

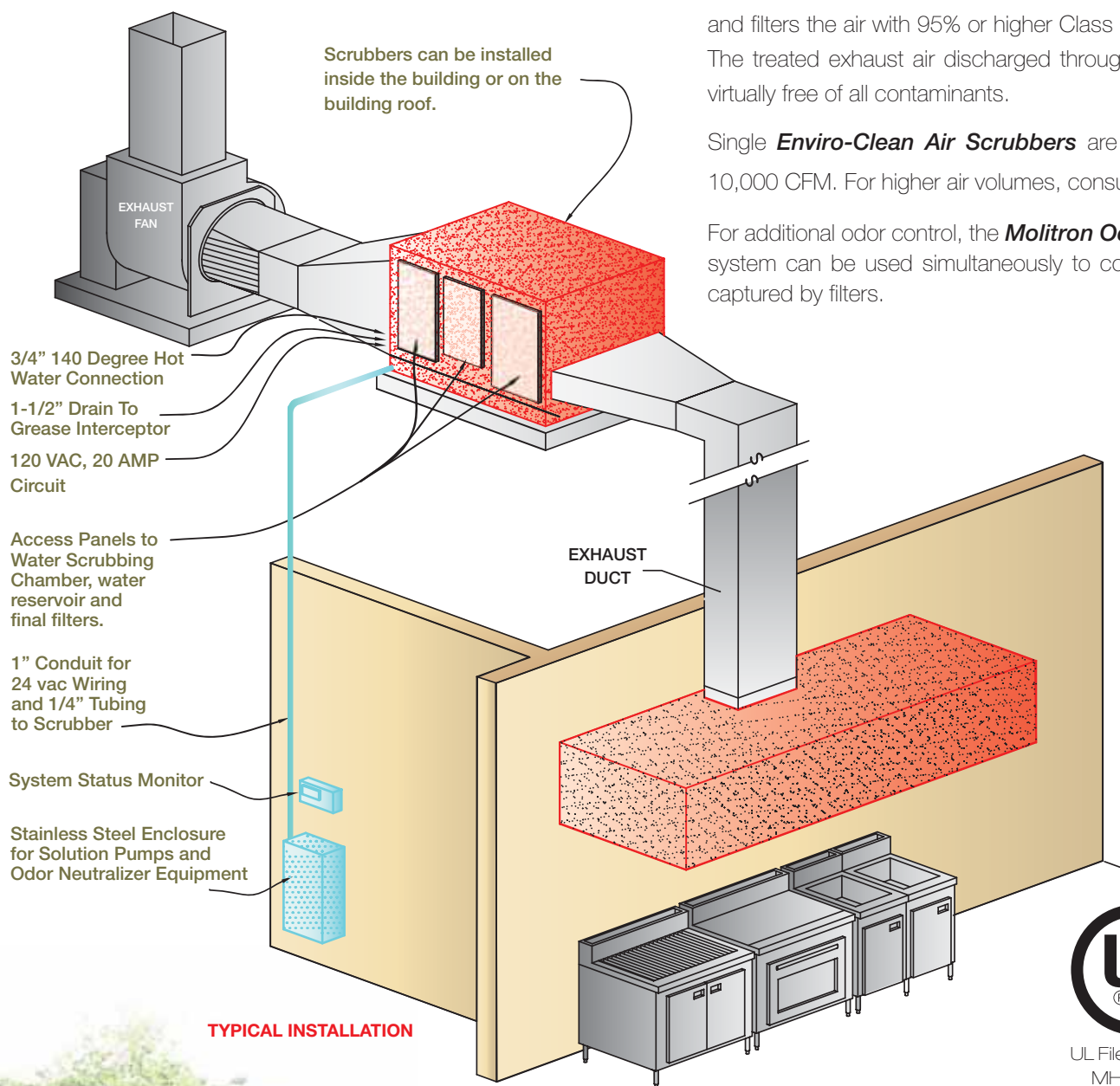
Enviro-Clean Air Scrubber



Designed especially for commercial and institutional kitchens for the removal of grease vapor, smoke, particulates and odors, the **Enviro-Clean Air Scrubber** washes the exhaust air with water and a biocatalyst solution and filters the air with 95% or higher Class One filter media. The treated exhaust air discharged through this system is virtually free of all contaminants.

Single **Enviro-Clean Air Scrubbers** are sized for up to 10,000 CFM. For higher air volumes, consult the factory.

For additional odor control, the **Molitron Odor Abatement** system can be used simultaneously to combat odors not captured by filters.



