

# Product Information Packet

## Model LHP-1 700CP

Solid State Liquid Cooled Cold Plate

without Temperature Control

Part #3-1090-0-000

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 #LHP1700-B-A183

Wiring Drawing #LHP1700-B-E71

Installation Drawing #LHP1700-B-F64

Warranty Information



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# LHP-1700CP

Liquid Cooled

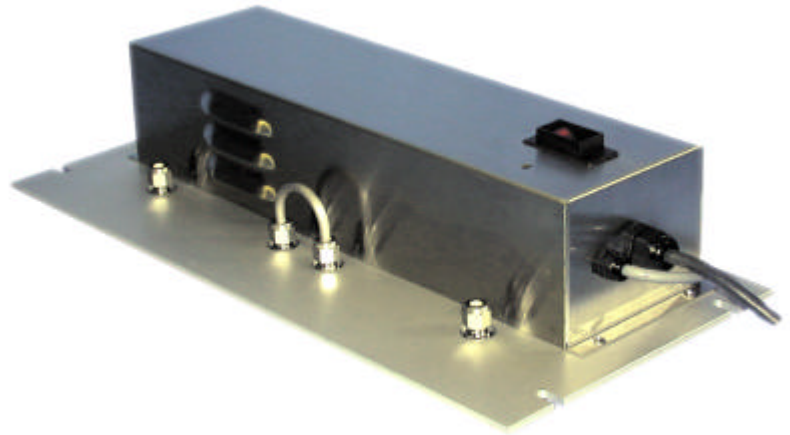
# Solid-State Cold Plate

## FEATURES

- Standard 19" Rack mounting
- No moving parts
- Weighs only 20 lbs. (9.1kg)
- Direct contact cooling as much as 62 °C below liquid temperature
- No compressor, fluorocarbons or filters
- Virtually maintenance-free operation
- Mounts in any orientation

## INCLUDES

- Compression fittings
- Power cord
- Mounting provision



## APPLICATIONS

This cold plate has been used successfully in laboratory and semiconductor manufacturing settings.

