

# Product Information Packet

## Model LHP-800CP

Solid State Liquid Cooled Cold Plate

without Temperature Control

Part #3-5095-0-000

Thank you for your purchase. Information has been enclosed regarding the installation, specifications, and wiring of your solid-state assembly. Please read and follow all instructions carefully before installation. Only qualified technicians should install this equipment.

If you have any questions regarding your equipment, please do not hesitate to call us at 773-342-4900, and we will be happy to assist you. We are open from 8:30 am-5:00 pm Central Time.

Included in this packet you will find:

Product Literature and Specifications

Assembly Drawing #LHP800-B-A17

Wiring Drawing #SK060905

Installation Drawing #LHP800-B-F8

Warranty Information

The logo for Teca, featuring the word "teca" in a bold, lowercase, sans-serif font. The letter "t" is stylized with a vertical line extending downwards from its stem.

**ThermoElectric Cooling America Corporation**  
4048 W. Schubert Avenue • Chicago, IL (U.S.A.) 60639  
Ph: 773/342-4900 Fx: 773/342-0191  
sales@thermoelectric.com www.thermoelectric.com

# LHP-800CP LHP-300CP LHP-150CP

Liquid Cooled

## Thermoelectric Cold Plates



LHP-800CP



LHP-300CP



LHP-150CP

### FEATURES

- No moving parts
- Direct contact cooling as much as 51 °C below liquid temperature
- No compressor, fluorocarbons or filters
- Virtually maintenance-free operation
- Mounts in any orientation

### INCLUDES

- Compression fittings
- Auxiliary mounting holes
- Machined cold plate surfaces

### SPECIFICATIONS LHP-800CP

MODEL	PART NUMBER	NOTES	PERFORMANCE RATING BTU/HR	VOLTAGE VDC	CURRENT AMPS.	WEIGHT LBS. (KG)	MIN FLOW GPM	OPERATING AMBIENT °C	HEAT VOLTAGE
LHP-800CP	3-5095-0-000	Cool only	700-830	24	14	5.2 (2.3)	0.3	0/+70	N/A
LHP-800CPHC	3-5095-1-000	Heat/Cool	700-830	24	14	5.2 (2.3)	0.3	0/+70	120 VAC

### SPECIFICATIONS LHP-300CP

MODEL	PART NUMBER	NOTES	PERFORMANCE RATING BTU/HR	VOLTAGE VDC *	CURRENT AMPS.	WEIGHT LBS. (KG)	MIN FLOW GPM	OPERATING AMBIENT °C	HEAT VOLTAGE
LHP-300CP	3-7098-0-000	Cool only	280-335	12/24	12/6	1.8 (.81)	0.2	0/+70	N/A
LHP-300CPHC	3-7095-1-000	Heat/Cool	280-335	24	6	1.8 (.81)	0.2	0/+70	24 VDC

