

## EXCEPTIONAL ENGINEERING. EXCEPTIONAL EQUIPMENT.

Vacuum Innovations is dedicated to the manufacture of exceptionally-engineered, high-quality equipment for optical coating systems.

After using and refining optical coating equipment developed elsewhere for many years, founder Jim Oliver engineered a superior line of products. We design components with solid construction, fewer parts, and a focus on function and performance. We firmly believe it's less expensive to build it right than to maintain a cheaper substitute.

Now you can easily update your coating systems without returning to original equipment manufacturers (OEMs) for costly upgrades.

Ask us how we can make your equipment and process more robust. Save time and money with a Vacuum Innovations solution.

**TOO GOOD IS MUCH CHEAPER  
THAN NOT GOOD ENOUGH!**

**CALL TODAY!**

**585.330.0746**

**WE CAN HELP YOU BETTER YOUR BUSINESS  
WITH:**

### **BETTER HEATING**

- heaters
- power supplies
- installation kits

### **BETTER PLANETARY ROTATIONS**

### **BETTER SYSTEM CONTROLLERS**

### **USED EQUIPMENT & MORE**



### **SYSTEM CONTROLLERS**

We felt it was important to develop a simple, easy-to-integrate controller that provides equivalent functionality and can be updated in-house. Most OEM suppliers of coating chambers have moved to integrated control systems utilizing PCs and/or PLC-based controls integrated into the deposition system — a time consuming and costly venture.



Our pump and valve controller/sequencer offers:

- Manual, automatic and override operating modes
- Integrated cryopump temperature monitoring
- Interlock inputs for water and panels, and
- Simple installation and more!

In addition, we include **contact-closure outputs** for interlocking your other components — preventing undesired operation of heat, electron-beam guns, ion sources, or other process equipment.

We also provide a **remote wiring panel** for easy connection to your chamber components.

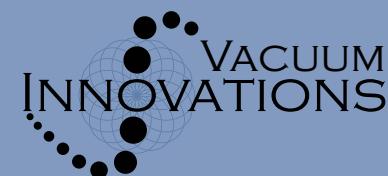
Let us know what your system controller needs are and we can make your system upgrade quick, easy and cost-effective!

### **VACUUM INNOVATIONS, INC.**

111 Knickerbocker Road

Pittsford, NY 14534

Ph (585) 330.0746 \* Fax (585) 219.5206



### **Optical Coating Deposition**

**◆ EXCEPTIONALLY ◆  
◆ ENGINEERED ◆  
◆ EQUIPMENT ◆**



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## FOR OPTICAL COATING DEPOSITION

### WELCOME TO A BETTER WAY OF DOING BUSINESS!

"I firmly believe that engineers should exhibit their skill by making complex problems and equipment simple, not by creating incredibly complex and sophisticated solutions to what are relatively simple problems."

~ Jim Oliver, President

Vacuum Innovations offers 6kW quartz heater lamps, 12kW power supplies, and installation kits to make the addition or updating of the heating components in your system quick and easy.

If you're looking for improved thin-film uniformity, we offer planetary rotations that are built for precision, quality, and the utmost in reliability. We err on the side of too good, instead of not good enough.

**Ask Us!**

We are always looking to expand our product line. If there is a different size heater, power supply or a custom installation kit or planetary rotation you need, talk to us. The engineering costs for a change are generally much less than you might expect.

What equipment problems do you need solved? What type of product would better fit your needs? Ask us.

**585.330.0746**

### H E A T I N G

#### HEATERS



Our heaters are built in order to be used *and* maintained, not replaced.

Vacuum Innovations' heaters are constructed with heavy-duty electropolished stainless steel, configured with (3) 2kW bulbs and are easily maintained with these features:

- Outer housing lifts easily for cleaning and is durable enough to resist warping with repeated bead-blasting
- Individual bulb clamp connections (disturb only the bulb you're replacing instead of breaking leads to bulbs that are still good)
- No machined parts with tapped holes to gall over time, even with stainless hardware
- Sturdy, high-temperature formed reflector and transparent shields



We build our heaters so maintenance is quick and easy.

We don't ever want to experience a customer being disappointed with the quality of our products.

### P S O U W P E P R L I E S

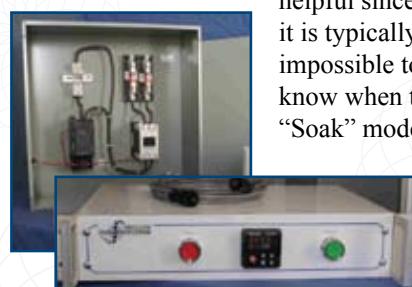
#### HEATER POWER SUPPLIES

Our interlocked controller and SCR-based power supply has a number of features that make integrating heater power into an existing system easier.

The controller is a standard programmable heater controller, offering PID ramp up, soak, and ramp down capability.

Our "Advance" feature allows users to easily move to the next step in the

heater program. Users will no longer need to re-program the controller in order to ramp. This is especially



helpful since it is typically impossible to know when the "Soak" mode

should end in conjunction with the deposition process.

Power to the heaters is 208V, and this is kept remote from the control rack for operator safety.

In addition, our standard installation kit provides safe and easy plug-in connections to the chamber feedthroughs with shielded connections.

### P R L O A T N A E T T I A O R N Y S

#### PLANETARY ROTATIONS

We build our rotations with careful analysis of planetary gear ratios and integrated mask mounts for precise control of film uniformity.

Vacuum Innovations offers planetary rotations that:

- Provide easy bearing lubrication
- Minimize downtime with heavy-duty construction

- Maintain accurate substrate heights with carefully-toleranced components
- Include integrated multi-point crystal mounts.
- Maintain maximum "source-to-substrate distance."



We will provide only the rotation system, or we will include custom-designed and refined uniformity masks to provide optimal performance in your system.

Talk to us about what you need your planetary to accomplish — chances are, we can do it.