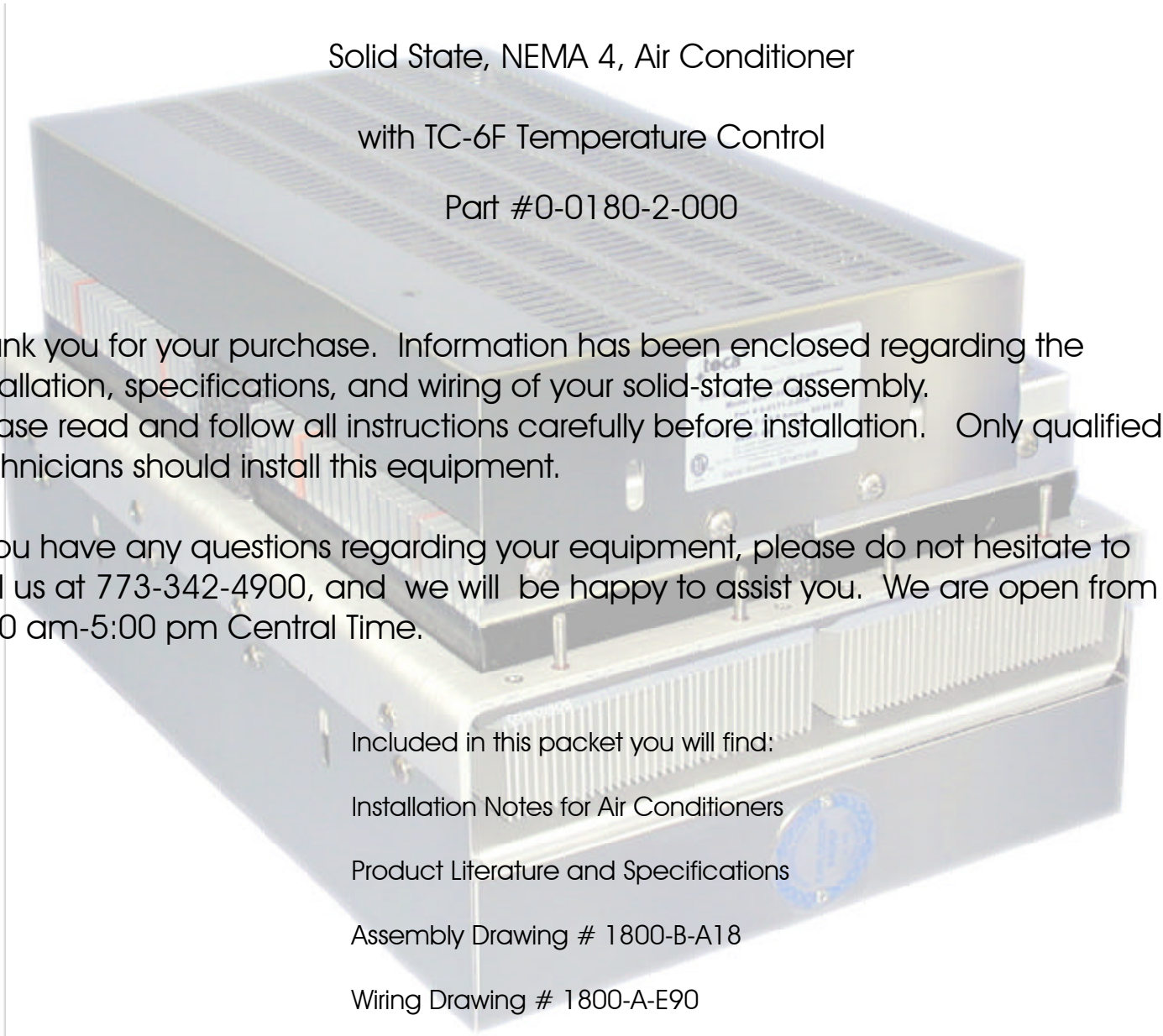
Product Information Packet

Model AHP-1800X

Solid State, NEMA 4, Air Conditioner

with TC-6F Temperature Control

Part #0-0180-2-000



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 Specifications

Assembly Drawing # 1800-B-A18

Wiring Drawing # 1800-A-E90

Installation Drawing # 1800-A-F49

Temperature Control Information

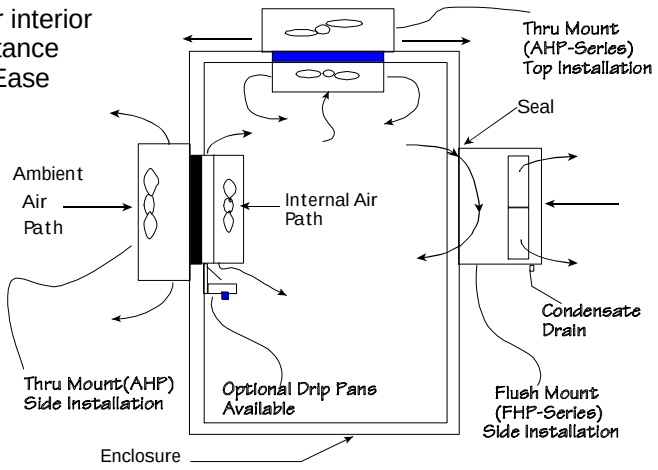
Warranty Information

teca

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

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.

AHP-1800 | Solid-State Air Conditioner

CE

Air Cooled
Thru Mount
Nema-12, 4,4X, Class 1 Div 2

FEATURES

- Compact, (18" L X 12.35" W X 9.69"D)
- Excels in high ambient temperatures
- Environmentally Safe
- Dual voltage versions available, consult factory.
- No compressor, fluorocarbons or filters
- Virtually maintenance-free operation
- Stainless steel exterior housing
- Versions to withstand corrosive environments, shock and vibration
- Mounts and operates in any orientation

INCLUDES

- Adjustable temperature control
- Mounting gasket and hardware
- Power input line cord

APPLICATIONS

Cools electronic enclosures and control cabinets in factories, mines and on ship board.

