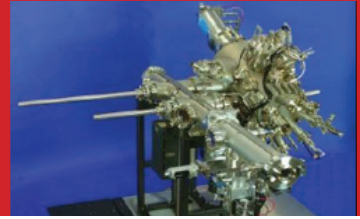


GEN930 Upgrade Solutions



- > Extend the life of old GEN930 MBE systems with modern electronic and control platforms
- > Increase system capability with the best performing products in the industry
- > Increase system serviceability by replacing obsolete electronics
- > Partnering with Veeco for system upgrades means working with engineers that have vast knowledge and experience with these systems
- > With access to all Veeco, Varian, and Applied EPI system drawing and schematics, Veeco offers a risk-free upgrade path that other service organizations cannot match

Power Supplies

Veeco now offers TDK Lambda power supplies on all of its R&D MBE systems. This switch to Lambda power supplies enables Veeco to provide the industry standard commercially available power supply solution.

To assist customers through this transition, a full complement of upgrade packages provide a seamless upgrade path. These packages work in conjunction with Veeco DC power supplies offering a gradual upgrade solution. While Veeco has chosen a future path with Lambda power supplies, we will continue to offer and support Veeco DC power supply units. Every upgrade is tailored to the customer's system power requirements. Please contact your local Veeco sales representative for quotation and purchasing inquiries.

Full Suite of Veeco's latest power supply product offering



LAMBDA POWER SUPPLY PACKAGE

- Commercially available worldwide
- High power density in space-saving 1U form factor
- Highly reliable
- Improved serviceability
- Epi-Trend data logging available with Molly 1.3 software (upgrade available)



EUROTHERM TEMPERATURE CONTROLLERS

- High performance PID control
- 8 to 16 PID loop Eurotherm Mini8 controller or 3 unit 2408 controller
- **Option to reuse existing 2408 Eurotherm controllers from Veeco power supplies**



ZONE RATIO CONTROL UNIT

- Optional for multi-zone substrate heaters to set a power, voltage, or current ratio among the filament zones
- Reduces frequency of optimizing heating conditions
- Optimizes power input for UHV radiant heating
- Operates independently from the growth software (optional)

Motion Control

Veeco's dual axis motion control unit is a compact, state of the art and universal motion controller for precise control of servo motors. Veeco delivers the ability to control any two motion axis, including manipulator rotation, indexing, and valve positioning, through this space saving 2U electronic rack mountable design. Veeco's dual axis motion controller operates with any Molly® software version and when used in conjunction with Veeco's communications converter can also operate with legacy Bisync-based operating systems. Modern communications architecture and off the shelf components allow Veeco to offer a long-term motion control solution. Upgrade obsolete SMC-I and SMC-II control units with Veeco's new dual axis motion controller.

Veeco Dual Axis Motion Controller



Direct SMC-I Replacement

Product	System Platform	Sample Rotation (R)	CAR Indexing (I)	Automated Valve Positioners (R)
2U-	GEN930-	IR-	I-	1V, 2V

e.g. 2U-GEN930-R-I-x

This example product code represents an dual-axis motion controller configured for a GEN930 with motor packages for CAR rotation and indexing.

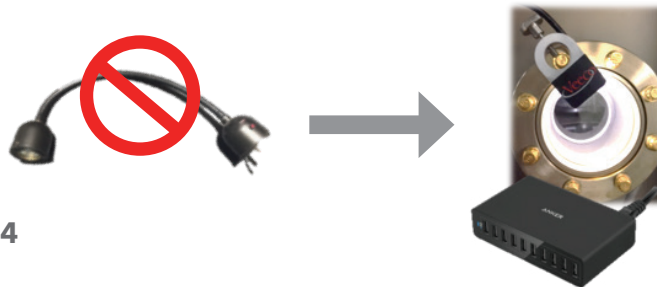
SMC-I & SMC-II OBSOLETE



LED Viewport Lights

Replace your halogen lamp with Veeco's sleek, bright LED viewport lights. These lights allow for visually accessible viewports and are easily transferred from viewport to viewport with a quick fastening twist knob. Veeco's standard package includes a USB power hub with integrated on/off switch, mounting hardware and three LED viewport lights. The hub accommodates up to 10 lights to allow for future expansion.

Veeco Part Number:
1274017

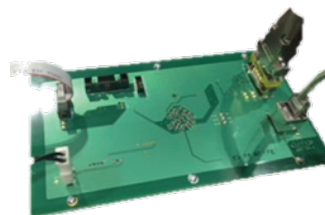


Additional individual lights: **1267334**

Bisync to Modbus Communications Converter

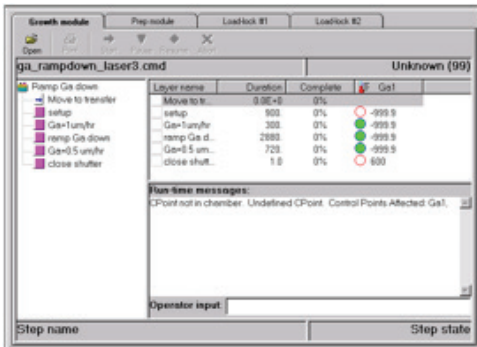
Most of today's newest electronics use Modbus communications protocol as it offers superior speed and serviceability over Binary Synchronous protocol (Bisync). If your system is using Veeco's Molly software 1.1.1 or an earlier version, it is likely that your system is still operating under Bisync communications. Fortunately, Veeco offers a plug-and-play solution, which converts Bisync communications from the MBE system controller to Modbus RTU, allowing you to use our latest dual axis motion control units.