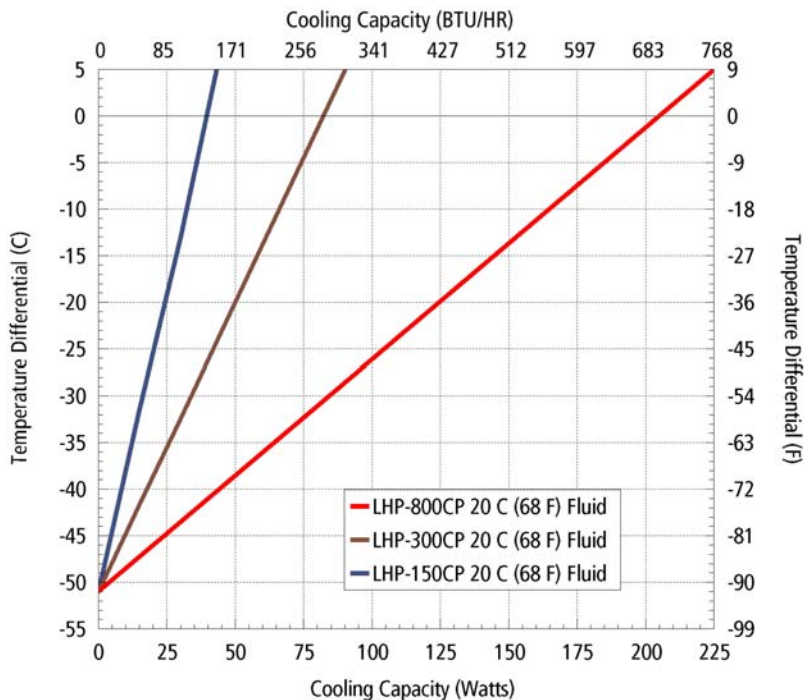
### SPECIFICATIONS LHP-150CP

MODEL	PART NUMBER	NOTES	PERFORMANCE RATING BTU/HR	VOLTAGE VDC *	CURRENT AMPS.	WEIGHT LBS. (KG)	MIN FLOW GPM	OPERATING AMBIENT °C	HEAT VOLTAGE
LHP-150CP	3-8094-0-000	Cool only	130-160	12	4.5	.75(.34)	0.2	0/+70	N/A
LHP-150CPHC	3-8094-1-000	Heat/Cool	130-160	12	4.5	.75(.34)	0.2	0/+70	12 VDC
LHP-150CPHC	3-8099-1-000	Heat/Cool	130-160	12	4.5	.75(.34)	0.2	0/+70	120 VAC

Note: Option for temperature control, consult factory.

\*See also , "Power Supplies" , P. 67

**PERFORMANCE CURVE**



**LHP-800CP**

**USEFUL COOLING CAPACITY**  
205 Watts @ 0 °C ΔT

**LHP-300CP**

**USEFUL COOLING CAPACITY**  
82 Watts @ 0 °C ΔT

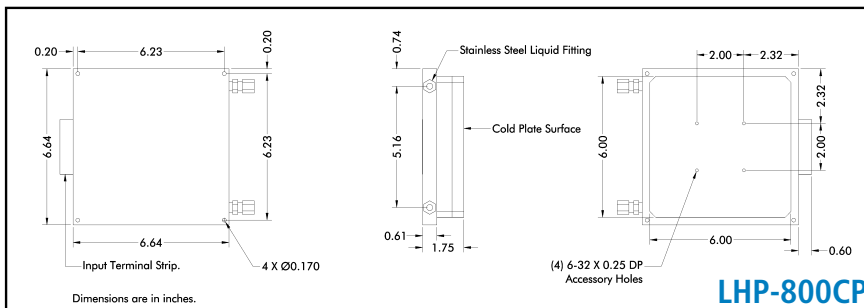
**LHP-150CP**

**USEFUL COOLING CAPACITY**  
40 Watts @ 0 °C ΔT

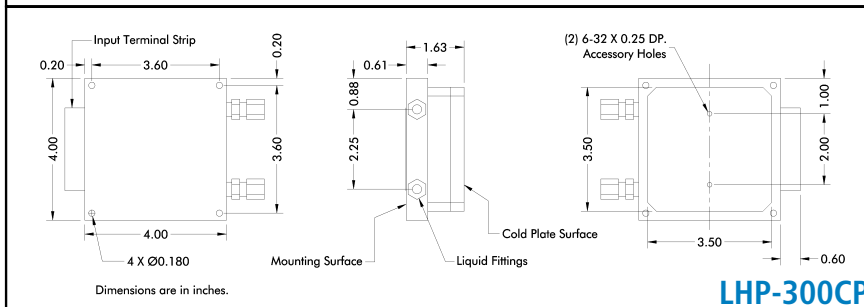
Equation of line:  $y = \Delta T(^{\circ}C)$   $x = \text{Capacity (Watts)}$

Fluid Temp	20°	40°C	60°C
LHP-800CP	$y = .25x - 51.0$	$y = .25x - 56.0$	$y = .25 - 61.0$
LHP-300CP	$y = .62x - 51.0$	$y = .62x - 56.0$	$y = .62x - 61.0$
LHP-150CP	$y = 1.3x - 51.0$	$y = 1.3x - 56.0$	$y = 1.3x - 61.0$

