

# AIR CONDITIONERS

## Temperature Control...

## Solid State Cooling & Heating From One Product.

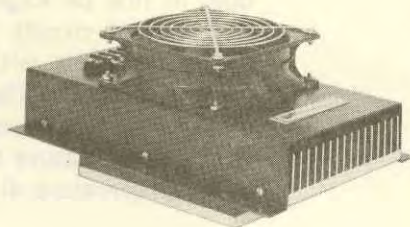
Borg-Warner Thermoelectric Air Conditioners are a solid state method of refrigeration, which eliminates the need for a compressor, refrigerant fluids or piping. The only moving parts are highly reliable fans used to dissipate output heat to the ambient air. These air conditioners can be applied in computers, machine tool controls, instrumentation & electronics for hostile environment protection. They offer design flexibility in a wide range of industrial and consumer applications where compactness and reliability are key.

### Features:

- No load cooling to  $-5^{\circ}\text{F}$  ( $-20^{\circ}\text{C}$ ) at room temperature
- Lightweight, compact designs
- No compressor, no fluids, no coils
- Closed system protection from dust, chips, & moisture
- No moving parts except fans, means high reliability
- Low vibration, noise & maintenance
- Metal finishes resist corrosion
- Operates in any orientation - horizontal, vertical, etc.
- Can be controlled to operate in cooling or heating mode
- All models available from stock

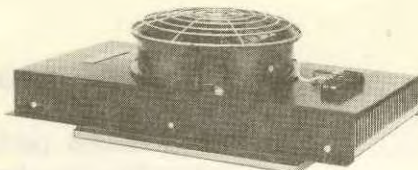
### Additional product offerings:

- Liquid cooled heat pumps
- Thermoelectric cooling modules
- Temperature controllers
- Standard DC power supplies



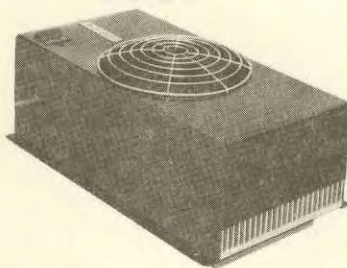
#### AHP-300

Rating: 240 BTU/HR Cooling  
600 BTU/HR Heating



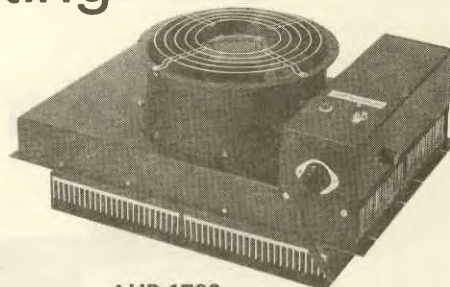
#### AHP-800

With Cold Side Fins & Fan  
Rating: 500 BTU/HR Cooling  
1300 BTU/HR Heating



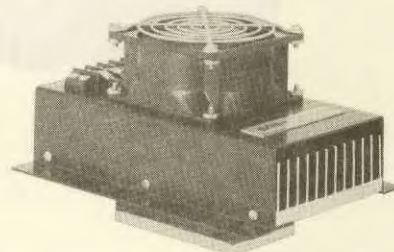
#### AHP-1000

Integral D.C. Power Supply  
Rating: 500 BTU/HR Cooling  
1300 BTU/HR Heating



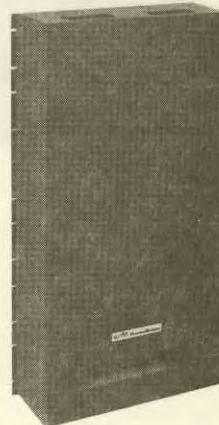
#### AHP-1700

Integral D.C. Power Supply  
Rating: 1100 BTU/HR Cooling  
3200 BTU/HR Heating



#### AHP-150

Rating: 110 BTU/HR Cooling  
300 BTU/HR Heating



#### AHP-3000

For Larger CNC Application  
Coming Soon.

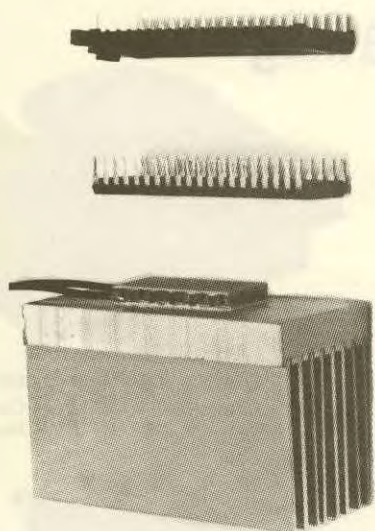


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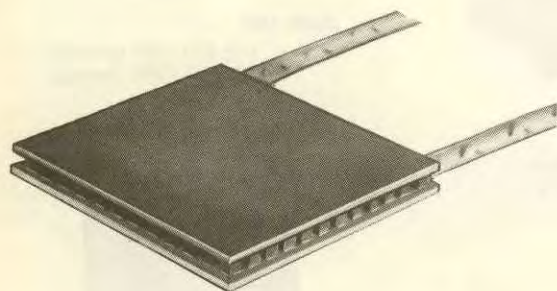


# Watch For New Products\*...



## DIP CHIP COOLER

A thermoelectric cooler designed for cooling dual in line packages from above or beneath the printed circuit board. This unit is furnished complete with heat sink in low or high profile design. The thermoelectric cooling module pumps a maximum of 12-25 watts with a temperature differential of  $0^{\circ}\text{C}$ . Maximum temperature differential is  $66^{\circ}\text{C}$ .



## HIGH TEMPERATURE THERMOELECTRIC MODULES

These modules perform better at high temperature than standard thermoelectric modules do at low temperatures. At  $125^{\circ}\text{C}$  maximum heat pumping is over 40 watts with a temperature differential of  $0^{\circ}\text{C}$ . Maximum temperature differential is over  $100^{\circ}\text{C}$  at no load conditions. Maximum operating temperature is  $200^{\circ}\text{C}$ .



## AHP-1000 THERMOELECTRIC AIR CONDITIONER

For those customers looking for a cooling unit smaller than our AHP-1700 and wish to have an integral power supply. The AHP-1000 will fill your needs. This heat pump fills the gap in heat pumping capacity between our AHP-800 and AHP-1700. Dimensions with rack mount option are  $19'' \times 8\frac{3}{4}'' \times 10''$ . Weight is under 25 lbs.

\*Selected models in stock.





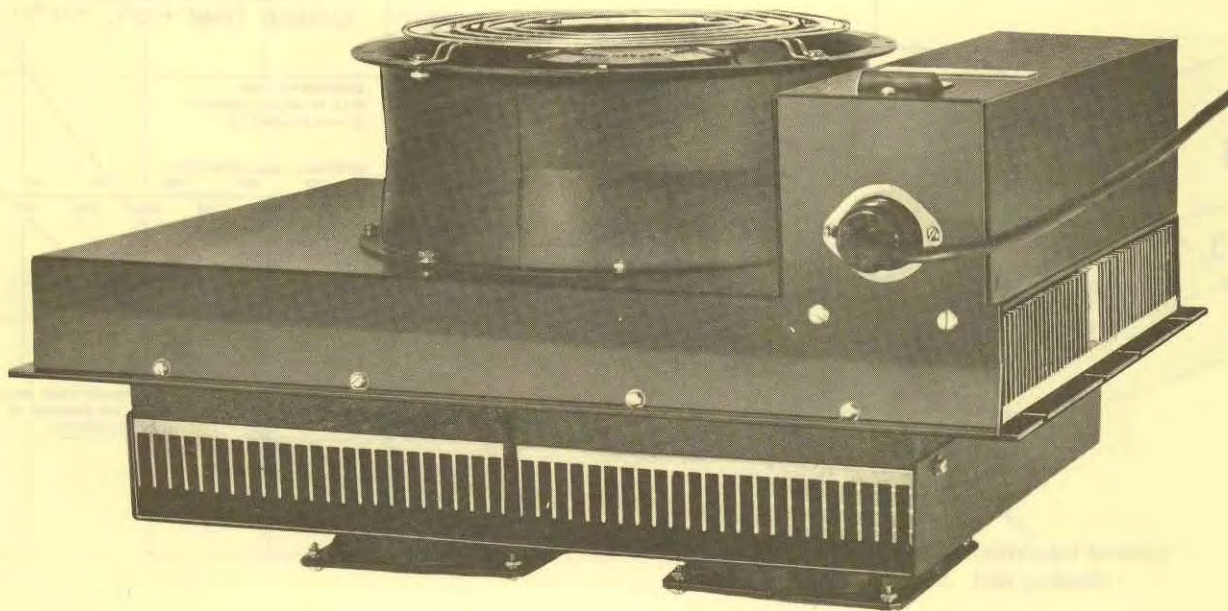
# AHP-1700

## Solid State Air Conditioner

RATING 1100 BTU/HR COOLING

• 3200 BTU/HR HEATING

APPLICATION IN COMPUTERS, MACHINE TOOLS, ELECTRONICS



### FEATURES:

- NO LOAD COOLING TO -5°F (-20°C) AT ROOM TEMPERATURE
- STANDARD RACK MOUNT
- WEIGHS UNDER 50LBS.
- NO COMPRESSOR
- INTEGRAL D.C. POWER SUPPLY
- CLOSED SYSTEM PROTECTION FROM DUST, CHIPS, MOISTURE
- OPERATES IN ANY ORIENTATION HORIZONTAL, VERTICAL ETC.
- OPERATES IN -20°F (-30°C) TO +140°F (+60°C)
- HEAVY 6' SERVICE CORD INCLUDED
- NO MOVING PARTS EXCEPT FANS
- LOW VIBRATION, NOISE, MAINTENANCE
- METAL FINISHES RESIST CORROSION

The Borg-Warner AHP-1700 Thermoelectric Air Conditioner is a solid state method of refrigeration which eliminates the need for a compressor, refrigerant fluids or piping. The only moving parts are high reliability fans used to move heat transfer air to cool a maximum heat load of 1100 BTU/hour and to dissipate output heat to the ambient air. It requires no external power supply other than 110 volts A.C.