SPECIFICATIONS

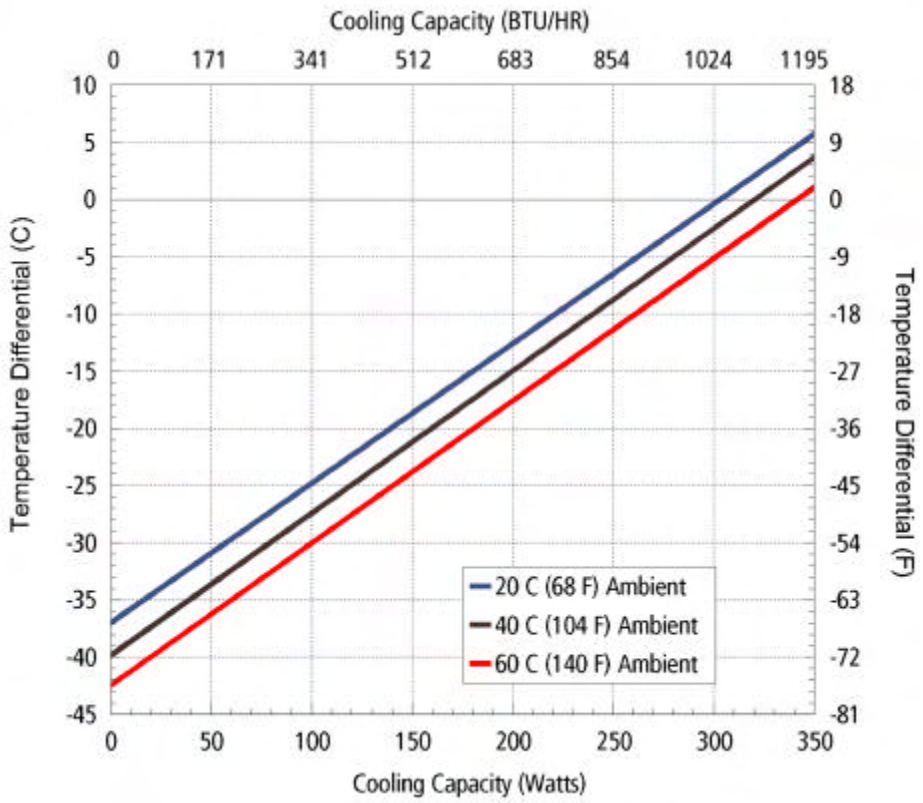
	MODEL	PART NUMBER	NOTES	PERFORMANCE RATING BTU/HR	VOLTAGE VAC 50/60 HZ	CURRENT AMPS.	WEIGHT LBS.(KG)	TEMP. CONTROL *	OPERATING AMBIENT °C	AGENCY APPROVALS (ETL)
NEMA 12	AHP-1800	0-0180-0-000	Cool only	1035-1180	120	8.0	46(21)	TC-6F	-10/+70	UL1995/CSA22.2, CE
	AHP-1800	0-0150-0-000	Cool only	1035-1180	120	8.0	46(21)	OPT*	-10/+70	UL1995/CSA22.2, CE
	AHP-1800HC	0-0130-1-000	Heat/Cool	1035-1180	120	8.0	46(21)	TC-3F	-10/+70	UL1995/CSA22.2, CE
	AHP-1800HC	0-0150-1-000	Heat/Cool	1035-1180	120	8.0	46(21)	OPT*	-10/+70	UL1995/CSA22.2, CE
	AHP-1802	0-0182-0-000	Cool only	1035-1180	240	5.0	46(21)	TC-6F	-10/+70	UL1995/CSA22.2, CE
	AHP-1802	0-0152-0-000	Cool only	1035-1180	240	5.0	46(21)	OPT*	-10/+70	UL1995/CSA22.2, CE
	AHP-1802HC	0-0132-1-000	Heat/Cool	1035-1180	240	5.0	46(21)	TC-3F	-10/+70	UL1995/CSA22.2, CE
	AHP-1802HC	0-0152-1-000	Heat/Cool	1035-1180	240	5.0	46(21)	OPT*	-10/+70	UL1995/CSA22.2, CE
NEMA 4X	AHP-1800XE	0-0180-4-000	Cool only	1035-1180	120	8.0	47(21.4)	TC-6F	-28/+70	UL1995/CSA22.2, CE
	AHP-1800XE	0-0150-4-000	Cool only	1035-1180	120	8.0	47(21.4)	OPT*	-28/+70	UL1995/CSA22.2, CE
	AHP-1800XEHC	0-0130-5-000	Heat/Cool	1035-1180	120	8.0	47(21.4)	TC-3F	-28/+70	UL1995/CSA22.2, CE
	AHP-1800XEHC	0-0150-5-000	Heat/Cool	1035-1180	120	8.0	47(21.4)	OPT*	-28/+70	UL1995/CSA22.2, CE
