

# Product Information Packet

Model AHP-451CP

Solid State Cold/Hot Plate

Set For Remote Temperature Control

Part #1-F050-0-000

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 8:00 am-4:30 pm Central Time.

Included in this packet you will find:

Product Literature and Specifications

Assembly Drawing # SK150651

Wiring Drawing # SK190206

Installation Drawing # SK140710

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



# AHP-451CP

# Cold/Hot Plate

Air Cooled  
Bench TOP

General Purpose 120 VAC or 240 VAC  
High Efficiency  
117 Watts

## FEATURES

- Flat aluminum plate (8" x 4.70") [203 x 119]
- Standard 6-32X.25 UNC inserts
- Compact (only 10" x 5.84" x 6.72") [254 x 148 x 170]
- Mounts and operates in any orientation: horizontal, vertical, etc.
- Low vibration and noise
- No moving parts except fan
- Environmentally safe
- No compressor, fluorocarbon or filters
- Heating via embedded resistive heaters
- Virtually maintenance-free operation
- Pivot clean feature
- Weighs less than 12 LBS. (5.5 KG)

## INCLUDES

- Mounting gasket
- Mounting hardware
- Power cord

## OPTIONS

- Custom cold plate threads and/or inserts
- Flat plate without holes or threads
- Quiet fan
- Use with external TC-3400 controller



## PERFORMANCE RATINGS

Cooling	117 WATTS
Cooling COP	0.76

## SPECIFICATIONS

MODEL	PART NUMBER	NOTES	PERFORMANCE RATING WATTS	VOLTAGE VAC	CURRENT AMPS.	WEIGHT LBS. (KG)	TEMP. CONTROL *	OPERATING AMBIENT °C
AHP-451CP	1-F090-0-000	Cool only	117	120	1.3	12(5.2)	None	-15/+70
AHP-451CP	1-F050-0-000	Cool only	117	120	1.3	12(5.2)	EXT *	-15/+70
AHP-451CPHC	1-F050-1-000	Heat/Cool	117	120	1.3	12(5.2)	EXT *	-15/+70
AHP-452CP	1-F092-0-000	Cool only	117	240	.6	12(5.2)	None	-15/+70
AHP-452CP	1-F052-0-000	Cool only	117	240	.6	12(5.2)	EXT *	-15/+70
AHP-452CPHC	1-F052-1-000	Heat/Cool	117	240	.6	12(5.2)	EXT *	-15/+70