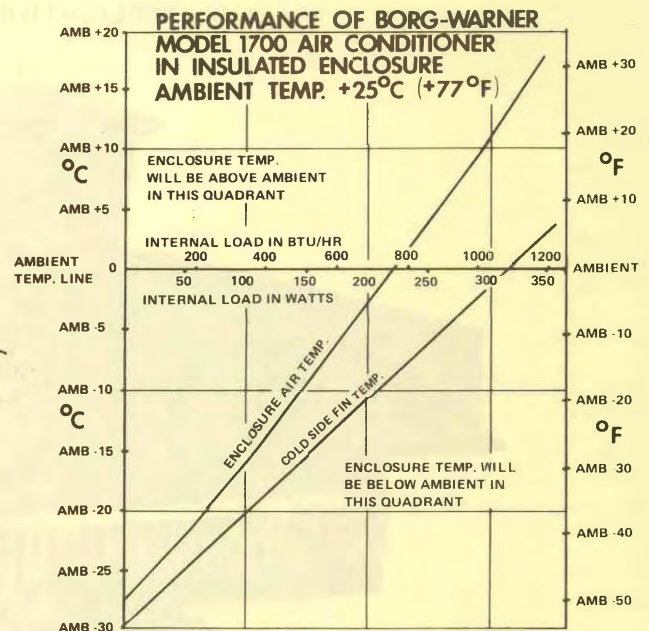
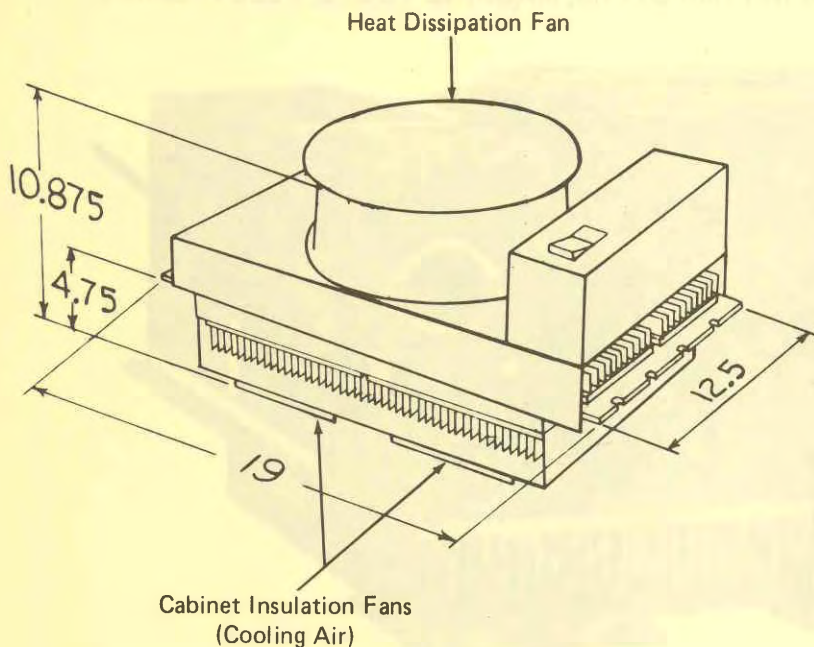


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# Borg-Warner Model AHP-1700 Thermoelectric Air Conditioner



The AHP-1700 Thermoelectric Air Conditioner is designed to mount in a standard 19-inch electronic cabinet. This unit is modular in construction permitting convenient cleaning of components such as the fans and heat sinks. Even the thermoelectric cooling assembly is designed in modular packages which can easily be handled by the user.

The nominal heat pumping capacity at Zero  $\Delta T$  is 320 watts (1100 BTU/hr) in a room temperature ambient of +25°C (77°F). The thermal load capacity while providing 20°C of cooling is 160 watts (545 BTU/hr) at a 25°C ambient. (Rated values at cold fin)

At minimum thermal load the cooling temperature provides a cold plate temperature of -20°C (-5°F). An internal rectifier bridge and filter provides D.C. power at 6.0 amperes directly from the 110-volt A.C. input.

**Power Required:** 110 VAC at 6 Amps  
**Weight:** 45 lbs.





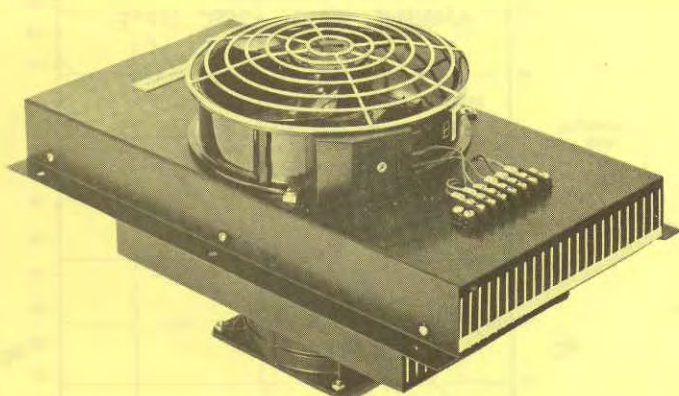
# AHP-800

## Solid State Heat Pump

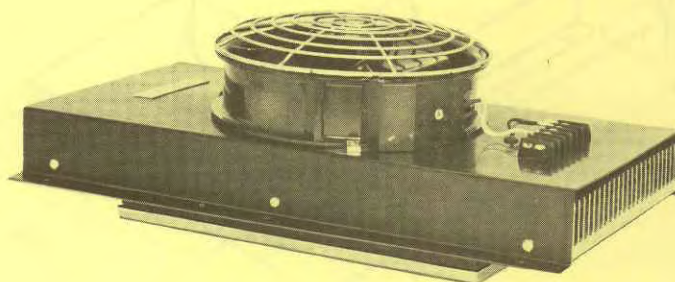
RATING 500 BTU/HR COOLING

• 1300 BTU/HR HEATING

APPLICATIONS IN INSTRUMENTATION AND ELECTRONIC COMPONENT  
OR PACKAGE COOLING



AHP-800  
with cold side  
fins and fan



AHP-800  
with cold plate

### FEATURES:

- NO LOAD COOLING TO -5°F (-20°C), HOT SIDE at 25°C
- WEIGHS UNDER 15 LBS.
- NO COMPRESSOR
- CLOSED SYSTEM PROTECTION FROM DUST, CHIPS, MOISTURE
- NO MOVING PARTS EXCEPT FANS
- LOW VIBRATION, NOISE, MAINTENANCE
- METAL FINISHES RESIST CORROSION
- OPERATES IN -20°F (-30°C) TO 150°F (65°C)
- OPERATES IN ANY ORIENTATION - HORIZONTAL, VERTICAL, ETC.
- CAN OPERATE IN COOLING OR HEATING MODE

The Borg-Warner AHP-800 Thermoelectric Heat Pump is a solid state method of refrigeration which eliminates the need for a compressor, refrigerant fluids or piping. The only moving parts are high reliability fans used to move heat transfer air. The AHP-800 will cool the maximum load of 145 watts (500 BTU/hr.) with a temperature differential of 0°. This unit is equipped with a cold sink and fan for cooling a chamber or a cold plate for cooling by direct contact. The current can be reversed making this unit ideal for many applications where cooling and/or heating is desired.

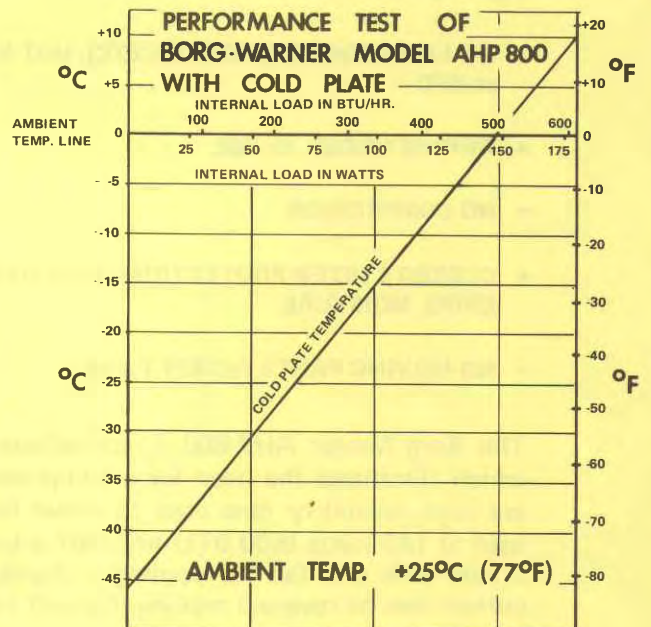
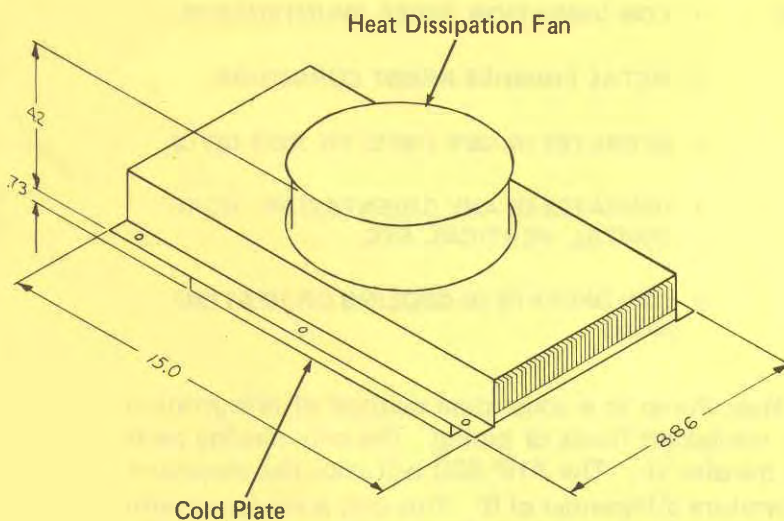
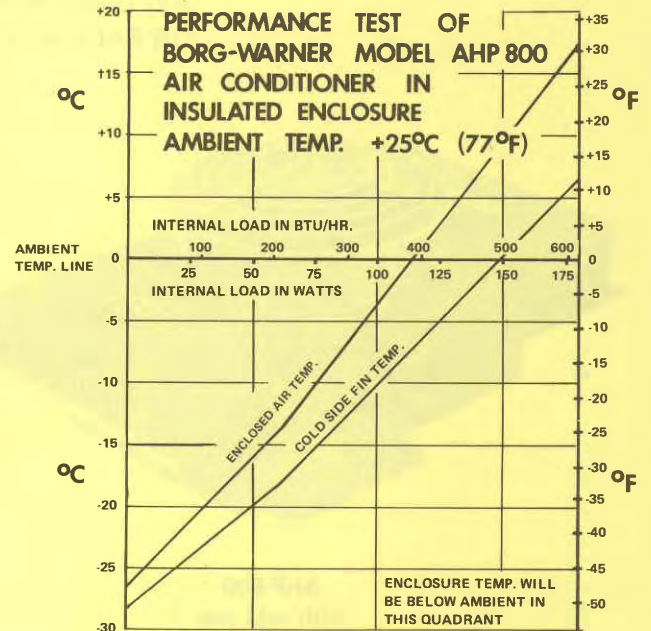
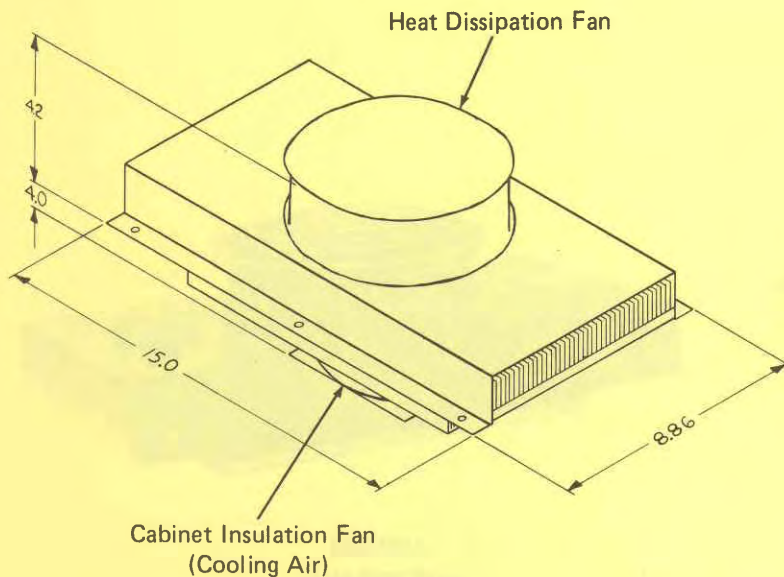