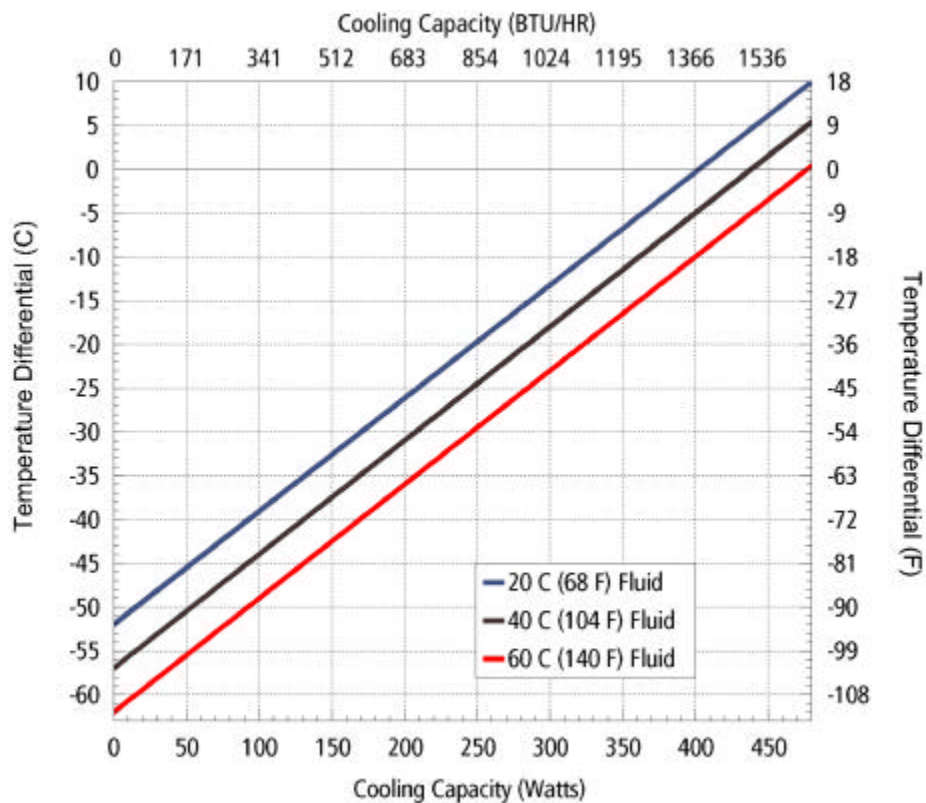
## SPECIFICATIONS

MODEL	PART NUMBER	NOTES	PERFORMANCE RATING BTU/HR	VOLTAGE VAC 50/60 HZ	CURRENT AMPS.	WEIGHT LBS. (KG)	MIN FLOW GPM	TEMP. CONTROL *	OPERATING AMBIENT °C
LHP-1700CP	3-1090-0-000	Cool only	1360-1630	120	7.0	20(9.1)	0.3	none	0/+70
LHP-1700CP	3-1050-0-000	Cool only	1360-1630	120	7.0	20(9.1)	0.3	OPT*	0/+70
LHP-1702CP	3-1092-0-000	Cool only	1360-1630	240	5.0	20(9.1)	0.3	none	0/+70
LHP-1702CP	3-1052-0-000	Cool only	1360-1630	240	5.0	20(9.1)	0.3	OPT*	0/+70
LHP-1700CPHC	3-1050-1-000	Heat/Cool	1360-1630	120	7.0	20(9.1)	0.3	OPT*	0/+70
LHP-1702CPHC	3-1052-1-000	Heat/Cool	1360-1630	240	7.0	20(9.1)	0.3	OPT*	0/+70

\*OPT; Unit is set up for TC-3300 controller (or similar).  
Controller not included.

