

## SUGGESTED SPECIFICATION & CONFIGURATION | CRFF-E

The critical room fan filter unit shall be Krueger model CRFF-E of the sizes shown on the plans or outlet schedule. The unit shall be configured to deliver uniform filtered laminar flow over the face of the unit. A patented air baffle system will be furnished as an integral part of the fan plenum housing. The fan filter unit shall be UL 507 listed, possessing a UL 900 filter. The lid shall be constructed of .080" (2.0 mm) aluminum with ¼"-20 (M6x1) threaded inserts in four corners for suspension. The filter housing will be constructed of 0.063" (1.6 mm) thick aluminum. The unit will be furnished with a 30% (20 PPI) polyurethane foam, washable pre-filter (to be removed with A/C collar option). The unit will contain an integral factory tested type J HEPA filter, which will be rated 99.99% efficient in removal of particles 0.3 micron and larger; leak free in accordance with the latest I.E.S.T. recommended practices. The HEPA filter shall be auto scanned for efficiency and leakage prior to assembly of the fan filter unit. HEPA filter media shall be micro-glass with no more than 8 pleats per inch, sealed to the aluminum housing. The fan will be direct drive; forward curve centrifugal type with permanently lubricated sealed ball bearings. Bearings are rated for L-10 life of 80,000 hours. The motor shall be an electronically commutative (ECM) brushless DC motor delivering constant airflow by adjusting motor rpm or torque. The motor must be furnished with thermal overload protection and a universal control card. The universal control card must allow for user selected control via VCU, 0-10V input, or ModBus RTU. Dip switches will select the required mode of operation.

ULPA Filters (Rated 99.9995% at 0.12 Micron), UL 900 type F, PTFE (45mm and 68mm packs) are Boron-free ULPA.

Total weight of the standard (24" x 48") unit, excluding optional accessories shall be less than 66 lbs. (30 kg).

### PERFORMANCE

The unit shall meet or exceed the requirements/specifications of the following industry standards: ISO Class 5 (Class "100" (M 3.5)) air per the latest IEST 14644-1 (Airborne Particulate Cleanliness Classes). I.E.S.T. Recommended Practices (Laminar Flow Clean Air Devices). Average measured air velocity will be 90 (±10) ft/min (.45 m/s), when measured using a Velgrid (eight readings) 6 in. (152mm) below the filter face. All measured values shall fall within ± 20% of the measured average. The sound level shall be approximately 51 dBA (below NC 45) on low speed or with the optional speed control, measured at 30 in. (762 mm) from the filter face, with the fan delivering an average air flow velocity of 90 ft/min (.45 m/s). Ambient sound level less than 35 dBA. Noise measurements are taken with a clean filter with no external static pressure. Vibration level will not exceed .09 MILS RMS at 90 ft/min (0.45 m/s).

### FINISH

The filter face guard will be anodized epoxy powder coated expanded aluminum. Both the fan plenum and filter housing shall have a mill finish (white aluminum casing or stainless steel construction optional), sealed airtight.

**1. SERIES: (XXXX-X)**  
CRFF-E

**2. MOTOR: (X)**  
4 - ECM 120V 1-Phase  
5 - ECM 208/240V 1-Phase  
6 - ECM 277V 1-Phase

**3. CONTROL: (X)**  
UCC - Universal Control Card - CFM  
TRQ - Universal Control Card - TRQ  
RPM - Universal Control Card - RPM  
ISC - IR Control Card  
RM - Remote Mounted

**4. FRAME: (XXX)**  
F23 - Lay-in T-Bar

**5. PANEL: (XX)x(XX)**  
24"x24", 24"x48"

**6. FILTER: (XXXX)**  
HEPA - 99.99% @ 0.3 Micron  
ULPA - 99.9995% @ 0.12 Micron

**7. ACCESSORY 1: (XXX) (XXX) (XXX)**  
0 - None  
RFI - Run & Filter Load Indicator Light  
AIL - Green Run Indicator Light  
FLI - Filter Load Indicator Light  
CFM - Continuous Filter Monitor (Field Wired)  
CFW - Filter Monitor (Factory Wired, UCC Req.)

**8. ACCESSORY 2: (XXX)**  
0 - None  
INS - Insulation Top & Sides

**9. ACCESSORY 3: (XXX)**  
0 - None  
CHP - Challenge Ports

**10. ACCESSORY 4: (XXXXX)**  
0 - None  
SMASS - 304 SS Surface Mount Frame  
SMAW - White Surface Mount Frame

**11. FINISH: (XX)**  
01 - Mill Aluminum Casing with White Diffuser Screen  
44 - White Aluminum Casing with White Diffuser Screen  
90 - 304 SS Casing with 304 SS Diffuser Screen  
91 - Mill Aluminum Casing with 304 SS Diffuser Screen

**SAMPLE CONFIGURATION:** CRFF-E - 4 - UCC - F23 - 24x48 - HEPA - RFI - INS - CHP - 0 - 44