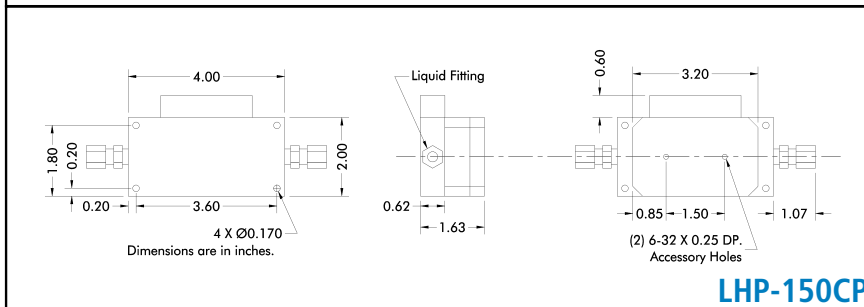
**DIMENSIONS**



**LHP-800CP**

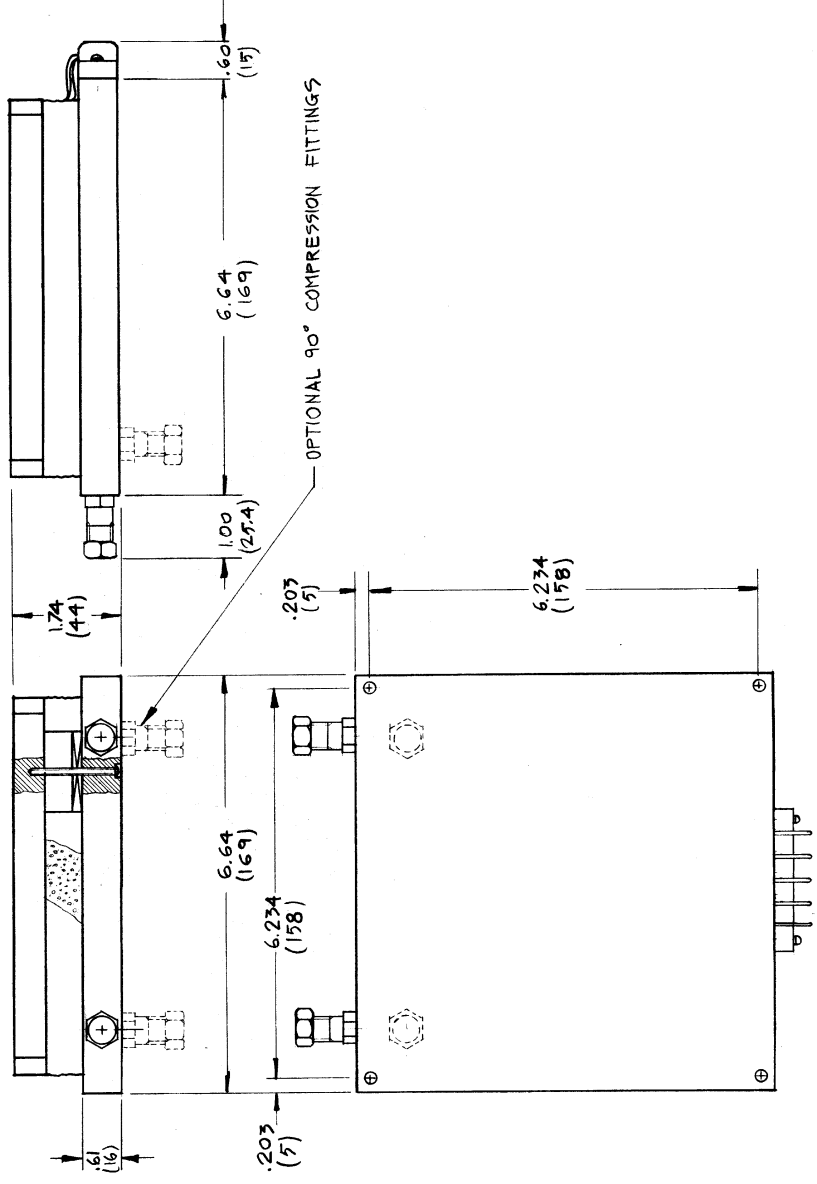


**LHP-300CP**



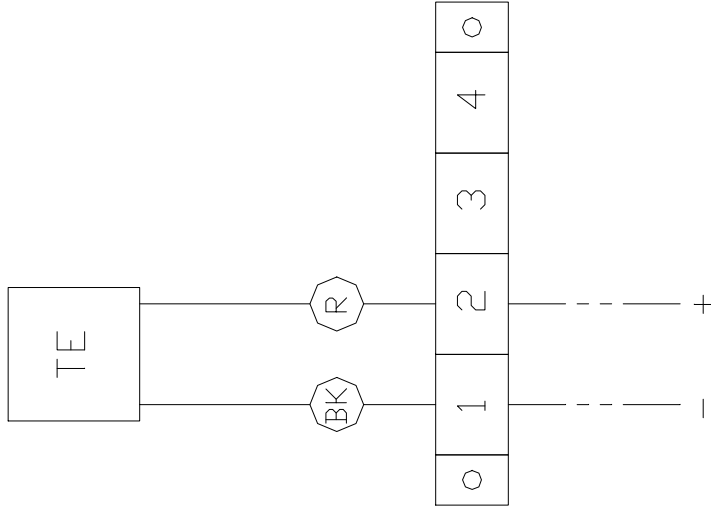
