### Temperature Controlled Enclosures

Protect your electronics and control their environment!

#### ACE Series

- **BW-124-8-ACE**
  - 24"W x 24"H x 8"D with an 800 BTU AC unit
- **BW-124-8-ACESS**
  - Stainless steel version

- **BW-124ACE**
  - 24"W x 24"H x 12"D with a 2000 BTU AC unit
- **BW-124ACESS**
  - Stainless steel version

- **BW-136ACE**
  - 24"W x 36"H x 12"D with a 2000 BTU AC unit
- **BW-136ACESS**
  - Stainless steel version

- **BW-RACKACE**
  - 22"W x 12 RU H x 24"D with 2000 BTU AC unit and an internal 19" rack
- **BW-RACKACESS**
  - Stainless steel version

- **BW-242410ACE**
  - Polycarbonate, non-metallic enclosure, 24"W x 24"H x 10"D with a 800 BTU AC unit

#### ACHT Series

- **BW-124-8-ACHT**
  - 24"W x 24"H x 8"D with an 800 BTU AC unit and 150W heater
- **BW-124-8-ACHTSS**
  - Stainless steel version

- **BW-124ACHT**
  - 24"W x 24"H x 12"D with a 2000 BTU AC unit and 500W heater
- **BW-124ACHTSS**
  - Stainless steel version

- **BW-136ACHT**
  - 24"W x 36"H x 12"D with a 2000 BTU AC unit and 500W heater
- **BW-136ACHTSS**
  - Stainless steel version

- **BW-RACKACHT**
  - 22"W x 12RU H x 24"D with 2000 BTU AC unit, 500W heater, and an internal 19" rack
- **BW-RACKACHTSS**
  - Stainless steel version

- **BW-242410ACHT**
  - Polycarbonate enclosure, 24"W x 24"H x 10"D, with a 800 BTU AC unit and 150W heater

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Don't see the enclosure you need?
Call or e-mail us and we'll be happy to help!
2000BTU (T-20) & 800BTU (T-15) AC Units with compressor coil heater and thermostats with variable controls for both cooling or heating

Power:
Once installed correctly, the power cords for the AC unit and the heater are within the enclosure. Thus, the installer/electrician is responsible for getting power inside the enclosure. It is up to the installer to cut, and properly install with water-tight fittings, any holes needed to run power within or run cables out of these enclosures.

Both the AC unit and the heater get their power from AC 115V, 60Hz. Mier recommends the installer/electrician run power into the box via flexible or rigid conduit, with water-tight fittings both inside and out, to outlet boxes mounted within the enclosure.

Wiring: use #12 AWG standard house wiring to a quad outlet box

Connection: the AC/Heater unit has a standard 3-prong NEMA 5-15P plug and the tamper switch connects to the standard low-voltage alarm circuit.

* Power: 115V, 60Hz
* Amp Draw: 2000 BTU draws 7 amps with initial start-up spike of 17.5 amps.
* 800 BTU draws 3.8 amps with initial start-up spike of 8.5 amps.
* Dimensions: 2000 BTU unit is 10”W x 20”H x 10”D ---- Weight: 63 lbs
* 800 BTU unit is 7.5”W x 15.75”H x 7.25”D ---- Weight: 27 lbs
* Mounts: Slips into pre-punched holes on enclosure (Note: install gasket first)
* Min/Max Temp: -40/131 degrees F (-40/55 degrees C)

500 Watt & 150 Watt Heaters
* Power: 115V, 60Hz
* Amp Draw: 500-watt heater draws 4.5 amps, 150-watt heater draws 1.5 amps

Tamper Switch - Plunger style includes both NC and NO contacts

* Maintenance: ***Clean the air filter every six months minimum*** RP aluminum washable air filters are designed to provide excellent filtering efficiency with a high dust holding capacity and a minimum amount of resistance to air flow. Because they are constructed entirely of aluminum they are lightweight and easy to service. Optimum filter performance is maintained by recoating the filters after washing with RP Super Filter Coat adhesive. To achieve maximum performance from your air handling equipment, air filters should be cleaned on a regular basis. The inlet air filter is located behind the front cover. To access filter, pull ring protruding from slot in bottom of front cover. The filter may now be cleaned or new filter installed.

