OPERATING MANUAL

O/M-RPS-21

RESPIRATOR CLEANING SYSTEM
RESPIRATOR DRYER
MODEL RCM-502

REV. G
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I. **DRYER FUNCTION**

The function of the respirator dryer is to remove all traces of moisture from the washed respirators after all excess water has been removed by the use of a wet vacuum. The dryer maintains maximum temperature at 120°F to prevent damage to the respirators.

II. **DRYER DESCRIPTION**

The respirator dryer removes moisture from the respirators by utilizing high velocity low temperature (120°F) in a laminar linear cross flow drying chamber. Air circulates via a 148 cfm shaded-pole blower and is heated by two 750 watt heating elements.

Temperature variations are sensed by a Type "J" thermocouple transmitted through the thermocouple wiring to a solid state temperature controller. High limit protection is provided by a direct sensing thermostat which consists of a bimetallic, temperature sensitive disc for snap action in opening and closing the switch contacts. If the controller malfunctions or is set at a temperature too high the thermostat will cut the power supply to the heating element at a temperature of 140°F.

The heated air flows down the supply plenum, across the drying chamber and over the respirators. Moisture laden air exits the drying chamber either by the 4" exhaust port on top of the dryer (see note) or the 3" x 14" opening on the side of the dryer. The 4" exhaust port should only be used when connected to an exhaust system that is drawing 30-50 cfm.

The dryer chamber will accommodate 2 loaded respirator racks. Normal drying time for respirators which have had excess water thoroughly vacuumed off is 30 minutes with the temperature maintained at 120°F.
III. DRYER OPERATION

A. Prerequisites

1. Dryer is installed on a flat level surface such as the washer top, tabletop, etc.

2. Both the air intake port and the exhaust port are not obstructed.

3. One of two exhaust locations have been blanked; 4” diameter opening or 3” x 14” opening as applicable.

4. The 4” exhaust port on top of the dryer is connected to an exhaust system that is drawing 30-50 cfm (if applicable).

   NOTE: Optional 4” flange collar RPS No. CR00013.

5. Power is available to dryer. (120 VAC, 20 AMP 60HZ Dedicated circuit required)- refer to wiring diagram, Figure 1).

6. The indicating temperature controller has been set at 120°F. Setting of the controller is accomplished by pressing and holding the red button located on the face of the controller and rotating the small knob to the desired operational temperature. When selected temperature has been set, release the red knob. A small red decimal point directly to the right of the digital display will be illuminated to indicate output relay activation. When this red decimal is lighted, the heater elements will be energized.
B. **Dryer Startup**

1. Place 2 loaded respirator racks inside for drying.

2. Energize the unit by setting the timer pointer knob to the number of minutes of desired operation. Initially, both 750 watt heating elements will be energized until the drying chamber reaches the desired temperature setting of 120°F. The controller then cycles both 750 watt elements automatically to maintain the dryer at 120°F.

3. The dryer will turn off automatically at the end of the set time period. If desired, the set time can be readjusted clockwise or counter-clockwise before the timer cycle is completed. Do not attempt to turn the knob past "0" from either direction.

4. Drying time for respirators which have had excess water removed will be about 30 minutes. Drying is complete. Remove the racks and proceed to load the dryer with 2 more loaded racks. Keep the dryer door open for as little time as practicable to conserve heat.

IV. **MAINTENANCE AND SPARE PARTS**

A. **Dryer Maintenance**

1. After the initial 30 days of normal use, check all the electrical connections in the cabinet and tighten as necessary.

   **CAUTION:** Disconnect all power to the dryer before attempting to retighten any connections.

2. Check and re-tighten all electrical connections on a yearly basis thereafter.
## B. Repair Parts

<table>
<thead>
<tr>
<th>QTY Required</th>
<th>Description</th>
<th>RPS/PN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Heating Elements</td>
<td>BP08</td>
</tr>
<tr>
<td>1</td>
<td>Digital Temperature Controller</td>
<td>EY17</td>
</tr>
<tr>
<td>1</td>
<td>Overheat Protection Switch 140ºF</td>
<td>FU03</td>
</tr>
<tr>
<td>1</td>
<td>Blower</td>
<td>AL09</td>
</tr>
<tr>
<td>1</td>
<td>Timer Switch</td>
<td>AV32</td>
</tr>
<tr>
<td>1</td>
<td>Relay, 120/240 VAC, Control</td>
<td>AV66</td>
</tr>
</tbody>
</table>
Figure 1

Wiring Diagram

115 VAC 50/60 Hz

Type J Thermocouple

TIMED SWITCH

Blower

Solid State Relay

1500 Watt Heater Element

Thermal Cut Out

Load Data: Blower 1.5 Amps at 115 VAC
Heater 12 Amps at 115 VAC

TC - TC + GRN L1 L2 N.C. C N.O.
CE3310030 Temperature Controller