UL File Number  
MH45752

UL LISTED EXHAUST  
FILTRATION SYSTEM 3KEV

## ENVIRO-CLEAN AIR SCRUBBER

POLLUTION CONTROL SYSTEM  
FOR HEAVY DUTY COOKING EQUIPMENT

***The Enviro-Clean Air Scrubber keeps the Atmosphere Clear and Creates Clean Air***





# Moli-tron<sup>®</sup>

## Company, Inc.

### **MOLI-TRON ODOR ABATEMENT SYSTEM**

#### **THE MOAS FOR SIMPLIFIED ODOR NEUTRALIZATION**

The Moli-tron Odor Abatement System MOAS is designed to provide a totally self contained system for neutralizing offensive odors emanating from commercial exhausts or any other sources of undesirable odors. The MOAS can be used with the Enviro-Clean Air Scrubber, the Enviro-Pak Filter Assembly and the Water Scrubbing Ventilators, or, can be used independently in alternate applications.

#### **THE MOAS WILL: PROVIDE ASSURANCE OF ODOR-FREE AIR!**

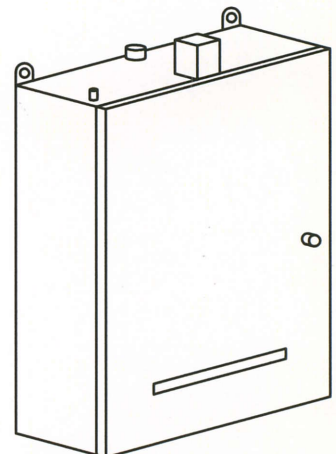
The MOAS, using an odor neutralizer is dispensed through nozzles located in the exhaust air stream. Chemical neutralization changes the odor molecules structure, effectively modifying it. And, unlike chemical masking agents or perfumes that superimpose a pleasant fragrance on an unpleasant odor, odor neutralizers absorb and convert malodors resulting in no odor at all.

#### **EASY INSTALLATION AND MAINTENANCE**

All necessary components, except for the remote atomizing nozzles, are located in a stainless steel wall mounted cabinet. When used with the Moli-tron equipment specified, the nozzles are installed prior to shipment. When used with other equipment, or in alternate applications, the nozzles are installed into the duct system by the installing contractor. Utilities required are one 120 VAC electric service and one 1/4" cold water supply.

#### **RECENT INSTALLATIONS:**

Brix Restaurant  
Cheeburger Cheeburger Restaurants  
Elephant Bar Restaurants  
Lou's Luncheonette  
Wahoo's Fish Taco Restaurants  
Yard House Restaurants



WALL MOUNTED 18 GA. STAINLESS STEEL  
CABINET, 22" WIDE, 30" HIGH, 8" DEEP  
WEIGHT: 100LBS.

**1457 Ammons Street, Suite 211 • Lakewood, CO 80214**

**P: 303-969-8888 • 800-525-9494 • F: 303-969-8110**

**www.moli-tron.com • cleanair@moli-tron.com**



# Enviro-Clean Air Scrubber

## Sequence of Operation

THE SCRUBBER IS TURNED ON AUTOMATICALLY WHEN THE EXHAUST FAN SERVING THE SCRUBBER IS TURNED ON AND AIR FLOW IS VERIFIED BY THE DIFFERENTIAL PRESSURE SWITCH ON THE CONTROL PANEL.

THE SCRUBBER "ON" MODE CONSISTS OF (1) FILLING THE WATER RESERVOIR WITH HOT WATER, AND (2) RECIRCULATING THE WATER FROM THE RESERVOIR THROUGH A MANIFOLD LOCATED ABOVE THE SCRUBBING RACKS. THE RECIRCULATED WATER SPRAYS DOWNWARD FROM THE WATER MANIFOLD THROUGH FOUR SCRUBBING RACK CHANNELS CREATING A SERIES OF 20 TURBULENT WATER FALLS. THE EXHAUST FAN PULLS THE CONTAMINATED EXHAUST AIR UPWARD THROUGH THE FOUR SCRUBBING RACK CHANNELS AND THROUGH THE DOWNWARD FLOWING TURBULENT WATER.

THIS COUNTER FLOW OF AIR AND WATER CREATES EXTREME TURBULENT CONTACT OF AIR AND WATER AS THE EXHAUST AIRS FORCED TO WEAVE THROUGH THE RACK CHANNELS AND PENETRATE UPWARD THROUGH THE 20 TURBULENT WATERFALLS. THE EXHAUST AIR IS COOLED BY THE AIR /WATER CONTACT WHICH CONGEALS GREASE VAPORS AND ALSO COLLECTS WHATEVER OTHER PARTICULATE MATTER IN THE EXHAUST AIR. THE WASHED AND CLEANED AIRS THEN CENTRIFUGALLY DRIED PRIOR TO PASSING THROUGH WASHABLE FILTERS.