\* Unit is set for 5-32 VDC external control signal, relay included

# AHP-451CP

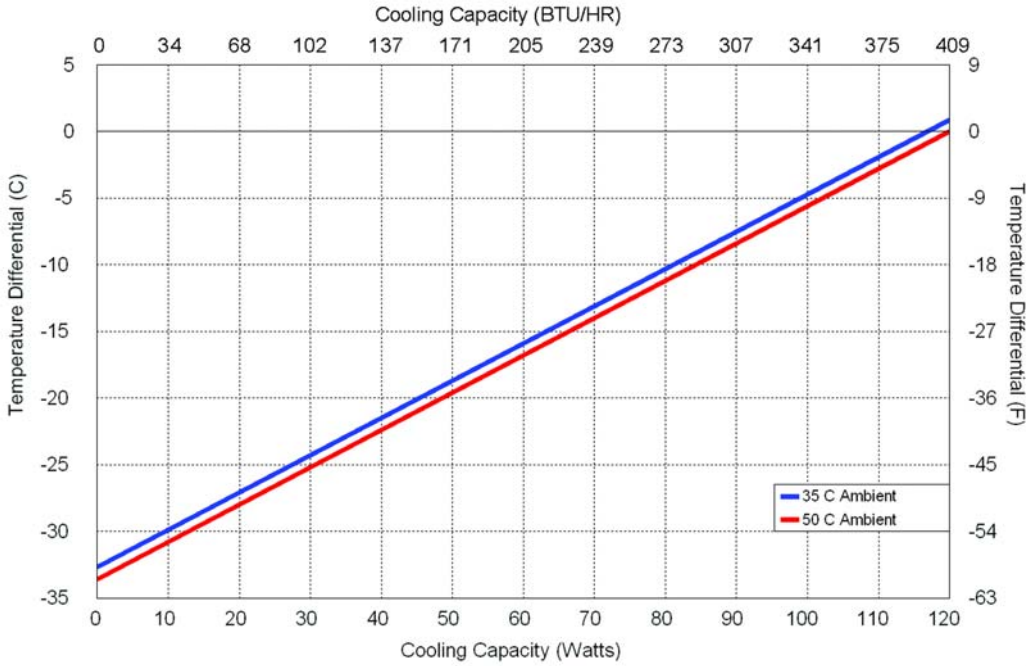
## ENVIRONMENTS

Bench Top, Factory, Industrial, OEM

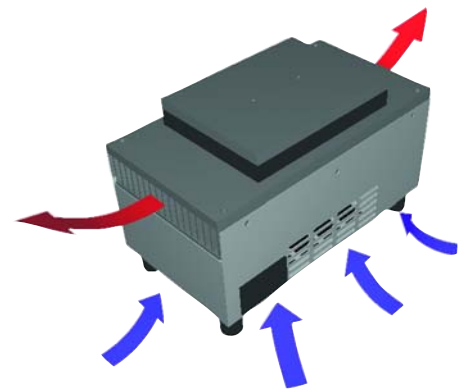
