

# Product Information Packet

## Model FHP-750

Nema-12 Flush Mount Air Conditioner

for Remote Temperature Control

Part #7-A550-0-000

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:

Installation Notes for Air Conditioners

Product Literature and Specification

Wiring Drawing # SK030112

Installation Drawing # 2000-439

Mounting Cut out Drawing # SK960305

Warranty Information



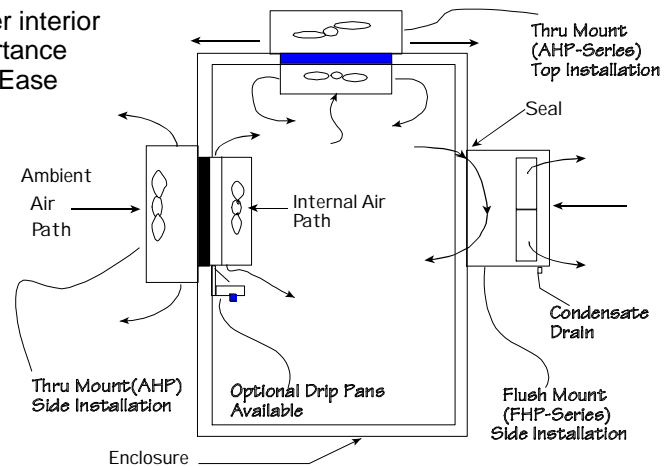
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# Important Installation Notes for Air Conditioners

**Mounting Styles:** Both 'thru mount' and 'flush mount' units can be positioned in any orientation and on any enclosure surface. It is important to consider interior air flow patterns when determining the mounting location. Also of importance is an unrestricted flow of ambient air thru the hot side heat exchanger. Ease of access and inspection must be considered for those applications in particularly severe environments which may require occasional maintenance.

## Vertical (Side/Front/Back) Mounting:

Vertical mounting refers to the vertical direction of the cold side or interior fins and is recommended for applications with high humidity, poor and incomplete cabinet seals or any condition which may cause the cold side fins to be maintained at temperatures below the dew point for long periods of time allowing for the formation of condensation. The vertical fin direction provides a drip path whereupon condensation can be collected via a moisture removal system (standard on FHP-units) or a drip pan positioned below the cold side fins. Drip pans are optional for thru mount units.



## Condensate Removal System:

All FHP-Series and AHP-1400 air conditioners contain a built-in condensate removal system. The condensate kit consists of a antifungal sponge with a condensate wick. PVC tubing is also provided for drainage. Drip pans are optional for thru mount units which must be evaluated on an individual basis. Equations defining a relationship between the cold side fin and enclosure temperatures are provided to assist in the evaluation.

## Top Mounting:

Though often the easiest location to mount it is often the most difficult to protect from condensation in this orientation due to the fin orientation, gravity and any susceptible components below. If a drip pan is employed by the end user use caution to place the pan far enough away from the internal fan to minimize the restriction of air flow. The pan should cover the fin ends as well as the fan area. When there is a choice, the vertical orientation is preferred by most users.

## Maintenance:

Since the technology is solid-state, there are no filters, compressors, or fluorocarbons to maintain. The only moving parts are the fans. It is recommended for harsh or dirty environments that the heat sinks be cleaned from time to time. This can be accomplished by directing compressed air over the external fins or on NEMA 4 versions by hosing the unit down. This will increase the overall life and performance of the system.

## Cautions:

Take care when mounting not to damage the seal between the hot and cold side sinks. Do not attempt to mount a unit to a warped surface or try to make the units mounting surface conform to an unflat surface. Do not pinch or damage any leads when mounting. Do not over tighten any installation screw, use reasonable force. Always mount with any condensate drain down. Do not compress the cold side between the hot side and any other surface. Do not obstruct the airflow on either side. When mounting consider the natural air flows of the enclosure. Connect power only after the installation is complete.

## Notes on condensation:

Condensation occurs at the cold side fins when the surface temperature goes below the dew point. To reduce or remove condensate, consider the following:

- Regulate the Fin Temperature above the Dewpoint.
- Keep Enclosure Closed and Sealed from Outside Humidity.
- Use Desiccant (Moisture absorbing Granules.)
- Employ Condensate Removal System/Drip Pans.