FINAL FILTERING FOR REMOVAL OF SUB-MICRON PARTICLES (SMOKE) IS ACCOMPLISHED BY THE USE OF HIGH EFFICIENCY FILTERS RATED AT 95% EFFICIENT AT 1 MICRON.

WATER CONSUMPTION DURING USE IS LIMITED TO REPLACEMENT OF EVAPORATED WATER ONLY.

WHEN THE EXHAUST FAN IS SHUT OFF, THE SCRUBBER AUTOMATICALLY ENTERS THE "OFF" MODE AT WHICH TIME THE DIRTY WATER AND COLLECTED PARTICULATE MATTER DRAIN FROM THE SCRUBBER PRIOR TO A FINAL HOT WATER FLUSH OF THE RESERVOIR AND THE DRAIN LINE.

## Sizing Chart

MAXIMUM AIR VOLUME PER SCRUBBER WIDTH	2200 CFM	3100 CFM	4000 CFM	4900 CFM	5800 CFM	6700 CFM	7600 CFM	8500 CFM	9400 CFM	10300 CFM
WIDTH (INCHES)	36	48	60	72	84	96	108	120	132	144
INLET COLLAR: 6" X	32	44	56	68	80	92	104	116	128	140
OUTLET COLLAR: 24" X	32	44	56	68	80	92	104	116	128	140
QTY OF 24 X 24" FILTERS	1	2	2	3	3	4	4	5	5	6
QTY OF 24 X 12" FILTERS	1		1		1		1		1	
RESERVOIR QTY (GAL)	9.5	12.6	15.8	18.9	22.2	25.3	28.5	31.6	32.8	37.9
WATER WEIGHT (LBS)	79	106	132	158	185	211	237	264	290	317
SHIPPING WT.(LBS)	600	800	1000	1200	1400	1600	1800	2000	2200	2400

SCRUBBER STATIC PRESSURE: 3.0" STANDARD  
AIR / CLEAN FILTERS. ALLOW FOR AN  
ADDITIONAL 1/2" FOR FILTER LOADING.

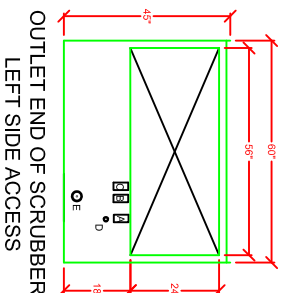
SIZE EXHAUST FAN FOR 3.5" WGSP.  
PLUS, HOOD AND DUCT STATIC LOSS.



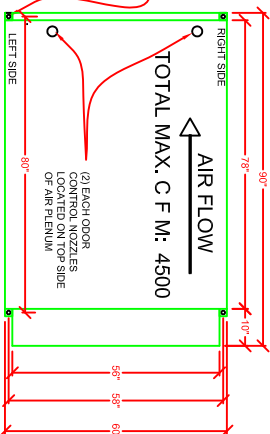
(303) 969-8888 | [cleanair@molitron.com](mailto:cleanair@molitron.com)  
[www.molitron.com](http://www.molitron.com)

# MECHANICAL / ELECTRICAL POINTS OF CONNECTION ON SCRUBBER OUTLET END:

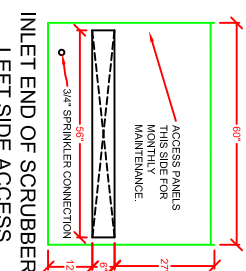
- 115 VAC, 20 AMP CONTINUOUS SUPPLY. MUST BE PROVIDED ON SCRUBBER OUTLET END. PROVIDE ELECTRICAL JUNCTION BOX TO PROVIDE COVER FOR SCRUBBER.
- 3/4" ELECTRICAL CONDUIT FURNISHED AND INSTALLED BY GENERAL CONTRACTOR. CONDUIT TO EXTEND TO SCRUBBER STATUS PANEL.
- 3/4" ELECTRICAL CONDUIT FURNISHED AND INSTALLED BY GENERAL CONTRACTOR. CONDUIT TO EXTEND TO SOLUTION PUMP ENCLOSURE OR MOAS ENCLOSURE.
- 3/4" HOT WATER SUPPLY CONNECTION TO SCRUBBER STATUS PANEL. MUST BE PROVIDED ON SCRUBBER OUTLET END. PROVIDE ELECTRICAL JUNCTION BOX TO PROVIDE COVER FOR SCRUBBER.
- 1-1/2" DRAIN LINE CONNECTION. A P" TRAP MUST BE PROVIDED ON SCRUBBER OUTLET END. PROVIDE ELECTRICAL JUNCTION BOX TO PROVIDE COVER FOR SCRUBBER.



