The “DECON”
RTP canister VHP decontamination system

Manufactured by:
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System Description

The DECON is a stand alone system that is used to VHP decontaminate the internal volume of the RTP canister using a standard VHP gas generator and interconnecting hardware.

Multiple DECON systems can be connected off a single VHP generator for those applications requiring simultaneous canisters decontamination.

The DECON consists of a small, leak tight chamber onto which the canister to be decontaminated is connected.

VHP gas is introduced into the system via a gas injection system and a mixing fan assure of proper gas distribution within the chamber and the canister.

The rear bulkhead of the enclosure features a manual mechanism that the operator operates to connect and disconnect the canister beta without entering the chamber.
Features

- Stand alone, modular design eases placement and movement within the facility
- Stainless steel frame supports the sealed chamber.
- Lockable casters permit easy movement of the system and secure placement of the system during operation.
- The system will interface with any RTP canister model and size with the adoption of simple adapter components
- The canister rests onto an adjustable supporting mechanism during the docking process.
- To assure of total coverage of all critical surfaces of the canister, a manual mechanism allows the operator to separate and move the beta door a certain distance from the beta flange. No gloves required or entry into the chamber required.
- VHP gas injection system permits injecting the gas into the chamber. Proper distribution is assured by a mixing fan.
Specification

- Nominal size: 600 mm wide x 1100 mm long x 1600 mm high
- RTP Canister type: Standard design for 270mm and 350mm beta flange. Can be adapted to interface to beta flanges of any type and dimension.
- VHP connections: 2-1/2 triclover connections for gas inlet and outlet
- Leak tightness: Capable of withstanding a 50pascal internal pressure without detectable leaks, using ammonia detection.
- Materials of construction: Stainless steel, silicone, polycarbonate. All VHP gas compatible.
- Transport and Safety: Lockable stainless steel casters
Advantages

• The DECON permits the rapid decontamination of the RTP canister, especially important in those applications where cross contamination is an issue and unidirectional material flow, meaning single canister use, is part of the process.

• The DECON increases the availability of the autoclave, often a manufacturing flow bottleneck, to sterilize parts, not canisters.

• VHP decontamination of the RTP canister, instead of steam sterilization, eliminates the cool down of the canister prior to use.

• The DECON eliminates using a transfer isolator to decontaminate canisters. With the system, the transfer isolator can be left “up”, yielding improved operational efficiency.

• The DECON reduces the reaction time of the operation in the event of an emergency where quick access to the isolator system is necessary.
Front view of system

- STAINLESS STEEL ENCLOSURE
- RTP CANISTER DOCKING INTERFACE
- CANISTER DOOR REMOVAL MECHANISM
- CANISTER SUPPORT MECHANISM
- STAINLESS STEEL FRAME WITH CASTERS
Front view with RTP canister docked

- RTP CANISTER DOCKING INTERFACE
- RTP CANISTER DOCKED ONTO SYSTEM
- CANISTER SUPPORT MECHANISM
Rear view of system - with RTP canister docked

- RTP CANISTER
- CANISTER DOOR ACTUATOR
- RTP CANISTER SUPPORT MECHANISM

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Front view close up - with RTP canister docked

- RTP CANISTER
- BETA DOOR REMOVAL TOOL - ENGAGED
- RTP CANISTER SUPPORTING CRADLE
Front view close up - without RTP canister docked

- RTP CANISTER DOCKING INTERFACE
- CANISTER DOOR REMOVAL MECHANISM
- CANISTER SUPPORT MECHANISM
- VHP INJECTION PORT
- VHP EXTRACTION PORT – NOT VISIBLE
- VHP INJECTION PORT
System shown upon docking of RTP canister

- **Polycarbonate Bulkhead**
- **Bellows - Compressed**
- **Actuator Handle**
- **Canister Door Interface**
- **Canister Beta Door**
- **Canister Support Mechanism**
- **Mixing Fan**
- **VHP Extraction Port**
- **VHP Injection Port**
Canister door being removed

- POLYCARBONATE BULKHEAD
- BELLOW - EXTENDED
- ACTUATOR HANDLE
- SYSTEM CONTROL PANEL
- VHP EXTRACTION PORT
- CANISTER DOOR INTERFACE IN CONTACT WITH CANISTER DOOR
- CANISTER SUPPORT MECHANISM
- MIXING FAN
- VHP INJECTION PORT
Canister door removed - Gassing

- POLYCARBONATE BULKHEAD
- ACTUATOR HANDLE
- VHP EXTRACTION PORT
- BETA DOOR REMOVAL MECHANISM
- CANISTER SUPPORT MECHANISM
- MIXING FAN
- VHP INJECTION PORT

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Canister Decontamination System

Multiple Decon Systems connected in parallel
A single VHP generator can be readily connected to two or more Decon System, as shown here using CPVC tubing and flexible hose. Flow balancing manual valves are used to assure of correct VHP gas distribution between the two chambers.
Docking and Decontamination Sequence

Docking of the RTP Canister to the Decon System
The RTP canister is brought into proximity to the docking interface of the Decon system. Its weight is supported by the adjustable canister support device.

RTP Canister is docked to the Decon System
Once the beta flange of the canister comes into contact with interface flange of the Decon System, a locking ring is rotated 60 degrees to lock the canister in place. Four locking dogs assure of proper seal compression.

VHP gas decontamination
Once the beta door is removed from the beta flange and the leak test is completed, VHP gas is injected into the system. Total surface coverage is assured by a mixing fan.

Cycle is completed
When the VHP aeration cycle completes, the operator installs the beta door back onto the beta flange. The decontaminated canister can now be disconnected from the Decon System and is ready for use.
Thank You

Joe Sacca