

TECHNICAL INSTRUCTIONS

# Vorias 6H User Guide

**HUMIDIFICATION SYSTEM**

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# Vorias 6H

## Specification Sheet



Fogging Head

### Features

- Automated humidifier system for cold rooms above 0 °C (32 °F)
- Up to 95 % Relative Humidity
- Color coded plumbing
- Powder coated cabinet
- Maximum performance
- Factory assembled for easy mounting and installation
- Ultra atomization fogging heads
- Low power consumption
- Low maintenance, no filters to change

Model	VORIAS 6H
Maximum volume at 32-35 °F (0-2 °C) up to	24,000 ft <sup>3</sup> (680 m <sup>3</sup> )
Fogging heads supported up to	6
<b>Location Requirements</b>	
Electrical Source	100/115/230 V AC, 50-60 Hz
Water Supply	1/2" FPT Adapter with Shutoff Valve
Inlet Pressure	30 psi (2 bar) minimum
Drain	Floor Drain or 1/2" Drain Pipe
<b>Maintenance</b>	
Unit	Yearly inspection
<b>Specifications</b>	
Size:	
Height	11.5 inches (29 cm)
Width	14 inches (36 cm)
Depth	4.5 inches (11 cm)
Weight	29 lb (13.1 kg)
Pressure Gauges	Inlet, Product
Operating Voltage	24 V DC
Unit Power Consumption	120 V, 2 A / 240 W 230 V, 1 A / 230 W
Solenoid Valve:	Plastic 1/4" FPT
Pump	Diaphragm
<b>Tubing</b>	
	Color coded
Materials	Polyethylene
	High pressure rated
<b>Fogging Head</b>	
Included with the system	4
Materials	Plastic Box
Dimensions	14 x 3 x 4 inches (36 x 8 x 10 cm)
<b>Nozzle Material:</b>	
Tip	Polyacetal Plastic
Check Valve	Rubber
Spring	Stainless Steel
Valve Seat	Nylon Plastic
<b>Humidity Control</b>	
Sensor	Hydrotransmitter 0-99.9 % RH
Humidity Controller	Digital
Cable from system to sensor	130 feet (40 meters)

# Vorias 6H

## Installation Guide

### DESCRIPTION

The Vorias 6 humidification system is designed for storage applications up to 24,000 cubic ft<sup>3</sup> (680 m<sup>3</sup>) in temperatures above 32 °F (0 °C).

The Vorias 6 package includes the main control unit with humidity sensor and the fogging heads. Vorias 6 can support up to 6 fogging heads. Each fogging head puts into the air maximum 0.25 gallon (1 liter) per hour.

The Vorias 6 is a medium pressure fog system using 125-160 psi pressure (8.5-10 bars), to produce a very fine fog of approximately 10 microns in size.

Vorias 6 package includes all tubing, fittings, screws and additional parts necessary to complete the installation.

### SYSTEM PLACEMENT

Find a suitable place for the main control unit. The main control unit should be placed on the wall outside or inside the humidified room. Water, drain and electrical power outlet should be close to the control unit.

**System should be installed outside the humidified environment if RH is 80 % or higher.**

### HUMIDITY SENSOR PLACEMENT

Mount the Humidity Sensor in the room, away from the fogging heads, doors and fans to maintain consistent sensor readings. The length of the wires between the system and the Humidity Sensor is 130 feet (40 meters).

**The sensor also needs to be protected against any moisture besides the humidity that is being produced for the room. If the sensor is sprayed directly it will give false readings and will not allow proper function of the unit.**

### WATER SUPPLY LINE (1/4" GREEN TUBING)

The water supply line is a green 1/4" tube. Attach one end of the tubing to the "inlet" fitting on the cabinet. Route the tubing to the water source and connect the tubing. Make sure tubing is cut straight and properly installed to the quick connector fitting.

### FOGGING HEADS PLACEMENT



Picture 2

The fogging heads are assembled at the factory (see picture 2). Check each nozzle tip to ensure it is pointing straight up. If adjustment is needed, use a small screw driver and reaching through the slots on the side box, push or move the nozzle tip up right (see picture 3).

