Pit Furnaces

Grieve standard 2000°F Pit Furnaces are used for a variety of heat treating applications including those requiring inert atmospheres where overhead handling equipment is used. Full opening door exposes entire work space for easy loading. Precision microprocessor based temperature controls and energy-saving insulation maximize the cost efficiency and performance of these rugged units. Nine standard models from 3 to 45 cubic feet built for long, hard, continuous use. Ideal for severe service applications - load capacities to 1200 lbs.

STANDARD FEATURES

• UL LISTED CONTROL PANEL
• Standard Pit Furnaces from Grieve meet the requirements of National Fire Protection Association Standard 86, Industrial Risk Insurers, Factory Mutual and OSHA standards. For some applications, such as those involving special atmospheres or hazardous locations, the above organizations require additional safety devices.
• Controls
  — Digital, microprocessor based, thermocouple actuated, indicating temperature controller
  — Modulating burner on gas furnaces
  — Motor control push buttons and on-off heat switch
  — LED pilot light
• Safety Equipment—Electric Furnace
  — Adjustable, thermocouple actuated, manual reset excess temperature interlock
  — Separate heating element control contactors
  — Door interlock switch turns off power to heating elements when door is opened; restores power when door is closed
• Safety Equipment—Gas Furnace
  — Adjustable, thermocouple actuated, manual reset excess temperature interlock
  — Electronic flame safeguard protection
  — Combustion air blower with air flow safety switch
  — Purge timer
  — High and low gas pressure switches
  — Two pilot safety shutoff valves with leak test stations
  — Two main safety shutoff valves with leak test stations
• Construction
  — 3/16" steel plate reinforced furnace shell
  — 1/2" thick steel top plate
  — Brushed stainless steel control panel face
  — Powered rear hinged door
  — Energy-saving lightweight ceramic fiber insulation reduces operating costs
  — Insulating refractory floor to support heavy loads
  — Excellent temperature uniformity throughout work space
  — Fast heat-up and cool-down
  — 1 year limited warranty
• Every furnace fully assembled and individually factory tested

*Industrial Risks Insurers vent valve only provided at specific request

Specifications Subject to Change Without Notice
Copyright The Grieve Corporation All Rights Reserved
Printed in U.S.A. 3/15
**SPECIFICATIONS**

**NOT FOR USE WITH FLAMMABLE SOLVENTS, VAPORS OR GASES.**

<table>
<thead>
<tr>
<th>Model</th>
<th>Work Space Dimensions (WxDxH)</th>
<th>Volume Cu Ft</th>
<th>Outside Dimensions* (WxDxH)</th>
<th>Height Door Open</th>
<th>Door Type</th>
<th>Heat Input</th>
<th>Operating Characteristics†</th>
<th>Approx Shipping Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT-181818</td>
<td>18” x 18” x 18”</td>
<td>3.4</td>
<td>59” x 54” x 54”</td>
<td>69”</td>
<td>Electric</td>
<td>250</td>
<td>±0.3°F</td>
<td>1150 lbs</td>
</tr>
<tr>
<td>PT-181824</td>
<td>18” x 24” x 24”</td>
<td>4.5</td>
<td>59” x 54” x 60”</td>
<td>75”</td>
<td>Electric</td>
<td>300</td>
<td>±0.3°F</td>
<td>1500 lbs</td>
</tr>
<tr>
<td>PT-242424</td>
<td>24” x 24” x 24”</td>
<td>8.0</td>
<td>65” x 60” x 60”</td>
<td>81”</td>
<td>Electric</td>
<td>430</td>
<td>±0.3°F</td>
<td>1600 lbs</td>
</tr>
<tr>
<td>PT-242430</td>
<td>24” x 24” x 30”</td>
<td>10</td>
<td>65” x 60” x 66”</td>
<td>87”</td>
<td>Electric</td>
<td>500</td>
<td>±0.3°F</td>
<td>1700 lbs</td>
</tr>
<tr>
<td>PT-303030</td>
<td>30” x 30” x 30”</td>
<td>16</td>
<td>71” x 66” x 67”</td>
<td>93”</td>
<td>Electric</td>
<td>600</td>
<td>±0.3°F</td>
<td>1800 lbs</td>
</tr>
<tr>
<td>PT-303036</td>
<td>30” x 36” x 36”</td>
<td>19</td>
<td>71” x 66” x 73”</td>
<td>99”</td>
<td>Electric</td>
<td>700</td>
<td>±0.3°F</td>
<td>1900 lbs</td>
</tr>
<tr>
<td>PT-363636</td>
<td>36” x 36” x 36”</td>
<td>27</td>
<td>77” x 72” x 74”</td>
<td>106”</td>
<td>Air</td>
<td>900</td>
<td>±0.3°F</td>
<td>2000 lbs</td>
</tr>
<tr>
<td>PT-363648</td>
<td>36” x 36” x 48”</td>
<td>36</td>
<td>77” x 72” x 86”</td>
<td>118”</td>
<td>Air</td>
<td>1050</td>
<td>±0.3°F</td>
<td>2100 lbs</td>
</tr>
<tr>
<td>PT-363660</td>
<td>36” x 36” x 60”</td>
<td>45</td>
<td>77” x 72” x 98”</td>
<td>130”</td>
<td>Air</td>
<td>1200</td>
<td>±0.3°F</td>
<td>2200 lbs</td>
</tr>
</tbody>
</table>