**LHP-150CP**

LTR	DESCRIPTION	DATE	APPROVED



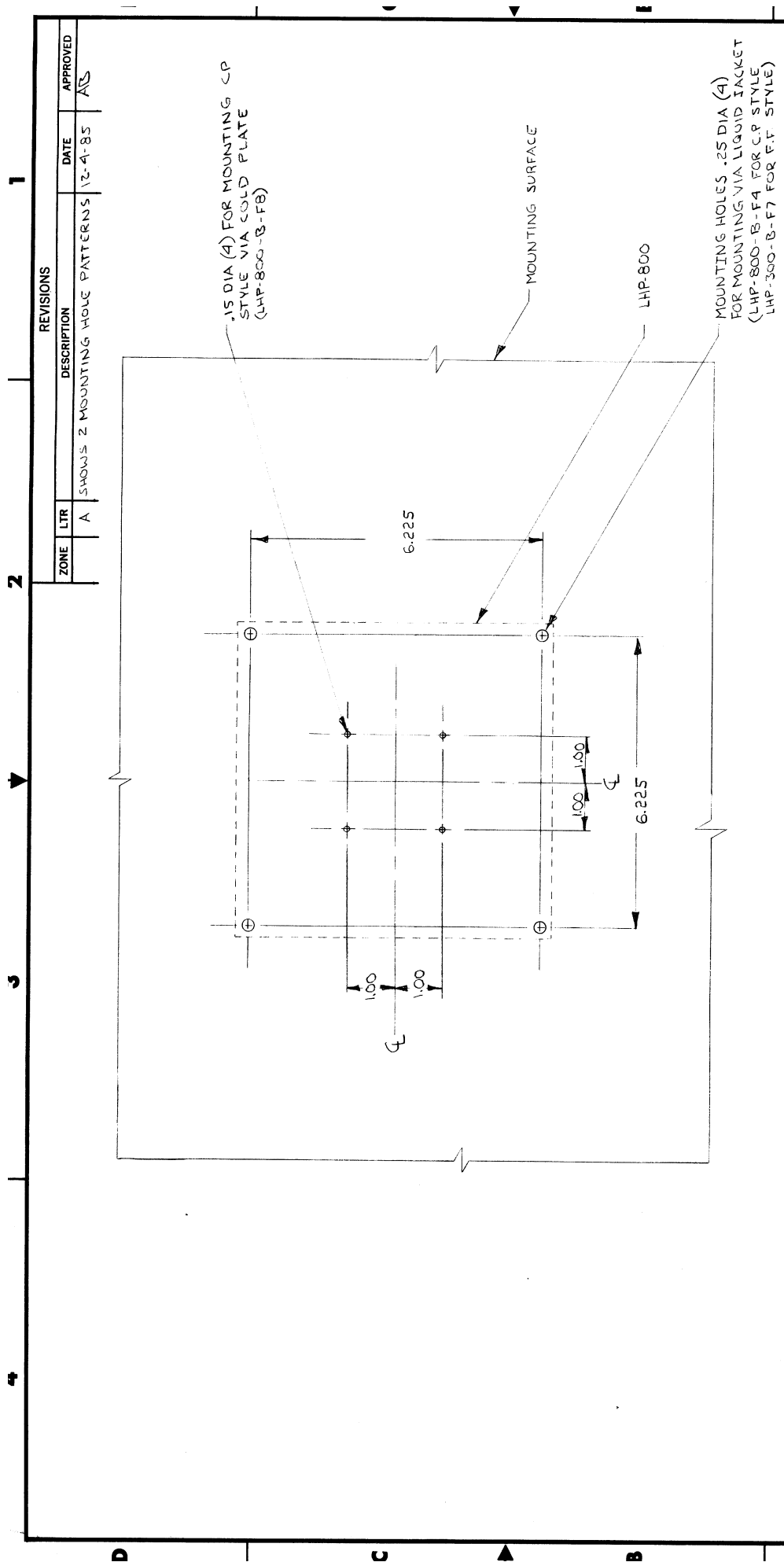
NOTE: DIMENSIONS IN INCHES  
(MILLIMETERS)