**LHP-1700CP****COOLING CAPACITY**

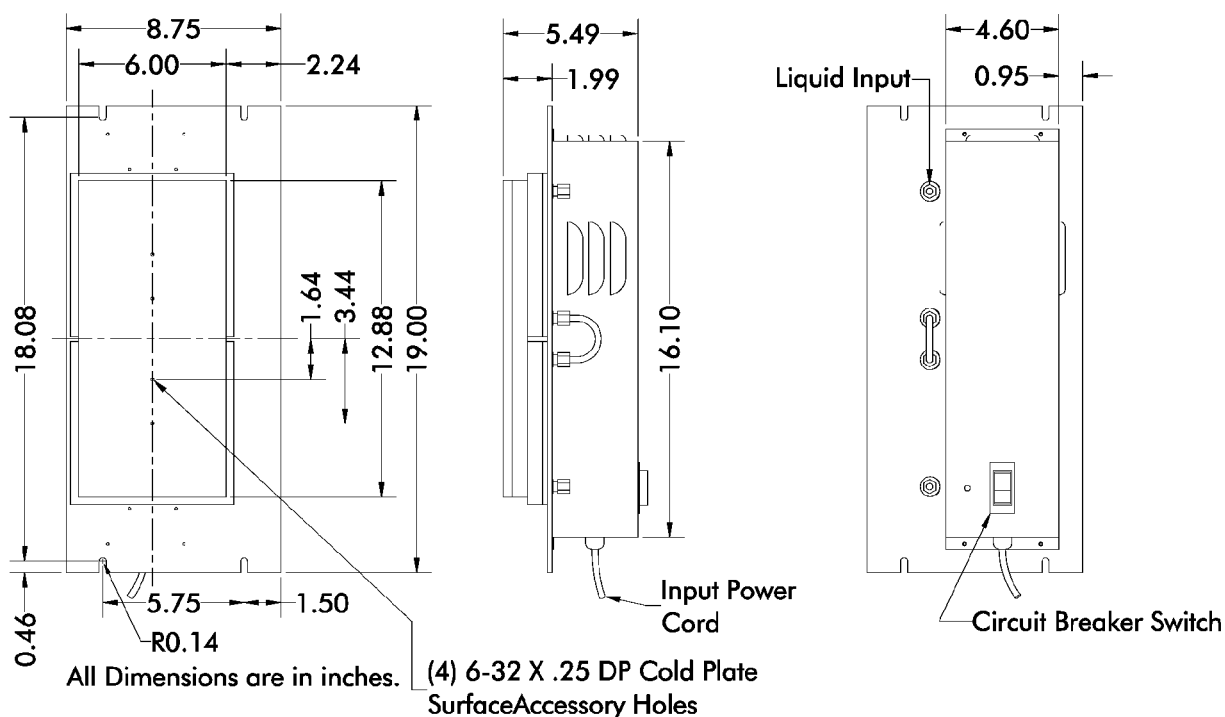
440 Watts @ 0 °C ΔT

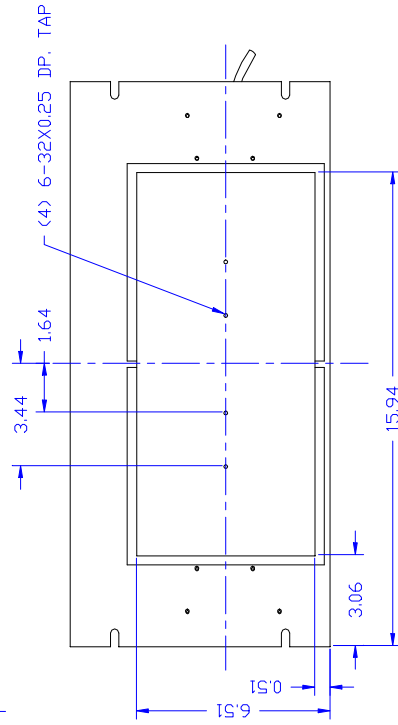
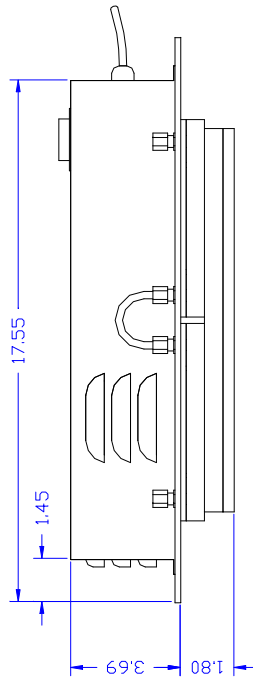
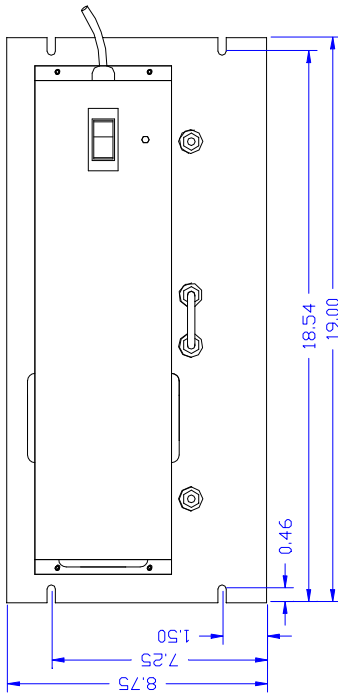
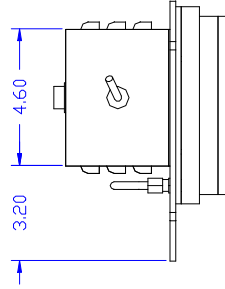
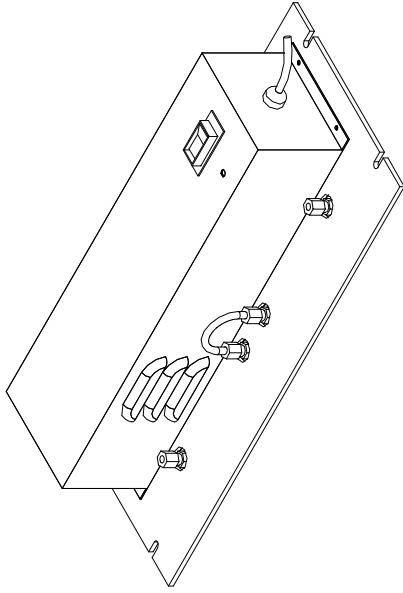
**PERFORMANCE CURVE**Equation of line:  $y = \Delta T(^{\circ}\text{C})$   $x = \text{Capacity (Watts)}$ 

Fluid Temp	20°C	40°C	60°C
Cold Plate Temp	$y = .13x - 52.0$	$y = .13x - 57.0$	$y = .13x - 62.0$