Cleaning Instructions:
1. Flush the filter with warm water from the exhaust side to the intake side. DO NOT USE CAUSTICS.
2. After flushing, allow filter to drain. Placing it with a corner down will assure complete drainage.
3. Recoat the filters with RP Super Filter Coat adhesive. When spraying filter do so from both sides for maximum concentration of adhesive.

DO NOT MOUNT enclosures equipped with air-conditioners on walls of apartments, offices, condos or homes due to slight vibration from the AC unit, which might become a nuisance to those who live/work on the other side of the wall. Mier recommends mounting these units on concrete pads using vertical struts of angle-iron or poles, or mounting on walls not common to living/work areas.

Remember: Sealing the outside of holes made for conduit coming up from the ground is only half the job. Also always make the opening inside the enclosure water/air-tight to prevent condensation, or even mice, coming up into the enclosure from the ground.

Powder-Coated Steel, Stainless Steel or Polycarbonate: Mier Products’ offers all of these choices in temperature controlled enclosures. ALL of Mier’s Air-Conditioned and Air-Conditioned with Heater enclosures are NEMA4 air/dust/water-tight. The Polycarbonate and Stainless models add the benefits of NEMA4X which are air/dust/water-tight and offer corrosion protection for installations which call for it.

ATTENTION: When choosing an enclosure for your application, careful consideration must be given in determining the heat load and operating temperature parameters of the electronics mounted within. Also consider the conditions of the environment where the unit is to be mounted, and the moisture toleration of the electronics mounted within. Based on these facts, the need for air-conditioning, humidity control, heat, and/or fans can be determined as well as the NEMA rating needed. (For example, if the electronics cannot be exposed to moisture of any kind, a NEMA 3R fan-ventilated unit would NOT work; you would need at least a NEMA 4 or NEMA 4X unit.) Mier commonly recommends the highest NEMA rated and most effective Temperature Controlled units which are the “ACHT” series enclosures.

NOTE: To keep NEMA Rating, installers must strictly follow OEM installation instructions and must use water-tight fittings on all openings.
**Mier Products’ Temperature Controlled Enclosures**

**Installation and Warranty Information**

**Urgent!**
The AC UNIT which accompanies this enclosure MUST BE KEPT IN THE UPRIGHT POSITION AT ALL TIMES, and handled with the utmost care during shipping, storage, installation. The AC UNIT must be mounted to the enclosure using the pre-cut holes and supplied gaskets. The AC UNIT must be installed in the upright position, and following OEM instructions in order to maintain NEMA rating.

**Attention:**
WATERTIGHT FITTINGS MUST BE USED ON ALL OPENINGS!
When installed properly:
- AC Unit is UL/cUL 50 Type 3R, 4, 12, CE UL file SA6453
- Enclosure meets NEMA4 Standards
- Paint meets NEMA 4, UL-1332
- Gasket meets NEMA 4, UL-50 and UL-94-HB Flammability Rating
- Tamper Switch is UL Pending

Depending on the model you purchase, some ACE or ACHT units have less or more cubic volume inside.

