Chemtronics®

Ozone in Pharmaceuticals:

- **Grade A | Grade B | Grade C | Grade D**
- **Production | Packing | Storage**
- **Air Disinfection | Sterilization**
- **Sanitation – Surface | Equipments**
- **Water Treatment & Sanitation**
- **Clean In Place | CIP**
- **Clean Room Sanitation | Fumigation**

Raw Water Ozonation

Pharmaceutical industries can have diversified source of water, which needs to be treated & disinfected for general usage. Ozonation at the entry level oxidizes organic impurities, remove any presence of color & Oder & quickly disinfects the raw water. Distinct advantage is post treatment excess ozone reverts back to natural oxygen without any effort & disinfectant by products are harmless and treatment is environmental friendly.

Centralized & Local Process Water Ozonation

To keep process water sterile all the time ozonated water is circulated continuously. Residual dissolved ozone in quenched out just before the use in product or process. This provides very high quality water.

Surface & Equipment Ozone Sanitation

In pharmaceutical & medical industry it is very essential to keep all process area, tanks, equipments, furniture's in highly disinfected condition. This can very easily be achieved using ozone surface sanitation. Washing & rinsing with high dissolved ozone can very quickly disinfects with no residual by-product to be further treated.

Clean-In-Place | CIP

In pharmaceutical industries, CIP is the most critical for all process & quality purpose. Ozone CIP is the most effective & popular trend in pharma, dairy, food & beverage industries. Ozone CIP give extreme disinfection without the use of hot water or steam. Operation time is greatly reduced with confidence of process. In Ozone CIP no rinsing is required, reducing entire process cycle & post CIP ozone naturally disintegrates to safe oxygen. Unlike other disinfectant, danger of disinfectant residue.

Air Disinfection - Production | Packing | Storage

Strategically planned Air ozonation in air handling unit [AHU] provides extra ascetical condition in production, packing & storage areas. Ozone in air treatment is followed by de-ozonation since half life of ozone in clean, dry & low temperature can be 2- 3 days.

Odor Control - STP Exhaust Air | Organic Waster Composter | Garbage room

Most of the pharmaceutical factories have organic waste composter, which can generate foul odor & contamination. This along with any STP odor & gaseous chemicals are quickly oxidized using air ozonators.

Waste Water | STP Tertiary Stage Ozonation

Using ozone in waste water & STP tertiary treatment in place of chlorine is mandatory from environmental compliances. Ozone in tertiary treatment disinfects waste water with odor & color reduction. This gives more reasons to use tertiary treated waste water in flushing, cooling tower make up water or gardening.

Ozone Fumigation

For active pharmaceutical ingredient [API] manufacturing Grade A, Grade B, Grade C & Grade D type of clean rooms are required for different facilities / rooms. For clean room disinfection, sterilization & fumigation ozone generators are installed in air handling units. To sterile the places, ozone fumigation is quick & with short process time. Degree of sterilization is also very high. Ozone fumigation is commonly done in industry in most of the critical areas & in R & D labs.

Integrated Centralized Ozone Laundry System

Centralized Integrated ozone laundry system easily provides extremely high level of disinfection to regular & disinfected cloths.

Ozone Generators for Research & Development

For lot of process & production research ozone is used. Many times ozone is required as an integral part of research of product gas.

Cooling Tower Water Ozonation

Ozone water treatment is cooling tower, gives higher efficiency in slime control without increase in chemicals rather ozone reduces chemical consumption. Reduction in chemicals reduces blown down quantity of water.

For more information please visit : http://www.chemtronicsindia.com/