3/4" THREADED INLET THROUGH 11 GAUGE STAINLESS STEEL HANGER ANGLE WELDED TO SCRUBBER AT EACH TOP CORNER. ACCESS PANELS FURNISHED WITH REMOVABLE EYE BOLT.



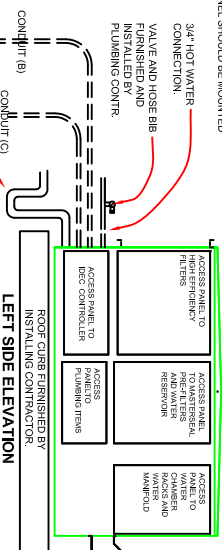
## PLAN VIEW



## FIELD INSTALLATION INSTRUCTIONS

INSTALLING CONTRACTOR MUST FURNISH TWO EACH 3/4" CONDUITS WITH LONG SWEEPING ELBS, WHERE ELBS ARE REQUIRED, BETWEEN SCRUBBER AND WALL MOUNTED STATUS PANEL, AND SOLUTION PUMP ENCLOSURE. CONDUITS MUST BE INSTALLED AND SECURED TO WALLS OR PANELS WITHIN VIEW OF MANAGER'S OFFICE.

**CONDUIT (B):**  
FURNISHED AND INSTALLED BY GENERAL CONTRACTOR FROM SCRUBBER CONNECTION (B) TO RECESSED X 4110V VOLTAGE JUNCTION BOX LOCATED BEHIND SCRUBBER STATUS PANEL. GENERAL CONTRACTOR TO INSTALL IN THIS CONDUIT: 1-1/2" DRAIN LINE, 3/4" ELECTRICAL CONDUIT, 3/4" HOT WATER SUPPLY, AND 3/4" GAS LINE. WARNING LIGHTS.



TRAP IN DRAIN LINE BY INSTALLING CONTRACTOR. MAY BE INSTALLED AT EXIT END OF DRAIN LINE WHERE DRAIN DUMPS INTO A FLOOR SINK. FLOOR SINK MUST CONNECT TO A GREASE INTERCEPTOR.

## MOLITRON ODOR ABATEMENT SYSTEM

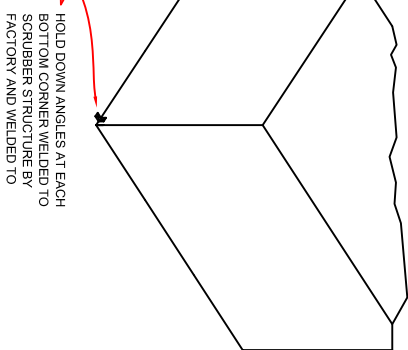
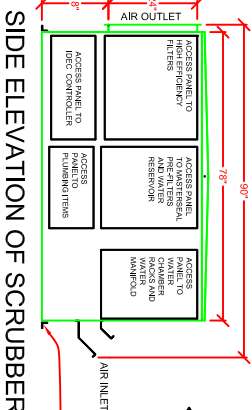
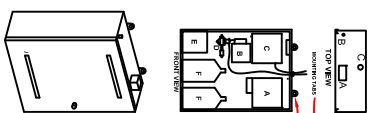
THE "MOAS" FOR SIMPLIFIED ODOR REMOVAL

- POINTS OF CONNECTION:
- 115 VAC, 15 AMP SUPPLY
  - COLD WATER
  - CONDUIT

- SYSTEM COMPONENTS:
- ELECTRICAL CONTROLLER
  - ODOR SOLUTION PUMP
  - DILUTION MECHANISM
  - MIXING TANK
  - ODOR CONTROL CONCENTRATE

## INSTALLATION INSTRUCTIONS

- FASTEN CABINET TO WALL AND MAKE ELECTRICAL AND WATER CONNECTIONS.
- EXTEND THE RED AND BLACK TUBING FROM THE CABINET TO THE ODOR CONTROL NOZZLES.



HOLD DOWN ANGLES AT EACH BOTTOM CORNER WELDED TO SCRUBBER STRUCTURE BY FACTORY AND WELDED TO SUPPORT FRAME BY INSTALLING CONTRACTOR.

