-480M has an air distribution capacity greater than 10,000 cubic feet per minute (cfm). Local codes may require the unit to be shutdown in the event of a fire. Unit shutdown may be controlled by the building fire protection system or by a separate smoke detection system. The specifier and/or purchaser has responsibility to verify code requirements with the local authority having jurisdiction and to provide the appropriate controls required.

I) STARTUP & TESTING - The Thermo-Cycler GTC-480M has been test fired and adjusted for burner operation efficiency under factory conditions. The inspection, startup, and final adjustment after installation is required by a qualified heating service technician for verification of proper system performance under actual jobsite operating conditions. Use of a combustion analyzer for startup and maintenance is strongly recommended.

J) ADDITIONAL INFORMATION - Additional information on installation and maintenance for the Thermo-Cycler GTC-480M is available in the operation and maintenance manual. The manual is shipped in the control cabinet of each Thermo-Cycler.