



PHARMA-GRADE WATER & PROCESS WATER TREATMENT WITH OZONE TECHNOLOGY

Ultra-Pure • Residue-Free • Regulatory Compliant

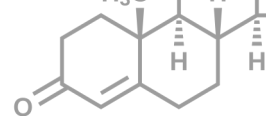
INTRODUCTION

Pharmaceutical and biotechnology industries demand the highest standards of water purity for manufacturing processes. Water must comply with GMP, USP, and EP standards, whether for Purified Water (PW), Water for Injection (WFI), or process water.

Traditional chemical disinfectants introduce residues and impurities that risk contaminating sensitive products. Ozone (O_3) provides a proven, eco-friendly solution—delivering continuous microbial control without residues, while meeting strict regulatory compliance.



How It Works?



01 Ozone Generation

Pure oxygen is converted into ozone using pharma-grade ozone generators

02 Injection

Ozone is dissolved into process water through mixing systems

03 Oxidation & Disinfection

Ozone destroys bacteria, viruses, endotoxins, and biofilm in storage tanks and distribution loops

04 Self-Decomposition

Ozone naturally reverts to oxygen, leaving no chemical residues

Benefits at a Glance



Microbial Safety

Eliminates bacteria, viruses, fungi, spores, and endotoxins



Residue-Free

Leaves no chemical traces, ensuring product purity



Continuous Biofilm Control

Prevents micro bialgrowth in tanks and distribution systems



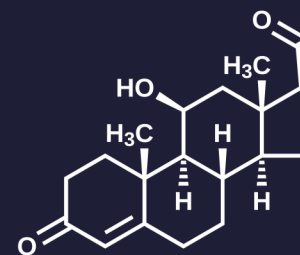
Regulatory Approved

Accepted by USP,EP,JP,and FDA for water disinfection



Cost-Effective

Reduces need for chemical sanitizers and hot water sanitization



Applications in **Pharma & Biotech**



Purified Water (PW)

Continuous microbial protection for process water



Water for Injection (WFI)

Ozone sanitization of cold WFI systems



Clean Utilities

Distribution loops, storage tanks, and CIP water systems



Process Water

Ensuring sterility in production and laboratory applications



Technical Notes

01

Target Residual

0.1–0.2 ppm dissolved ozone in loop water

02

System Integration

CIP cycles, storage tanks, and distribution loops

03

Monitoring

Continuous dissolved ozone monitoring with automatic control

04

Regulatory Standards

Fully compliant with USP, EP, JP, and GMP requirements

05

Validation Support

IQ/OQ/PQ documentation available for pharma facilities

Safety First

01

Ozone applied in closed water loops, ensuring safe operation

02

Residual ozone destructors used before points of use

03

Continuous dissolved ozone sensors ensure precise and safe dosing

04

Operator exposure prevented through automated, sealed systems

Recommended Products

(as per requirements we suggest)

01 Oxipure Membrel

Compact electrochemical ozone generators for ultrapure water systems

02 Dissolved Ozone Sensors

Continuous monitoring and compliance validation

03 Ozone Destructors

For safe elimination of residual ozone before point-of-use

04 Ozone Mixing Systems

For precise and uniform ozone dissolution in water loops

Conclusion

Ozone is a trusted solution for pharmaceutical water systems, ensuring microbial safety, regulatory compliance, and sustainable operation. With Croissance's advanced ozone technology, pharma and biotech companies can achieve residue-free, eco-friendly, and cost-effective water sanitization for PW, WFI, and process water.

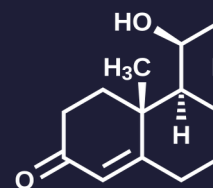




Your Next Step



Experience the future of safe, sustainable sterilisation.



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