NOTE:  
SERVICE ACCESS SIDE OF SCRUBBER REQUIRES A MINIMUM OF 30" FREE SPACE BETWEEN SCRUBBER AND ANY ADJACENT WALLS OR OTHER EQUIPMENT.  
OPERATING WEIGHT: 1085 LBS  
HOT WATER CONSUMPTION: 2 GALLONS PER HOUR.  
REQUIRED WATER TEMPERATURE 140 - 160 DEGREES F.

REQUIRED WATER TEMPERATURE 140 - 160 DEGREES F.

SERVICE ACCESS SIDE OF SCRUBBER REQUIRES A MINIMUM OF 30" FREE SPACE BETWEEN SCRUBBER AND ANY ADJACENT WALLS.

ALL OTHER SIDES MUST BE A MINIMUM OF 18" CLEARANCE TO COMBUSTIBLE MATERIALS AND BUILDING INSULATION OR 0" CLEARANCE TO NON-COMBUSTIBLE MATERIALS.

EXHAUST FAN SHOULD BE 1) UL LISTED FOR KITCHEN EXHAUST APPLICATIONS. 2) A BACKWARD INCLINED UTILITY TYPE FAN WITH EASILY ADJUSTABLE RPM.



INSTALL AND USE ONLY IN ACCORDANCE WITH MOLITRON EXHAUST FILTRATION SYSTEM AND MAINTENANCE INSTRUCTIONS.

MAINTAIN A MINIMUM AIR SPACE CLEARANCE OF 18" TO COMBUSTIBLE MATERIALS AND BUILDING INSULATION.



1457 Armonia Street  
Lakewood, CO 80714  
303-989-8888 800-525-9494

DATE	BY	REVISIONS
4-05-14	BB	
AS SHOWN		
JOB NAME	AFSW 60L WITH MOAS	
JOB NO.	0000	
DRAWN BY	AFSW 60L WITH MOAS	

1096

SHEET 1 of 1

**MOLITRON**  
COMPANY INC.



**MOAS**

**ODOR AND SMOKE ABATEMENT SYSTEM**



*1457 Ammons Street, Suite 103 • Lakewood, Colorado 80214*

**Phone:** 303-969-8888 • 800-525-9494

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*Sales and Marketing: 650-922-8992*

# MOLITRON ODOR AND SMOKE ABATEMENT SYSTEM

## THE MOAS FOR SIMPLIFIED ODOR NEUTRALIZATION

The Molitron Odor and Smoke Abatement System (MOAS) is designed to provide a totally self contained system for neutralizing offensive odors and smoke emanating from commercial exhausts or any other source of undesirable odors and smoke. The MOAS can be used independently, or with the Molitron Enviro-Clean Air Scrubber or Enviro-Pak Filter Assembly.

The Molitron "MOAS" Odor & Smoke Abatement System will reduce odor particles by approximately 95% and reduce approximately 50% of smoke particles.

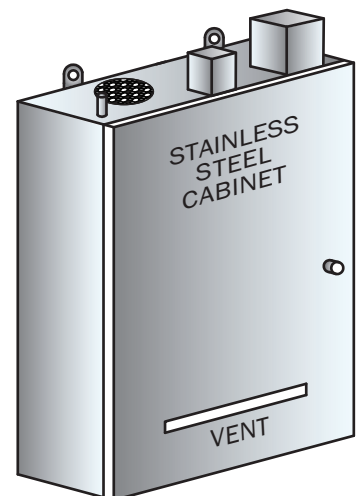
The MOAS dispenses a neutralizing solution through nozzles located in the exhaust air stream. Chemical neutralization changes the particle's molecular structure, effectively modifying it. And, unlike chemical masking agents or perfumes that superimpose a pleasant fragrance on an unpleasant odor, odor neutralizers absorb and convert malodors resulting in a reduction in odor and smoke particles.

## EASY INSTALLATION AND MAINTENANCE

All necessary components, except for the remote atomizing nozzles, are located in a stainless steel wall mounted cabinet. Utilities required are one 115 VAC electric service and one 1/4" cold water supply. Connecting the basic MOAS cabinet to the remotely located atomizing nozzles are one 1/4" OD liquid hose and one 3/8" OD air hose.

### RECENT INSTALLATIONS:

Seasons 52 Restaurants  
Habit Burger Restaurants  
Chipotle Restaurants  
True Food Kitchen  
Porter Adventist Hospital  
St. Anthony's Hospitals



WALL MOUNTED 18 GA. STAINLESS STEEL  
CABINET, 24" WIDE, 32" HIGH, 8" DEEP  
WEIGHT: 95 LBS.