If you have any questions regarding your installation, Please feel free to contact our technical department for assistance at 773-342-4900.



# FHP-750

Air Cooled  
Flush Mounted  
Nema-12, Nema-4/4X

# Solid-State Air Conditioner

## FEATURES

- Externally mounted, no intrusion
- Compact (only 12" L X 6" W X 9" D)
- Weighs only 16 lbs. (7.2 kg)
- Ambient range -10°C to +70°C
- No compressor, fluorocarbons or filters
- Virtually maintenance-free operation
- Stainless steel exterior housing
- Nema-4 and Nema-12 versions
- Both 120 VAC and 240 VAC available
- CE marked

## INCLUDES

- Integral power supply
- Power input cable
- Condensate removal system
- Adjustable temperature control
- Gasket for mounting
- Mounting hardware

## APPLICATIONS

Used on small enclosures in electronics where space is premium. Telecommunications, medical and industrial.



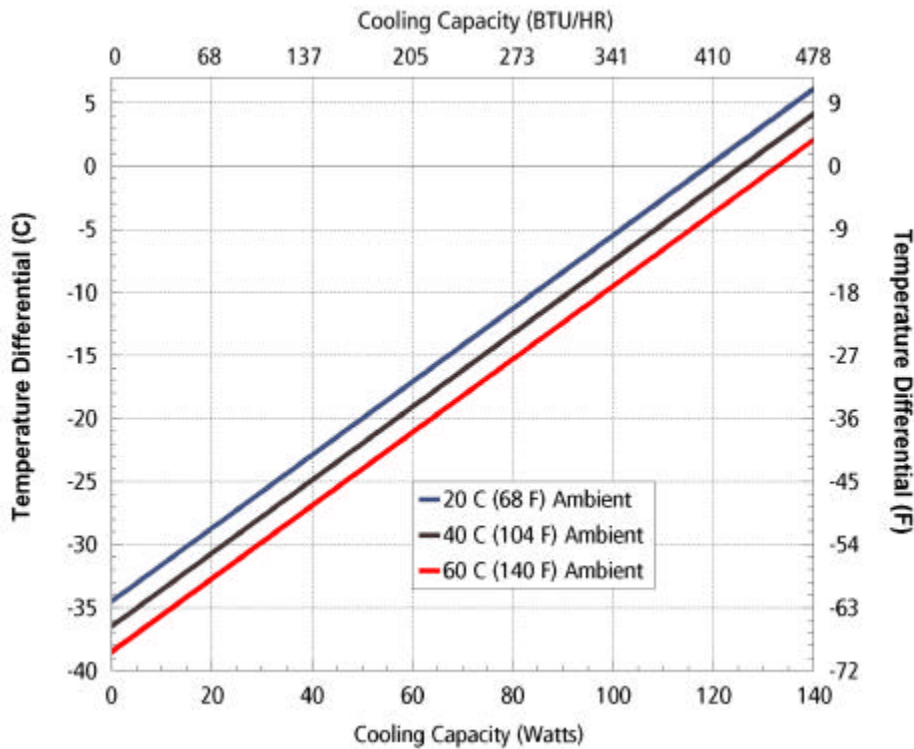
## SPECIFICATIONS

	MODEL	PART NUMBER	NOTES	PERFORMANCE RATING BTU/HR	VOLTAGE VAC 50/60 HZ	CURRENT AMPS.	WEIGHT LBS. (KG)	TEMP. CONTROL *	CONDENSATE REMOVAL	OPERATING AMBIENT °C	AGENCY APPROVALS (ETL)
NEMA 12	FHP-750	7-A580-0-000	Cool only, built in temperature control	400-450	120	4.5	16 (7.2)	TC-6F	Included	-10/+70	UL1995 CSA22.2, CE
	FHP-750	7-A550-0-000	Cool only, for remote temperature control	400-450	120	4.5	16 (7.2)	OPT*	Included	-10/+70	UL1995 CSA22.2, CE