- Mier’s “ACHT” and “ACE” models come with a **2000 BTU A/C** Unit (aka: T-20s). When installed and functioning properly, it will maintain an internal preset temperature of (+/- 3°F) when the internal heat load is **200** watts. For example the BW-124ACE (enclosure size 24"W x 24"H x 12"D) is capable of maintaining an 80°F internal temperature (+/- 3°F) up to an outside temperature of 135°F.
- Mier’s “ACHT” models also come with a 500W Heater integrated into the A/C unit. When installed and functioning properly, it will maintain an internal preset temperature (+/- 3°F) when the internal heat load is **200** watts. For example the BW-124ACHT (enclosure size 24"x24"x12") maintains a preset temperature (+/- 3°F) up to a maximum of up to 60°F with an outside temperature of -20°F. The BW-136ACHT (enclosure size 24"x36"x12") maintains a preset temperature (+/- 3°F) up to a maximum of up to 60°F with an outside temperature of -10°F.
- Mier’s “BACHT” and “BACE” models, AND Mier’s Polycarbonate enclosure AC models, come with the **smaller 800 BTU A/C** Unit (aka: T-15). When installed and functioning properly, it will maintain an internal preset temperature (+/- 3°F) when the internal heat load is **100** watts. For example the BW-124BACE (enclosure size 24"x24"x8") is capable of maintaining an 80°F internal temperature (+/- 3°F) up to an outside temperature of 125°F.
- Mier’s “BACHT” models also come with a 150W Heater integrated into the A/C unit. When installed and functioning properly, it will maintain an internal preset temperature (+/- 3°F) when the internal heat load is **100** watts. For example the BW-124BACHT (enclosure size 24"x24"x8") maintains a preset temperature (+/- 3°F) 40°F internal temperature down to an outside temperature of -20°F.

* If your installation is in warmer or cooler exterior environments, or if your internal heat load is greater, or if you are installing in a coastal or highly corrosive area call Mier Products for advice on special order units
* Mier recommends only installing units with window in shaded areas; as interior temperatures of these units reach 20° higher in direct sunlight than units without windows
* Remember to schedule maintenance of Air-Filters which MUST BE CLEANED PERIODICALLY
* The unit with the MOST COOLING AND HEATING PER CUBIC INCH, and most highly recommended, is the BW-124ACHT

Mier’s Temperature Controlled Enclosures are completely sealed with no knockouts or holes in the enclosure other than those for mounting the AC unit. When installed correctly with the AC unit they meet NEMA4 standards and may be used either indoors or outdoors, and provide a degree of protection to personnel against incidental contact with the enclosed equipment, and they provide a degree of protection for the equipment within from windblown dust, splashing water, hose-directed water, rain, sleet, snow, ice, and dirt.

- This enclosure is properly installed when the top & bottom mounting ears are flush against the wall or mounting struts, and held securely with appropriate bolts, and the hinges face to the left after the enclosure has been mounted
- Watertight fittings must be used on all openings created by the installer, including on the inside around conduit running up from the ground. The door-gasket provided around the opening of the enclosure must remain in place and never be removed.
- The AC/Heater unit must be mounted with the provided gaskets installed between the AC/Heater unit and the enclosure, using the appropriate pre-cut holes on the enclosure, and strictly following the unit’s OEM installation guidelines. Once attached, these AC/Heater gaskets must also remain in place and never be removed.
- The tamper switch should be mounted on the studs at the top of the enclosure
- If you have ANY questions regarding the installation of these products, call Mier Products at 1-800-473-0213

**For ON-SITE inspection & repair of A/C units, or A/C Tech Support, call nVent Customer Service at 800-896-2665**

AC units needing repair or inspection should be viewed onsite and should not be removed. In the rare case these units would be returned, the returnee must first obtain an RMA#, follow the strict shipping and packaging guidelines. The enclosures and AC Units must be shipped on their own skid, and within the original packaging. REMEMBER: The AC Unit must be kept upright at all times.
Many of the air-conditioners and combination air-conditioner/heater units have optional Malfunction Switches in them, that are controlled by the red, yellow, and blue wires that exit the AC unit with the power-cord.

### Malfunction Switch Wiring

- **Red** = Common
- **Yellow** = Normally Open
- **Yellow** = Normally Open
- **Blue** = Normally Closed

### Thermostat:

The “ACHT” Series enclosures are both heated and air-conditioned, so there are two dials for the thermostat on these units. The “ACE” Series enclosures are air-conditioned, without heaters, so there is only one dial for the thermostat.