**ENVIRONMENTS**

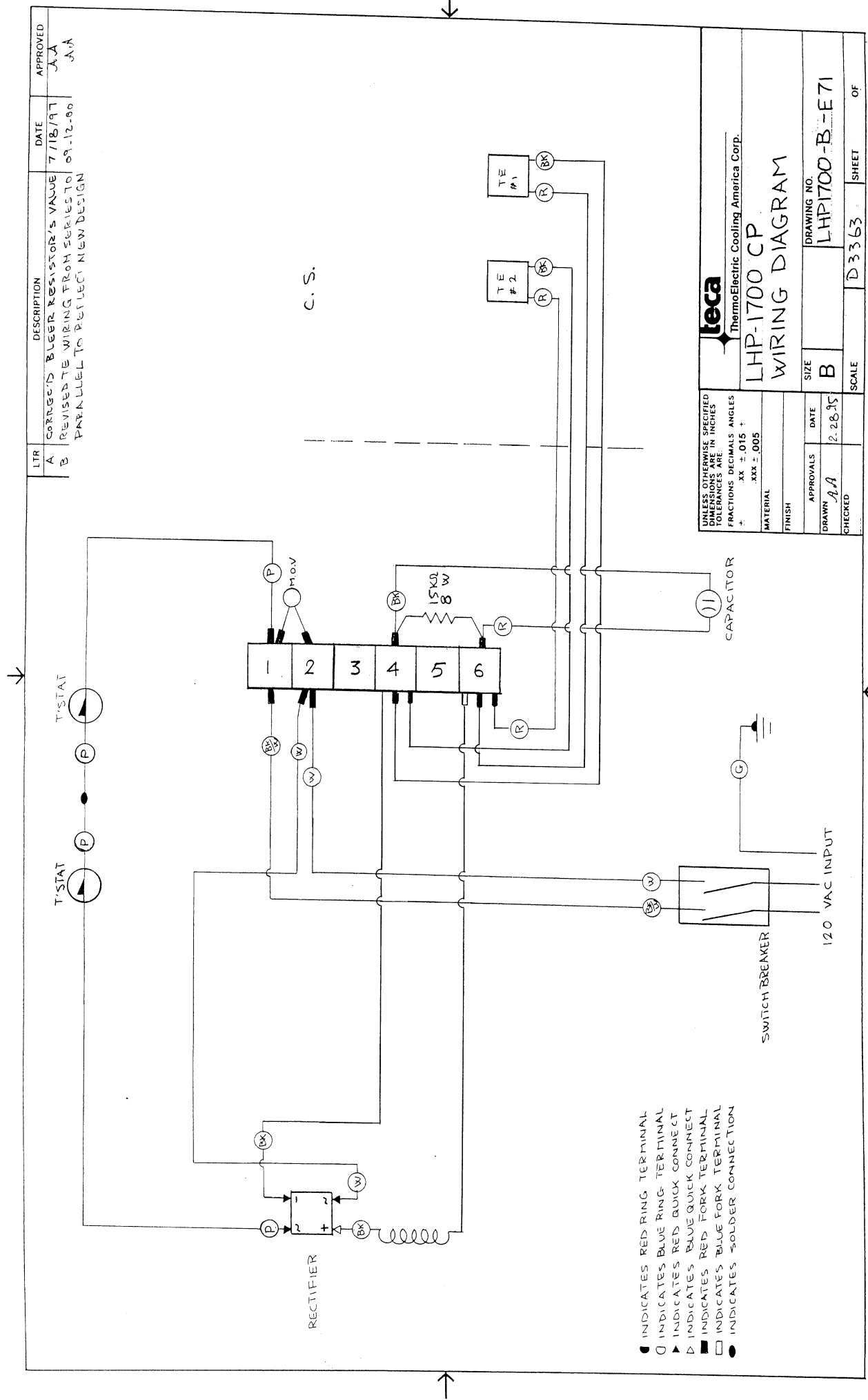
From harsh to benign the LHP-1700CP works in many environments.

**DIMENSIONS**



THERMOELECTRIC COOLING AMERICA CORP.			
LHP-1700 CP ASSEMBLY		DRAWING #	REV. LEVEL
DATE: 12/04/00		1700-B-A183	1700-B-1089
D5548		SCALE	MASTER
FINISH:		SHEET	
INFORMATION DISCLOSED HEREIN IS THE CONFIDENTIAL PROPERTY OF TECA CORP. RECIPIENT SHALL NOT USE THE INFORMATION IN ANY UNAUTHORIZED MANNER.		UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE:	
DECIMALS: .002		FRACTIONS: 1/16	
ANGLES: ±1°		MATERIAL:	

