



WATER SCRUBBING VENTILATOR

OWNER'S MAINTENANCE MANUAL AND TROUBLESHOOTING GUIDE

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PART I: INTRODUCTION

The Molitron Grease Extractor/Ventilator for Commercial Kitchens has been manufactured to the highest standard of quality and designed for simplicity of operation and maintenance. It is suggested you keep your new ventilator(s) in proper working order and that you read this manual carefully and familiarize yourself with Molitron's basic component parts and maintenance procedures.

PART II: PRODUCT WARRANTY

The Molitron Grease Extractor/Ventilator is warranted to be free from defects in material and workmanship for a period of twelve (12) months from date of initial start-up. Molitron will replace or repair defective parts at no charge for a period of ninety (90) days from initial start-up. Defective parts must be returned F.O.B. factory for repair or replacement. All replacement labor charges following initial (90) day warranty shall be paid by the customer. This warranty is conditional upon proper maintenance of all equipment as outlined in the Maintenance Manual and Troubleshooting Guide. Failure to perform proper maintenance, willfully or otherwise, shall void this warranty in full. Damage resulting from physical abuse or neglect shall not be covered under this warranty.

PART III: HOW THE MOLITRON WATER SCRUBBING VENTILATOR WORKS

1. Air Flow, Grease Extraction and Continuous Cleaning

Air exhausted through the ventilator removes cooking odors, smoke, grease-laden air and combustion gases from the cooking area and a high percentage of these contaminants from the exhaust air. This conveying air stream flowing through the ventilator creates and passes through a turbulent water and detergent scrubbing filter that condenses and saponifies grease vapors. Due to natural evaporation of the water and the continual draining of the dirty water from the ventilator, fresh water must be provided in order to maintain the continuous water filter when the exhaust fan is operating, and the cooking equipment is being used. Therefore, the IDEC SMART RELAY, a programmed logic controller inside the control panel, opens the cold water solenoid valve on each section of ventilator every three minutes for approximately five seconds.

At these times, a very small amount of cold water is sprayed into the interior of each ventilator section along with a small amount of detergent. The introduction of cold water and detergent in this manner provides adequate water to maintain the continuous water

scrubbing feature of the ventilator. If necessary to accommodate the requirements of the specific kitchen, the frequency and times of cold water and detergent input can be changed. Contact the factory for instructions on how this can be accomplished. When the exhaust fan is shut off either manually or automatically at the end of the day, the ventilator scrubbing chambers are sprayed and flushed with hot water and detergent for approximately two minutes.

2. Plumbing Components

Each ventilator section is furnished with two 24 VAC solenoid valves, one for cold water and one for hot water. In addition, a detergent injector is furnished in the plumbing line between the solenoid valves and the point of connection to the interior water manifolds. The solenoid valves and injector are located on either the top right or top left end of each ventilator section. Each section of ventilator is furnished with one 1-1/2" drain which must be connected by the installing contractor to a floor sink which must drain through a grease trap.

Note: It is the responsibility of the installing contractor to install the required detergent tubing injector on each hood and the detergent pump located inside the stainless steel detergent pump and detergent storage enclosure furnished by Molitron.

3. Electrical Components

- **Idec Smart Relay**

The system control is provided by an Idec Smart Relay located in the stainless steel surface mounted control panel, which is 12" wide, 14" high and 3" deep. This controller is programmed to energize the cold water solenoid valve(s) and the detergent pump(s) when the exhaust fan is ON to inject cold water and detergent into the ventilator scrubbing chamber at pre-set intervals. When the exhaust fan is shut OFF, the Controller opens the hot water solenoid valve(s) and energizes the detergent pump(s) for a preset time, normally two minutes for a final wash of the scrubbing chamber. It is absolutely essential that the system switch on the controller controls the ON & OFF cycles of the exhaust fan.

The surface fire protection equipment, such as an Ansul System, must be connected to the controller so that when the fire protection equipment discharges, a signal is sent to the controller to close all water solenoid valves.