	AHP-1802XE	0-0182-4-000	Cool only	1035-1180	240	5.0	52(23.6)	TC-6F	-28/+70	UL1995/CSA22.2, CE
	AHP-1802XE	0-0152-4-000	Cool only	1035-1180	240	5.0	52(23.6)	OPT*	-28/+70	UL1995/CSA22.2, CE
	AHP-1802XEHC	0-0132-5-000	Heat/Cool	1035-1180	240	5.0	52(23.6)	TC-3F	-28/+70	UL1995/CSA22.2, CE
	AHP-1802XEHC	0-0152-5-000	Heat/Cool	1035-1180	240	5.0	52(23.6)	OPT*	-28/+70	UL1995/CSA22.2, CE
	AHP-1800X	0-0180-2-000	Cool only	1035-1180	120	7.5	47(21.4)	TC-6F	-28/+70	UL1995/CSA22.2, CE
	AHP-1800X	0-0150-2-000	Cool only	1035-1180	120	7.5	47(21.4)	OPT*	-28/+70	UL1995/CSA22.2, CE
	AHP-1800XHC	0-0130-3-000	Heat/Cool	1035-1180	120	7.5	47(21.4)	TC-3F	-28/+70	UL1995/CSA22.2, CE
	AHP-1800XHC	0-0150-3-000	Heat/Cool	1035-1180	120	7.5	47(21.4)	OPT*	-28/+70	UL1995/CSA22.2, CE
C1D2	AHP-1800XP	0-0180-2-002	Cool only	1035-1180	120	7.5	47(21.4)	TC-6F	-28/+70	UL-1604
	AHP-1800XPHC	0-0130-3-003	Heat/Cool	1035-1180	120	7.5	47(21.4)	TC-3F	-28/+70	UL-1604
	AHP-1801XP	0-0181-2-002	Cool only	1035-1180	120/240	7.5/5.0	52(23.6)	TC-6F	-28/+70	UL-1604
	AHP-1801XPHC	0-0131-3-003	Heat/Cool	1035-1180	120/240	7.5/5.0	52(23.6)	TC-3F	-28/+70	UL-1604
	AHP-1801XPHC-1	0-0171-3-004	Heat/Cool	1035-1180	120/240	7.5/5.0	52(23.6)	OPT*	-28/+70	UL-1604

Consult us for 120/240 VAC versions, model AHP-1801, with similar features.

