



## **Power Supply and Solenoid Valve Change**

### **Power supply**

We have identified an issue related to the new Jerome power supply required for MDD CE.

Since UL has authorized us to use the same power supply on domestic UL units, as we phase this power supply in across the board to replace the MDC power supplies, it will eventually be an issue that all distributors will need to be aware of.

The new power supply is a regulated power supply, where the MDC power supply is an unregulated supply (essentially a step down transformer with some noise filtering). This means that the new power supply monitors current flow downstream of the power supply and regulates output accordingly. The MDC power supply does not do this.

The issue that has come up appears to be a result of the internal regulation in the new power supply. As some of you may have noticed, some TEC2000 controllers will cycle the valves on and off during the boot up/diagnostics when initially powered on. Some do not do this. When they do, the back EMF from the valves can confuse the regulator in the power supply, causing it to shutoff power to the controller. The regulator then recognizes the lack of power down stream and feeds power again. The cycle then repeats itself, resulting in a rapid cycling on and off. However, not all units that will cycle the valves at startup will also rapid cycle the valves. Since some do and some don't, it is also difficult to identify what fix will ultimately make it never do this.

At this point, powering up the controller with the valve wire harness disconnected appears to avoid the issue. Subsequent restarts, such as after power failure, do not appear to be affected. We are looking for controller and system combination that will consistently repeat this behavior, so that we can identify a fix for it.

In the mean time, we will be attaching a tag to the valve wire harness connector instructing the installer to power up the controller before connecting the wire harness. This appears to correct the problem and is only a problem where dual fill valves are installed.

### **Solenoid Valves**

There are some other issues that you, as distributors must be made aware of. The MDC power supplies are gradually being replaced in the manufacturing process on certain models. We anticipate all stock will be used up probably by May of 2004. The second issue on the electronics subject is the changing of our current fill valve from Alcon to another manufacturer. For whatever reason, Alcon is getting out of the solenoid valve business. As before, we will gradually use up our existing stock before converting over entirely to the new solenoid valve. We anticipate all stock inventories will be used up by August. What this means to distributors is that you can no longer just change out the plunger, housing, spring, and solenoid. The entire valve and valve body will need to be removed if valve repair is required.

### **Controllers**

Blank LCD screens have been an issue for some time. We have appeared to have isolated the problem. In the past we would replace the entire TEC-2000 and have the distributor send the problem controller back for repair and eventually stock as a refurbished controller. We seldom are able to duplicate the complaint with units returned. Or what may happen is dollar signs (\$\$\$) appear across the screen or it is blank when the customer plugs in the device. We have pulled new controllers from the shelf and powered the units up and received the same \$\$\$ screen on some of the units tested and blank screens on others as well as units that function as required.

The short-term solution to this problem is to unplug the unit and plug it back in. It will function normally. Only after sitting off power for an extended period of time, does this happen and require power cycling. When \$\$\$ appear, simply tap the screen. There is a ground wire attached to the inside of the top faceplate where the screen is attached that is not providing an adequate contact. Tapping the screen forces contact and the unit function normally.

Although rebooting will most likely resolve the blank problem, if the problem reoccurs then replace the front panel. Even though the panel is probably fine it forces the service representative to correctly install the ground connection to the lower right hand panel post and to the bottom control board. In some cases it is as simple as removing paint that is interfering with ground wires from making contact with the bare metal controller housing.

We will no longer replace the entire controller when the LED display alone is blank. This can be determined when the controller will still perform the auto fill functions and the system status lights to the left of the LCD's are illuminated. As a service technician you can:

Reboot controller or tap on LCD.

Verify ground wire connection from front panel housing to bottom controller board.

Replace front panel.

### **Data Loggers**

Warranty Data loggers will not be replaced but rather will be repaired and returned to customer. Credit will be issued at selling price less 20% on all returned loggers being returned under warranty because of customer decision to change their mind. When returning Data loggers for repair or restock, make sure to include all of the parts that went out with the logger. These parts must accompany the data logger being returned. Do not remove data loggers from cork/cover and make sure to include the magnetic keys, the software disc, the temperature probe, and the cable connector. You will be charged for those replacements when logger gets sent back. It is our intention that no data logger will leave the factory without all of its accessories capable of rendering the logger as completely functional.

### **In next months Tech Tips:**

Great deals on refurbished data logger for Cryoshippers, TEC-2000 stand-alone controllers, and large aluminum dewars.

Inspection procedure when receiving Kryo 750 & Kryo 560

Parts list and prices of HL-120 & 190

Parts list and prices of Kryo 750, 560 accessories.

## **Bio-Medical Customer and Technical Service**

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For copies of past Tech Tips or for more information on maintaining your nitrogen storage dewars please contact Jim Bachman at (952) 641-6115, Fax (800) 232-9683.