### Malfunction Switch:

Units with the optional Malfunction Switch have a normally open connection between the red and yellow wires, and a normally closed connection between the red and blue wires. If a malfunction would occur, the red and yellow wires will be closed and the blue and red wires will be open.

Maximum electrical ratings for this switch are 13 amps for 120V AC models and 10 amps for the 240V AC models.

The malfunction switch on the air conditioner is a pressure switch. It is plumbed into the high pressure side of the hermetic system. In a typical application, the malfunction switch is not wired to control any component of the air conditioner, rather it is an independent switch designed to actuate a customer supplied alarm of some type. There is no power supplied to the malfunction switch, it requires both a power source and an alarm (light, buzzer, bell, etc.) to be of any use.

The pressure and temperature are relative in refrigeration circuits. Therefore when the temperature goes up then the system pressure will go up also. Typically the temperature in the system will go up when the filter is clogged, the condenser blower is not operating, or the condenser coil is obstructed. The malfunction switch will close the contact which can then send a signal to the customer supplied alarm device.

The overload on the air conditioner is a bi-metal klixon switch through which the power to the compressor flows. If the compressor gets too hot, the overload opens the circuit, shutting off the compressor. When the switch cools down again, it closes the contact and allows the compressor to run again.
Many of the air-conditioners and combination air-conditioner/heater units have optional Malfunction Switches in them, that are controlled by the red, yellow, and blue wires that exit the AC unit with the power-cord.

**Thermostat:**
The “ACHT” Series enclosures are both heated and air-conditioned, so there are two dials for the thermostat on these units. The “ACE” Series enclosures are air-conditioned, without heaters, so there is only one dial for the thermostat. The 800 BTU AC unit’s thermostat is set to 75 F/23 C. To change the temperature setting, remove the front face of the unit. Use a standard screwdriver to adjust thermostat. For cooler temperatures turn clockwise, for warmer temperatures turn counterclockwise. Setpoint differential is 6 F.

**UNITS WITH HEAT**
With a dial setting of 75 F, heat will turn on @ 70 F and turn off @ 75 F. Cooling will turn on @ 85 F and turn off at 80 F. There is a 10 F difference between the heater off setpoint and cooling on setpoint to prevent both from operating at the same time. The dial range of the thermostat is 50-95 F.

**Malfunction Switch:**
Units with the optional Malfunction Switch have a normally open connection between the red and yellow wires, and a normally closed connection between the red and blue wires. If a malfunction would occur, the red and yellow wires will be closed and the blue and red wires will be open.

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Pole Mount Kits

for 2 inch to 5 inch poles (see next page for larger poles)

ATTENTION: THERE IS NO NEED TO DRILL HOLES INTO THE ENCLOSURES TO MOUNT THE POLE-MOUNT KITS. PLEASE SEE INSTRUCTIONS BELOW.

• For poles that are 2” in diameter up to 5”, our Pole-Mount Kits use two (2) rails across the top and bottom of the enclosure and fit between the enclosure and the pole, and four (4) pole-brackets that go around the pole (two on bottom and two on top) which are tightened down for a secure fit. (see next page for 6” to 12” poles)

Part numbers for these kits are the BW-24PM2 (2” pole), BW-24PM3 (3” pole) and BW-24PM4 (4” - 5” poles)

Mier Recommends using at least two people to pole-mount heavy enclosures, and preforming steps 1-2 PRIOR to going to job site.

1) Attach the two (2) rails to the enclosure by placing them flat against the Mounting Brackets on top and bottom of the enclosure, corresponding to the mounting holes. Then place the 3/8 x 16 Bolts through the Rails and the holes in the enclosure Mounting Brackets. Secure with the 3/8” Washers on the outside and 3/8 x 16 Flange-Nuts on the inside.

