



# MVE TECH TIPS



*MVE Tech Tips December 2005*

## **CHANGES AND REVISIONS TO MVE/CHART WARRANTY STATEMENT**

Basic changes involve the statement addressing freezers that have been transported while still in service with full samples and LN2.

### **Eterne / HE / MVE / XLC Limited Warranty Statement**

**Chart Industries 1800 Sandy Plains Industrial Parkway, Suite 316, Marietta, Ga. 30066**

Chart Industries (CHART) WARRANTS TO THE ORIGINAL PURCHASER ("Purchaser") that each new Eterne / HE / MVE / XLC product (each a "Product"), shall be free from defects in materials and workmanship for a period of two (2) years from the date of shipment, except as provided below. CHART warrants all dewar vacuum integrity shall be free from defects in materials and workmanship for a period of five (5) years from the date of shipment, except as provided below. CHART warrants all repaired equipment and factory blemished equipment shall be free of defects in material and workmanship for period of (90) days from the date of shipment and warrants vacuum integrity shall be free from defects in materials and workmanship for a period of (1) year from date of shipment. All service parts and accessory items are warranted for (90) days from date of shipment to be free of defects in material and workmanship.

Purchaser agrees that before this limited warranty shall become effective, purchaser shall fully inspect each product within ten (10) days of delivery and before such product is put to use. Purchaser also agrees to operate the product in accordance with CHART's operating instructions and the failure to do so shall void this limited warranty. Purchaser further agrees that any claim for breach of warranty must be made in writing within 60 days of discovery of a purported defect. CHART will not be responsible for any alleged breach of warranty, which, as a result of CHART's inspection. CHART determines to have arisen from a cause not covered by this limited warranty. CHART will charge a nominal fee, which will cover the unit to be fully functional when returned to the original purchaser.

This limited warranty does not apply to: (A) Normal routine service items; (B) Repair or replacement necessitated by misuse, abuse, accident, or repairs made by person other than CHART or persons not authorized by CHART; (C) **transporting freezer not in accordance to chart specifications. This includes transporting freezer while unit is still in service;** (D) Use of components with the product other than those approved by CHART; (E) defects caused by the effects of normal wear and tear; (F) Acts of God, or other causes not within the control of CHART.

If purchaser believes that product or component does not comply with the limited warranty stated above, purchaser should contact CHART at the address stated above, describing the problem and providing proof of the date of purchase. If directed by CHART, purchaser shall return products and components freight prepaid, properly packaged in a CHART approved shipping container and properly identified by a Return Material Authorization Number issued by CHART. Products and components returned without a Return Material Authorization Number will be refused and returned at purchaser's expense.

The remedies available for any breach of this limited warranty are limited to repair or replacement of the defective product or component or refund of the purchase price, at the sole discretion of CHART. CHART warrants that replacement or repaired products and components shall be free from defects in material and workmanship for the duration of the unexpired portion of the original warranty or ninety (90) days from the date of re-shipment to purchaser, whichever is longer. CHART SHALL HAVE NO FURTHER LIABILITY FOR DAMAGES, LOSSES, COST OR FREES OF ANY KIND OR NATURE, CONSEQUENTIAL, GENERAL, SPECIAL, EXEMPLARY OR PUNITIVE DAMAGES, ARISING OUT OF OR

RELATED TO THE USE OF CHART EQUIPMENT, EVEN IF CHART HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, LOSSES, COST OR FEES.

**EXCEPT FOR THIS LIMITED WARRANTY, CHART HAS MADE NO WARRANTIES OR REPRESENTATIONS EXPRESSED, OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. NO REPRESENTATION OR STATEMENT OF CHART MAY CHANGE OR ALTER THIS LIMITED WARRANTY.**

Any claims for breach of the limited warranty shall be governed by [Delaware Law](#) and must be brought in a state or federal court in [Delaware](#).

Some states do not allow limitations on implied warranties or on incidental or consequential damages, so the above limitations may not apply. This limited warranty gives the Purchaser specific legal rights. Purchaser may also have other rights, which vary from state to state.

## SPARE PARTS FOR OLDER UNITS

### COMMONLY USED PARTS

XLC-440  
A-4500  
XLC-1110  
XLC-500 (Lakeshore)  
XLC-1200 (Lakeshore)  
XLC-500 (Micro Dynamics)  
XLC-1200 (Micro Dynamics)

### PARTS LIST XLC 440

#### (GORDINIER)

PART NUMBER	PART DESCRIPTION	LIST PRICE as of 10/05
2012779	LIQUID LEVEL GAUGE	\$95.00
9721479	RETRO FIT GAUGE	\$320.00
1717229	3 WAY 110 V SOLENOID	\$52.00
5507539	DAMPER ASSEMBLY	\$32.81
10958183	110V FILL VALVE ASSY	\$203.00
10681217	FILL VALVE ONLY 110V	\$145.00
1810032	RV 50 PSI	\$27.94
5615139S	CORK/COVER ASSY.	\$725.00
3010819	LINER	\$55.00
3011039	CORK	\$54.00
4613349	SENSOR ASSEMBLY	\$504.00
4311009	LOCK ASSY	\$25.00
5615949	PLUMBING S/A	\$175.00
10620035	PANEL KEY	\$6.00
10553207	REMOTE ALARM CONN	\$65.00
3820599	MANUAL	Copied print only N/C

The back panel used on the XLC-440 with temperature probes, (part number 5615099) was manufactured by Gordinier Model 411-F and is no longer available from MVE. You can contact Gordinier directly to send in controller for repair.