## COOLING CAPACITY

117 Watts @ 0 °C ΔT

## PERFORMANCE CURVE

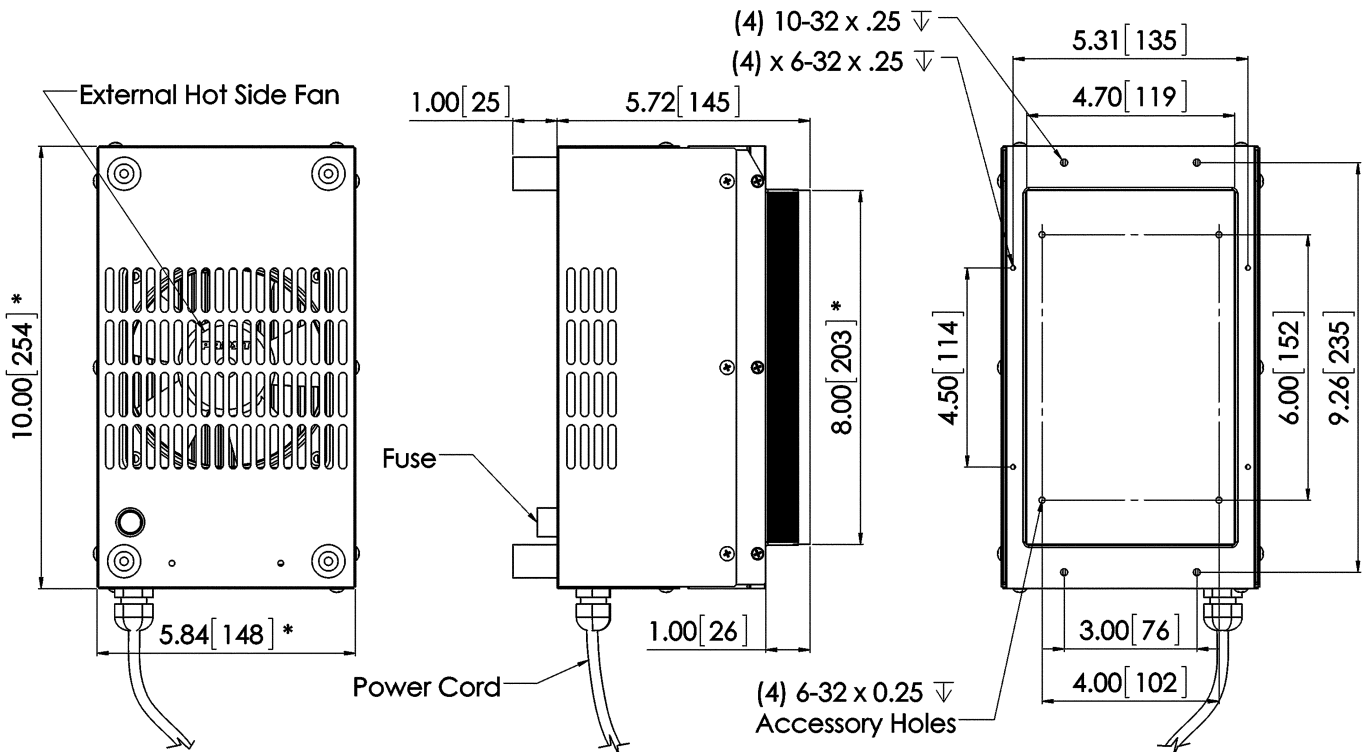


Equation of Line: $y = \Delta T(^{\circ}C)$ $x = \text{Capacity (Watts)}$		
Ambient Temp	35°C	50°C
