

MINI ONE – Active Microclimate Generator for Museum Showcases.

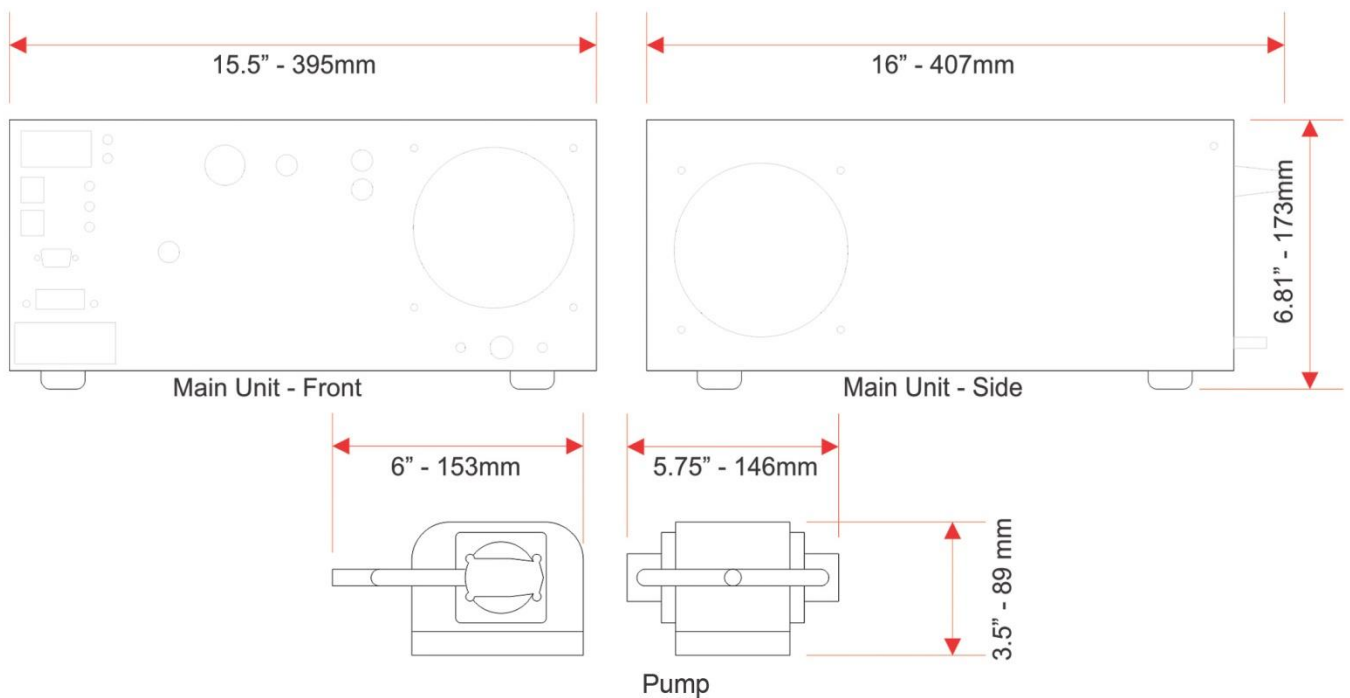


Mini One is a miniature, positive pressure humidity control device for museum showcases and storage enclosures. This quiet, robust and extremely efficient unit can reliably control relative humidity in individual or multiple enclosures.

The Mini One satisfies the demanding standards of preventive conservation and modern museum design. It incorporates the most recent developments in electronic humidity control, noise suppression, and pollution abatement.

This positive pressure microclimate control system will typically maintain the relative humidity level in a sealed enclosure to within less than two percent of your target relative humidity. Depending upon the ambient temperature conditions and enclosure construction, stable relative humidity levels of less than thirty five to over eighty percent can be attained.

As the Mini One can be installed in a number of configurations for differing applications, performance characteristics will vary with installations and enclosures. In its most common application, the unit will provide a constant flow of filtered air at a pre-set relative humidity level.



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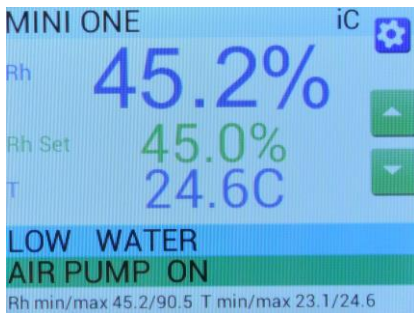
AIR PUMP

This airflow will maintain stable humidity levels and purge pollutants in a tightly sealed museum display or storage enclosure of up to 10-15 cubic meters / 300-450 cubic feet.

by a single Mini One or single large enclosures can be controlled with standalone multiple Mini One units.