Fogging head position should be determined by the installer. Heads should be placed on a wall away from the door, and in the way to create a fog movement along with air recirculation, if any exist.

The fogging heads should not be closer than 2 feet (60 cm) from the ceiling and not less than 20 inches (50 cm) between two neighboring fogging heads.

The fogging head hang on one screw and is kept in a vertical position with a second screw in the bottom right tab on the box. Mount all fogging heads before running any tubing.



Picture 3

### FOG LINE (1/4" BLACK TUBING)

Close to control unit, drill a 3/8" hole, making sure hole is clean and use conduit or grommets to protect the tubing (see picture 4).

Inside the humidified room, split the tubing using 1/4" tee (#17006). Run the tubing along side the drain tubing using an occasional zip tie to hold it in place.

Connect 1/4" tubing to each fogging head.



Picture 4

### DRAIN LINE (1/2" BLACK TUBING)

Close to and above the control unit, drill 3/4" hole through the wall, making sure the hole is clean and conduits or grommets are used to protect the tubing (see picture 5). The drain tubing must angle down from the farthest fogging head to the control unit. This drain water must flow by gravity alone so the tubing must be a down grade for all boxes.



Picture 5

After the last fogging head closest to the control unit, put in a 1/2" Tee and run the tubing in a gentle arch up to a height of 1/2 the length of the shortest drain tube and then down to a drain.

# Vorias 6H

## Installation Guide

### CHECKING THE INSTALLATION

Turn ON the water and check for leaks between the water source and the unit. The “inlet” gauge on the cabinet control panel should read the inlet pressure. Vorias 6 requires 30 psi (2 bars) minimum inlet pressure for optimum operation.

Turn the system “ON”. Product pressure gauge will slowly come up to operating pressure. Check for leaks at tubing connections at each fogging head.

### WATER REGULATOR ADJUSTMENTS

System is showing best performance at 150 PSI of product pressure, however there might be cases where the water regulator adjustments are necessary. When the inlet pressure is too high it should be decreased by regulator until the product pressure is set to 150 PSI.

**NOTE:** Adjustments are to be made only when system is operating.

### HUMIDITY CONTROLLER OPERATION

The Humidity Controller comes programmed from the factory, however if adjustments need to be made please follow instructions below. To set the parameters use the four buttons on the Humidity Controller.

The button description:

“Set” – entering and saving humidity level settings;

“Rst” – power and cancel button;

“▲” – increase button;

“▼” – decrease button;



### OPERATING INSTRUCTIONS

1. Power on/off:

a) To turn “On” the system - press Power (RST) button.

b) To turn “Off” the system - hold Power (RST) button for three seconds and hold on, then it will be off.

2. Setting desired Relative humidity (RH) level:

a) Press the SET button once to enter the humidity control setting (you will see current desired RH level);

b) Press ▲ or ▼ button to adjust RH level;

c) After you set desired RH level press the SET button once to save settings and exit setting mode.

**\* Factory setting for relative humidity level to be maintained in the room is 90%.**

### Factory settings

Symbol	Details	Factory settings	Units
HC	Humidification/ Dehumidification	H	
D	Hysteresis (humidistat differential)	2	%
LS	The minimum set limit	1	%
HS	The maximum set limit	99	%
CA	Humidity calibration	10	%
PT	Delay time	0	Minutes