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

AHP-1800

PERFORMANCE CURVE



Equation of line: y=ΔT(°C) x=Capacity (Watts)			
Ambient Temp	**20°C**	**40°C**	**60°C**
Enclosure Air	y=.122x-37.0	y=.122x-39.7	y=.122x-42.3
Cold Sink	y=.09x-37.0	y=.09x-39.7	y=.09x-42.3

MOUNTING STYLE

Thru Mount

ENVIRONMENTS

Nema-12 IP 40 (maintains IP 52)

Nema-4/4X IP 56

Class 1 Div 2 and Nema-4X IP 56

RATING (TRADITIONAL)

1100 BTU/hr @ 0 °F ΔT

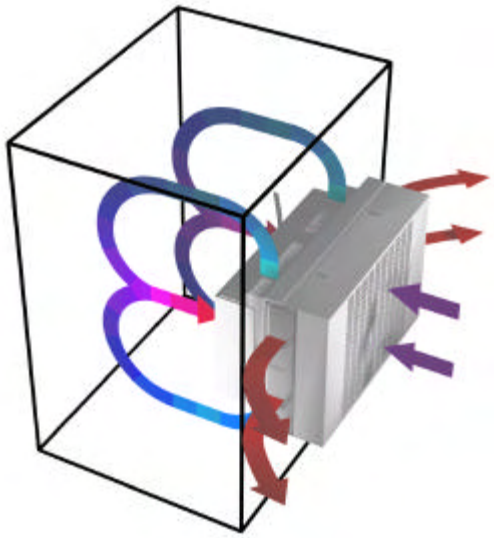
1420 BTU/hr @ +20 °F ΔT *

RATING (DIN 3168)