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# Borg-Warner Model AHP-800 Thermoelectric Air Conditioner



**Power Required:** 30 VDC at 10 Amps, 110 VAC for fans

**Recommended Power Supply:** P.S. 400-30

**Weights:** AHP-800 with cold sink and fan 14.5 Lbs.

AHP-800 with cold plate 12 Lbs.



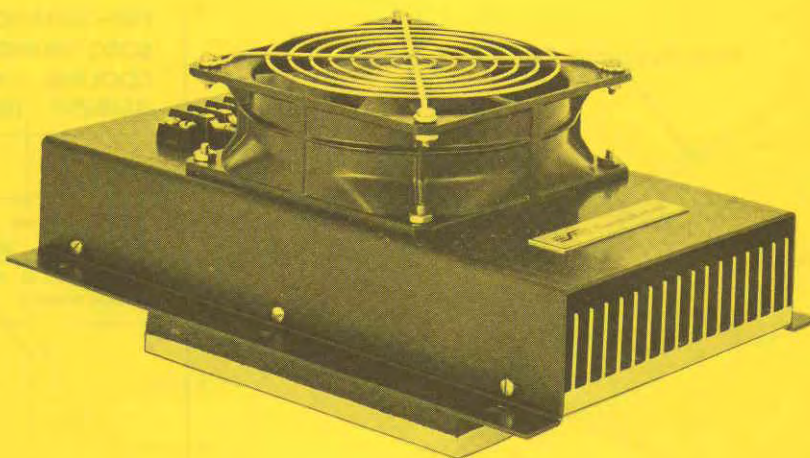


# AHP-300

## Solid State Heat Pump

RATING 240 BTU/HR. COOLING • 600 BTU/HR. HEATING

APPLICATIONS IN INSTRUMENTATION AND COMPONENT COOLING



AHP-300

### FEATURES:

- NO LOAD COOLING TO -5°F (20°C), HOT SIDE AT 25°C
- WEIGHS ONLY 6 LBS.
- NO COMPRESSOR
- CLOSED SYSTEM PROTECTION FROM DUST, CHIPS, MOISTURE
- NO MOVING PARTS EXCEPT FAN
- LOW VIBRATION, NOISE, MAINTENANCE
- METAL FINISHES RESIST CORROSION
- OPERATES IN ANY ORIENTATION - HORIZONTAL, VERTICAL, ETC.
- OPERATES IN -20°F (-30°C) to +130°F (55°C)
- CAN OPERATE IN COOLING OR HEATING MODE

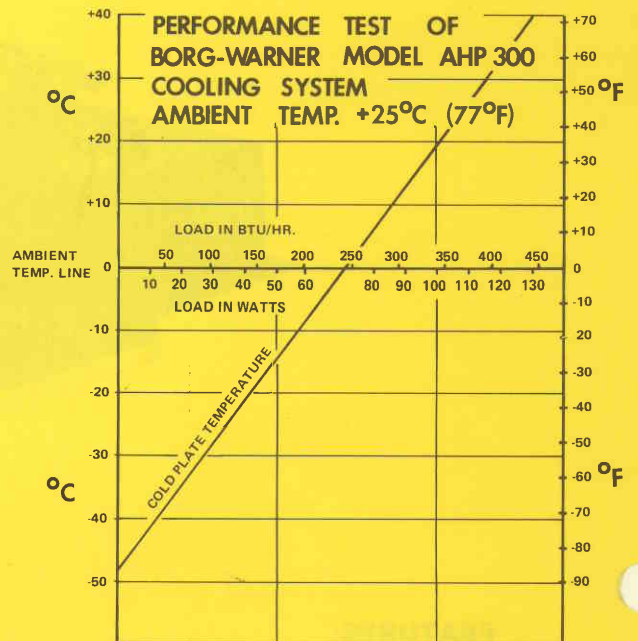
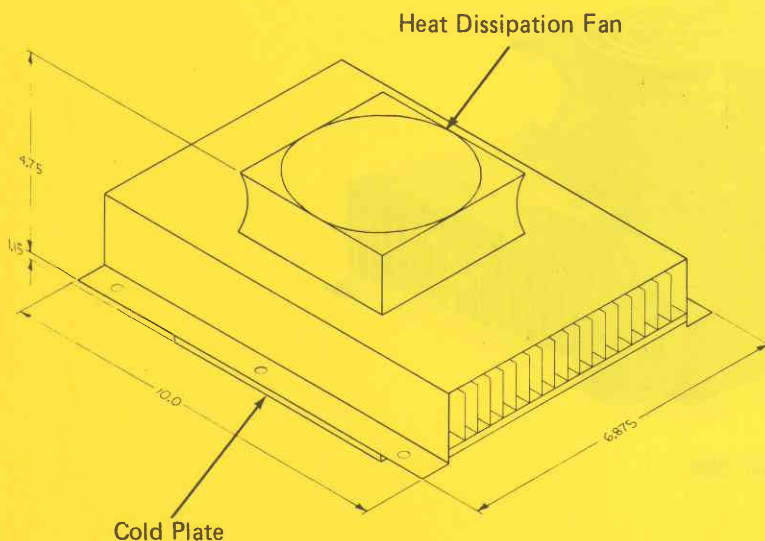
The Borg-Warner AHP-300 Thermoelectric Heat Pump is a solid state method of refrigeration which eliminates the need for a compressor, refrigerant fluids or piping. This unit is supplied with a cold plate designed for cooling or heating a surface by direct contact. The only moving part is a high reliability fan used to dissipate output heat to the ambient air. The AHP-300 will cool a maximum load of 70 watts (240 BTU/hr.) with a temperature differential of 0°.



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# Borg-Warner Model AHP-300 Thermoelectric Heat Pump



The AHP-300 Heat Pump is designed to give the user flexibility for a wide variety of applications in Electronics, Medical & Scientific fields. Examples include: Labor test stands, electronic component cooling, biological sampling, freezing and cooling; as well as protection for sensitive camera and imaging equipment in hostile industrial environments.

**Power Required:** 24VDC at 4.5 Amps, 110VAC for cooling fan  
**Recommended Power Supply:** P.S. 160-24  
**Weight:** 6 Lbs.

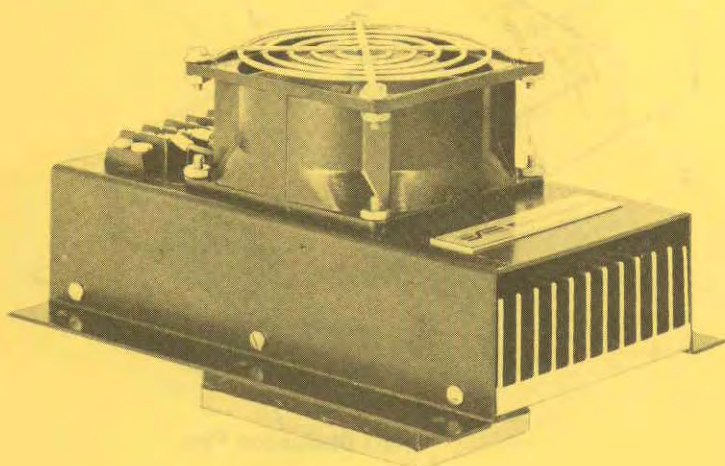




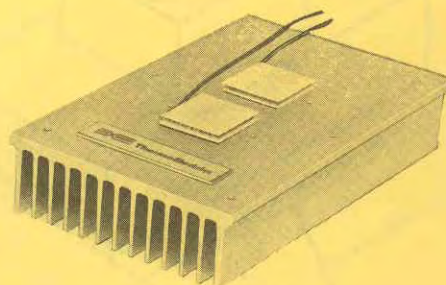
# AHP-150/AHP-125E

## Solid State Heat Pumps

RATING 110 BTU/HR. COOLING • 300 BTU/HR HEATING  
APPLICATIONS IN INDUSTRIAL AND CONSUMER PRODUCTS  
FOR COOLING



AHP-150



AHP-125E

### FEATURES:

- NO LOAD COOLING TO  $-5^{\circ}\text{F}$  ( $-20^{\circ}\text{C}$ ), HOT SIDE AT  $25^{\circ}\text{C}$
- WEIGHS UNDER 3.5 LBS.
- NO COMPRESSOR
- OPERATES IN ANY ORIENTATION - HORIZONTAL, VERTICAL, ETC.
- CLOSED SYSTEM PROTECTION FROM DUST CHIPS, MOISTURE
- LOW VIBRATION, NOISE, MAINTENANCE
- OPERATES IN  $-20^{\circ}\text{F}$  ( $-30^{\circ}\text{C}$ ) TO  $+130^{\circ}\text{F}$  ( $55^{\circ}\text{C}$ )
- NO MOVING PARTS EXCEPT FAN
- CAN OPERATE IN COOLING OR HEATING MODE
- METAL FINISHES RESIST CORROSION

The AHP-150 is the smallest fully assembled heat pump that Borg-Warner produces. It will cool a maximum of 33 watts (110 BTU) with a temperature differential of 0. This unit is supplied with a cold plate designed for cooling or heating a surface by direct contact.