- **Manual Exhaust Fan Control**

On the front of the controller are three push button switches. The left switch is the system switch, which is used to manually turn the exhaust fan on and off. This switch is furnished with a light that turns on when pushed in to indicate that the exhaust fan is on. When pushed in again, the exhaust fan turns off as does the light in the switch.

- **Optional Time Clock Control**

If the System is left on at all times, the exhaust fan will automatically turn on at a pre-set time in the morning and will automatically turn off at a pre-set time in the evening.

VENTILATOR MAINTENANCE

Four Most Important Points

- 1.) Degreaser for water wash ventilators must be non-foaming and must be used at all times. Then ventilator scrubbing chambers will not stay clean without an adequate amount of degreaser being used at all times. It is the responsibility of the degreaser supplier to inspect the ventilator interiors monthly to determine whether or not adequate detergent is being used.
- 2.) The exhaust air inlet must be wiped down daily.
- 3.) Any cleaning cloths, rags, etc. used when manually cleaning visible exterior surfaces, especially the exhaust air inlet, must be removed from the gutter located below the exhaust air inlet.
- 4.) A small amount of water must continually drain from the Ventilator when the exhaust fan is operating.

Manual Cleaning of Ventilator

External

To maintain a good, clean appearance, all exposed exterior portions of the ventilator must be wiped down daily with hot water and detergent. The exhaust air inlet must be kept clean. This can be done most easily by spraying with a detergent solution during the cleaning cycle. Do not use scouring or steel wool pads!

Internal

Depending upon the severity of the cooking operation, the internal metal surfaces of the scrubbing chamber may require a manual hot water wash-down with a hose and a spray nozzle. To gain access to these surfaces, remove the plenum access panels. Be certain to properly replace all access panels following a manual cleaning.

NOTE: The bottom edge of the access panel must be placed inside the access opening.

IMPORTANT: If large amounts of grease or hard water deposits are found inside the scrubbing chamber, remove as much as possible manually before hosing down. **FAILURE TO DO MAY RESULT IN A BLOCKED DRAIN CAUSING VENTILATOR TO OVERFLOW!**

Weekly Inspection

Check degreaser level. If level has not dropped since previous filling, call your detergent supplier immediately.

Monthly Inspection

Inspect scrubbing chamber interior through access panels in area of fire damper. If grease deposits are found, see "Troubleshooting Guide."

TROUBLESHOOTING GUIDE

Problem: Grease Accumulation in Scrubbing Chamber or Drain

- Possible Cause: Inadequate detergent is being used.
- To Repair: Call detergent supplier.

- Possible Cause: Detergent container empty
- To repair: call detergent dupplier

Problem: Dry Scrubbing Chamber

- Possible Cause: Water valves are shut off.
- To repair: Open all hand-operated water valves.

- Possible Cause: Solenoid valves are not functioning
- To repair: Confirm that solenoid valves are receiving power from the Siemens Controller and/or check solenoid valve coil.

Problem: Lack of smoke or vapor capture

- Possible cause: Loose or broken fan belt on exhaust fan.
- To repair: Tighten fan belts or replace, if necessary.

- Possible cause: Inadequate make-up air.
- To repair: Increase supply air volumes.

- Possible Cause: cross current or air in hood vicinity.
- To repair: Install end panels or remove source of cross current of air.

Problem: Extreme Noise in Ventilator

- Possible Cause: Air inlet dampers may be set too low.
- To Repair: Loosen screws on air inlet dampers and raise dampers 1/8" or more if necessary

Caution: If air inlet dampers are raised too much, scrubbing action of exhaust air will be reduced if not eliminated.

Problem: Hot water continues to flow into ventilator after rinse cycle is completed.

- Possible Cause: Dirt in solenoid valve.
- To Repair: Clean solenoid valve. Carefully remove any foreign matter from diaphragm area.

- Possible Cause: Defective solenoid valve.
- To Repair: Replace solenoid valve.