322 Watts L35 L35

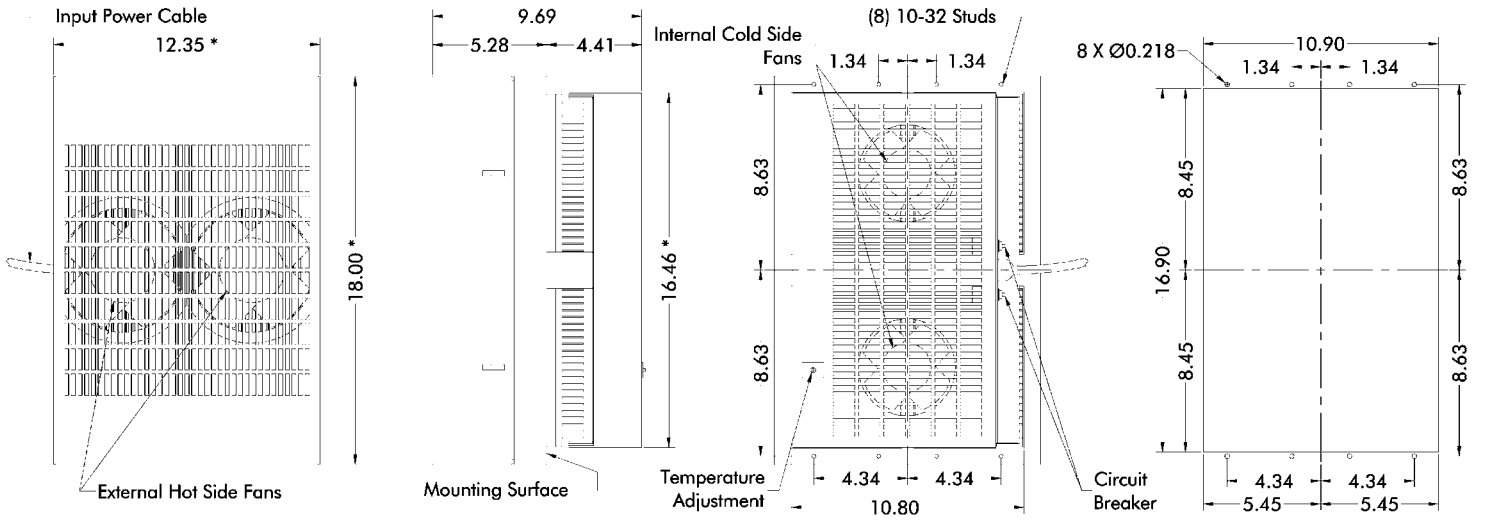
210 Watts L35 L50

* See page 6



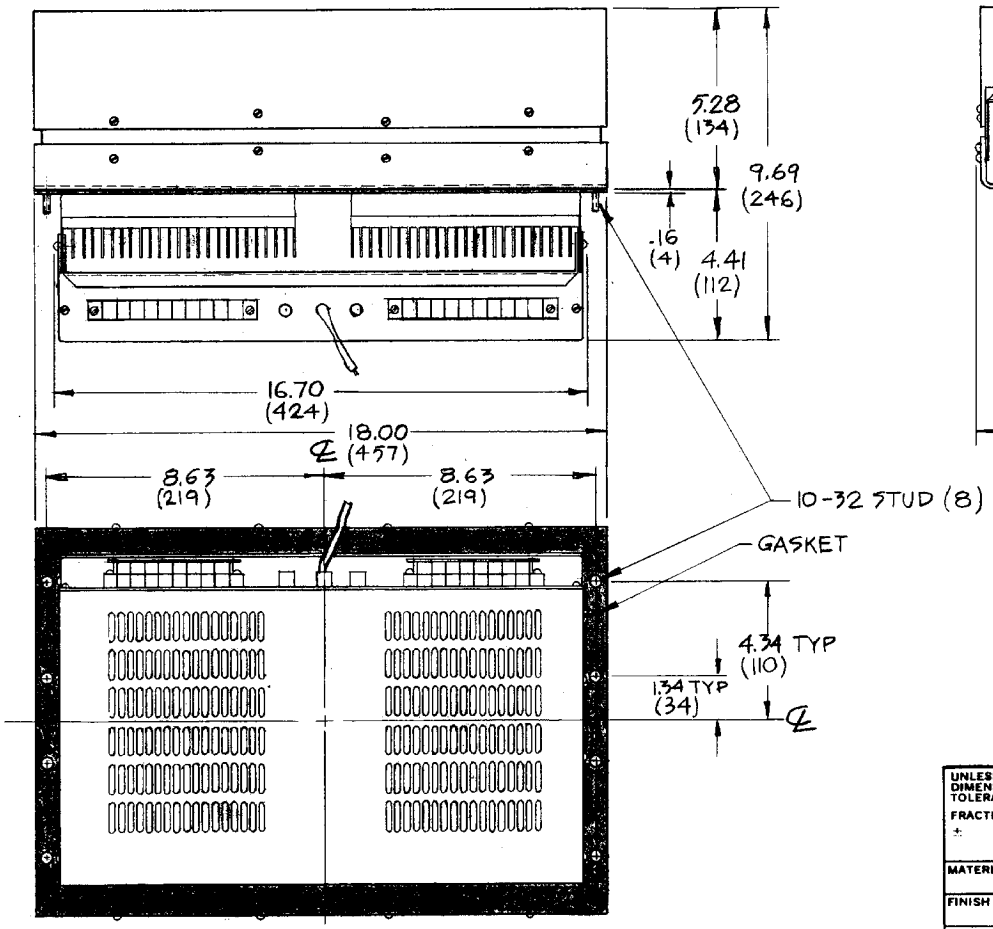
DIMENSIONS

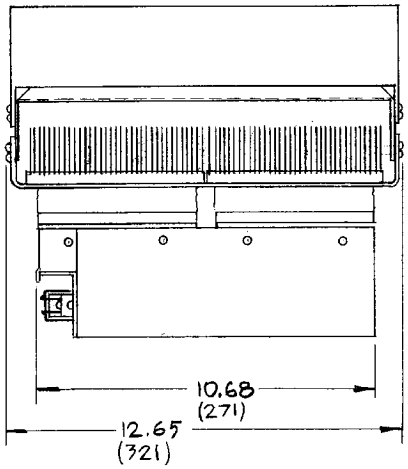
MOUNTING CUTOUT DIMENSIONS



* Dimension does not include hardware, insulation. Dimensions: Inches
Mounting hardware and gasket included but not shown.

LTR	DESCRIPTION	DATE	APPROVED
A	ADD METRIC DIMENSIONS	03.23.90	I.N
B	REVISED TITLE	5.13.90	IN
C	CORRECTED 1.34 (44) TO 1.34 (34)	09.10.92	IN