An economy version, the AHP-125E is available for those customers who wish to incorporate their own fan and cold plate. This heat pump consists of two thermoelectric modules soldered to a finned aluminum heat sink.

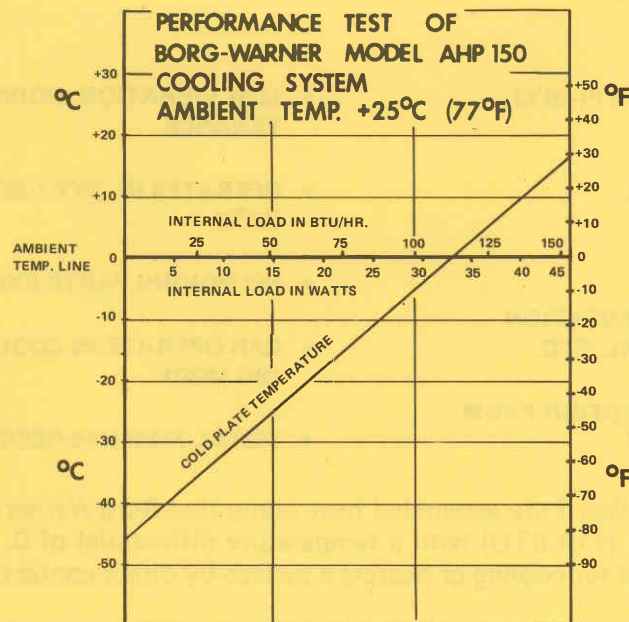
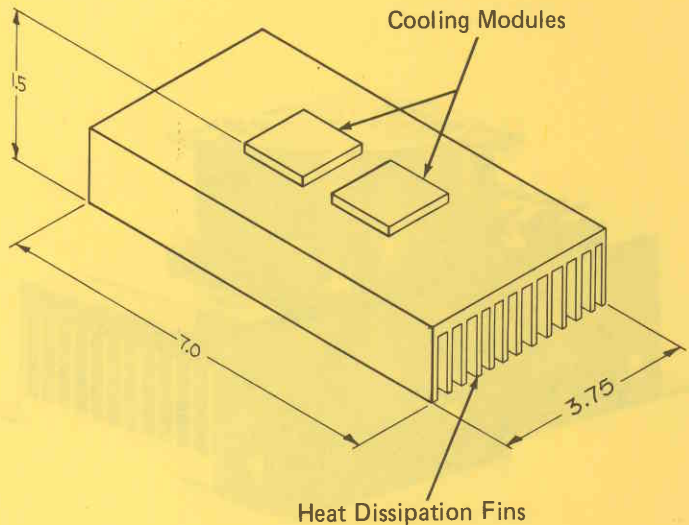
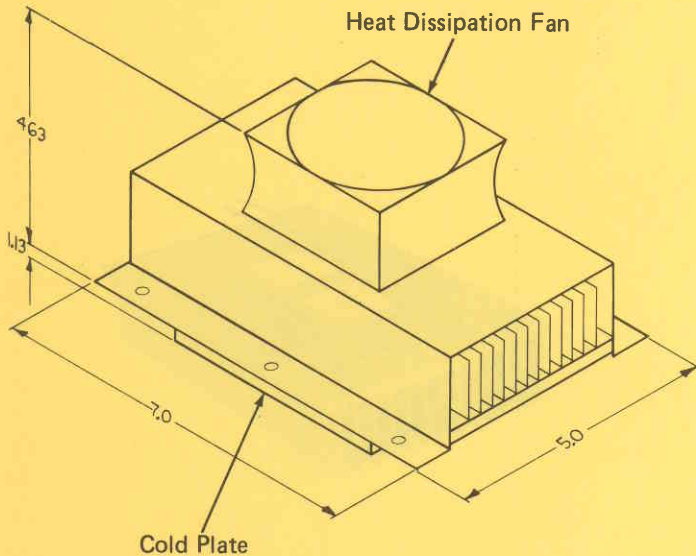


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# Borg-Warner Model AHP-150/125E

## Thermoelectric Heat Pump



**Power Required:** 12 VDC at 4.5 Amps, 110 VAC for fan

**Recommended Power Supplies:** PS 80-12 or PS 120-12V

**Weights:** AHP 125E 1.5 Lbs.

AHP 150 3.0 Lbs.



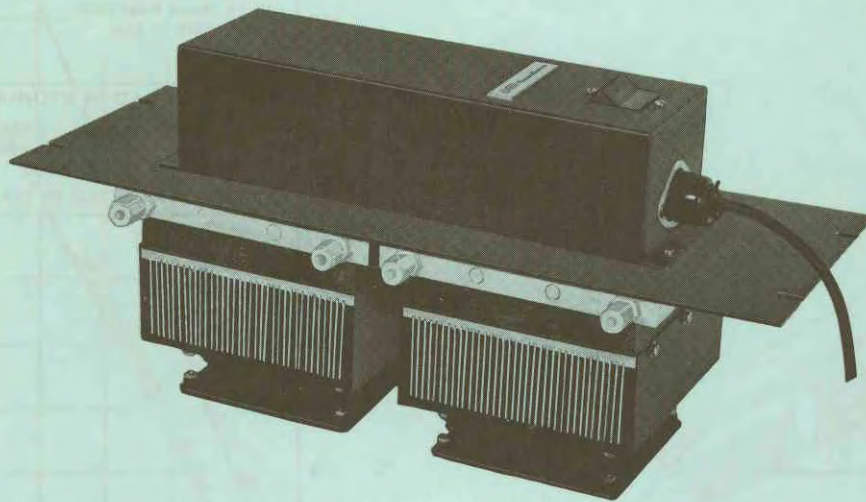


**LHP - 1700** (Liquid Cooled)

## Solid State Air Conditioner

RATING 1500 BTU/HR COOLING • 3200 BTU/HR HEATING

APPLICATION IN COMPUTERS, MACHINE TOOLS, ELECTRONICS



### FEATURES:

- LIQUID CIRCUIT MOUNTS SAFELY INSIDE YOUR ENCLOSURE
- LESS THAN 1.0 SQ. FT. PANEL SPACE
- WEIGHS ONLY 11.5KG. (25LBS.)
- NO COMPRESSOR
- NO EXPOSED FANS
- STANDARD 19" RACK MOUNT
- INTEGRAL D.C. POWER SUPPLY
- CLOSED SYSTEM PROTECTION FROM DUST, CHIPS, MOISTURE
- OPERATES IN ANY ORIENTATION HORIZONTAL, VERTICAL, ETC.
- NO LOAD COOLING TO -25°C (-15°F) AT ROOM TEMPERATURE
- OPERATES IN -30°C (-20°F) TO +60°C (+140°F)
- TWIST-LOCK SERVICE CORD INCLUDED
- NO MOVING PARTS EXCEPT FANS
- LOW VIBRATION, NOISE, MAINTENANCE

The Borg-Warner LHP-1700(Liquid Cooled) Thermoelectric Air Conditioner is a solid state method of refrigeration which eliminates the need for a compressor and refrigerant fluids. The only moving parts are high reliability fans used to move heat transfer air to cool a maximum heat load of 1500 BTU/hour and to dissipate output heat to the liquid coolant. It requires no external power supply other than 110 volts A.C.



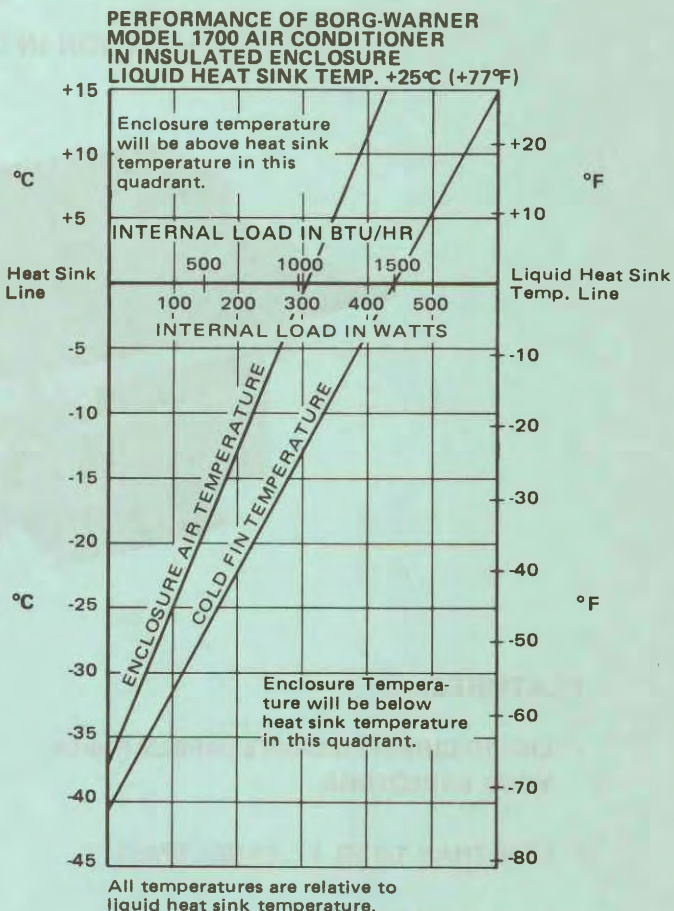
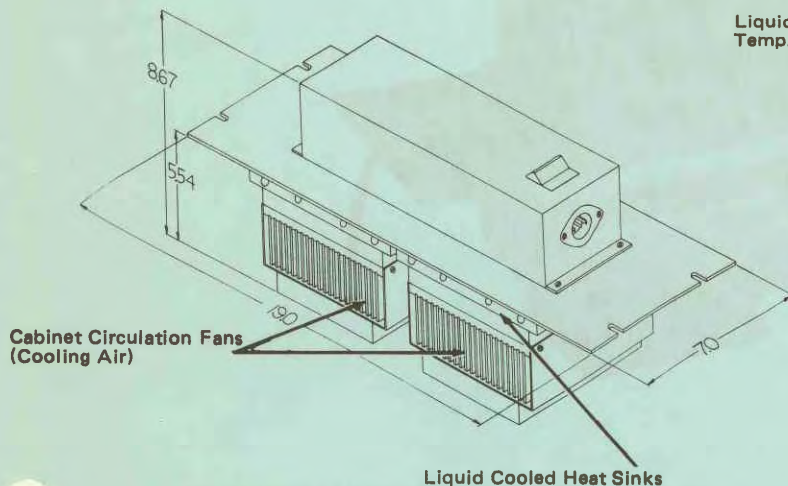
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# Borg-Warner Model LHP-1700 Thermoelectric Air Conditioner