**PARTS LIST XLC-1110  
(GORDINEIR)**

PART NUMBER	DESCRIPTION	LIST PRICE as of 10/05
10958183	FILL VALVE ASSEMBLY	\$203.00
10681217	110V SOLENOID	\$145.00
10620035	PANEL KEY	\$6.00
9721479	RETRO FIT LEVEL GA.	\$320.00
2012779	LIQUID LEVEL GAUGE	\$95.00
1810032	RELIEF VALVE – 50 PSI	\$27.94
5615949	PLUMBING S/A	\$175.00
4310689	LOCK ASSEMBLY	\$12.00
4613349	SENSOR ASSEMBLY	\$504.00
4613959	THERMOCOUPLE	\$233.00
4613969	SENSOR ASSY. w/alarm option	\$258.00
4310959	REPLACEMENT KEY FOR 4310	\$4.00
3010279	LID LINER	\$189.00
4710217	BLACK SEAL	\$49.00
4710227	GASKET-DOOR	\$99.00
10772670	HINGE	\$95.64
11087666	HINGE KIT	\$46.00
5615209	CORK/COVER	\$2500.00
9027639	CORK FOR LID	\$178.00
3820599	MANUAL	Copied print only N/C

Electrical panels are no longer supplied by MVE, however, they may be repaired by Gordineir Electronics ([www.gordinier.com](http://www.gordinier.com)).

**PARTS LIST A-4500  
(GORDINIER)**

PART NUMBER	DESCRIPTION	LIST as of 10/05
10620035	KEY FOR PANEL	\$6.00
9027639	CORK	\$178.00
4610889	TEMP. PROBE/LEVEL sensor/screw in	\$264.00
4613349	TEMP. PROBE/LEVEL sensor/plug in	\$504.00
3010279	LID LINER	\$189.00
9713789	SOLENOID & PLMBG	\$222.00
5612919	CORK/COVER	\$2722.00
9022811	FILL TUBE	\$26.00
4710227	WHITE GASKET	\$99.00
4710217	BLACK SEAL	\$49.00
10772670	HINGE	\$95.64
11087666	HINGE KIT	\$46.00
3110204	CASTER	\$50.00
UPON REQUEST	MANUAL	Copied print only N/C

Some of the parts may no longer be carried by MVE. Controller repair and some sensors can be purchased through Gordineir Electronics ([www.gordinier.com](http://www.gordinier.com)).

**PARTS LIST XLC-500 older rounded corners  
(LAKESHORE)**

PART NUMBER	DESCRIPTION	LIST as of 10/05
10660934	LID LINER	N/A
10500009	GAS BY PASS	\$268.00
10618605	WHITE TOUCHUP PAINT	\$15.00
10618613	GREEN TOUCHUP	\$15.00
10502741	VINYL PRESSURE TUBE	\$.25/ft
11943012	POWER SUPPLY 110V	\$457.00
10595765	KEY	\$5.00 must have key code
10651288	GASKET	\$107.00
10651309	GASKET ASSEMBLY	\$123.00
10713434	FRONT PANEL	\$275.00
10486497	REAR PANEL	N/A must use upgrade kit
10782000	TEC2000 UPGRADE KIT	\$1860.00
10491157	LOCK	\$15.00
10480853	LID ASSEMBLY	N/A
10503533	CORK	\$49.00
10782430	LINER	\$534.00
10569022	CABLE KIT	N/A must use upgrade kit
10595685	24VAC FILL VALVE	\$162.00
10648943	24 VAC PURGE VALVE	\$65.00
10488943	TEMPERATURE PROBE	N/A must use upgrade kit
10491131	COUNTER BALANCE	
10526209	TEC-2000 manual LSCI	Printed copy only N/C

**PARTS LIST XLC-1200 older round corners  
LAKESHORE**

PART NUMBER	DESCRIPTION	LIST PRICE as of 10/05
10651317	GASKET KIT	\$115.00
10651296	GASKET	\$108.00
10500009	GAS BY PASS	\$268.00
10644900	LID COMPLETE	\$995.00
10618605	WHITE TOUCHUP	\$15.00
10618613	GREEN TOUCHUP	\$15.00
10502741	VINYL TUBING	\$.25/ft
10595765	PANEL KEY	\$5.00
10595685	24VAC FILL VALVE	\$162.00
10648943	PURGE VALVE 24 VAC	\$65.00
10486497	REAR PANEL	N/A use upgrade kit
10713434	FRONT PANEL	\$275.00
9027639	CORK	\$178.00
10588021	LINER	\$150.00
1810032	RELIEF VALVE 50 PSI	\$27.94
10491157	LOCK ASSEMBLY	\$15.00
10510346	COUNTER BALANCE	\$135.00
10488943	TEMPERATURE PROBE	N/A use upgrade kit
3110204	CASTER	\$50.00
11943012	POWER SUPPLY	\$457.00
10526209	LAKESHORE MANUAL	Printed copy only N/C