	FHP-752	7-A582-0-000	Cool only, built in temperature control	400-450	240	2.5	23 (10.5)	TC-6F	Included	-10/+70	UL1995 CSA22.2, CE
	FHP-752	7-A552-0-000	Cool only, for remote temperature control	400-450	240	2.5	23 (10.5)	OPT*	Included	-10/+70	UL1995 CSA22.2, CE
NEMA 4X	FHP-750XE	7-A580-4-000	Cool only, built in temperature control	400-450	120	5.0	19(8.6)	TC-6F	Included	-10/+70	UL1995 CSA22.2, CE
	FHP-750XE	7-A550-4-000	Cool only, for remote temperature control	400-450	120	5.0	19(8.6)	OPT*	Included	-10/+70	UL1995 CSA22.2, CE
	FHP-752XE	7-A582-4-000	Cool only, built in temperature control	400-450	240	2.5	25(11.5)	TC-6F	Included	-10/+70	UL1995 CSA22.2, CE
	FHP-752XE	7-A552-4-000	Cool only, for remote temperature control	400-450	240	2.5	25(11.5)	OPT*	Included	-10/+70	UL1995 CSA22.2, CE

\*OPT; Unit is set up for TC-3300 controller (or similar)

# FHP-750

## PERFORMANCE CURVE



Equation of line: $y = \Delta T(^{\circ}\text{C})$ $x = \text{Capacity (Watts)}$			
Ambient Temp	20°C	40°C	60°C
Enclosure Air	$y = .29x - 34.5$	$y = .29x - 36.5$	$y = .29x - 38.5$
Cold Sink	$y = .18x - 34.5$	$y = .18x - 36.5$	$y = .18x - 38.5$

## MOUNTING STYLE

Flush Mounted

## ENVIRONMENTS

Nema-12 IP 40 (maintains IP 52)

Nema-4/4X IP 56

## RATING (TRADITIONAL)

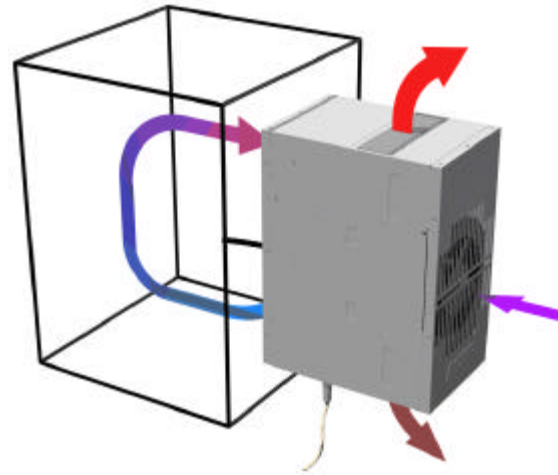
430 BTU/hr @ 0 °F  $\Delta T$ 560 BTU/hr @ +20 °F  $\Delta T$  \*

