## TECHNICAL SPECIFICATION

### ■ MAC 10® IQ Introduction

The MAC 10 IQ® is the world's first smart fan filter unit. With its microcomputer-controlled EC motor, the MAC 10® IQ dynamically adjusts itself to maintain the set airflow, compensating for changes in static pressure, filter loading or other local conditions. Unlike conventional induction motors, the EC motor regulates itself, automatically adjusting its torque and speed to provide a constant air volume of 250-660 CFM over a wide range of static pressure. The MAC 10® IQ maintains airflow at such a constant rate that the need for future balancing is greatly reduced. A Universal Control Card with three different control modes, provides installation versatility by allowing the FFU to be controlled via a MODBUS RTU network, an analog 0-10 VDC control signal, or by adjusting the onboard potentiometer.

The MAC 10® IQ FFU uses a combination of EC motor technology with Envirco's unique baffling system and forward curve fan to make it intelligent and energy-efficient. The electronically commutated (EC) motor with internal micro-computer provides low energy consumption (235 watts at 90 fpm (0.45 m/s)), high performance and long motor life. The IQ utilizes Envirco's VE5 baffling technology, offering low sound levels that are a MAC 10® family benchmark.

### ■ Standard Features

» Universal control card offering manual, Modbus, or analog options.
» EC brushless motor with internal microprocessor
» Constant airflow over a wide range of external static pressures
» Low power consumption at 235 watts
» Low sound at only 48 dBA
» High Efficiency Particulate Air (HEPA) UL 900 Filter: 99.99% efficient @ 0.3 micron
» Forward-curved centrifugal fan
» Walkable plenum (excluding prefilter), rated to 250 lbs.
» Snap-in Prefilter: allows for easy replacement and maintenance
» Mill finished aluminum exterior
» Tested to IEST recommended standards
» UL listed (115V, 208-240V, 277V) with standard UL 900 filter, File number E152685 (UL507)

### ■ Optional Features

» Room-Side Replacement (RSR) available with gel seal filter element; filter is replacement from the room side
» RSRE provides filter and motor/blower assembly replacement from the room side
» Infrared Speed Control: Room-side airflow adjustment
» Duct Collar 10" (254 mm) and 12" (305 mm): Allows direct connection to the air conditioning supply (shipped loose)
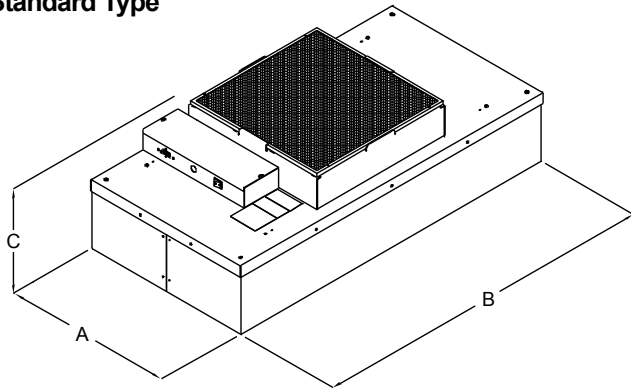  *** See Note**
» CE Marked: 230V units available
» Ultra-low penetration air filter (ULPA): 99.9995% @ 0.12 micron (U15)
» PTFE boron-free ULPA filter
» Fluorescent Light: Provides illumination with minimal airflow disruption
» Ion Bar: Neutralizes static charges below the filter. (Universal voltage power supply required)
» Finish: Powder coat painted or stainless steel
» Room-side 3/8" Challenge Ports: Offers convenient aerosol challenge and HEPA filter testing
» 3/4" Knife Edge: Permits easy placement in gel track ceiling grid systems (available on RSR and RSRE units only)
» Custom sizes and configurations available; perfect for mini-environment applications
» Metric sizes available

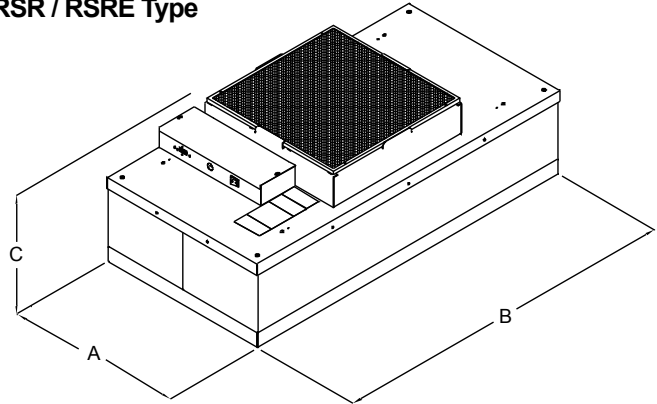*** Note: For ducted applications in series with CAV or VAV terminal boxes, please consult factory.**

## ■ Dimensions

**Standard Type**



**RSR / RSRE Type**



## ■ Performance MAC 10® IQ

| Nominal Unit Size | Active Filter Face Area (Sq. Ft.) | Max. CFM | Watts @ Max. CFM | CFM @ 90 FPM | Watts @ 90 FPM | Sound dBA @ 90 FPM | Unit Weight | Dimensions AxBxH (in) |
|---|---|---|---|---|---|---|---|---|
| **2x4 Standard** | 7.2 | 660 | 250 | 650 | 235 | 48 | 66 | 23.63 x 47.63 x 14.32 (600 x 1210 x 364) |
| **2x3 Standard** | 5.3 | 560 | 200 | 470 | 140 | 48 | 52 | 23.63 x 35.63 x 14.32 (600 x 905 x 364) |
| **2x2 Standard** | 3.5 | 410 | 145 | 315 | 85 | 46 | 41 | 23.63 x 23.63 x 14.32 (600 x 600 x 364) |
| **2x4 RSR/RSRE** | 5.3 | 610 | 225 | 470 | 110 | 48 | 71 | 23.63 x 47.63 x 16.43 (600 x 1210 x 417) |
| **2x3 RSR/RSRE** | 3.8 | 500 | 190 | 340 | 85 | 48 | 54 | 23.63 x 35.63 x 16.43 (600 x 905 x 417) |
| **2x2 RSR/RSRE** | 2.3 | 350 | 130 | 210 | 50 | 46 | 44 | 23.63 x 23.63 x 16.43 (600 x 600 x 417) |

*Notes:*
*Performance tested in accordance with the (ANSI/AMCA 210-07), (ANSI/ASHRAE 51-07) test standards for Certified Aerodynamic Performance Rating.*
*Max CFM rating based on free air volumes at high speed motor setting .90 fpm values based on active filter face area.*
*Heat gain: BTU = Watts x 3.413*

*MAC 10 IQ:*
*Full-Load Amps: 115V/60Hz/1 Ph = 5.0; 208-240V/50/60 Hz/1 Ph = 3.0; 277V/60 Hz/ 1 Ph = 2.5.*
*Custom sizes are available. Consult the factory for both size and control options.*

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