**Moli-tron**<sup>®</sup>  
Company, Inc.

To Whom It may Concern

The MoliTron "MOAS" Odor & Smoke Abatement System will reduce odor particles by approximately 95% and reduce approximately 50% of smoke particles. The exact reduction of smoke particles cannot be determined because of various cooking processes utilized and the variation in the efficiency of kitchen hood grease removal devices. However, we recommend that the MOAs nozzles be located as closely as possible to the source of the contaminants, both odor and visible smoke particles, in order to maximize the effectiveness of the MOAS system.

  
Arlen Gallagher

President





## MOLITRON ODOR AND SMOKE ABATEMENT SYSTEM

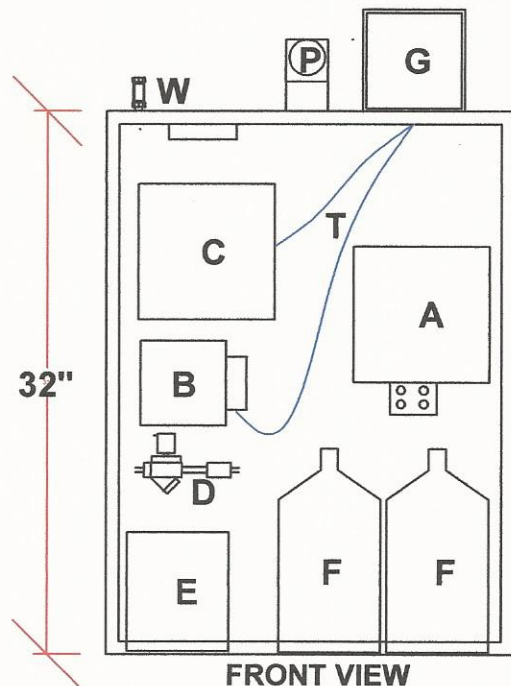
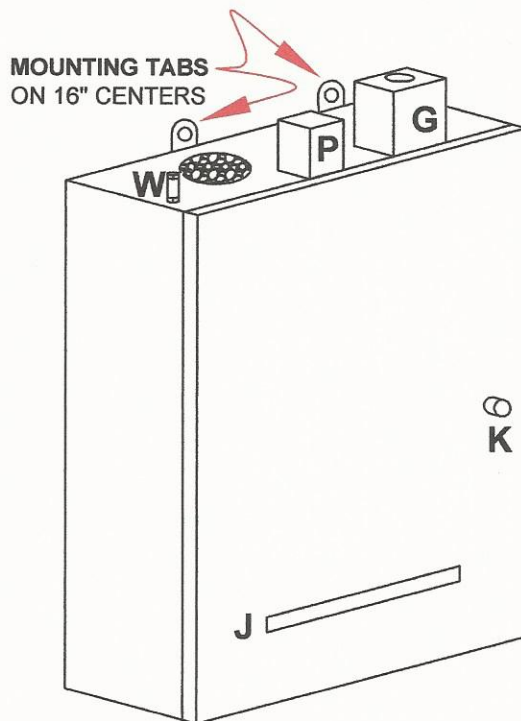
### MOAS CONCENTRATE INFORMATION

The Molitron Odor and Smoke Abatement System is one which automatically dilutes the MOAS concentrate for atomization into an exhaust air stream. The amount of concentrate required to neutralize all odors and smoke depends on the solution concentration setting and the length of time available to mix the atomized MOAS concentrate with the air stream before being released into the atmosphere. The amount of concentrate required is manually adjusted inside the MOAS cabinet. Satisfactory performance will result after the volume of concentrate is adjusted to the proper amount required to neutralize the odors and smoke in question. In most cases up to 95% of offensive odors and up to 50% of smoke particles will be neutralized.

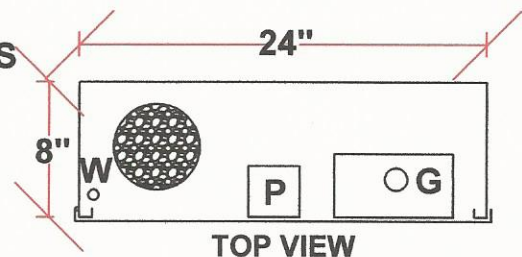
For maximum efficiency with the least amount of product used, there should be a minimum of 10 feet of duct from the point of the atomization nozzle to the point of air discharge into the atmosphere.