*All Models—Control panel overhang 9” right side. Gas Models—Outside depth increases by 10”.

**STANDARD EQUIPMENT**

- **All Models**
  - 208 volts, 3-phase, 60 Hz
  - 230 volts, 3-phase, 60 Hz
  - 460 volts, 3-phase, 60 Hz
  - 5kA short circuit current rating (SCCR)
  - Other electrical characteristics available

  Wall insulation, 9” thick, consisting of:
  - 5” of 230°F, 8 lbs/cf ceramic fiber blanket
  - 4” of 1900°F, 4 lbs/cf ceramic fiber blanket

  Floor insulation, 6” thick, consisting of:
  - 4” of 2300°F insulating castable
  - 2” of 1900°F, 15/16” tile block insulation

- **Electric Models**
  - Safety devices as listed on the front of this bulletin. Heating element contactors electrically interconnected with door to shut off power to heaters as door opens and restore power when closed. High temperature alloy wire heating elements supported in vacuum cast ceramic fiber. Heating elements located at four side walls.

- **Gas Models**
  - 1,000 BTU natural gas at 2 psig pressure;
  - 1” NPT inlet up to 800,000 BTU/HR
  - Other gas characteristics available

- **Furnace Shell**
  - Made of 3/16” thick steel plate reinforced with structural steel.
  - Power door supported at rear by heavy duty shaft and pillow block bearings. Open door exposes entire work space for easy loading. Floating door construction provides excellent heat seal by pressing soft insulation against 1/2” thick steel top plate. Exterior painted with Trilite Green enamel.

  Each features completely wired, side access UL listed control panel assembled on the furnace enclosing terminals for incoming power, temperature controllers, push buttons and pilot lights.

- **GAS MODELS**
  - See Bulletin TC-920 for additional details.

- **ELECTRIC DOOR**
  - Door pivots upward above furnace, clearing top opening for easy loading. In the closed position, full door weight seats door firmly against furnace top plate. Structural steel pivot arms supported on furnace top plate by rugged pillow blocks are connected to a heavy duty electromechanical actuator. The door is controlled by a switch at the furnace control panel.

- **AIR DOOR**
  - Door pivots upward above furnace, clearing top opening for easy loading. In the closed position, full door weight seats door firmly against furnace top plate. Structural steel pivot arms supported on furnace top plate by rugged pillow blocks are connected to a large diameter air cylinder. The door is controlled by a manual air valve with supply filter, lubricator and regulator. Requires 60 psig compressed air.

**ADDITIONAL EQUIPMENT AVAILABLE**

- **Programmable Temperature Controller**, microprocessor based, digital indicating, thermocouple actuated, in lieu of standard controller ........................................... PTC2
- **Recording Thermometer**, thermocouple actuated, 24-hour, 10” diameter circular chart used in conjunction with standard controller ........................................... RT
- **Digital Timing Temperature Controller**, microprocessor based, digital indicating, incorporates 99 hour 59 minute timer, starts timing when temperature reaches set point and shuts down oven at end of set time . DTS3
- **Digital Shut Down Timer**, with continuous “hold” feature ........................................... SDT
- **Digital Batch Timer**, for uniformly timing batch operations. Continuous alarm with door interlock; alarms at end of preset time period until door is opened or timer reset . BT
- **Inert Atmosphere Construction**, available on electric furnaces only, includes continuously welded furnace shell, inert atmosphere gas inlet and outlet, sealed terminal boxes, high temperature door gasket . ........................................... IAC
- **Inert Atmosphere Inlet Piping**, with indicating flow control/meter and gas valve. Specify atmosphere ........................................... IAIP
- **High Temperature Construction**, 2200°F maximum operation temperature, 9” thick insulation ........................................... HTC

*See Bulletin TC-960 for modifications and other optional equipment.

Ovens and Furnaces For Industry Since 1949

THE GRIEVE CORPORATION

500 Hart Road, Round Lake, Illinois 60073-2898 USA
(847) 546-8225 Fax: (847) 546-9210
www.gievcorp.com email: sales@gievcorp.com

PH-770 3/15