

■ MAC 10[®] IQ Fan Filter Introduction

Dynamic, Smart Fan Filter Unit

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 the 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.

High Performance

The MAC 10[®] IQ FFU uses a combination of EC motor technology, ENVIRCO's unique baffling system, forward curve fan, and Universal Control Card to make it intelligent, energy-efficient, provide high performance and long motor life. The Universal Control Card allows the MAC 10[®] IQ to be controlled via MODBUS RTU, an analog 0-10 VDC control signal, or by adjusting the onboard potentiometer.

Typical Applications

The MAC 10[®] IQ are primarily used in critical environments requiring clean air solutions. These include cleanrooms, pharmaceutical compounding, semiconductor and microelectronic manufacturing, and healthcare facilities.

Multiple Housing Styles

The MAC 10[®] IQ comes in four different style configurations to fit the needs of the clean space.

STD - Standard Filter: filter replaced from above ceiling

RSR - Roomside Removable Filter: filter replaced from below ceiling

RSRE - Roomside Removable Motor and Filter: filter and motor replaced from below ceiling

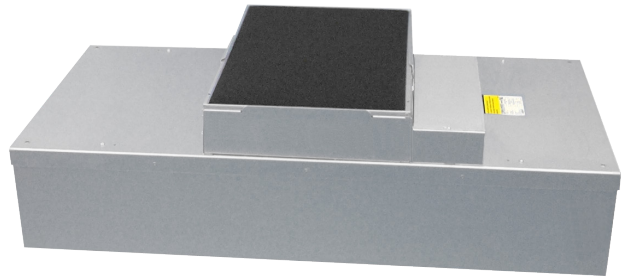
RSRC - Roomside Removable Motor, Filter, and Control: filter, motor, and control card replaced from below ceiling

■ Standard Features

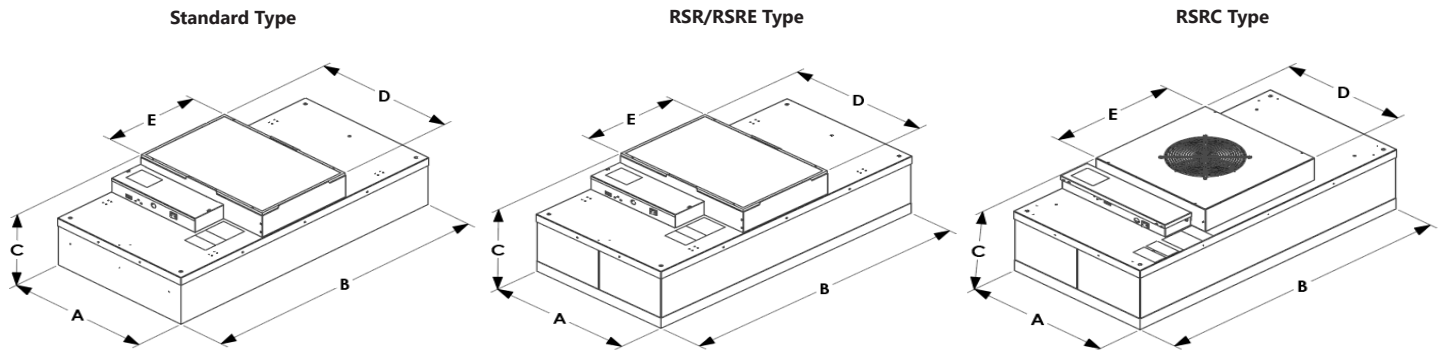
- Universal Control Card
 - Network speed control, MODBUS RTU
 - Manual speed control, on-board potentiometer
 - Analog speed control, remote 0-10V
- Electronically Commutated (EC) brushless motor, constant flow programmed
- HEPA filter: 99.99% efficient @ 0.3 micron, 53mm pleat depth
- Forward-curved centrifugal fan
- Mill finished aluminum exterior
- Walkable plenum (excluding prefilter), rated to 250 lbs.
- Washable MERV 4 pre-filter (STD, RSR/E only)
- Finger guard pre-filter standard on RSRC
- Roomside 3/8" challenge ports for convenient HEPA filter testing (excluding STD)
- Available in 2x2, 2x3, and 2x4 sizes
- UL listed (115V, 208-240V, 277V) with standard UL 900 filter, file number E152685 (UL507)
- Manufactured to IEST recommended practices