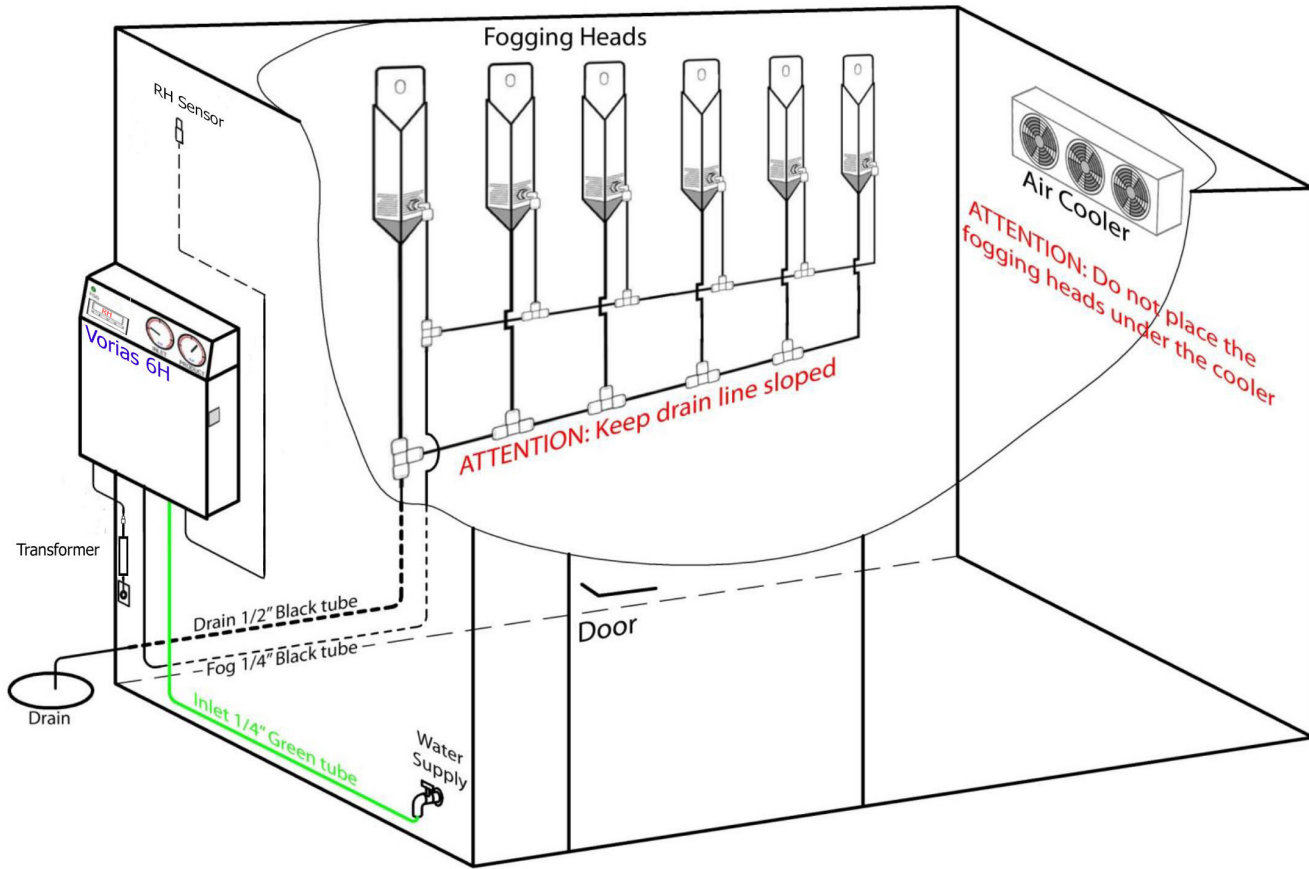
### Humidity Controller LED Description

“WORK” LED – system is operating.

“SET” LED – on when in settings menu.

