x.1 Each **[AHU / EC fan array]** shall be supplied with a passive harmonic filter to meet all requirements outlined in IEEE std 519 (both 1992 and 2014 editions) for individual and total harmonic voltage and current distortion. The Point of Common Coupling (PCC) for all voltage and current harmonic calculations and measurements shall be the input terminals to the **[AHU / EC fan array]**.

a. Power factor shall be > 0.95 in operating range from 25% to full load.
b. To ensure compatibility with engine generators, the harmonic mitigation equipment must never introduce a capacitive reactive power (kVAR) which is greater than 15% of its kW rating for sizes ≥ 100HP and 20% for sizes ≤ 75HP. If the filter does not meet this requirement, it must integrate a capacitor switching contactor.
c. Performance Guarantee: ITDD must be <5% with background voltage distortion up to 2% and voltage imbalance up to 2%. Additionally, ITDD must be <8% with background voltage distortion up to 5% and voltage imbalance up to 3%. The filter must be capable of operating in voltage distortion environments up to 8% without derating.
d. Harmonic mitigation shall be by passive inductor/capacitor network. To prevent possibility of switching frequency resonance, active electronic components shall not be used.
e. Factory Performance Testing: Manufacturer must be capable of factory testing for harmonic mitigating performance and energy efficiency under actual EC fan loads. A detailed description of the program, a sample test report and evidence of compatibility with EC fans must be provided.
f. Acceptable Manufacturers:
    i. Mirus International Inc. Advanced Universal Harmonic Filter, HP2 Option (AUHF-HP2)
    ii. Approved equal