

Application

The Isotech Design Portable Decontamination System is an advanced automated and energy efficient vapor phase hydrogen peroxide (VPHP) decontamination system that is easily integrated with small equipment and enclosures, including:

Isolators
Pass Through Boxes
Glove Boxes
Rooms

Test Chamber
BIER Vessels
DECON Tunnels



Key Features of the Isotech Design Portable DECON System:

- Fully Integrateable System:** The generator is fully automated allowing precise control of test conditions (hydrogen peroxide concentration, water vapor concentration), and exposure times. The portable design also simplifies installation and setup.
- Fully Automated Control:** Hydrogen peroxide and water vapor sensors (optionally integrated with the system) monitor and record the process conditions, with feedback control from the sensors, the vapor generator precisely maintains the concentration of hydrogen peroxide vapor, water vapor, and optionally the test enclosure temperature and pressure.
- Intuitive User Interface:** Easy to use operation from User's laptop or via optional touch screen makes it simple to change process set points. The graphical data display makes it effortless for the user to confirm the test conditions are in range during the cycle.

Optional accessories for the Portable DECON System:

- Dehumidifier:** The dehumidifier ensures the humidity level is maintained allowing the decon system to provide dry hydrogen peroxide vapor for the most efficient and effective decon cycle.
- Sensor Bundle:** The advanced sensor bundle utilizes state of the art detection for measuring hydrogen peroxide, and water concentrations, as well as temperature. The decon system analyzes the data and automatically controls the injection rates to maintain the appropriate decontamination conditions. The sensors combined with the intelligent automated controls provides the most efficient and effective decon cycle.
- Catalytic Converter:** The catalytic converter is connected to the system exhaust and converts the hydrogen peroxide exhaust into oxygen and water vapor.

Decontamination Cycle and Method:

- Warmup:** The warmup phase warms (and optionally dehumidifies) the air, optimizing the environment for the introduction of the vapor phase hydrogen peroxide.
- Conditioning:** The conditioning phase begins to introduce the vapor phase (dry) hydrogen peroxide into the decon enclosure. During the process the intelligent automated controller monitors enclosure conditions to ensure the environment within the enclosure remains well below the dewpoint. Once the desired hydrogen peroxide concentration is achieved the system will automatically progress to the decontamination phase.

Decontamination: The intelligent automated controller monitors the enclosure to maintain the desired conditions within the enclosure for the required decontamination period. The system will automatically adjust the injection rate to ensure the conditions within the enclosure remain below the dewpoint. After the desired decontamination period has been achieved the system will automatically advance to the aeration phase.

Aeration: The system stops injecting hydrogen peroxide and provides a flow of clean dry air into the enclosure to reduce the concentration of hydrogen peroxide to an acceptable level. The exhaust from the enclosure passes through a catalytic convertor where the hydrogen peroxide is reduced to harmless oxygen and water vapor. The system can be programmed to aerate until hydrogen peroxide levels are below 1 ppm.

Figure 1. Closed Loop Configuration

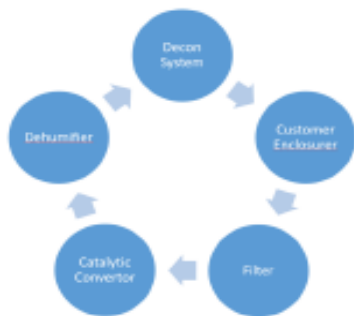


Figure 2. Open Loop Configuration



Standards

Underwriters Laboratory (UL): 61010-1, 61010-2-040
 Canadian Standards Association (CSA): C22.2 61010-1, 61010-2-040
 Conformité Européenne (CE): EMC 2014/30/EU; Low Voltage Directive (2014/35/EU, 2014/30/EU)
 (PENDING)

Preventative Maintenance

DSE Decon Systems are designed to limit the preventative maintenance requirements. Sensor bundles should be shipped to DSE for calibration and refurbishment every 12 months; typical sensor life is 5 years. Modular subassemblies allow easy field service.

DSE has maintenance and calibration program available.

TECHNICAL SPECIFICATIONS*

MODEL	PORTABLE DECON SYSTEM
WEIGHT	23 kg (50 LBS)
DIMENSIONS	32 [813] W x 15 [381] H x 21 [533] D
CONTROLLER/HMI	Siemens Color Touch Screen or PC
Compressed Air	not required
Power	120 V, 16 A, 50/60 HZ 240 V, 10 A, 50/60 Hz
Volume	Up to 300 m ³ (10,000 ft ³)
Injection Rate	.5 to 24 g/min

*Specifications can be customized per individual user requirements.

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About *Isotech Design Inc* –

Since 1994, IsoTech Design is a leading designer and manufacturer of USP <797> clean air solutions, such as isolators and modular cleanrooms. We have been serving pharmacies for 20 years in sterile compounding, chemo compounding, hormone compounding and sterility testing. We have over 1000 certified facilities across the United States & Canada, who are using our clean air solutions for sterile and chemo compounding while complying with the USP <797>, their state board of pharmacies, OSHA and NIOSH regulations and requirements. Also, pharmacy facilities in 15 countries & 5 continents use our clean air solutions, which have been validated and certified according to their respective norms and regulations.