## RATING (DIN 3168)

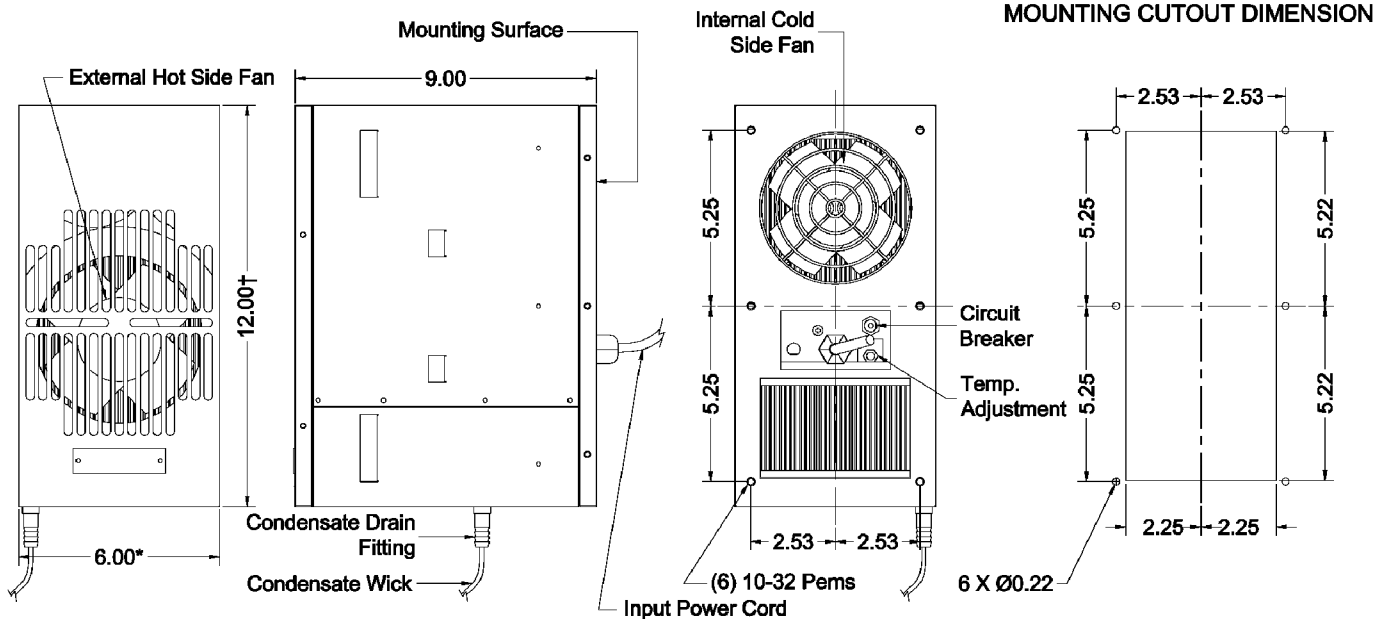
125 Watts L35 L35

78 Watts L35 L50

\* See page 6



## DIMENSIONS

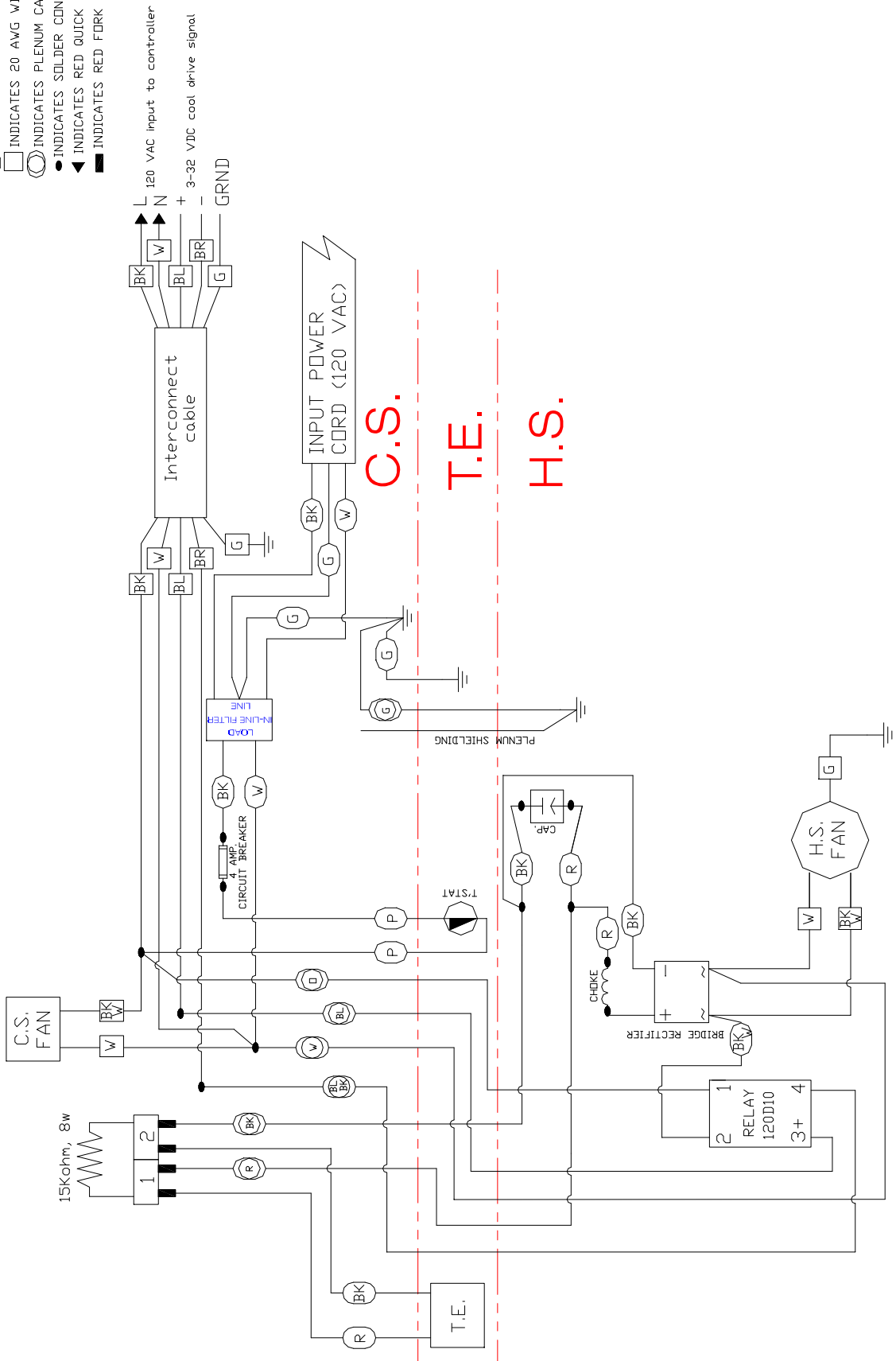


\* Dimension does not include hardware. Dimension: Inches

† For FHP-752 this dimension is 14.55.

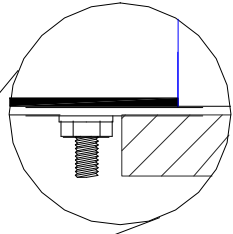
Mounting hardware and gasket included but not shown.

- INDICATES 16 AWG WIRE
- INDICATES 18 AWG WIRE
- INDICATES 20 AWG WIRE
- INDICATES PLENUM CABLE WIRE
- INDICATES SOLDER CONNECTION
- ◄ INDICATES RED QUICK CONNECT
- INDICATES RED FORK TERMINAL



A Crct'd Nutral wire wiring to HS fan & rectifier.		04/08/04		AA		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:		FHP-750 W/REMOTE TC WIRING DIAGRAM		THERMOELECTRIC COOLING AMERICA CORP.					
						DECIMALS		ANGLE									
						.XX +/-		FRACTION									
						.XXX +/-		+/-									
REV		DESCRIPTION		Date		APPROVED		MATERIAL:		DRAWN BY: AA		DRAWING #		REV LEVEL A			
								FINISH:				DATE: 01/21/03		SK030112		SHEET	
												D5973		SCALE		MASTER: SK030103	