Cold Plate	$y = 0.28x - 32.7$	$y = 0.28x - 33.6$

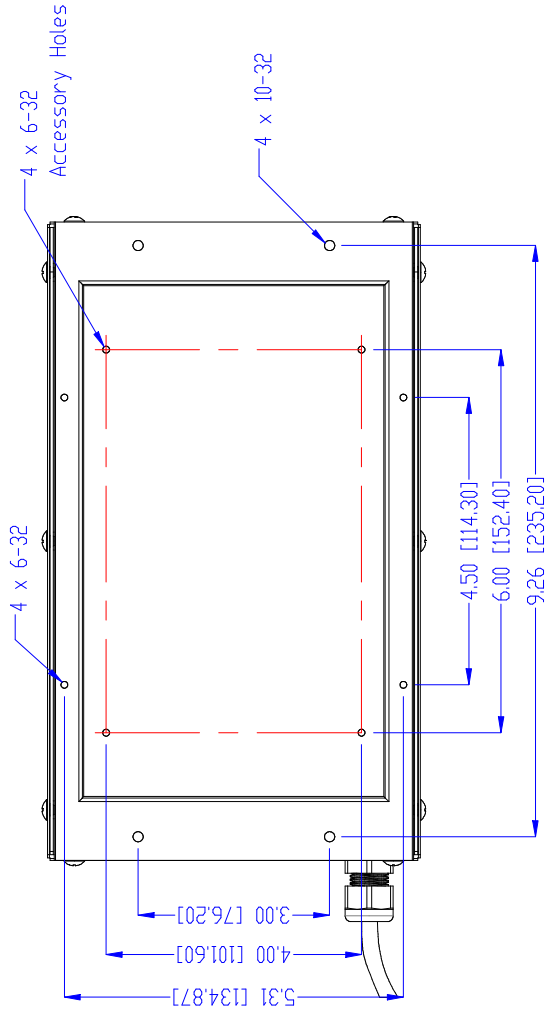
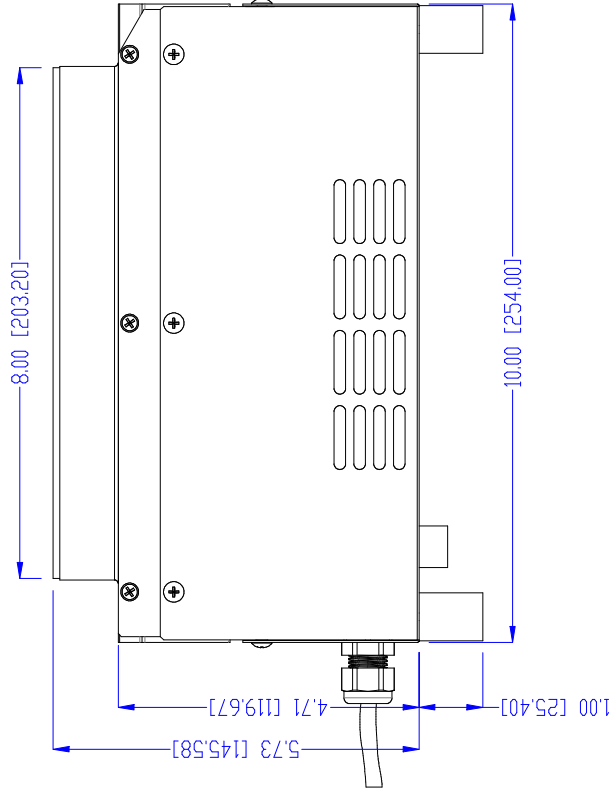
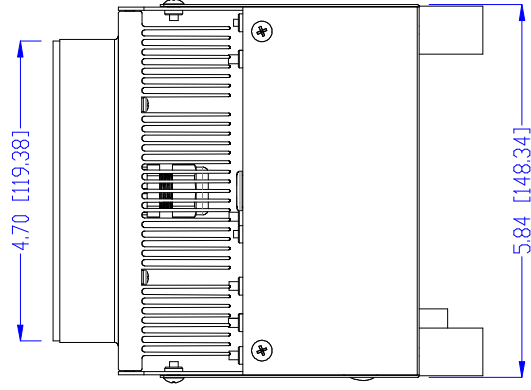
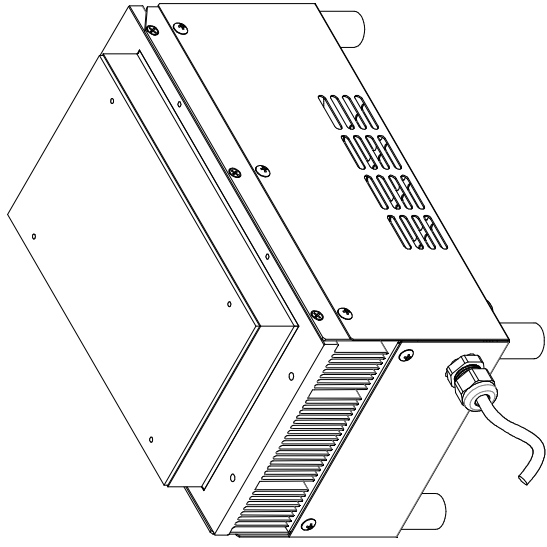