Veeco Part Number:
1274654

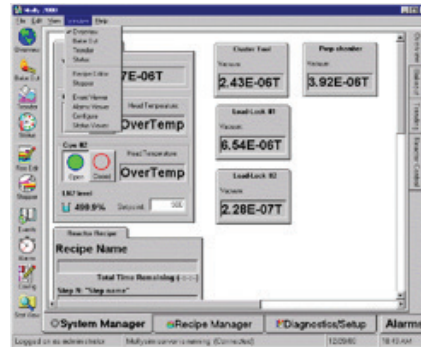


Molly ECS 1 Growth Control Software

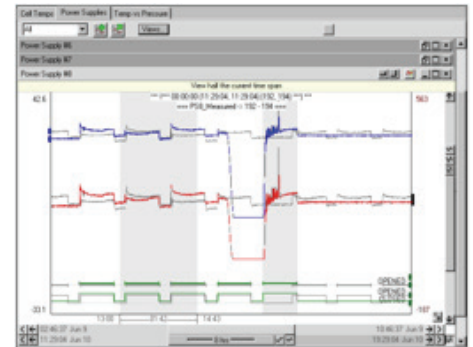
Veeco provides a comprehensive and integrated software control solution for R&D MBE systems with our Molly Growth Control Software. Veeco's latest release, Molly ECS 1, is the industry's most advanced, user-friendly, and robust MBE process control software. It offers simplified recipe writing and enables customers to do easy process transfers. It also enables growers to interface with RHEED, pyrometers and other in-situ monitoring tools.



Easy Recipe Writing



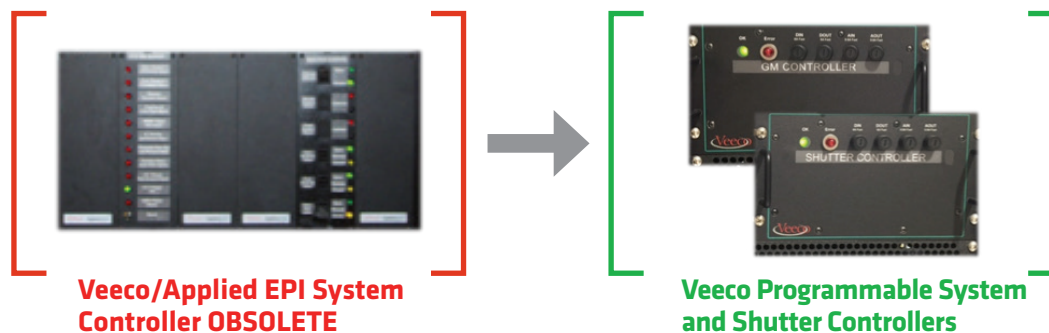
Convenient Status Overview



24x7x365 Data Recording

Molly's latest features include:

- Runs on Windows 7 operating system
- New expansive diagnostic capabilities
- Liberator™ enables data export and viewing offline to preserve system uptime
- Epi-Trend™:
 - » A central data archive for all control points registered within Veeco control software and provides constant, comprehensive, data collection and “after-the-fact” access
 - » A recorder that auto-archives all control point values 4x7x365
 - » An integrated data viewer provides graphical feedback
 - » Exports that provide output for spreadsheet-based analysis
 - » All data logged and captured, non-predictive



Continuous Azimuthal Rotation (CAR) Manipulator Rebuild Kits

Veeco provides comprehensive CAR rebuild kits to help users prepare for their MBE system's routine maintenance. Through a typical MBE growth campaign, various CAR components are bombarded with corrosive source materials. To ensure proper performance and reliability, Veeco recommends regularly cleaning or replacing these components. Veeco's repair kits include all necessary replacement components for maintaining a like-new CAR condition.

CAR Kit includes:

- > Heat and arsenic shielding
- > Heater, T/C and BFM cables
- > Spring and Bayonet assembly
- > Rotary motion bearings

Veeco Part Numbers:

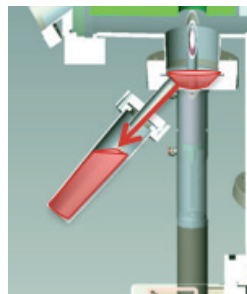
		GEN930 CAR Kits	Replacement Heaters	UNI-Block® (W Ring)	UNI-Block® (PBN Ring)
HEATER SIZE	3" Single Filament	CAR KIT 3R	207045	203807	206351
	3" Dual Filament	CAR KIT 3R DF	211946	203807	206351
					Spring and retainer plates available for various size samples

Shutter Components

To extend the lifetime and ease the serviceability of linear shutters on the GEN930 MBE system's upward facing shutters, Veeco has developed shutter bellows with a Gallium collection port to allow material to accumulate in a benign location. This design more than doubles the capacity of material that can be contained prior to requiring maintenance. Veeco's upgrade includes a new shutter bellows on a unique flange containing the Ga receptacle

Veeco Part Numbers:

**1259388 (ports 3 & 4) and
1259392 (ports 5 & 6)**



Turbo Pumps

Veeco offers turbo molecular pump upgrade packages to assist customers with the obsolescence of Varian model V81 and V301 turbo pumps. These pumps are typically used on Veeco gas delivery systems (V81) or on GEN930 load locks (V301). The upgrade pump packages include a Leybold SL350i or SL80H, roughing hose, and optional Edwards nxds10i scroll pump. Contact Veeco for quotes and purchasing details.