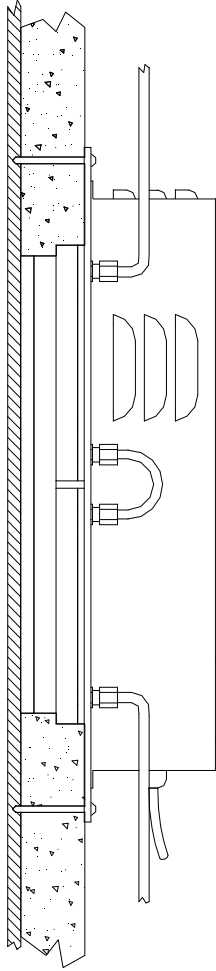
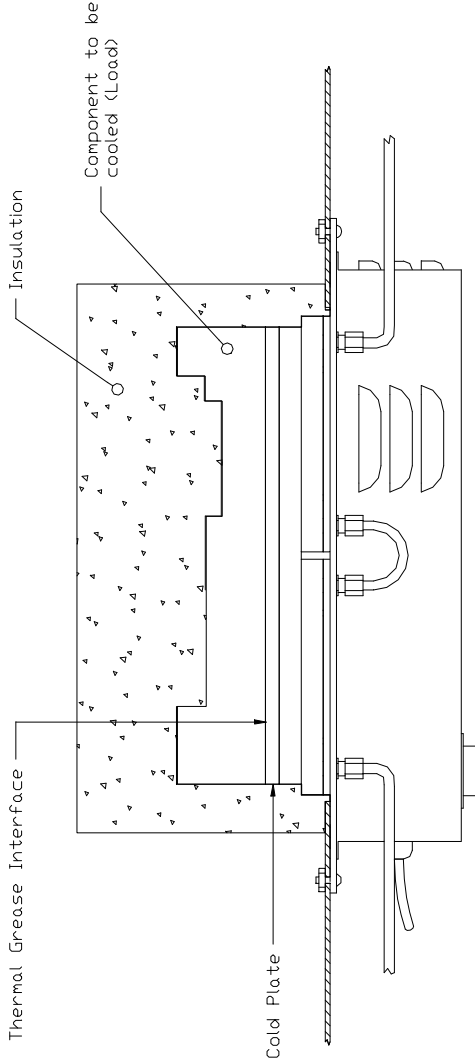
REV	DESCRIPTION	Date	APPROVED



- INDICATES RED RING TERMINAL
- INDICATES BLUE RING TERMINAL
- ▶ INDICATES RED QUICK CONNECT
- ▷ INDICATES BLUE QUICK CONNECT
- INDICATES RED FORK TERMINAL
- INDICATES BLUE FORK TERMINAL
- INDICATES SOLDER CONNECTION

<b>teca</b> ThermoElectric Cooling America Corp.	
LHP-1700 CP WIRING DIAGRAM	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS DECIMALS ANGLES XX ± .015 ° XXX ± .005	MATERIAL FINISH
APPROVALS DRAWN AA CHECKED	DATE 2.28.95
SIZE B	DRAWING NO. LHP1700-B-E71
SCALE D3363	SHEET OF

LTR	DESCRIPTION	DATE	APPROVED
A	CORRECTS BLEED RESISTOR'S VALUE	7/18/97	AA
B	REVISED WIRING FROM SUBLET TO PARALLEL TO REFLECT NEW DESIGN	09-12-00	AA



Note: Do not use this method. Over compression may cause irreversible damage to the thermoelectrics and void warranty.

## INSTALLATION INSTRUCTIONS

- 1- Prepare mounting surface/component as indicated. Ideal component surface flatness is  $\pm .001$  T.I.R.
- 2- Spread an even, approximately 10 MIL, layer of thermal grease (Dow type 340 or equivalent) on both thermal contact surfaces (component and cold plate). A speedball rubber roller works well for this.
- 3- Install unit without sliding against mating surface using stainless steel screws and lock washers if available. Rotate slightly to "seat" them. Torque screws until snug. Do not overtighten.
- 4- Connect  $1/4"$  water lines.
- 5- Inspect for leaks.
- 6- Fit insulation around cold plate surfaces as required.
- 7- If desired, caulk insulation to seal and secure insulation.
- 8- Connect power per appropriate wiring diagram.

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FINISH:		DRAWN BY:	AA	DRAWING #	
		DATE:	12/05/00	SCALE	LHP1700-B-F 64
			D5550	MASTER	
				REV	LEVEL
					SHEET

REV	DESCRIPTION	Date	APPROVED
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## 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.