# Vorias 6H

## Layout Diagram



# Vorias 6H

## Maintenance Guide

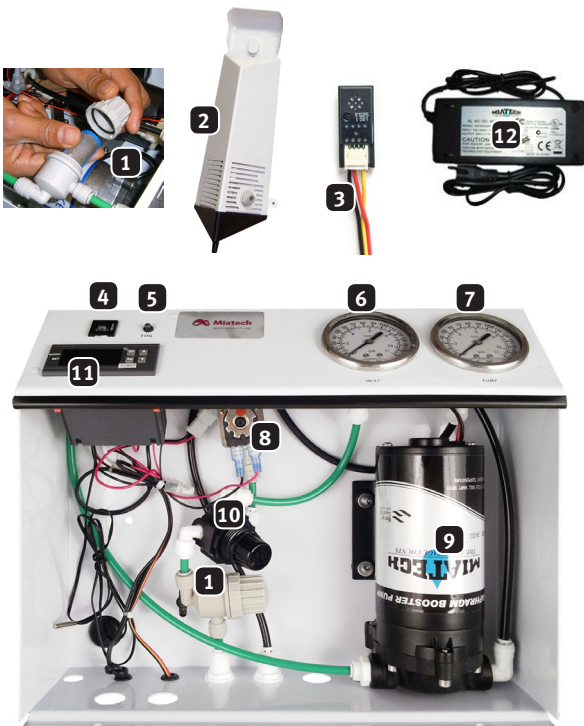
### Maintenance & Inspection Requirements

During a visit for any reason the following should be checked:

1. Inlet strainer in picture below is removed and cleaned. First inlet water must be turned off (see picture 1).
2. All fogging heads are functioning properly or replaced.
3. Product pressure gauge is operating between 125 to 150 psi.
4. Drain line has no kinked points, no water contamination points and line is sloped towards the drain exit.
5. Humidity level is set according to customer needs.
6. System should be inspected for any leaks.

### Troubleshooting

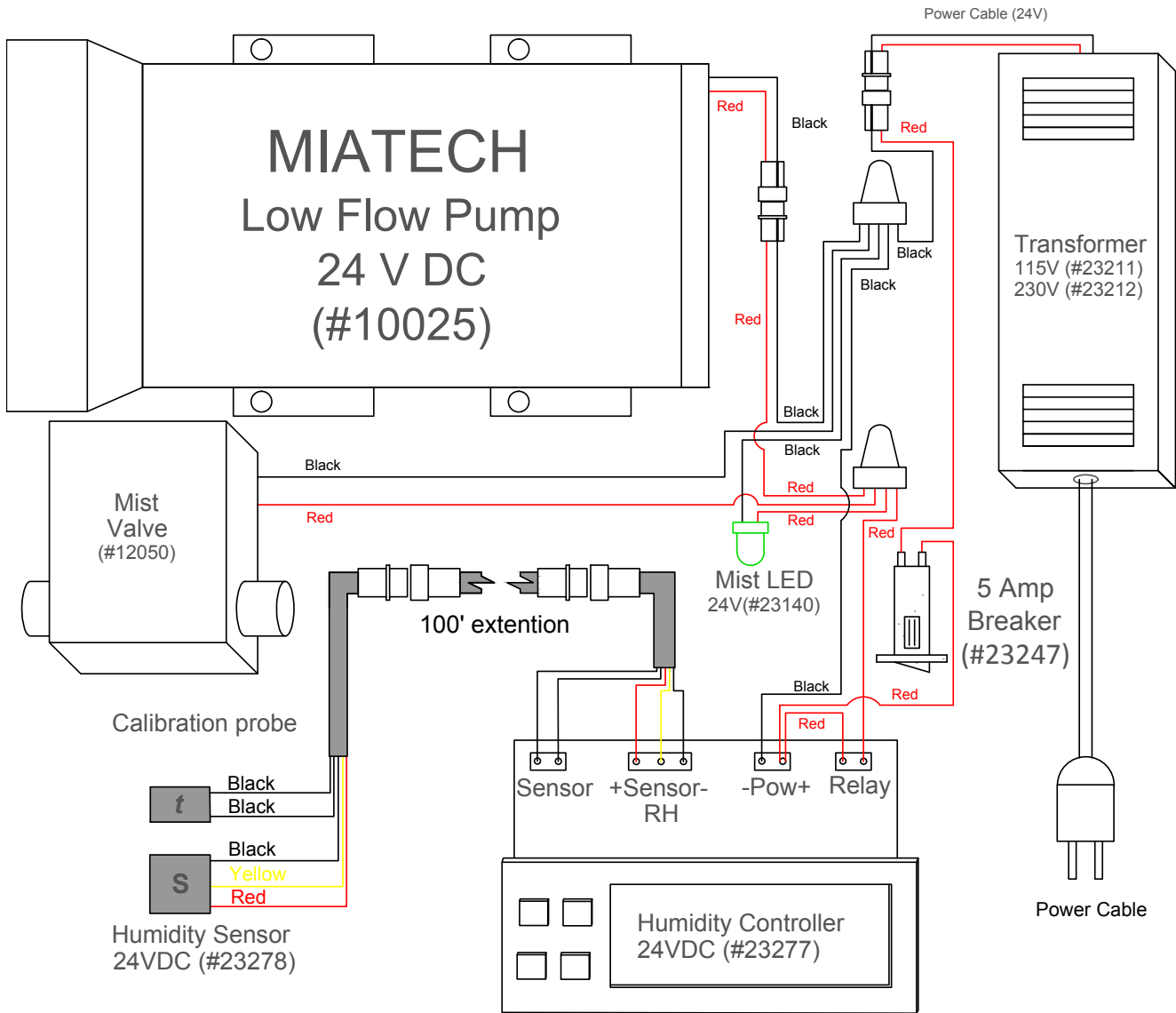
Problem	Solution
One or more of the fogging heads are not spraying properly.	Replace the fogging heads with new ones. Check the Product pressure gauge. The pressure should be 125-150 psi. Search for a pinched line going to the fogging heads.
Unit working continuously, but never reaches the desired humidity.	Check if fog is coming out of the fogging heads. If not, make sure "inlet water" is turned ON. Check the inlet strainer for blockage. Make sure humidity controller reading is correct. Keep in mind any other factors that can affect humidity. For example, open doors.
Unit never turns off, even when the desired humidity level is reached.	Humidity controller may be set wrong or either sensor or humidity controller requires replacement.
Pump never turns on.	- Power indicator light is ON: Check if humidity level is set correctly. Check the humidity controller and sensor connection.  - Power indicator light is OFF: Check fuse, transformer, or replace pump. (Check electrical outlet for power).
Humidity controller reading is not correct.	First make sure the sensor is positioned where the mist or other factors do not affect it.  If sensor is correctly placed, then either sensor or humidity controller will need replacing.
Product pressure is too high, over 160 PSI	Reduce inlet pressure by water regulator (#10) until the product pressure gets to 150 PSI
Humidity controller display is showing "--"	Sensor is disconnected (output is closed). Check sensor connection.
Humidity controller display is showing "H H"	Humidity is higher than 99%. Sensor might be saturated.



