

Phosphorus Recovery System

- **Efficient, safe means of phosphorus neutralization**
- **Easy process manipulation and monitoring using Molly Growth Control Software**
- **Compatible with all MBE systems**

Description

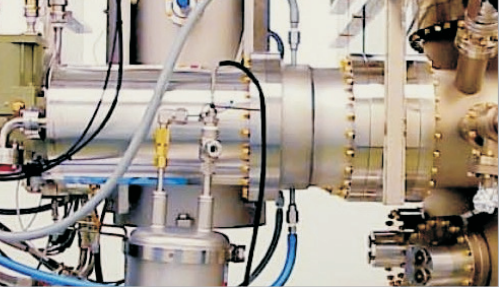
Due to the pyrophoric (burns on contact with air) nature of phosphorus source material and the by-products generated in the MBE process, Veeco's Phosphorus Recovery System (PRS) is designed to provide a convenient and safe method of removing white phosphorus from the growth module prior to venting the system for maintenance and/or source reloading. In contrast to other systems currently in use, it also allows the trapped white phosphorus to be neutralized by aqueous oxidation. This virtually eliminates the danger of phosphorus auto-ignition.

The Veeco PRS is an integrated unit connected to the growth module, isolated via a gate valve. Pumps work in tandem to capture the phosphorus within a removable phosphorus recovery (cryogenic) trap that provides a safe, convenient means for transporting phosphorus for neutralization. The process is controlled and closely monitored through Molly® Growth Control Software to ensure the system is running properly. If an error is detected, Molly initiates a process to abort to prevent a catastrophic failure.

The components that make up the PRS consist of:

- Vacuum equipment (scroll pump, turbo pump, vacuum gauge, and associated hardware)
- Electrical equipment (phosphorus recovery controller, turbo pump controller and vacuum gauge controller)
- System hardware (cryogenic traps, chambers and liquid nitrogen system)

The Veeco PRS is available in two model designs to accommodate low volume or high volume manufacturing of compound semiconductors.



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Low Volume PRS Product Specifications

Electrical Power Hookup	208-240 VAC / 15A / 60 Hz
Power Consumption	400W (normal operation)
Cryogenic Trap, Volume	4 L approx.
Cryogenic Trap, Tubes	0.55" O.D. supply (labeled "LONG") 0.55" O.D. exhaust (labeled "SHORT")
Physical Dimensions	Length: 42.5"/108cm Width: 22"/56cm Height: 42"/107cm for GEN II™ Systems, 75.5"/192cm for GEN930™ systems

* As measured from the floor to the top of the cryogenic trap tubes.

High Volume PRS Product Specifications

Electrical Power Hookup	208-250 VAC / 15Z / 50-60 Hz / Single Phase
Power Consumption	2kW (normal operation)
Turbo-Trap Cryogenic Trap Volume	10 L approx.
Phosphorus Recovery Trap Volume	1 L approx.



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