■ Optional Features

- Ducted inlet connection (shipped loose)
 - 8" (203 mm)
 - 10" (254 mm)
 - 12" (305 mm)
 - 14" (356 mm)
- Powder coat white paint or stainless steel housing
- CE certified on 230V units
- Filter Efficiencies: HEPA 99.995% or ULPA 99.9995% at MPPS
- Other filter options: PTFE, Energuard, 70mm, 100mm
- 3/4" knife edge: permits easy placement in gel track ceiling grid system (available on RSR, RSRE, and RSRC units only)
- Quarter turn latch screen (standard on RSRC)
- Indicator light feedback: Unit running and/or filter change indicator
- Continuous filter pressure monitoring
- Infrared Control option
- MERV 8 pre-filter available (shipped loose)
- Surface mount adaptaters available (shipped loose)
- Custom sizes available
- Low flow, constant speed, constant torque motor programs available
- IBC and OSHPD Certification (OSP-0634-10), additional hardware required



■ MAC 10® IQ Dimensions & Performance



| Nominal Unit Size | Active Filter Face Area (Sq. Ft.) | Min. CFM | Max. CFM | Watts @ Max. CFM | dBa @ Max CFM | CFM @ 90 FPM | Watts @ 90 FPM | Sound dBA @ 90 FPM | Unit Weight | Dimensions AxBxCxDxE (mm) |
|-------------------|-----------------------------------|----------|----------|------------------|---------------|--------------|----------------|--------------------|-------------|---|
| 2x4 IQ Standard | 7.2 | 250 | 660 | 250 | 53 | 650 | 235 | 51 | 66 | 23.63" x 47.63" x 14.32" x 23.25" x 16" (600 x 1210 x 364 x 591 x 406) |
| 2x3 IQ Standard | 5.3 | 225 | 560 | 200 | 55 | 470 | 140 | 48 | 52 | 23.63" x 35.63" x 14.32" x 23.25" x 16" (600 x 905 x 364 x 591 x 406) |
| 2x2 IQ Standard | 3.5 | 160 | 410 | 145 | 50 | 315 | 85 | 46 | 41 | 23.63" x 23.63" x 14.32" x 23.25" x 16" (600 x 600 x 364 x 591 x 406) |
| 2x4 IQ RSR/RSRE | 5.3 | 240 | 610 | 225 | 50 | 470 | 110 | 48 | 71 | 23.63" x 47.63" x 16.42" x 23.25" x 16" (600 x 1210 x 417 x 591 x 406) |
| 2x3 IQ RSR/RSRE | 3.8 | 200 | 500 | 190 | 53 | 340 | 85 | 48 | 54 | 23.63" x 35.63" x 16.42" x 23.25" x 16" (600 x 905 x 417 x 591 x 406) |
| 2x2 IQ RSR/RSRE | 2.3 | 140 | 350 | 130 | 50 | 210 | 50 | 46 | 44 | 23.63" x 23.63" x 16.42" x 23.25" x 16" (600 x 600 x 417 x 591 x 406) |
| 2x4 IQ RSRC | 5.3 | 240 | 610 | 225 | 50 | 470 | 110 | 48 | 71 | 23.63" x 47.63" x 15.94" x 20" x 20" (600 x 1210 x 405 x 508 x 508) |
| 2x3 IQ RSRC | 3.8 | 200 | 500 | 190 | 53 | 340 | 85 | 48 | 54 | 23.63" x 35.63" x 15.94" x 20" x 20" (600 x 905 x 405 x 508 x 508) |
| 2x2 IQ RSRC | 2.3 | 140 | 350 | 130 | 50 | 210 | 50 | 46 | 44 | 23.63" x 23.63" x 15.94" x 23.25" x 14" (600 x 600 x 405 x 591 x 356) |

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 @ high speed motor setting. 90 fpm values based on active filter face area. BTU = Watts x 3.413

MAC 10® IQ Electrical Info:

MAC 10® IQ 115V 60HZ 1 Phase = 5.0 F.L.A., 208-240V 60HZ 1 Phase = 3.0 F.L.A., 277V 60 HZ 1 Phase = 2.5 F.L.A.