The LHP-1700 Thermoelectric Air Conditioner is designed to mount in a standard 19-inch electronic cabinet. Liquid cooled heat sinks provide 35 percent greater heat pumping performance to give maximum cooling in a minimum amount of space. Liquid cooling facilitates cooling in high temperature environments by providing a liquid heat sink surface below ambient temperature.

The nominal heat pumping capacity at Zero  $\Delta T$  is 440 watts (1500 BTU/hr) with a 25°C (77°F) liquid heat sink temperature. The thermal load capacity, while providing 20°C of cooling, is 190 watts (655 BTU/hr at a 25°C (77°F) liquid heat sink temperature. (Rated values at cold fin.)

At minimum thermal load the cooling temperature provides a cold plate temperature of -25°C (-15°F). An internal rectifier bridge and filter provides D.C. power at 5.0 amperes directly from the 110-volt A.C. input.

**Power Required: 110 VAC at 5.0 Amps**

**Minimum Recommended coolant flow rate: 1.9 liter/min. (0.5 gal/min)**

**Weight: 11.5 Kg (25 lbs.)**



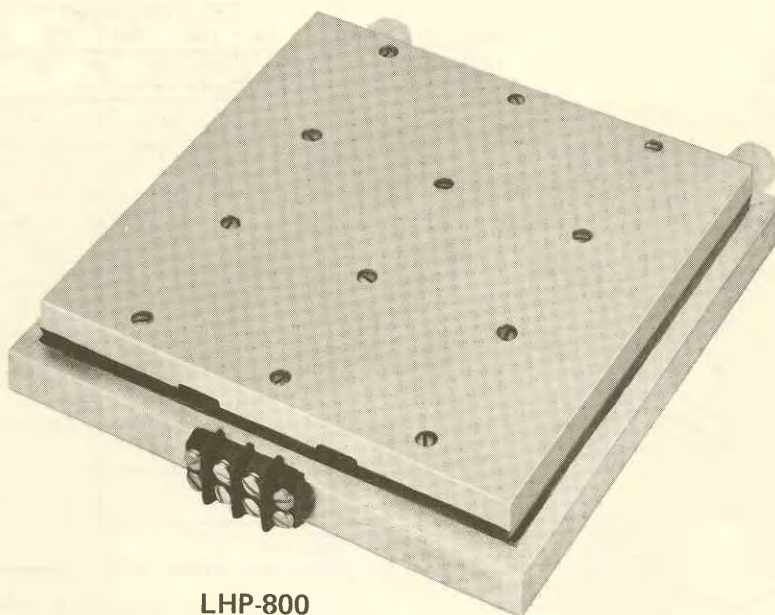


**LHP-800** (Liquid Cooled)

## Solid State Heat Pump

RATING 740 BTU/HR COOLING • 1300 BTU/HR HEATING

APPLICATIONS IN LABORATORIES AND INSTRUMENTATION



LHP-800

### FEATURES:

- LOW PROFILE IS PERFECT FOR BENCH TOP TEST STANDS
- WEIGHS ONLY 2 KG. (4.4 LBS.)
- NO COMPRESSOR OR FAN NOISE
- CAN OPERATE IN COOLING OR HEATING MODE
- NO MOVING PARTS
- OPERATES IN ANY ORIENTATION HORIZONTAL, VERTICAL, ETC.
- LOW MAINTENANCE
- NO VIBRATION
- OPERATES IN -30°C (-20°F) TO 110°C (230°F)

The Borg-Warner LHP-800 (Liquid Cooled) Heat Pump is a silent method of refrigeration, which eliminates the need for compressor and refrigerant fluids. This unit has a low profile, making it ideal for bench top testing of electronic components or chilling liquid solutions. The LHP-800 will cool a maximum of 215 watts (740 BTU/hr) with a temperature differential of 0°.

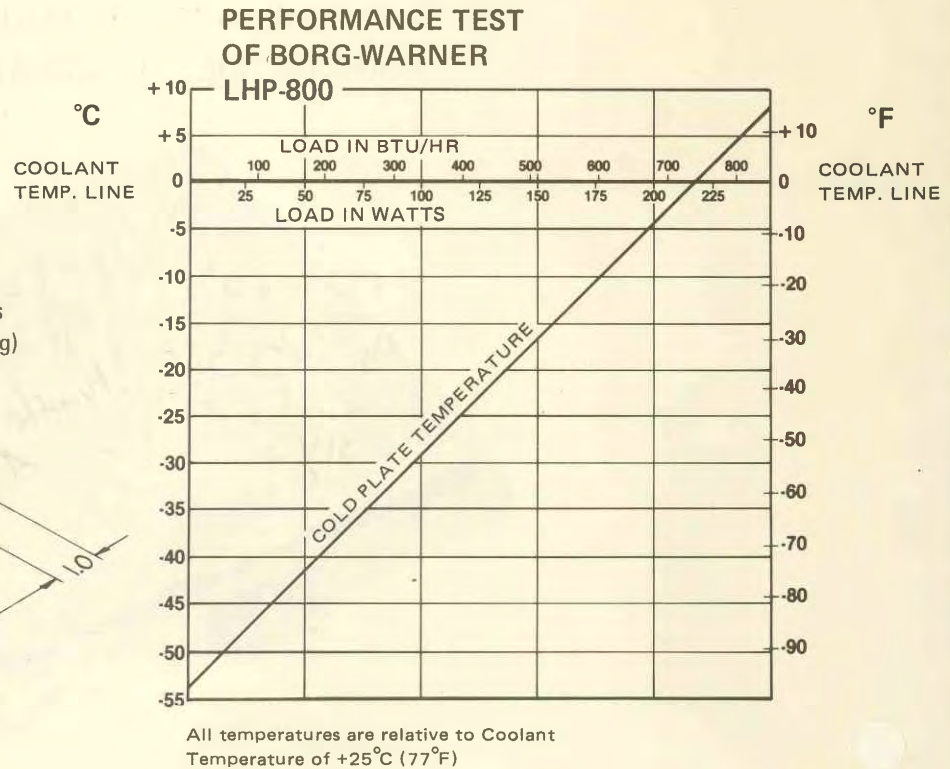
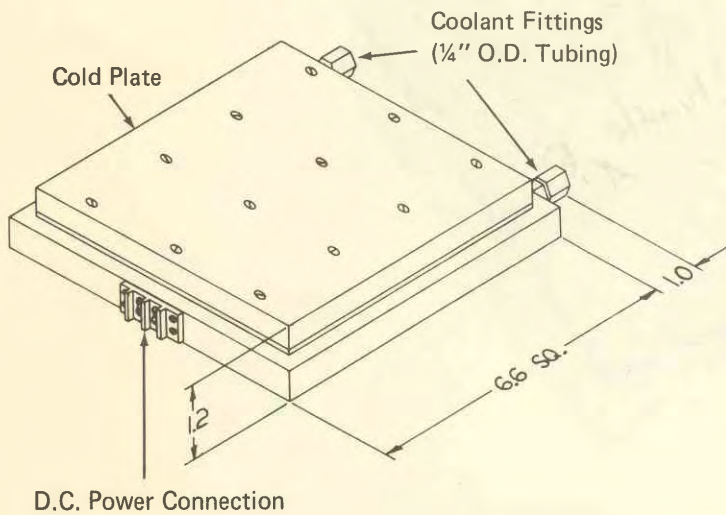


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# Borg-Warner Model LHP-800



Electronic components can be tested over a wide range of temperatures without large ovens and refrigeration chambers. The LHP-800 Heat Pump is designed as a bench top laboratory cold-hot plate for temperature calibration and cycling of electronics.

**Power Required:** 30 VDC at 10 Amps  
**Recommended Power Supply:** PS 400-30  
**Minimum Recommended Coolant Flow Rate:** 2 L/Min. (0.5 Gal./Min.)  
**Weight:** 2 Kg. (4.4 Lbs.)