Air Flow Pattern

## DIMENSIONS



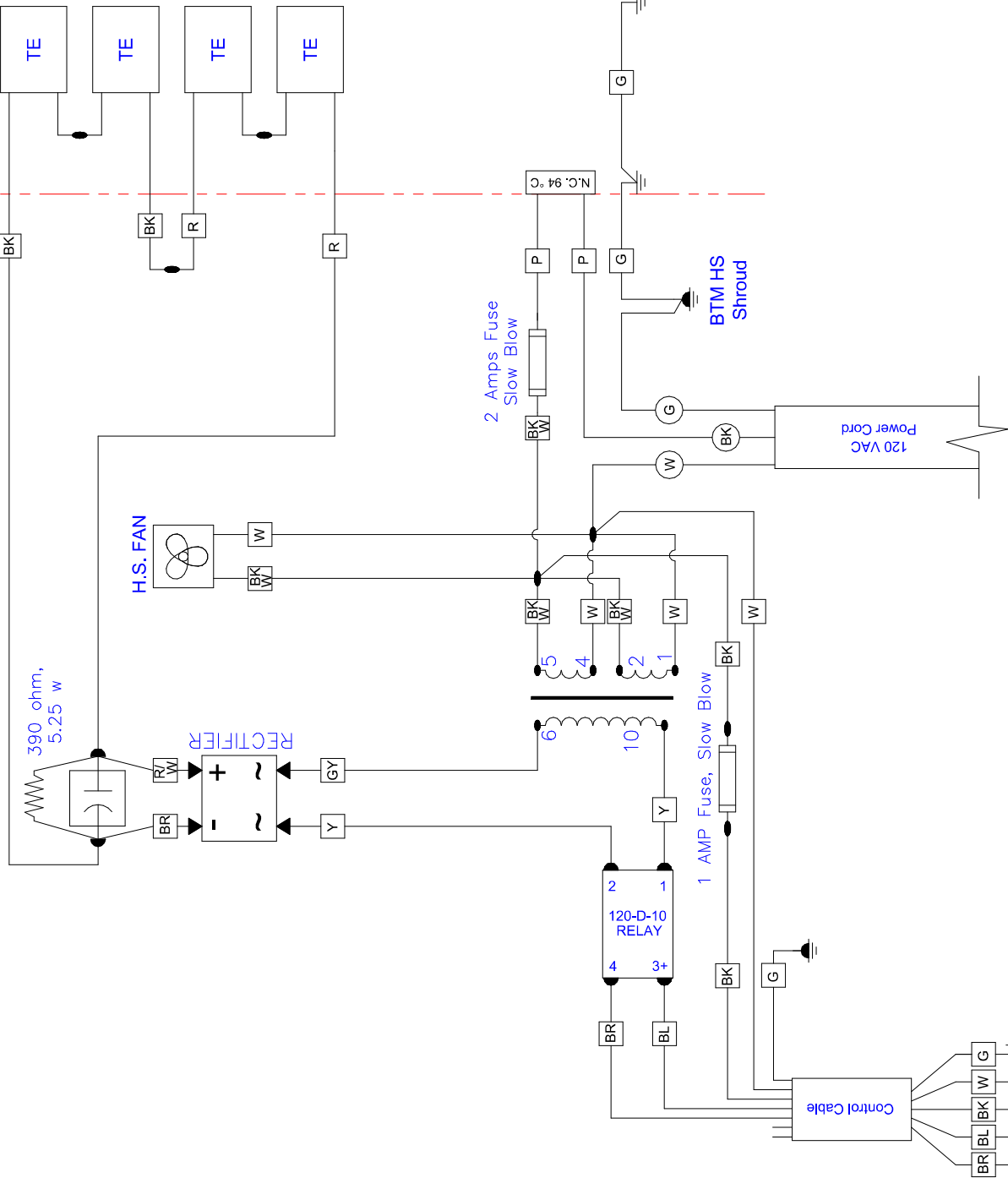
\* Dimension does not include hardware and sealant  
 Dimensions: Inches [Millimeters]



UNLESS OTHERWISE SPECIFIED:	DRAWN	NAME	DATE
DIMENSIONS ARE IN INCHES	CHECKED	AA	06/18/15
TOLERANCES:			
FRACTIONAL ±			
ANGULAR: MACH ± BEND ±			
TWO PLACE DECIMAL ±			
THREE PLACE DECIMAL ±			
INTERPRET GEOMETRIC TOLERANCING PER:	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF TECA CORPORATION. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF TECA CORPORATION IS PROHIBITED.		
MATERIAL:	A		
FINISH:	SK150651		
DO NOT SCALE DRAWING	SIZE DWG. NO. S0183		REV
			SHEET 1 OF 1

AHP-401CP, AHP-451CP  
THERMOELECTRIC COLD PLATE

HOT SIDE CP TE

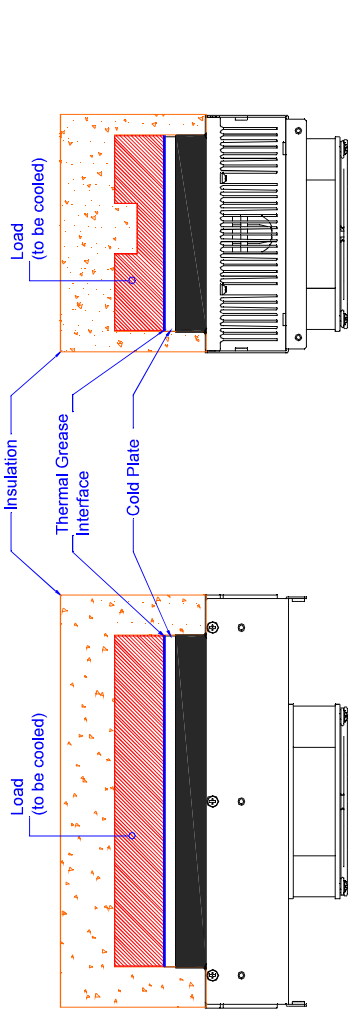


- ▶ Red Quick Connect
- ◄ Red Ring Terminals
- ◄ Blue Ring Terminals
- Solder & Shrink Tube Connection
- 22 AWG Wires
- 18 AWG Wires