		ThermoElectric Cooling America Corp.	
LHP 800 CP		ASSEMBLY	
UNLESS OTHERWISE SPECIFIED TOLERANCES ARE IN INCHES FRACTIONS DECIMALS ANGLES	XX ±	XXX ±	
MATERIAL	FINISH	APPROVALS	DATE
		DRAWN IN	05.21.90
CHECKED		SCALE	1/2
		DRAWING NO.	LHP 800-B-A17
		SHEET	DO465
		OF	



24 VDC INPUT

REV	DESCRIPTION	Date	APPROVED						
<p>INFORMATION DISCLOSED HEREIN IS THE CONFIDENTIAL PROPERTY OF TECA CORP. RECIPIENT SHALL NOT USE THE INFORMATION IN ANY UNAUTHORIZED MANNER.</p>									
<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:</p> <table border="1"> <tr> <td>DECIMALS</td> <td>ANGLE</td> </tr> <tr> <td>.XX +/-</td> <td>+/-</td> </tr> <tr> <td>.XXX +/-</td> <td>FRACTION +/-</td> </tr> </table>		DECIMALS	ANGLE	.XX +/-	+/-	.XXX +/-	FRACTION +/-	<p>FINISH:</p>	
DECIMALS	ANGLE								
.XX +/-	+/-								
.XXX +/-	FRACTION +/-								
<p>INFORMATION DISCLOSED HEREIN IS THE CONFIDENTIAL PROPERTY OF TECA CORP. RECIPIENT SHALL NOT USE THE INFORMATION IN ANY UNAUTHORIZED MANNER.</p>		<p>MATERIAL:</p>							
<p><b>THERMOELECTRIC COOLING AMERICA CORP</b></p>									
<p>LHP-800CP WIRING DIAGRAM</p>		<p>DRAWN BY: AA DATE: 09/06/06 DRAWING # SK060905</p>							
		SCALE	REV LEVEL						
		D6708	MASTER						
		DATE: 09/06/06	SHEET						
		D6708	MASTER						



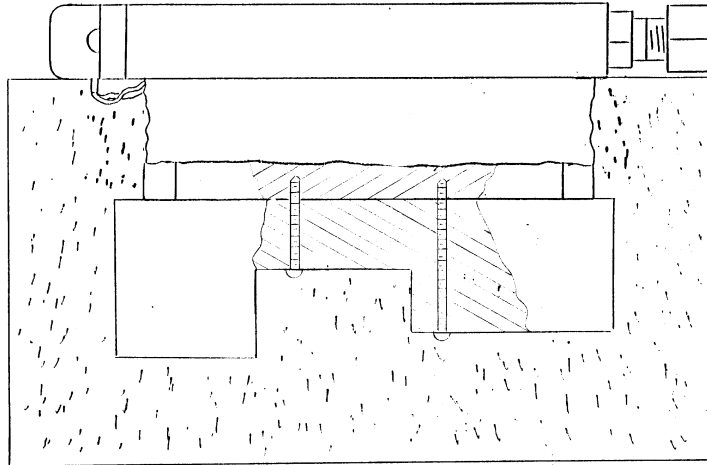
REVISIONS		
ZONE	DESCRIPTION	DATE
A	SHOWS 2 MOUNTING HOLE PATTERNS	12-1-85
		APPROVED
		AS