**PARTS LIST XLC-500 SQUARE CORNER  
MICRO DYNAMICS**

PART NUMBER	DESCRIPTION	LIST PRICE as of 10/05
11943012	POWER SUPPLY	\$457.00
10712933	PURGE VALVE 24VDC	\$70.00
11884614	FILL VALVE 24 VDC	\$170.00
10713338	REAR PANEL	\$975.00
10713434	FRONT PANEL	\$275.00
10713418	TEMPERATURE PROBE	\$102.00
10804213	BATTERY BACKUP	\$180.00
10491157	LOCK	\$15.00
10503058	SENSOR ASSEMBLY	\$30.00
10764418	PLUMBING ASSEMBLY	\$246.50
10772670	HINGE	\$95.64
11087666	HINGE KIT	\$46.00
10764645S	LID ASSEMBLY	\$920.00
10870149	LINER	\$150.00
10870157	CORK	\$30.00
10825794	GASKET-MAGNETIC	\$4.75
11648945	IN LINE FILTER	\$11.92
11178453	E-PROM CHIP	\$61.90
10784013	CASTERS	\$12.00
10713400	BY PASS TEMP PROBE	\$102.00
11884614	BY PASS VALVE	\$170.00
10753946	MANUAL MDC	N/C

**PARTS LIST XLC-1200 SQUARE CORNER  
MICRO DYNAMICS**

PART NUMBER	DESCRIPTION	LIST PRICE as of 10/05
10712933	PURGE VALVE 24VDC	\$70.00
11884614	FILL VALVE 24 VDC	\$170.00
10776072	RIBBON CABLE	\$50.00
10713418	RTD TEMP PROBE	\$102.00
10713338	REAR PANEL	\$975.00
10713434	FRONT PANEL	\$275.00
10804213	BATTERY BACKUP	\$180.00
10804221	HOT GAS BY PASS	\$402.00
11884614	BY PASS VALVE	\$170.00
10713400	BY PASS TEMP PROBE	\$102.00
10772670	HINGE	\$95.64
11087666	HINGE KIT	\$46.00
10764637S	LID ASSEMBLY	\$1000.00
10764661	LOCK ASSEMBLY	\$15.00
10595765	KEY	\$5.00
11943012	POWER SUPPLY	\$457.00
10502741	VINYL TUBE	\$.25/FT
10815123	CORK	\$68.00
10802525	LINER	\$261.30
10825794	GASKET	\$4.75/FT
10784021	CASTER	\$16.00
10753946	TEC-2000 MANUAL	N/C

## QUESTION AND ANSWER

- Q. Other freezers have severe problems when walkie-talkies are used around them. Does the TEC-2000 have (radio frequency interference-RFI) protection?**
- A. *The TEC-2000 should not be affected by transient signals. We had to address this issue when the controller was evaluated for CE. CE requires that it accept RF without crashing.*
- Q. How do I disconnect the gas by-pass?**
- A. *The bypass is a plug and play option. If the TEC-2000 detects a bypass sensor connected, the bypass cycle will happen.  
Selecting "no" for gas bypass in the maintenance menu simply disables the bypass sensor alarm. If it is enabled (yes selection in the maintenance menu), you will get a bypass sensor alarm whenever the sensor is disconnected. To fully disable the bypass, you must disconnect the bypass sensor from the controller.*
- Q. Customer has purchased two 1520 Eterne approximately 1 year apart from one another. One has a .4" liquid daily usage and the other has .9". The temperature probes do not approach -190 in either of them. There is also periodic excessive frost on the top of the unit. Is there a problem here?**
- A. *The usage values of .4"/day and .9"/day are both in an acceptable range. If there was a real vacuum problem they would be seeing a much higher usage rate than .9"/day. As far as the temperature of the top of the freezer, it is possible that the freezer has been filled recently. The venting gases could cause the top to frost up. As far as the temperatures are concerned, the liquid level values of 5.8" and 5.5" are both below the lazy Susan skirt (the skirt is not submerged). Once the liquid level is below the skirt, the freezer will begin to act like a 1520HE instead of a 1520 Eterne. The Eterne tray skirt extends 3" below the platform to the ~6" level. For optimum temperature performance, the high fill should be set at the tray with the low fill 2" below that, (approximately 7" low fill and 9" high fill).*

**REMINDER:** All Rack system layout drawings, part numbers and prices are on our web site @ [www.chartbiomed.com](http://www.chartbiomed.com) under the Resource Library Heading.

For copies of past Tech Tips or for more information on maintaining your nitrogen storage systems please contact Technical Service:

Jim Bachman	758 952-8411	direct	612 382-6678	cell
Customer Service	800 482-2473	toll free	770 257-1299	