The Mini One is easy to install, its two modules may be arranged vertically or horizontally to maximize space. The pump may be separated from the main module, or many units may be supplied by a single central filtered air or nitrogen supply. Self limiting controls automatically adjust for differing case sizes, and internal data logger as well as data links for external control, reporting, and data logging are standard.

OPERATING PRINCIPLES



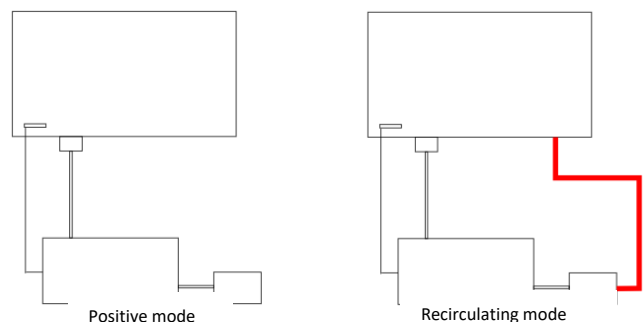
Ambient gallery air is filtered for pollutants and drawn into the unit. This air is pressurized and directed through a proprietary mechanism that adjusts the relative humidity to the pre-set value. This air is directed through a small flexible tube to an input port in the showcase. Air flow to the enclosure is constant, and in normal applications the air is delivered only at the preset relative humidity.

In normal configurations the unit provides humidity control for a single tightly sealed enclosure, usually not exceeding 10 cubic meters. In these applications the unit will typically provide extremely accurate humidity control; the unit neither adds nor subtracts moisture from the air in the showcase – it gently feeds a steady stream of air into the showcase at the target humidity to displace the existing air and pollutants in the enclosure, which is forced out past gaskets and through small existing leaks.

INSTALLATION

Ideally the machine should be installed in a close vicinity of the display case (e.g. In the cabinet under the case) but also can be installed much further if needed.

A typical installation is in positive pressure mode where the machine is connected to the controlled case by a single air hose. If needed the machine can also be setup in recirculating mode.



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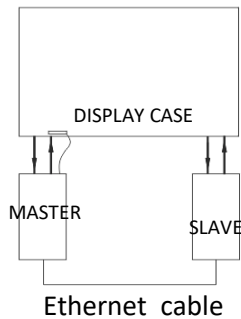
REMOTE MONITORING

The Mini One is ready to be integrated with online monitoring service accessible through any web able device. Machines are utilizing existing museum WiFi network.

With this service, the user can read the actual data for relative humidity and temperature, check historical data, see graphs and change some parameters. Service also is sending email alarm messages in case of “Out of Range” and “Low water” situation.



MASTER/SLAVE CONFIGURATION



If necessary it is possible to connect multiple machines in master/slave configuration, where one machine is working as „master” and other unit(s) as “slave”.

This mode is very convenient if multiple machines are stabilizing humidity in single larger display case.

ALARMS AND EXTERNAL WATER RESERVOIR



The Minione is equipped with two external alarms for “Out of Range [RH]” and “Low water [LW]” status. Those alarms can be connected to any 12 VDC device such as LED light or buzzer alarm. Third connector “External pump [EP]” allows to connect external water reservoir.

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SPECIFICATION

Max. Power Consumption: 95W
Typical Power consumption: 65W
Power supply: 110 - 240 VAC
System Internal Voltage: 12 VDC
Case Material: powder coated aluminum
Shipping weight: 12 kg
Output RH: 35% - 80%
Output Volume: 24 m³ /day
Max output volume: 40 m³ / day
(contact manufacturer for info)
Output pressure: ~2" H₂O (600 Pa)



Operating Temperatures: 15 to 27 degrees C
(Ambient temperatures will affect control capacities)
Data Logging: Through rhmonitoring.com service
Element: Capacitive thin film sensor

Sensor Reading Accuracy: ±2% over mid range
Sensor Repetitive Accuracy: ±1%
Biocides: Copper components, chilled compartments and TiO₂ mesh

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