- |                                 |   |
|---------------------------------|---|
| 1. Inlet Strainer (#17152)      | 7. Product Gauge (#15005)                                 |
| 2. Fogging Head (#20072)        | 8. Inlet Valve (#12056)                                   |
| 3. Humidity Sensor (#23278)     | 9. DC Low Flow Pump (#10025)                              |
| 4. 5 A Circuit Breaker (#23247) | 10. Water Regulator (#23041)                              |
| 5. LED Green (#23140)           | 11. Humidity Controller (#23277)                          |
| 6. Inlet Gauge (#15005)         | 12. Transformer 24 V DC<br>115 V (#23211), 230 V (#23212) |

# Vorias 6H

## Wiring Diagram



# Vorias 6H

## Pull Sheet Pack

PART NO.	PART NAME	AMOUNT	Insp.
17131	1/2 MPT x 1/4 QC Male Adaptor	1	
18002	44 Black Tubing	30'	
18006	88 Black Tubing	30'	
18024	44 Green Tubing	20'	
24001	Screw for Wire Ties #8 x 3/4	10	
24034	#8 x 3/4" Self-drilling Screw	4	
24035	#14 Anchor	4	
24078	Cable Tie 6" (Black)	10	
23211	115V Transformer 24V DC	Refer to the order	
23212	230V Transformer 24V DC		

DATE \_\_\_\_\_

PULLER \_\_\_\_\_

CHECKER \_\_\_\_\_



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If outside North America call to the USA at 1-503-659-5680