



Specifications

ME100 & ME100N

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1.0 Summary

These specifications describe the requirements for a Micro-Environment control system installed in a console or workstation. The Micro-Environment system shall be designed to provide filtered ventilation (cooling) air above the desktop surface, heated air below the desktop surface and control for various accessories. The unit shall be completely self-contained with no remotely controlled or remotely powered devices.

The Micro-Environment shall be supplied with an ETL listing according to UL/CSA 1995.

2.0 Design requirements

The Micro-Environment shall be an Air Innovations model ME100 or ME100N. It shall be completely self-contained in a package that is no more than 14.5" wide by 5.2" deep by 18.6" tall, inclusive of mounting flanges. Maximum sound generated shall be no more than 52 dB(A) at 2' from the unit with all fans (cooling and heating) operating at full speed.

2.1 Cooling requirements

The Micro-Environment shall be capable of delivering a full range of airflow velocities from 0 to 1,500 FPM (Feet per minute) through each diffuser. Control shall be via electronic control and not rheostat control. Fan must be capable of smooth operation at any point in the range, without any hunting or adverse performance characteristics.

Airflow shall be delivered by two rotatable diffusers to provide a full range of non-planar adjustments. The ME100N is a ducted (2.5" ducts) version allowing placement of the supply diffusers at any point within 2.5' of the unit. The ME100 is a fully self-contained version with integrated cooling supply registers.

2.2 Heating requirements

Heating shall be forced air delivered under the desk. All heating components (fan, heater, safeties) shall be fully integrated inside the ME unit and not require any additional mounting of components or additional wiring. Heated air is delivered via adjustable louvers under the desk.

Heater output shall be fully adjustable from 0 to 350 watts via electronic control and not rheostat control. Temperature exiting the unit shall not exceed 135F at the face of the grill to prevent any risk of injury or damage to objects placed near the outlet. Heater shall have internal safeties in case of loss of airflow to prevent any risk of fire.

2.3 Filtration requirements

All airflow, cooling and heating shall be filtered air. Filter shall be a single piece design and easily accessible from below the desk surface. Filter shall be a minimum of MERV 7 rating and be washable.

2.3.1 Filtration Options

A charcoal filter option shall be available to reduce odors

2.4 Task lighting control

The ME unit shall be equipped with two task light outputs, standard 115V outlet configuration. Lighting output shall be fully adjustable from 0-100% via electronic control and not rheostat control. Lighting output shall be limited to 3amps.

2.5 Motion sensor

The ME unit shall be equipped with an integrated infrared motion sensor. The motion sensor will turn the unit completely off after 10 minutes of sensing no activity near the ME unit. When activity is sensed the ME unit shall automatically return to the prior settings. The motion sensor shall be capable of sensing activity up to, but not exceeding, 5 feet from the ME unit to prevent nuisance activation.

2.6 Lift control

The ME unit shall be capable of independently adjusting 2 sets of Linak lift legs from their minimum to their maximum height positions. Interface is an RJ12 connector integral to the ME unit.

2.6.1 Lift options

Optionally the ME unit shall be capable of controlling non-Linak lift legs (hydraulic or other) systems through the use of multiple relay switch closure contacts.

2.7 Auxiliary outlet

The ME unit shall have a switchable auxiliary outlet that can be used to power other external 115V connected devices. Output of this outlet to be limited to 3amps.

2.8 Controller

The ME unit shall have an integrated PLC based control system with a color touch screen as the main HMI for adjusting; cooling level, heating level, lighting level and lift height. Controller shall be capable of storing up to 99 unique user profiles for cooling, heating, lighting and lift height settings.

Controller shall have several information screens easily accessible to the operator including; product identification screen showing part number and manufacturer contact information, maintenance screen to adjust backlight levels / date and time format, clock screen.

3.0 Construction

The cabinet of the ME unit shall be powder coated aluminum to provide a durable and lightweight structure. All internal sheet metal shall be aluminum. A single service access panel shall be provided for access to all electrical and mechanical components. The filter shall be removable without the use of tools.

Mounting holes shall be provided for the ME100N to mount to the underside of the console surface. The ME100 is a drop-in design and is provided with two ¼-20 X 1.75” through studs for mounting to the desk surface.

All fasteners shall be either aluminum pop-rivets or stainless steel mechanical fasteners.

3.1 Electrical

Main power shall be 115V/60Hz, full load amps shall be no more than 3.9amps for the base unit (base unit includes cooling fan, heater and heater fan, controls, does not account for external task lighting or auxiliary port). Dual task lighting outlets are limited to 3 amps and the auxiliary outlet is limited to 3 amps.

A main ON/OFF switch shall be provided and positioned above the desk for easy accessibility by the users. The ME unit and all auxiliary outlets shall be protected by individual circuit breakers, not fuses.

3.2 Heater

Heater shall be nichrome wire wound element with integral dual safeties (cycling thermostat and thermal fuse). Heater mounts to be aluminum.

4.0 Options

Heater duct option allows the under console portion to be located behind a barrier (or in a cabinet) and allows the heater air to be ducted back to the under desk space area.

5.0 Quality assurance

The specified Micro Environment shall be manufactured according to accepted ARI, ASHRAE and accepted industry standards and practices. It shall be factory tested before shipment. Factory tests shall include electrical integrity and Hi-Pot testing according to UL guidelines and performance tests to ensure proper operation of the packaged system.