"The Chlorine Dioxide People"

Providing you with gaseous chlorine dioxide solutions for your decontamination and sterilization needs

Decon Chambers

Description:

Decontamination Chambers are designed for the quick and easy decontamination of items within any governmental, pharmaceutical, manufacturing, laboratory, research or surgical setting. They provide a rapid and highly effective method to sterilize computers, electronics, medical devices, sterile products, instruments, and components at ambient temperatures. It also provides a cost effective method to decontaminate components, parts, supplies, and equipment entering a "sterile" or "clean" facility at room temperatures and without the need for an expensive, space consuming, energy consuming sterilizer. Decontamination Chambers can also be used when removing items from a dirty or BSL level area to a clean area without the concern for cross contaminations.

Chlorine Dioxide Gas Decontamination Chambers feature a sophisticated sterilant concentration monitoring system to ensure a tightly controlled sterilization process. All instrumentation, including the photometer for concentration monitoring, is easily calibrated to traceable standards.

Standard Size*	
Compartment	36"W x 100"H x 85" D
Overall	61"W x 110"H x 92" D
*Additional sizes available	

The process is easy to validate due to the repeatable cycle, tight process control, and highly accurate sterilant monitoring system. A run record is produced that contains: date, cycle time, as well as relative humidity, temperature, pressure, and chlorine dioxide concentration.

The equipment is available in a variety of sizes to meet your processing needs and can be manufactured with either a single door, or double door pass-through orientation.

Chlorine Dioxide Gas vs Vapor Phase Hydrogen Peroxide

Both chlorine dioxide gas and vapor phase hydrogen peroxide can be used within decontamination chambers. However, there are a few reasons to choose chlorine dioxide gas for use in a decontamination chamber. Chlorine dioxide gas can penetrate water, so items that are wet can still be placed within the chamber to be decontaminated without the needs to wait for them to fully dry. VPHP cannot penetrate water, so items must be completely dry prior to the decontamination starting. This becomes important as organic loads should be cleaned prior to the decontamination step regardless of the method used, as organic loads can hinder penetration.

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HEPA filters are able to be decontaminated with chlorine dioxide gas, as the gas penetrates through the filter easily. VPHP has difficulty penetrating through HEPA filters as the filter can actually block the vapor from passing through.

Decon Chamber Applications		
	CD Decon Chamber	VPHP Decon Chamber
Bedding	NO[1]	NO
Bedding Bags	YES	YES
Feed	NO	NO
Feed Bags	YES	YES
Liquids	NO	NO
Waste	NO	NO
Racks	YES	YES
Cages	YES	YES[2]
HEPA Filters	YES	NO
Plastics	YES	YES
Electronics	YES	YES

1. Chlorine dioxide gas has been shown to be effective on cages with bedding under significantly extended decontamination cycles.
2. VPHP has been observed to off-gas at unsafe levels for up to one week after absorbing into plastic cages.

Cycle Times

The main difference between chlorine dioxide gas and VPHP cycle times is the aeration time. VPHP condenses during a decontamination cycle and significant time passes as the liquid condensate dries out and is aerated. Chlorine dioxide gas, when exhausted via the HVAC system, is removed completely within 12-15 air exchanges. For decontamination chambers, that aeration time is a matter of minutes, traditionally under 10 minutes. When the decontamination chamber is unable to be connected to the HVAC, carbon scrubbers are used to break down the chlorine dioxide. This adds some time to the aeration process, with aeration usually taking around 20 minutes. Hydrogen peroxide can be aerated through the HVAC system, however the total time is longer as the liquid condensate does not aerate immediately and can take a few hours to completely aerate to safe levels. VPHP can be catalytically converted in decontamination chambers not able to be connected to the HVAC system. This tends not to affect the aeration time greatly, as it does not remove the condensate any quicker than a traditional HVAC exhaust would.

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