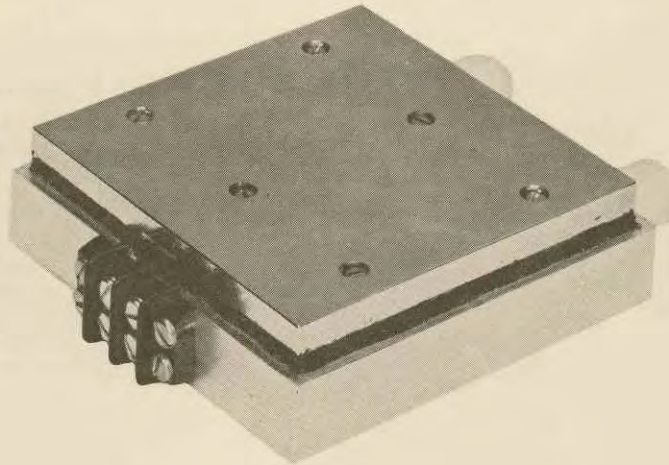


# LHP-300 (Liquid Heat Pump)

## Solid State Heat Pump

RATING 305 BTU/HR. COOLING • 600 BTU/HR. HEATING

APPLICATIONS IN INSTRUMENTATION AND COMPONENT COOLING



LHP-300

### FEATURES:

- NO LOAD COOLING TO  $-30^{\circ}\text{C}$  ( $-20^{\circ}\text{F}$ ), HOT SIDE AT  $25^{\circ}\text{C}$  ( $77^{\circ}\text{F}$ )
- WEIGHS ONLY 0.7 KG. (1.5 LBS.)
- NO COMPRESSOR
- CLOSED SYSTEM PROTECTION FROM DUST, CHIPS, MOISTURE
- NO MOVING PARTS
- NO VIBRATION, NOISE
- LOW MAINTENANCE
- OPERATES IN ANY ORIENTATION - HORIZONTAL, VERTICAL, ETC.
- OPERATES IN  $-30^{\circ}\text{C}$  ( $-20^{\circ}\text{F}$ ) TO  $110^{\circ}\text{C}$  ( $230^{\circ}\text{F}$ )
- CAN OPERATE IN COOLING OR HEATING MODE

The Borg-Warner LHP-300 Thermoelectric Heat Pump is a solid state method of refrigeration, which eliminates the need for a compressor or refrigerant fluids. This unit is supplied with a cold plate designed for cooling or heating a surface by direct contact. The LHP-300 will cool a maximum load of 90 watts (305 BTU/hr.) with a temperature differential of  $0^{\circ}$ .

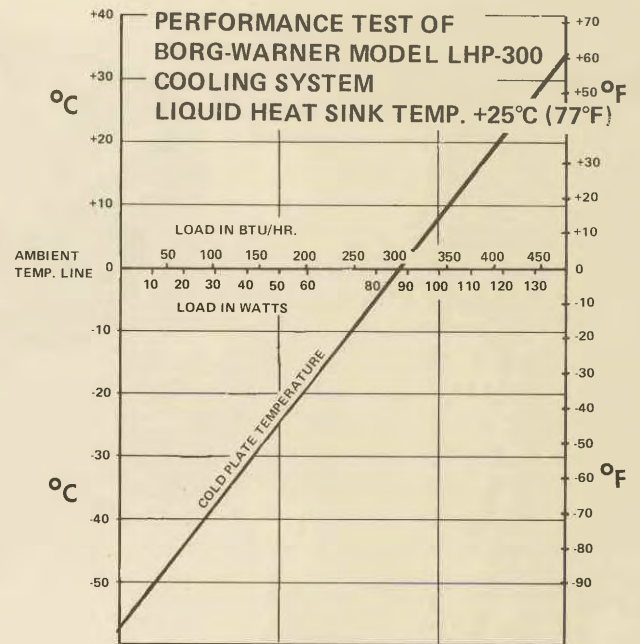
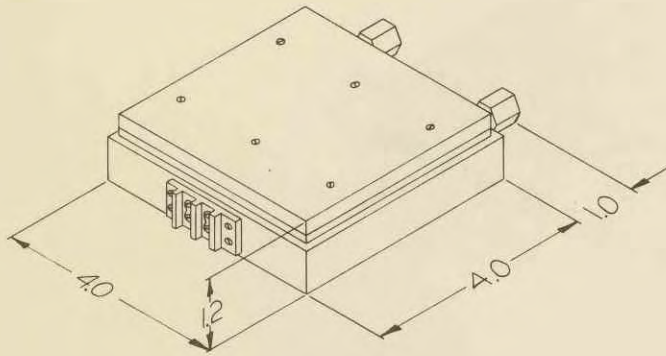


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# Borg-Warner Model LHP-300 Thermoelectric Heat Pump



The LHP-300 Heat Pump is designed to give the user flexibility for a wide variety of applications in Electronics, Medical & Scientific fields. Examples include: Laboratory test stands, electronic component cooling, biological sampling, freezing and cooling; as well as protection for sensitive camera and imaging equipment in hostile industrial environments.

**Power Required:** 24VDC at 4.5 Amps.

**Recommended Power Supply:** P.S. 160-24

**Minimum Recommended Coolant Flow Rate:** 0.18 L/Min. (0.05 Gal./Min.)

**Weight:** 0.7 Kg. (1.5 Lbs.)

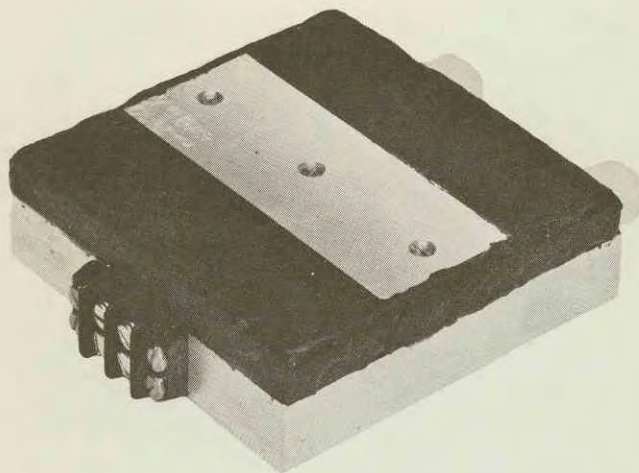




# LHP-150 (Liquid Cooled) Solid State Heat Pump

RATING 110 BTU/HR. COOLING • 300 BTU/HR HEATING

APPLICATIONS IN INDUSTRIAL AND CONSUMER PRODUCTS  
FOR COOLING



LHP-150

## FEATURES:

- NO LOAD COOLING TO  $-25^{\circ}\text{C}$  ( $-15^{\circ}\text{F}$ ),  
HOT SIDE AT  $25^{\circ}\text{C}$  ( $77^{\circ}\text{F}$ )
- WEIGHS UNDER 0.7 KG. (1.5 LBS.)
- NO COMPRESSOR
- OPERATES IN ANY ORIENTATION -  
HORIZONTAL, VERTICAL, ETC.
- CLOSED SYSTEM PROTECTION FROM  
DUST CHIPS, MOISTURE
- NO VIBRATION, NOISE
- LOW MAINTENANCE
- OPERATES IN  $-30^{\circ}\text{C}$  ( $-20^{\circ}\text{F}$ ) TO  $110^{\circ}\text{C}$   
( $230^{\circ}\text{F}$ )
- NO MOVING PARTS
- CAN OPERATE IN COOLING OR HEATING  
MODE

The LHP-150 is the smallest fully assembled heat pump that Borg-Warner produces. It will cool a maximum of 33 watts (110 BTU/hr) with a temperature differential of 0. This unit is supplied with a cold plate designed for cooling or heating a surface by direct contact.



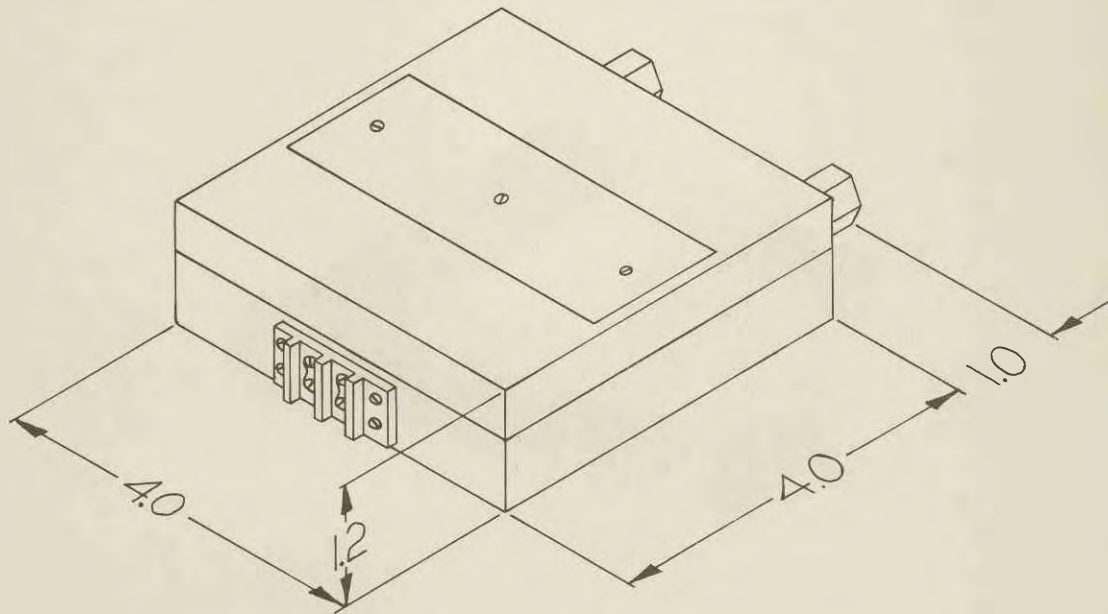
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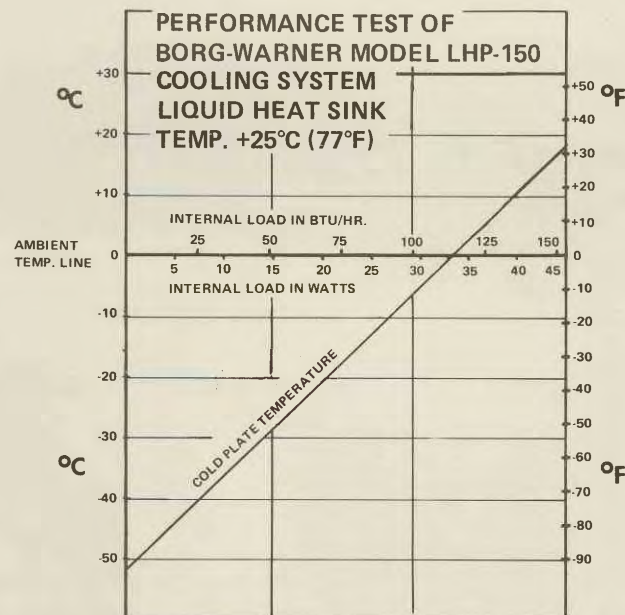
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# Borg-Warner Model LHP-150

## Thermoelectric Heat Pump



LHP-150



**Power Required:** 12 VDC at 4.5 Amps  
**Recommended Power Supplies:** PS 80-12 or PS 120-12V  
**Minimum Recommended Coolant Flow Rate:** 0.18L/Min. (0.05 Gal./Min.)  
**Weight:** 0.7 Kg. (1.5 Lbs.)