<b>Borg-Warner Thermoelectrics</b> 		<b>CONTRACT NO.</b> LHP-800-B-F2	
UNLESS OTHERWISE SPECIFIED TOLERANCES ARE: FRACTIONS DECIMALS ANGLES ± .XX ± ± ± .XXX ± ±	APPROVALS DRAWN <i>AB</i> CHECKED	DATE 7-9-84	DRAWING NO. LHP-800-B-F7
MATERIAL	LHP-800 W/ COLD PLATE FIELD ASSEMBLY MOUNTING HOLES		
FINISH	SIZE CODE IDENT NO. DRAWING NO. <b>B 54639</b> LHP-800-B-F7		
DO NOT SCALE DRAWING APPLICATION NEXT ASSY USED ON	SCALE 1/2	SHEET 1	OF 1

1 2 3 4

4 3 2 1


D C B A



APPLICATION		REVISION	
NEXT ASSY	USED ON	DESCRIPTION	DATE

INSTALLATION INSTRUCTIONS

1. Cut and drill mounting holes as per appropriate field assembly mounting drawing.
2. Insure clean, flat mounting surface.
3. Spread evenly 10 mil coating of thermal grease (Dow type 340 or equivalent) on both thermal contact surfaces with speedball rubber roller.
4. Install unit without sliding against mating surface using Stainless Steel screws if available and lock washers. Torque screws until snug. Do not over tighten.
5. Connect 1/8" water lines.
6. Inspect for water leaks.
7. Fit 1" insulation around margin of frame and exposed area of cooled surface.
8. Caulk insulation to seal and secure insulation.
9. Inspect for leaks and alignment.
10. Connect power. (1) Black is -DC for T.E.  
(2) Red is +DC for T.E.  
(3) Blue is 110 VAC (LHP-800HC only)  
(4) White is 110 VAC (LHP-800HC only)
11. Caution: Do not operate unit without water flow.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS DECIMALS ANGLES		CONTRACT NO.	
± .XX ±	± .XXX ±	DRAWN	DATE
MATERIAL		APPROVALS	12-4-82
FINISH		CHECKED	
DO NOT SCALE DRAWING		 <b>ThermoElectric</b> INSTALLATION INSTRUCTIONS FOR LHP-800 (VIA GAUG PLATE)	
SCALE		DRAWING NO.	OF
B		LHP-800-B-F8	12
DO NOT SCALE DRAWING		SHEET	OF
		DO-492	

## LIMITED WARRANTY

In the event a defect in material or workmanship is discovered in any of TECA's products within one year after the date they are delivered to Buyer, and if: (a) TECA is notified of the defect in writing by certified mail within 14 days of the date of discovery; (b) TECA may then either, at its sole discretion, inspect the product at Buyer's location, or require that the product be made available at Buyer's expense at TECA's premises for TECA's inspection within 14 days of the date of notification; and (c ) the products are defective and the defects result from faulty materials and/or workmanship and not in any way from accident, misuse, misapplication, mishandling, modification, or alteration by the Buyer or the shipper, then TECA shall, at its sole option, repair or exchange defective products free of charge to Buyer, or credit to buyer the price of the defective products. ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE EXCLUDED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL TECA BE LIABLE FOR ANY CLAIM BASED UPON BREACH OF EXPRESS OR IMPLIED WARRANTY OR ANY OTHER DAMAGES WHETHER SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, LOST PROFITS, BUSINESS INTERRUPTION, OR LOSS OF BUSINESS OR CUSTOMER RELATIONSHIPS.

## RETURNED GOODS, RESTOCKING CHARGES

In order to return merchandise for any reason ( repair, replacement, or credit) a return authorization number must be issued by TECA. New merchandise may not be returned for credit beyond 60 days from shipment. Charges for incidental or other damages may also be made. All returned goods must be sent freight prepaid. A restocking charge of 15% will apply. On special equipment and custom modified equipment orders, additional incremental cancellation charges may be made.