



# MVE Tech Tips



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## **PREVENTATIVE MAINTENANCE CHECKS TO HELP LENGTHEN FREEZER SERVICE:**

1. Take unit out of service to completely empty and dry out inner reservoir. This procedure should be executed every 2-3 years
2. Periodically check wear on magnetic gaskets (cabinet units) and cork/cover for wear on cork.
3. Periodically remove condensed ice formed on lid cork by gently rubbing gloved hand over cork surface.
4. Check condition of vinyl pressure sensing tubing annually. Check for dry rot, cracking & kinks.
5. Remove noticeable floating debris from liquid reservoir.
6. Keep vinyl-sensing tubes from fill assembly or transfer lines. Drastic changes in temperature may affect level reading that is pressure sensitive.
7. Allow transfer hose to dry before reconnecting if using liquid cylinders for LN2 supply. Fill only when transfer hose is dry and ambient temperature. If this is not possible then cover open end of hose between change outs.
8. Periodically check for ice buildup around cork & cover lid.
9. Do not pull on sensor probes if probes seem to be stuck. Remove sensor assembly and allow to warm before removing or adjusting.
10. Remove front and rear panel or open stand-alone controller if it is a non-cabinet unit to inspect electrical connections for corrosion. Power down unit & if necessary, clean accordingly. This procedure should be done when unit is taken out of service for cleaning.
11. Physically move the freezer about 2 inches. This will keep flat areas from forming on caster. This can be done twice annually.

It is the recommendation of the manufacturer that freezers over 10 years old should be sent back for a scheduled revac. Freezers of this vintage could experience a sudden vacuum loss with no prior warning signs. Freezers of this vintage, other than MVE, had been using a pinched pump out tube instead of the p.o. plug and body, which in turn is subject to implosion.

The stainless units are constructed entirely from stainless steel sheets. Any cleaning solution that does not react to stainless can be used in the sanitation process of these dewars. In most cases any household detergent or mild soap solution is suitable. The U.S. Custom Service uses a solution called EXPOR for incoming shipments abroad. This is mixed with 9 parts water to 1 part EXPOR and is applied using a spray nozzle. However, as mentioned above, any household cleaning solution can be used. These include: chlorine bleach, detergents, & mild soap. Other cleaners & disinfectants that can be safely used are: hydrogen peroxide, chlorine/water & denatured alcohol. It is important that the inner vessel is thoroughly rinsed with water & all cleaner residues have been removed. Spraying the solution into the inner vessel is preferred, although agitation of the solution inside the inner will suffice.

**PARTS LIST (PLEASE KEEP FOR FUTURE REFERENCE):**

<b>COMMON PARTS FOR MDC CABINET</b>	
<b>P/N</b>	<b>PART DESCRIPTION</b>
10712933	purge valve
10712925	fill valve
10810824	temp. cable
10713418	RTD temp. probe
10883169	stand alone power supply
9713109	6ft. Transfer hose
10502741	vinyl tube
11035495	fuse for stand alone controller
10717486	stand alone controller
11058494	extension cord hospital grade
11648945	in-line LN2 supply filter
10753946	user's manual
10883361	measuring stick
10713434	front panel
10713338	rear panel
11178453	e-prom chip 1.7 version
10776072	cable assembly-under lid
11358251	OFAF cable assembly
11081299	repair tool box
10717486R	refurbished stand alone contr
10713338R	refurbished rear controller
<b>COMMON PARTS LAKESHORE PRIOR TO 2/1996</b>	
10558139	temp. probe 72" long
10595685	solenoid valve
10648943	purge valve
10883169	power supply
10502741	vinyl tube
10569022	Ribbon connector
10586851	gasket kit XLC 500
10651317	gasket kit XLC 1200
10526209	user manual
<b>COMMON PARTS CABINET GORDINIER</b>	
2012779	level gauge
4613349	Sensor assembly
5615949	plumbing s/a
10958183	valve subassembly
10772670	hinge
11087666	hinge kit
3820599	user manual

## **MORE THAN LIQUID SUPPLY ALARM MAY OCCUR IF FILL CYCLE BEGINS WITH EMPTY CYLINDER:**

The following scenario and subsequent action actually took place:

### **QUESTION: Is this normal?**

-New customer showing off new freezer called manually for fill on 1520HE from empty liquid cylinder.

-After about 5 min. she had By-Pass alarm-which would be normal, as By-Pass was open without product.