# MOLITRON ODOR AND SMOKE ABATEMENT SYSTEM

THE "MOAS" FOR SIMPLIFIED ODOR NEUTRALIZATION  
FOR USE WITH ANY TYPE OF EQUIPMENT REQUIRING A MEANS OF  
NEUTRALIZING ODORS AND SMOKE.



**WALL MOUNTED 18 GA. STAINLESS  
STEEL CABINET,  
24" WIDE, 32" HIGH, 8" DEEP.  
WEIGHT: 95 LBS**



## PARTS IDENTIFICATION:

- A) UL LISTED ENCLOSURE FOR IDEC TIME CONTROLLER.
- B) 24 VOLT SOLUTION PUMP FOR MOAS SOLUTION
- C) 115 VOLT GAST AIR COMPRESSOR
- D) 24 VOLT SOLENOID VALVE AND SOLUTION INJECTOR
- E) MIXING TANK
- F) ONE GALLON MOAS CONCENTRATE
- G) 1" CONDUIT CONNECTION FOR TUBING TO MOAS MISTING NOZZLES.  
.....RED LIGHT ALARM FOR LOW SOLUTION WARNING.
- P) 115 VAC, 15 AMP SUPPLY CONNECTION
- W) 1/4" COLD WATER SUPPLY CONNECTION
- J) FRESH AIR INLET
- K) CAM LATCH HANDLE
- T) AIR AND SOLUTION TUBING TO MISTING NOZZLES

UTILITIES REQUIRED: 15 VOLT, 15 AMP CIRCUIT AND ONE 1/4" COLD  
WATER SUPPLY.



# MOLITRON ODOR AND SMOKE ABATEMENT SYSTEM

## EQUIPMENT DESCRIPTION

The MOLITRON ODOR AND SMOKE ABATEMENT SYSTEM (MOAS) is designed for the express purpose of neutralizing odors and smoke emanating from commercial exhaust systems. The MOAS is comprised of a stainless steel cabinet with a hinged door, 24" wide, 32" high and 8" deep. Interior components consist of an air compressor, a solution pump, an internal cooling fan, a mixing tank, a solenoid valve, a solution injector with an adjustable volume control and an electrical control system with a disconnect switch that turns the system on and off at preset time intervals. Utility requirements are one 1/4" cold water supply and one 115 vac supply circuit. Connections for both water and electric are on the top of the stainless steel enclosure as are the connecting points for 3/8" OD compressed air tubing and for 1/4" OD neutralizing solution tubing. Maximum tubing length should not exceed 100 feet.

Injection of the odor and smoke neutralizing solution into the contaminated air stream is accomplished through the use of stainless steel atomizing nozzles mounted through the wall of the exhaust duct. The nozzles must be connected to the 3/8" and 1/4" tubing that exit from the stainless steel enclosure. When the system is in use, the nozzles spray a fine mist of compressed air and neutralizing solution which quickly mixes with the moving air in the duct system as it neutralizes the odors and smoke.

Each system is furnished with two nozzles which are adequate for up to 6,000 CFM. Nozzles should be located as far as possible from the point of discharge to the atmosphere to allow for maximum neutralization of odors and smoke.

System performance can be increased or decreased by adjusting the dilation ratio set point located on the brass solution injector on the cold water supply. Start up and calibration must be done in accordance with the MOLITRON MOAS installation manual.

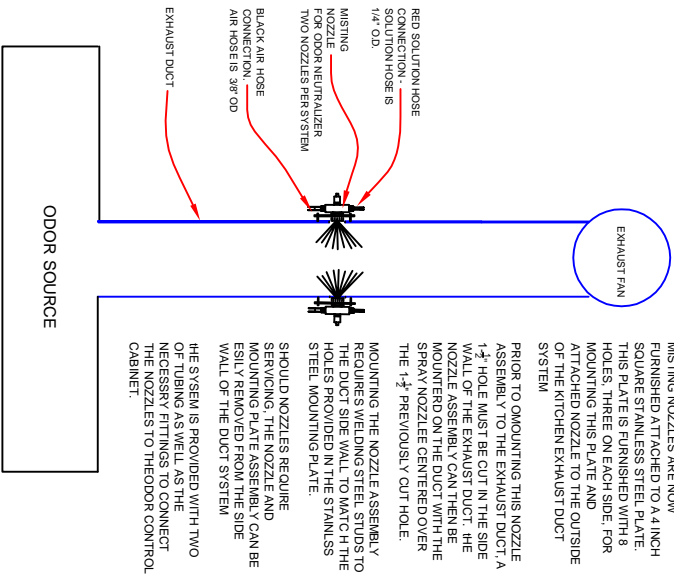
## ETL LISTING

The Molitron Odor and Smoke Abatement System is ETL listed and tested to the following standards:

UL 197: Commercial Electric Cooking Appliances

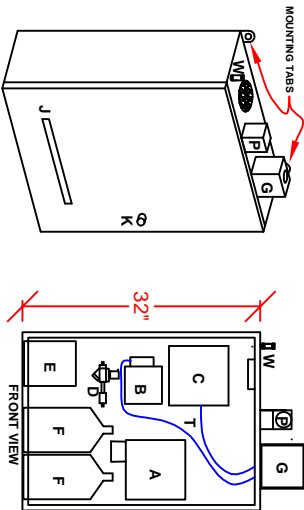
UL 710, Clause 43: Fire and Leakage Test of Fittings for Hood Penetrations

INSTALLATION INSTRUCTIONS FOR ODOR CONTROL MISTING NOZZLE



MOLITRON ODOR ABATEMENT SYSTEM

THE "MOAS" FOR SIMPLIFIED ODOR NEUTRALIZATION  
FOR USE WITH ANY TYPE OF EQUIPMENT REQUIRING A MEANS OF  
NEUTRALIZING ODORS.



WALL MOUNTED 18 GA. STAINLESS  
STEEL CABINET,  
24" WIDE, 32" HIGH, 8" DEEP.  
WEIGHT: 95 LBS

PARTS IDENTIFICATION:

- A) UL LISTED ENCLOSURE FOR IDEC TIME CONTROLLER.
- B) 24 VOLT SOLUTION PUMP FOR MOLISORB SOLUTION
- C) 115 VOLT GAST AIR COMPRESSOR
- D) 24 VOLT SOLENOID VALVE AND SOLUTION INJECTOR
- E) MIXING TANK
- F) ONE GALLON MOLISORB CONCENTRATE
- G) 1" CONDUIT CONNECTION FOR TUBING TO MOAS MISTING NOZZLES.
- H) 115 VAC, 15 AMP SUPPLY CONNECTION
- I) 1/4" COLD WATER SUPPLY CONNECTION
- J) FRESH AIR INLET
- K) CAM LATCH HANDLE
- L) AIR AND SOLUTION TUBING TO MISTING NOZZLES

UTILITIES REQUIRED: 15 VOLT, 15 AMP CIRCUIT AND ONE 1/4" COLD  
WATER SUPPLY.

**Molitron Odor Abatement System (MOAS)**, designed for the express purpose of neutralizing odors emanating from commercial exhaust systems. The MOAS is comprised of a stainless steel cabinet with hinged door, 24" wide, 32" high and 8" deep. Interior components consist of an air compressor, a solution pump, an internal cooling fan, a mixing tank, a solenoid valve, a solution injector with an adjustable volume control and an electrical control system with disconnect switch that turns the system on and off at preset time intervals. Utility requirements are one 1/4" cold water supply and one 115 vac supply circuit. Connections for both water and electric are on the top of the stainless steel enclosure as are the connecting points for 3/8" O.D. compressed air tubing and for 1/4" O.D. neutralizing solution tubing. Maximum tubing length should not exceed 100 feet.

Injection of the odor neutralizing solution into the contaminated air stream is accomplished through the use of stainless steel atomizing nozzles mounted through the wall of the exhaust duct. The nozzles must be connected to the 3/8" and 1/4" tubing that exit from the stainless steel enclosure. When the system is in use, the nozzles spray a fine mist of compressed air and odor neutralizing solution which quickly mixes with the moving air in the duct system as it neutralizes the odors.

Each system is furnished with two nozzles which are adequate for up to 6,000 CFM. Nozzles should be located as far as possible from the point of discharge to the atmosphere to allow for maximum neutralization of odors.

Satisfactory system performance can be increased or decreased by adjusting the dilution ratio set point located on the brass solution injector on the cold water supply. Start up and calibration must be done in accordance with installation manual.

CONTACT WILLIE GEE 650-922-8992  
FOR INFORMATION AND PRICING

<b>MOLITRON</b> 1467 Annans Street, Suite 2 Lakewood, CO 80214 303-969-8888 800-525-94	
DESIGN BY	DATE
CHECKED BY	SCALE
JOB NO. 0000	
ITEMS	
SHEET 1 OF 1	



**MOAS ETL LISTED**

**UL 197: COMMERCIAL ELECTRIC COOKING APPLIANCES  
UL 710, CLAUSE 43:  
FIRE & LEAKAGE TEST OF FITTINGS FOR HOOD PENETRATIONS**



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