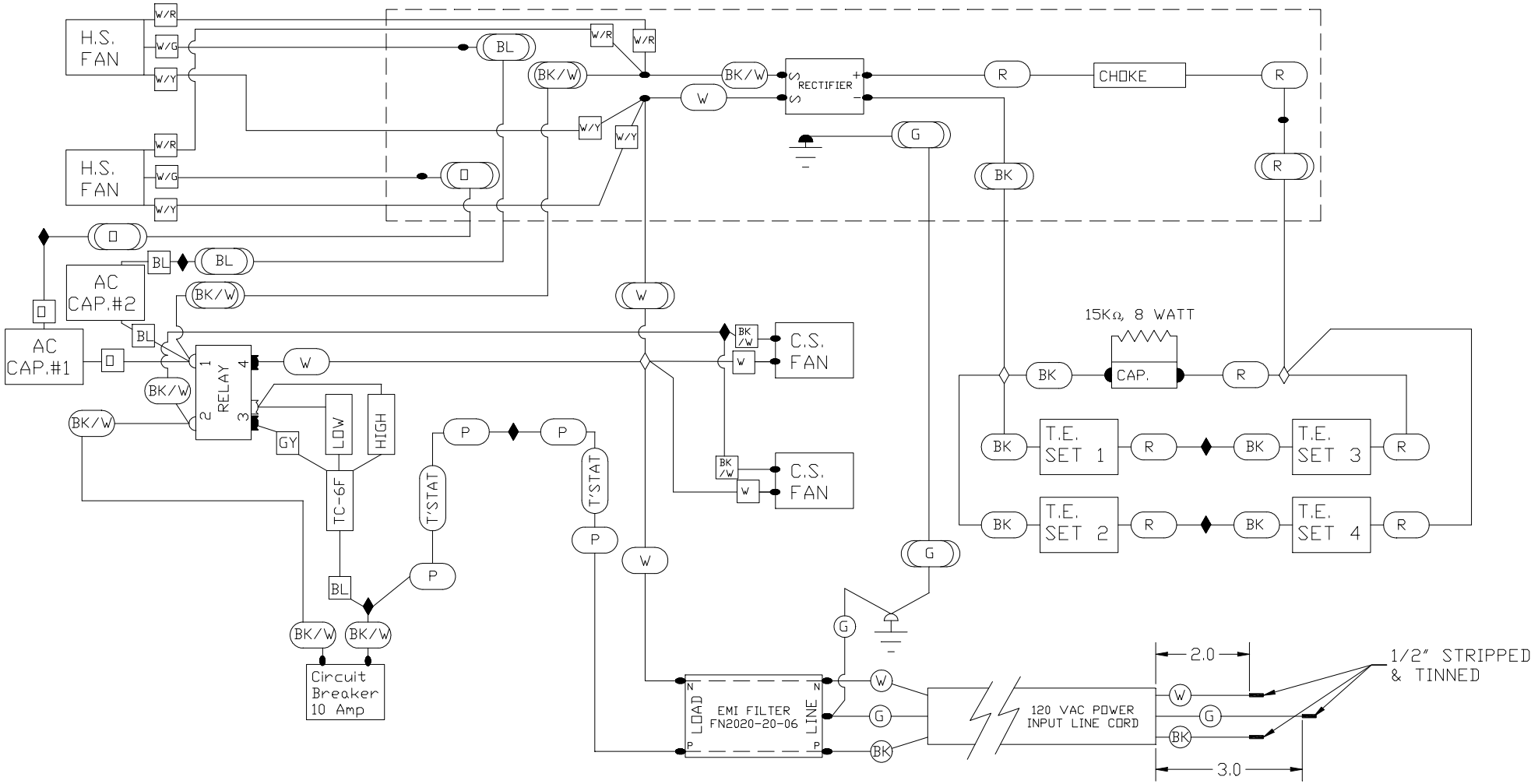
NOTE : DIMENSIONS ; INCHES
(MILLIMETERS)

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS ± DECIMALS .XX ± .XXX ± ANGLES ±	teca ThermoElectric Cooling America Corp.
MATERIAL	AHP 1801/1801X ASSEMBLY
FINISH	
APPROVALS / DRAWN I.N. / CHECKED	DATE 1.23.90
SIZE B	DRAWING NO. 1800-B-A18
SCALE 1/4	D1291 SHEET OF

D INDICATES BLUE RING TERMINAL
● INDICATES SOLDER CONNECTION
◗ INDICATES RED RING TERMINAL
▮ INDICATES SMALL RED RING TERMINAL
▯ INDICATES SMALL BLUE RING TERMINAL

INDICATES 18 AWG WIRE
INDICATES 20 AWG WIRE
INDICATES PLENUM CABLE WIRE
INDICATES 16 AWG WIRE

◊ INDICATES AMP 321519 CLOSED END SPLICE
♦ INDICATES AMP 55843-1 CLOSED END SPLICE



A	Add. EMI filter.	06/02/03	AA
REV	DESCRIPTION	Date	APPROVED

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:

DECIMALS	ANGLE
.XX +/-	+/-
.XXX+/-	FRACTION +/-

FINISH:

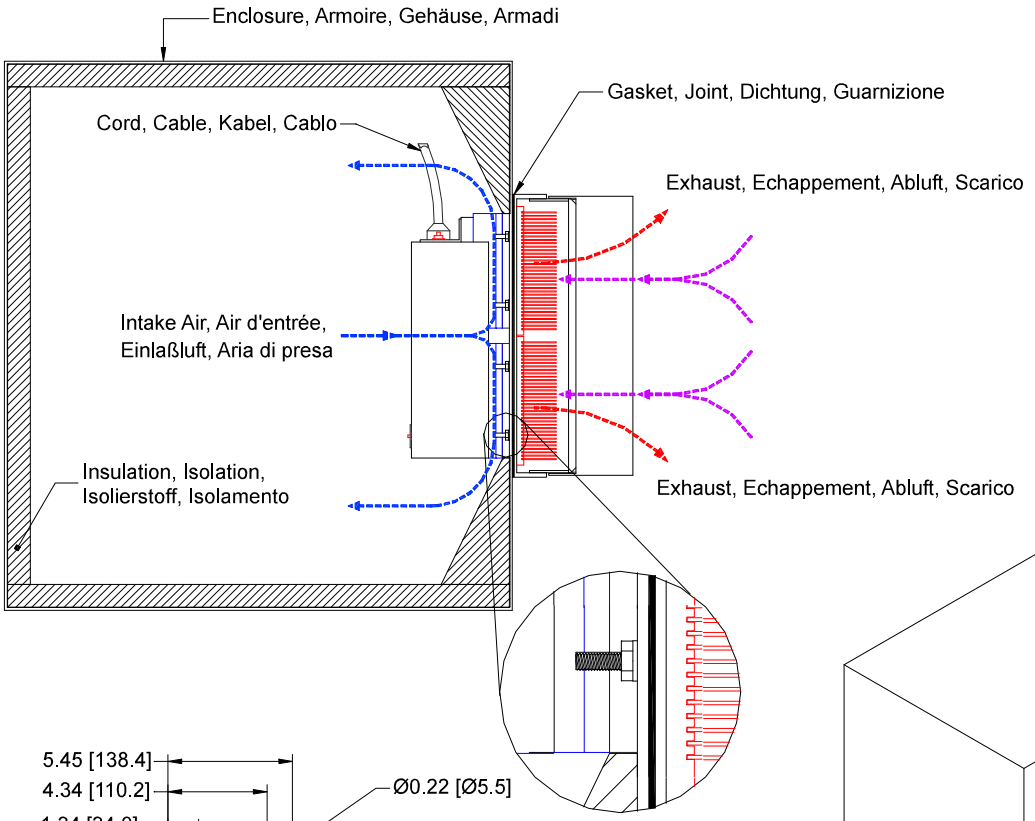
MATERIAL:

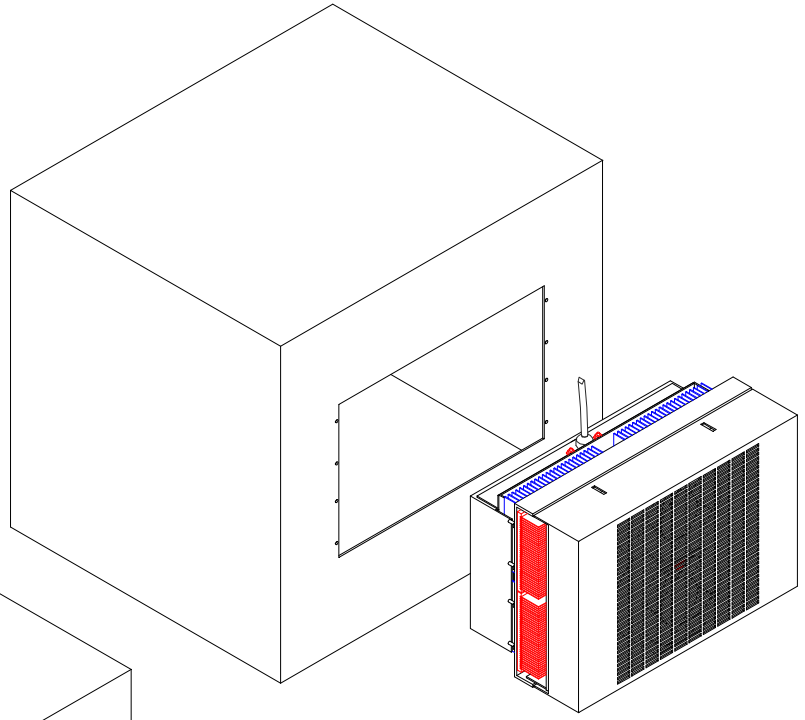
THERMOELECTRIC COOLING AMERICA CORP.