# P.S. Series D.C.-Power Supplies

RATING: 6-30 VOLTS; TO 13 AMPS

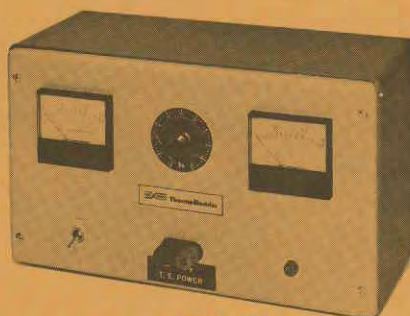
APPLICATIONS IN THERMOELECTRICS COOLING, HEATING AND  
LABORATORY TEST STANDS

## FIXED VOLTAGE



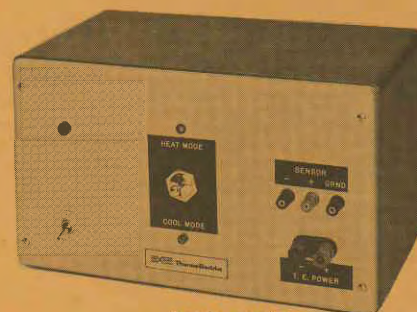
PS80-12  
PS160-24  
PS400-30

## VARIABLE VOLTAGE



PS30-6V  
PS120-12V

## HEAT/COOL



PS80-12HC  
PS160-24HC  
PS400-30HC

### FEATURES:

- HIGH RELIABILITY DUE TO SIMPLE DESIGN
- TRANSFORMER ISOLATION FROM POWER LINE
- 0° to 50°C OPERATING RANGE
- FULL WAVE RECTIFICATION
- CONSERVATIVELY RATED
- MAXIMUM RIPPLE 3% RMS
- OVERCURRENT PROTECTION FUSE
- CAPACITOR FILTERING
- RUGGED CONSTRUCTION

There are three variations of DC power supplies available from Borg-Warner Thermoelectrics.

**Fixed Voltage** power supplies are designed to form complete cooling systems matched with specific Borg-Warner thermoelectric heat pumps.

**Variable Voltage** power supplies PS30-6V and PS120-12V provide adjustable voltages which permit manual control of temperature and heat pumping from thermoelectric devices.

**Heat and Cool** power supplies increase system flexibility by converting the thermoelectric heat pump to a heat or cooling mode, depending upon position of the mode selector switch. When combined with model TC-108 controller and a Borg-Warner heat pump, precise temperature control is achieved in both heating and cooling modes.

Borg-Warner Power Supplies are more reliable, more energy efficient and more rugged than complex regulated power supplies.



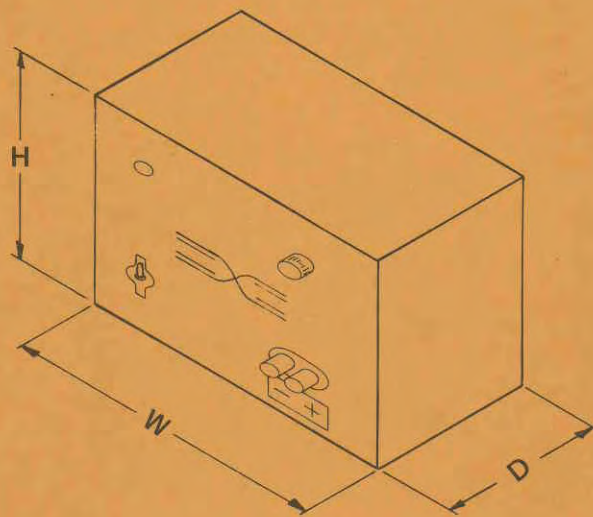
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# P.S. Series

## D.C.-Power Supplies



### Variable Voltage Power Supplies

Model	Output		Dimensions (W x H x D)	Weight	Designed For
	Voltage (DC)	Current (DC)			
PS30-6V	0-6 Volts	5 Amps	12.5" x 7.25" x 6.5"	5.9 Kg. (13 Lbs.)	Thermoelectric Modules
PS120-12V	0-12 Volts	10 Amps	12.5" x 7.25" x 6.5"	9.1 Kg. (20 Lbs.)	Thermoelectric Modules AHP-150 and LHP-150

### Fixed Voltage Power Supplies

PS80-12	12 Volts	6.5 Amps	12.5" x 7.25" x 6.5"	5.0 Kg. (11 Lbs.)	AHP-150 and LHP-150
PS160-24	24 Volts	6.5 Amps	12.5" x 7.25" x 6.5"	7.7 Kg. (17 Lbs.)	AHP-300 and LHP-300
PS400-30	30 Volts	13 Amps	12.5" x 7.25" x 8.5"	11.4 Kg. (25 Lbs.)	AHP-800 and LHP-800

### Heat and Cool Power Supplies\*

PS80-12HC	12 Volts (Cooling) 6 Volts (Heating)	6.5 Amps	12.5" x 7.25" x 8.5"	5.5 Kg. (12 Lbs.)	AHP-150 and LHP-150
PS160-24HC	24 Volts (Cooling) 12 Volts (Heating)	6.5 Amps	12.5" x 7.25" x 8.5"	8.2 Kg. (18 Lbs.)	AHP-300 and LHP-300
PS400-30HC	30 Volts (Cooling) 15 Volts (Heating)	10 Amps	12.5" x 7.25" x 8.5"	11.8 Kg. (26 Lbs.)	AHP-800 and LHP-800

\* Note: Borg-Warner Heat/Cool power supplies are designed for operation with Borg-Warner TC-108 temperature controller. For application assistance consult Borg-Warner Engineers.

Input: 110 VAC

AVAILABLE FROM STOCK subject to prior sale

2.51.81.14





# Solid State Temperature Controller TC-106

APPLICATIONS IN SCIENTIFIC, ELECTRONIC TESTING  
AND PROCESS CONTROL



## FEATURES:

- INCLUDES POWER CORD AND REMOTE SENSOR
- SIMULTANEOUS VIEWING OF SET-POINT AND SENSOR TEMPERATURE
- THUMBWHEEL TEMPERATURE SELECTION
- SOLID STATE OUTPUT RELAY RATED AT 5 AMPERES
- LED INDICATES COOLING ON
- 0°C HYSTERESIS
- 0.1°C RESOLUTION
- I. C TEMPERATURE SENSOR INPUT
- ONLY 3.25" H X 6.0" W X 6.18" D
- -39.9°C TO +39.9°C CONTROL RANGE

The TC-106 is a solid state temperature controller and is available in an attractive instrument package. It is used in controlling the A.C. input of any one of several D.C. power supply designs providing energy to Borg-Warner Thermoelectric modules or heat pump systems. *It also has the ability to control other cooling systems such as compressor motors and liquid cooling via solenoid valves.*

The desired temperature can be set within 0.1°C to any temperature in the range of -39.9 to +39.9°C with a three-dial thumbwheel switch. The three digit LED display provides a readout of the temperature sensed by the linear I.C. temperature sensor in the same range, within 0.1°C. This temperature controller will operate any system requiring 110 VAC, up to 5 Amps.



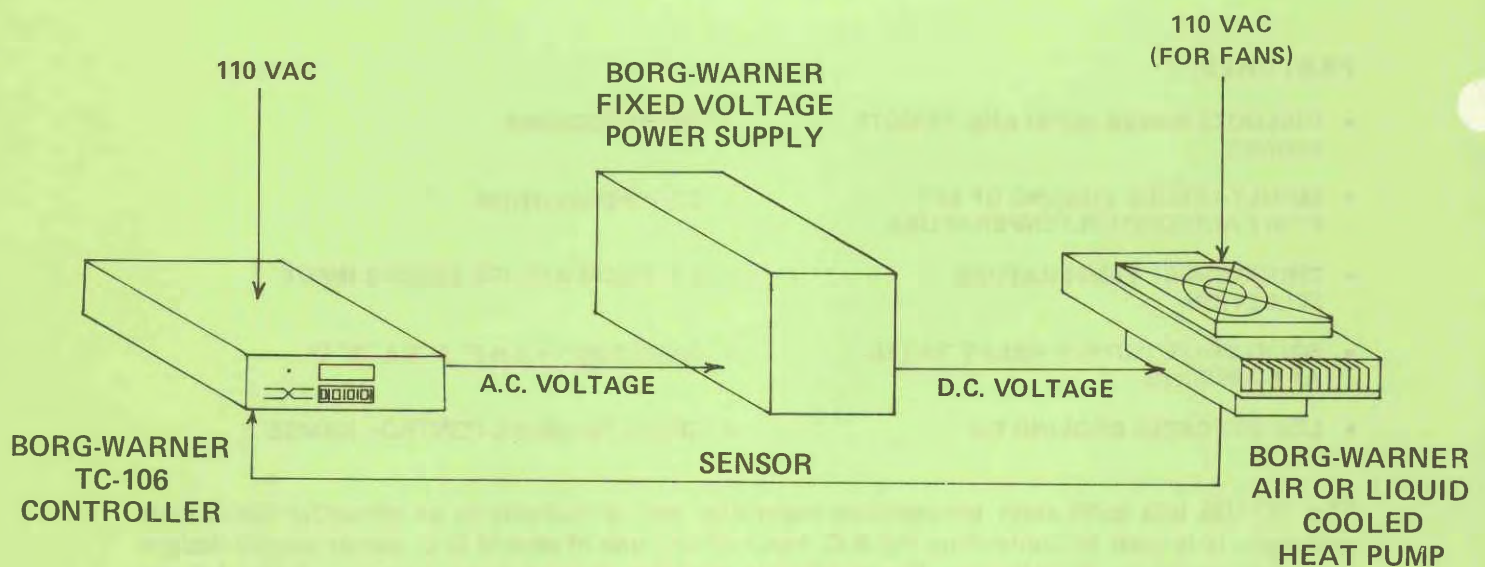
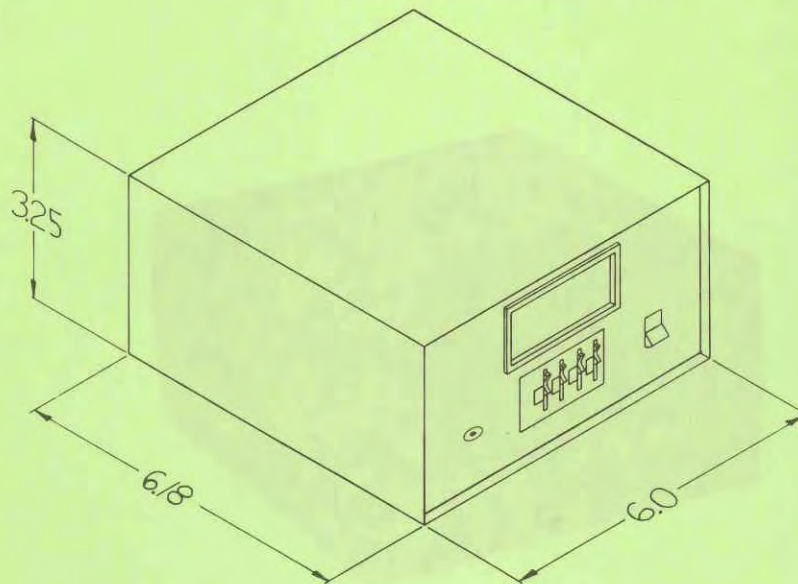
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# Borg-Warner Model TC-106 Solid State Temperature Controller