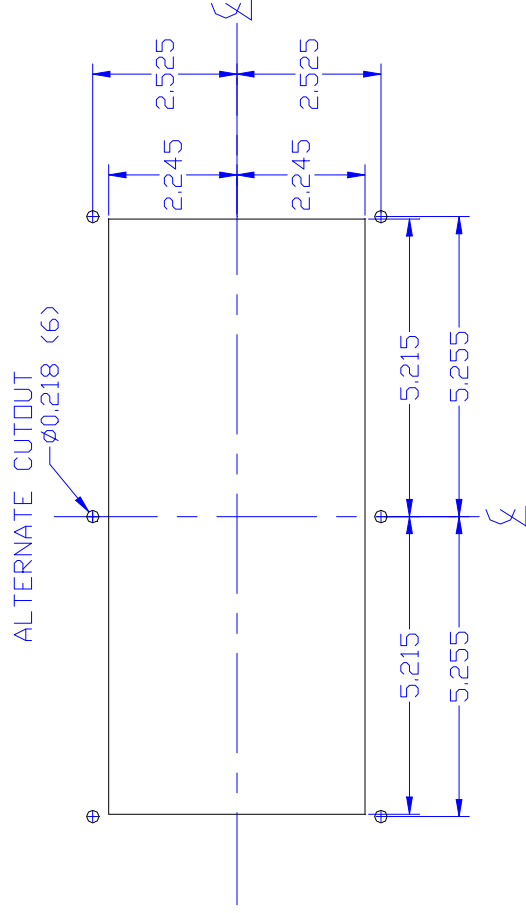
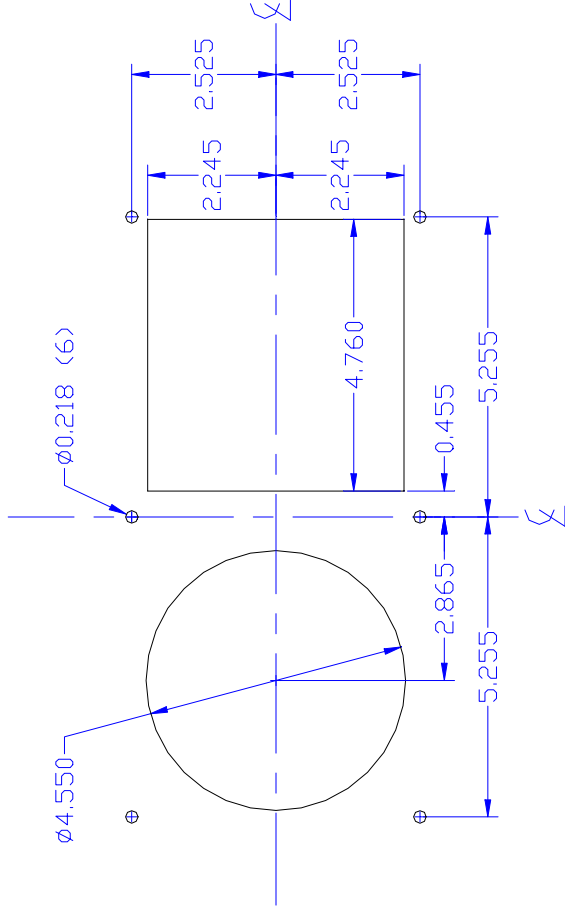
—Enclosure. Armoire. Gehäuse. Armadi.



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	XXX +/-		XXX +/-

A	Revised views.		03/20/03	AA
REV		DESCRIPTION	Date	APPROVED

DRAWN BY: AA	DRAWING #		REV. LEVEL A
	DATE: 11/06/96	2000-439	
D4127	SCALE	MASTER: MASTER	SHEET

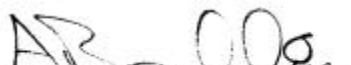


UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:	THERMOELECTRIC COOLING AMERICA CORP.				
	FHP-700 FIELD MOUNTING CUTOUT				
	MATERIAL:	DRAWN BY: AA		DRAWING # SK960305	REV LEVEL
		DATE: 03/13/96			
FINISH:	D3858		MASTER: SK960216		
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teca@thermoelectric.com www.thermoelectric.com

## **DECLARATION OF CONFORMITY**

<b>TYPE OF EQUIPMENT</b>	Electrical Heat Pump, Airconditioner, Solid State Cooling Device
<b>BRAND NAME</b>	FHP
<b>TYPE DESIGNATION</b>	750, 752; may be followed by XE
<b>YEAR OF MANUFACTURE</b>	Refer to the first two digits of the serial number on the manufacturers ID label
<b>MANUFACTURER</b>	TECA Corporation 4048 W. Schubert Ave. Chicago, IL, 60639 U.S.A.
<b>APPLIED STANDARDS</b>	
Safety of household & similar electrical appliances; Part 1: General requirements	EN 60 335-1
Safety of household & similar electrical appliances; Part 2: Particular requirements for electrical heat pumps, airconditioners & dehumidifiers (IEC 335-2-40 : 1992, Modified)	EN 60 335-2-40
Low voltage directive EMC Directive	73/23/EEC - European union (EU) 89/336/EEC - European union (EU)
<b>TESTING AGENCY</b>	ITS Intertek Testing Services ETL SEMKO
VP of Engineering Andy Brecklin	

May 20, 2003

## 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.