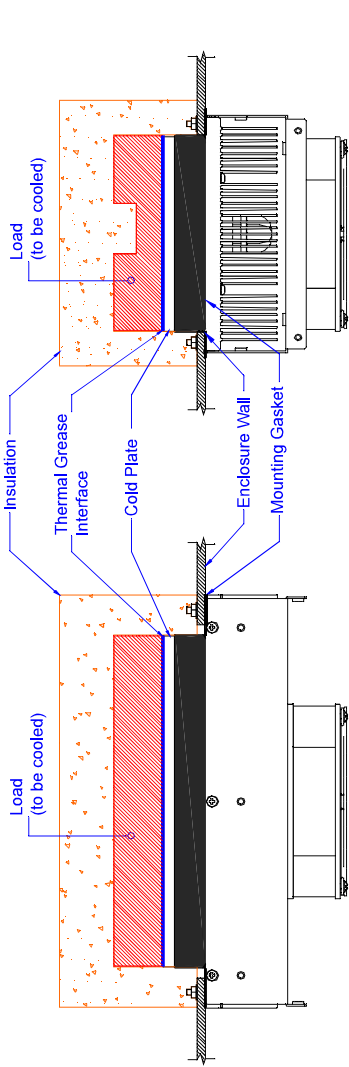
<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:</p> <table border="1"> <tr> <td>DECIMALS</td> <td>ANGLE</td> <td>FRACTION</td> </tr> <tr> <td>.XX +/−</td> <td>+/-</td> <td>+/-</td> </tr> <tr> <td>.XXX +/−</td> <td></td> <td></td> </tr> </table>		DECIMALS	ANGLE	FRACTION	.XX +/−	+/-	+/-	.XXX +/−			<p>INFORMATION DISCLOSED HEREIN IS THE CONFIDENTIAL PROPERTY OF TECA CORP. RECIPIENT SHALL NOT USE THE INFORMATION IN ANY UNAUTHORIZED MANNER.</p>	<p>FINISH:</p>	<p>APPROVED</p>	<p>REV</p>
DECIMALS	ANGLE	FRACTION												
.XX +/−	+/-	+/-												
.XXX +/−														
<p>120 VAC Input to controller</p> <p>3-32 VDC Cool drive signal</p>		<p>DESCRIPTION</p>		<p>Date</p>	<p>REV</p>									
<p>DATE: 02/11/2019</p>		<p>DRAWN BY: AA</p>		<p>APPROVED</p>	<p>REV LEVEL</p>									
<p>SCALE: S1609</p>		<p>DRAWING # SK190206</p>		<p>MASTER: MASTER</p>	<p>SHEET</p>									
<p>THERMOELECTRIC COOLING AMERICA CORP.</p> <p>AHP-451CP WIREMOTE TC</p> <p>WIRING DIAGRAM</p>														

## INSTALLATION INSTRUCTIONS

- 1- Choose Mounting Method (A or B).
- 2- Prepare mounting surface/component as indicated. Ideal component surface flatness is  $\pm 0.001$  T.I.R.
- 3- 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.
- 4- Install unit without sliding against mating surface, rotate slightly to "seat" them.
- 5- Fit insulation around cold plate surfaces as required.
- 6- If desired, caulk insulation to seal and secure insulation.
- 7- Connect power per appropriate wiring diagram.



**METHOD A**



**METHOD B**

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

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	DECIMALS .XX +/- FRACTION XX +/- MATERIAL:	ANGLE +/- FRACTION +/-	AHP-400C0, 500CP, 600CP SERIES INSTALLATION INSTRUCTIONS
REV	DESCRIPTION	DATE	APPROVED
DRAWN BY: AA	DRAWING # SK140710	DATE: 07/03/2014	REV LEVEL
D9306	SCALE	MASTER: SK140709	SHEET

## 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.