...But then she had Low-Level alarm reading as 6.8" but in fact we know level was 10".

So alarm was muted, empty cylinder changed and reading returned to 10".

Question: why did she get a low level alarm and 6.8" reading on the level from drawing from an empty cylinder? Is this normal?

### **ANSWER: This is normal.**

Why? The purge cycle that occurs at the beginning of each fill cycle is accomplished by opening the sensor line to the supply line so that gas under pressure from the supply is forced through the sensor tube to clear ice particles and debris from the bottom of the sensor tube in the freezer. This is the purpose of the 3-way valve connected to the sensor line.

When a fill cycle is initiated with an empty supply or no supply connected, instead of forcing gas through the sensor tube, the differential gas pressure in the sensor tube that provides the level signal to the controller is vented from the sensor tube. When the purge cycle is completed (30 seconds from opening of fill valve) the controller begins reading the differential pressure in the sensor tube again to determine the level in the freezer. (The controller does not take readings during the purge cycle. The last reading prior to remains on the display for the duration of the cycle). When the controller begins reading again, the reduced pressure in the sensor tube creates a false low-level signal, thus the false low-level alarm indication.

When the pressure is reduced in the sensor tube, liquid will rise in the sensor tube. Once the purge valve closes, the liquid in the tube will begin to vaporize, building gas pressure in the tube and forcing the liquid out the bottom, once all of the liquid is forced out of the tube, the level reading will return to normal. Starting a Fill with a new supply of liquid will allow the purge to force the liquid out of the tube, accomplishing the same affect.

**REFURBISHED BIOLOGICAL UNITS:**

**REFURBISHED XLC UNITS IN STOCK AS OF 2/04/03**  
**SALE PRICES - NO OTHER DISCOUNTS APPLICABLE**  
**WARRANTY – 2 YEAR VACUUM, 6 MONTHS CONTROLLER**

<b>QTY</b>	<b>PN#</b>	<b>DESCRIPTION</b>	<b>SN#</b>	<b>SELLING PRICE</b>
1	10491190R	XLC 500 F (ROUND CORNER CABINET)	CDRA96B106	\$3,550.00
3	10763976R	XLC 500 F GB BB	CDRA96H127 CDRG99B103	4,055.00
1	10570761R	XLC 500 W/LL	JSA94E110	4,000.00
1	10763888R	XLC 1200 F GB BB	CEPA98G103	7,028.00

**ALUMINUM UNITS: IN STOCK AS OF 2/06/03**  
**SALE PRICES - NO OTHER DISCOUNTS APPLICABLE**  
**WARRANTY – 1 YEAR VACUUM**

<b>QTY</b>	<b>PN#</b>	<b>DESCRIPTION</b>	<b>SN#</b>	<b>SELLING PRICE</b>
3	11016649R	RPL XC 20/3V (since 9/01)		643.00
4	991798R	RPL SC 8/5 (since 6/01)		368.00
1	11005317R	RPL SC 20/12V		487.50
1	11517777R	RPL STRAW SHIPPER GEN 2		230.00
1	10854069R	RPL XC 14/2V		613.50
2	11082646R	RPL Mill XC 20		332.50
1	991808R	RPL LAB 10		241.00
1	11366673R	RPL Cryosystem 2000 w/flat Inner Bottom		890.00
20	10461732R	RPL 35 ltr units (mix of TW & MVE units)		500.00**
(Units have been revac'd, NER tested, sold as is NO WARRANTY)				

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1	10589998R	RPL MDX-119L w/Front Panel in stock since 7/02 Branch Plant N	sn # 13974	(price per Sales)
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**THE FOLLOWING UNITS ARE NEW, BUT CONSIDERED OBSOLETE OR OVER STOCK. ALL COME WITH A 3YR VACUUM WARRANTY (THE XC 35/5V IS A VAPOR SHIPPER, HOWEVER NO PROTECTIVE CARTON IS AVAILABLE.)**

6	11198761	XC 35/5V		737.50
7	11052674	CRYO SYSTEM 8 (Like a Locator 8 w/cork & cover, no canisters or racks)		422.50
2	10585911	CRYO SYSTEM 3600		550.00

If you have any questions, please contact your Chart Customer Service Representative @ 888-819-5897.  
 For technical service contact Jim Bachman at 952-641-6115. E-mail [jim.bachman@chart-ind.com](mailto:jim.bachman@chart-ind.com)