*SIMPLE ASSEMBLY: PLUG TC-106 CONTROLLER INTO 110 VAC WALL OUTLET AND PLUG POWER SUPPLY INTO 110 VAC EXTENSION FROM TC-106 CONTROLLER.*

## OPTIONS:

- -50 TO +150°C CONTROL RANGE WITH 1.0°C RESOLUTION
- 2, 4, or 8°C HYSTERESIS

Power Required: 110 V.A.C. at 0.1 Amp.  
Relay Rating: 5 Amps  
Weight: 0.91 Kg. (2 Lbs.)





# TC-108 Solid State Heat-Cool Temperature Controller

APPLICATIONS IN ELECTRONIC TESTING, TEMPERATURE  
CYCLING AND TEMPERATURE STABILIZATION



## FEATURES:

- INCLUDES SERVICE CORD AND REMOTE SENSOR
- SIMULTANEOUS VIEWING OF SETPOINT AND SENSOR TEMPERATURE
- MANUAL SWITCHING FROM HEAT TO COOL MODE
- THUMBWHEEL TEMPERATURE SELECTION
- 0°C HYSTERESIS
- GREEN LED INDICATES COOLING ON, RED LED INDICATES HEATING ON
- 1°C RESOLUTION
- I.C. TEMPERATURE SENSOR INPUT
- ONLY 3.25" H x 6" W x 6.18"D
- -55 TO +150°C CONTROL RANGE

The TC-108 is a solid state temperature controller designed for use in conjunction with Borg-Warner thermoelectric systems and power supplies requiring the flexibility of both heating and cooling modes.

The desired temperature can be set within 1°C to any temperature in the range of -55 to +150°C with a three-dial thumbwheel switch. The three digit LED display provides a readout of the temperature, sensed by a linear I.C. temperature sensor in the same range, within 1°C.

The TC-108 provides the signals for both a cooling and heating mode. However, the design assumes the manual Heat-Cool mode switch and solid state output relay to be contained in the power supply cabinet, minimizing long runs of power leads.

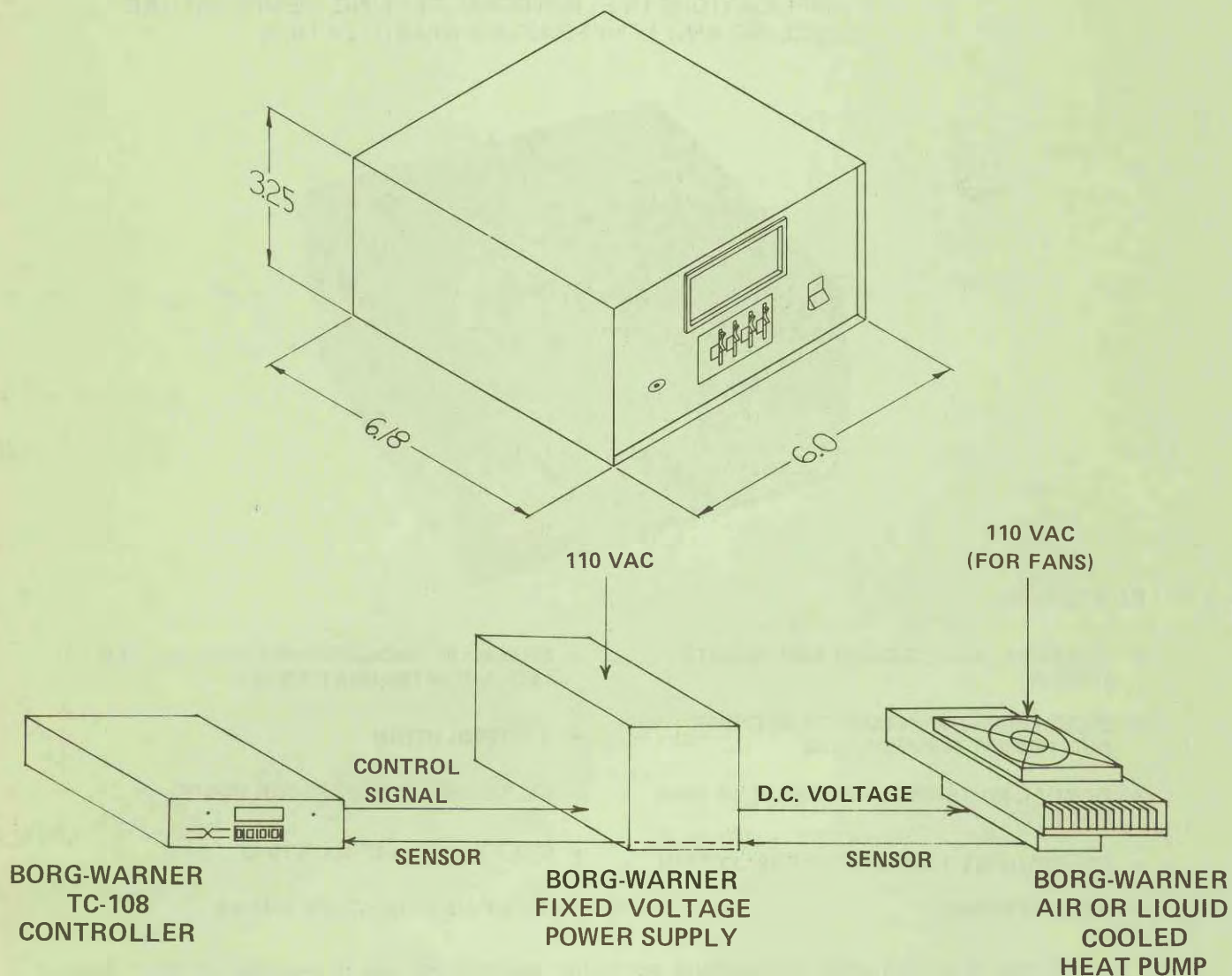


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# Borg-Warner Model TC-108 Solid State Heat-Cool Temperature Controller



**SIMPLE ASSEMBLY: PLUG TC-108 SERVICE CORD INTO BORG-WARNER HEAT-COOL POWER SUPPLY AND PLUG POWER SUPPLY INTO 110 VAC WALL OUTLET.**

*NOTE: Borg-Warner TC-108 is designed to be used with Borg-Warner Heat-Cool Series Power Supplies and AHP or LHP heat pumps. For application assistance or use with other equipment consult Borg-Warner Engineers.*

## OPTIONS:

- -39.9 to +39.9°C control range with 0.1°C resolution
- 2, 4, or 8°C hysteresis

**Power Required:** 110 VAC at 0.1 Amp.

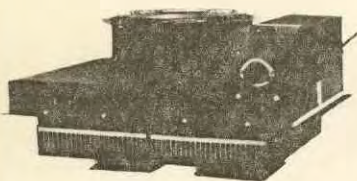
**Weight:** 0.91 Kg. (2 Lbs.)





# Product Price List

## Air Conditioners & Heat Pumps



Air Cooled

Model	Price
AHP-1700	\$995.00
AHP-800	550.00
AHP-300	265.00
AHP-150	165.00
AHP-125E	90.00



Liquid Cooled

Model	Price
LHP-1700	\$1050.00
LHP-800	615.00
LHP-300	290.00
LHP-150	190.00

## Temperature Controllers



Model	Price
TC-106	\$265.00
COOL ONLY	
TC-108	\$540.00
MANUAL HEAT/COOL	
Optional temperature range and optional hysteresis	\$ 25.00
Extra IC temperature sensor	\$ 20.00

NOTE: TC-108 is used in conjunction with Heat/Cool Series Power Supplies

## DC Power Supplies



Model	Price
PS 30-6V	\$225.00
PS 120-12V	311.00
PS 80-12	175.00
PS 160-24	237.00
PS 400-30	300.00
PS 80-12HC	215.00
PS 160-24HC	265.00
PS 400-30HC	445.00

## Single Stage Modules



Cooling Modules (When ordering specify tinned or lapped surfaces)

Model		940-7	940-11	940-15	940-31	930-7	930-11	930-17	930-35	930-71
Qty.	1-9	\$19.40	\$22.40	\$28.25	\$33.30	\$15.50	\$21.10	\$26.75	\$38.00	\$45.00
	10-24	\$16.50	\$19.10	\$24.10	\$26.70	\$13.20	\$18.00	\$22.80	\$32.40	\$38.40
	25-99	\$13.60	\$18.60	\$19.90	\$22.20	\$13.00	\$15.90	\$18.00	\$27.40	\$34.50

High Temperature Modules

Model		950-7HT	950-11HT	950-17HT	950-35HT	950-71HT
Qty.	1-9	\$35.70	\$48.50	\$61.60	\$87.50	\$103.70
	10-24	\$30.50	\$41.50	\$52.60	\$74.70	\$88.50

Effective Feb. 1, 1981



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