

### Tender Specifications : - Air Ozone Generator

1. Ozone generated shall produce minimum of 6-8% wt/wt of oxygen.
2. Feed gas to ozonator should strictly be medical grade oxygen. Air as feed gas is not permissible & shall not be used.
3. Capacity of ozone generator & ozone production should be specified in gr/hr.
4. Ozone generator should be sized as to dose 1.0 ppm of ozone.
5. Ozone generator should generate medical grade ozone, free from any impurities & by products.
6. NOx or Nitric acid should not be generated, by ozone generator.
7. Each ozone generator should operate automatically using sensors & interlocked by ozone sensor.
8. Residual ozone going into occupied room should not be more than 0.04 ppm.
9. Ozone gas should be injected in return air duct only.
10. Ozone generator should be able to inject ozone gas in mainstream or side stream.
11. Ozonator or any of its part should not hamper the flow of the air, by creating obstruction in a way.
12. Ozone generation & variation of ozone output shall be at variable frequency. Modulation of ozone at constant frequency is not permissible.
13. Ozone generator equipment shall be housed outside the AHU duct. The ozone generator shall be floor/skid mounted with integrally piped & wired.
14. Ozone generator cell shall be fabricated of High purity aluminium.
  - a. Cylinder :Should be Teflon coated for long life
  - b. Gasket : should be made from ozone compatible material.
  - c. Dielectric: tubes shall be fabricated of ceramic or high purity quartz to provide high voltage & high efficiency dielectric.
15. All pipes & accessories in contact with ozone shall be ozone compatible.
16. Ozone power density shall not exceed 0.30 watts per sq.cm of effective dielectric surface area.
17. Power supply unit transformers shall be dry type, class F insulated with high temperature cut-out for each phase, suitable for operation in 104degree F (40 degree C) ambient, with temperature rise not higher than 122 degree F (50degree C).
18. The PSU shall consist of the following components as a minimum, all factory wired, assembled and tested.
  - Single Phase harmonic filter to minimize total harmonic distortion.
  - Three phase isolating transformer.
  - Three phase fully controlled rectifier with snubbers and MOV's (Metal Oxide Varistors) on each side.
  - DC filter bank.
  - IGBT inverter assembly complete with snubbers.
  - Medium frequency oscillating circuit with over current and over voltage protection.
  - Medium frequency dry-type transformer.
19. If operation is on medium frequency, each power supply unit shall have frequency electronic protection consisting rectifiers or invertors over current protection, over current protection, over voltage protection at the IGBT modules, and high voltage short circuit protection.
20. The Ozone generator shall be provided with emergency stop button.
21. Energy saving intake of fresh air from outside for dilution should be reduced (by about 50 - 80 %)