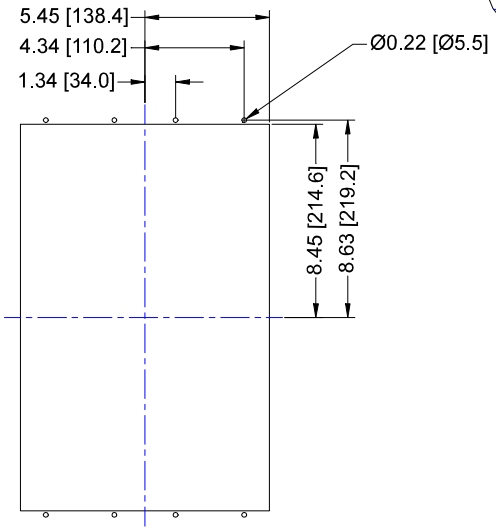
AHP-1800X
Wiring Diagram

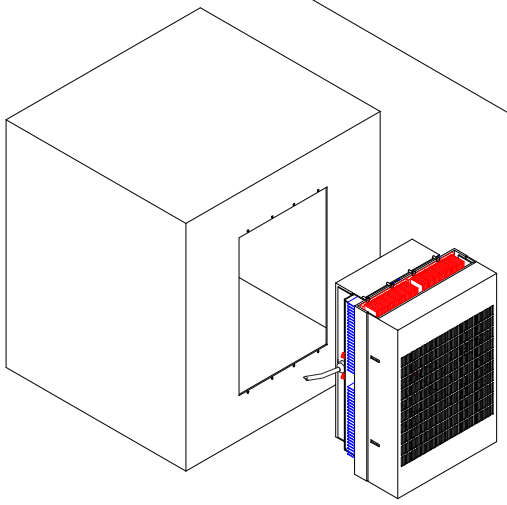
DRAWN BY: AB	DRAWING # 1800-A-E90		REV LEVEL A
DATE: 6/8/99			
D4934	SCALE	MASTER: 1800-A-E74	SHEET

Mounting, Monture, Montage, Montaggio









Alternate, Alternative, Alternative, Alternativa

English, Français, Deutsch, Italiano

Dimensions: Inches [Millimeters]

REV	DESCRIPTION	Date	APPROVED

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UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:

DECIMALS	ANGLE
.XX +/-	+/-
.XXX+/-	FRACTION +/-

FINISH:

MATERIAL:

THERMOELECTRIC COOLING AMERICA CORP.

AHP-1800 SERIES
TYPICAL FIELD MOUNTING

DRAWN BY:	DRAWING #	REV LEVEL
AA	1800-A-F49	
DATE: 06/05/03		
D6037	SCALE	MASTER: MASTER / SHEET

Control/Thermostats

The model **TC-6F** (Cool Only) thermostat is designed using two magnetic reed switches in conjunction with a solid state relay. A three position switch is provided to adjust between the following settings:

Position	Control Temp.	Tolerance	Reset Differential
1	35°C	+/-5°C	10°C Maximum
2	25°C	+/-5°C	10°C Maximum
3	Constant On		

The model **TC-3F** (Heat/Cool) thermostat incorporates the same technology as the TC-6F. It contains a single setting each for both heating and cooling as referenced below:

Mode	Control Temp.	Tolerance	Reset Differential
Cooling	35°C	+/-5°C	-10°C Maximum
Heating	15 °C	+/-5°C	+10°C Maximum

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

DECLARATION OF CONFORMITY

TYPE OF EQUIPMENT	Electrical Heat Pump, Airconditioner, Solid State Cooling Device
BRAND NAME	AHP
TYPE DESIGNATION	1800, 1801, 1802; may be followed by FF, XE, X
YEAR OF MANUFACTURE	Refer to the first two digits of the serial number on the manufacturers ID label
MANUFACTURER	TECA Corporation 4048 W. Schubert Ave. Chicago, IL, 60639 U.S.A.
APPLIED STANDARDS	
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	73/23/EEC - European union (EU)
EMC Directive	89/336/EEC - European union (EU)
TESTING AGENCY	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.