2) Twist and insert the four (4) pole-brackets into the two rails. Two of these brackets go in the top rail, and two go in the bottom rail with the curved sections facing inwards towards each other to wrap around the pole (see photo):

3) Wrap the pole-brackets around the pole, insert the attachment bolts, secure and tighten with the lock-nuts.

These pole-mount kits are used with the following Mier Products Enclosures:
**Pole Mount Kits**

for 6 inch to 12 inch poles (see previous page for smaller poles)

ATTENTION: THERE IS NO NEED TO DRILL HOLES INTO THE ENCLOSURES TO MOUNT THE POLE-MOUNT KITS. PLEASE SEE INSTRUCTIONS BELOW.

- For **poles that are 6” in diameter to 12”**, our Pole-Mount Kits use two (2) heavy-duty adjustable bands which fit inside the rails across the top and bottom of the enclosure and fit between the enclosure and the pole as pictured on the left and below.

Part numbers for these kits are the BW-24PM6 (6” to 8” poles), BW-24PM8 (8” to 10” poles) and BW-24PM12 (10” to 12” poles)

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Mier Recommends using at least two people to pole-mount heavy enclosures, and performing steps 1-4 PRIOR to going to job site.

1) Mark the center point of each Mounting Rails (A).

2) Slide the Adjustable Band Guides inside both Mounting Rails, and center them to the point marked on step 1 (B).

3) Place the 1/4” x 20 Screws and 1/4” Washers on the outside of the Mounting Rails, run the bolts through the Mounting Rails and Adjustable Band Guides, and secure with the 1/4” x 20 locknuts on the inside (C and B).

4) Insert the two (2) Heavy-Duty Adjustable Bands into the two (2) Adjustable Band Guides inside the Mounting Rails. The bands should curve outwards, away from the inside of the Mounting Rails. One (1) of these Heavy-Duty Adjustable Bands goes in each of the Adjustable Band Guides assembled inside each of the Mounting Rails (D).

5) Attach the two (2) assembled Pole-Mount Rails onto the two (2) Mounting Lips of the Enclosure using the four 3/8” x 16 Carriage Bolts entering through the inside of the Mounting Rail, use TWO (2) of the eight 3/8″ EXTRA THICK Washers on each bolt between the rail and the enclosure lip for proper spacing, then use the 3/8” Standard Washers on the outside of the Enclosure Lip with the 3/8” flange-nuts (E).

6) Wrap the bands around the pole and use a power driver with a straight blade screw-driver, or a 3/8” socket fitting, to tighten the bands securely around the pole (F).

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These pole-mount kits are used with the following Mier Products Enclosures:

Customer Shared Mounting Examples and Notes

Make sure you properly ground the enclosure, especially if mounting to a wall or wooden posts. If you’re not sure how to do this, consult a certified electrician or contact the manufacturer.

 Mounted inside the gate-house at a gated community

Wall-mount

Using metal tubing or angle-iron and a concrete slab

Along a gate using metal tubing to run wiring from one enclosure to another

Rack Enclosure mounted on a wall

Installer made mounting surface

Using conduit and angle-iron

NOTE: Do Not Mount On Apartment/Condo/Office Walls
Home and office AC units are mounted a few feet away from a home or on the roof of an office building in order to avoid vibration noise from becoming a nuisance to those who live/work within. For that same reason, Mier recommends installers mount our temperature-controlled enclosures on concrete slabs with angle-iron or poles as pictured, or on walls that are not common to living or office space.

Our engineers recommend the following options around RGS fittings in holes installers might cut into the enclosures, in order to keep NEMA ratings:

- If not using conduit or flex-cable, and running your cords directly into the enclosure, we recommend drilling your holes in the bottom of the enclosure and using a Heyco fitting appropriate for your specific cord size, and able to fit in our 3/16” enclosure wall thickness. These fittings can be found at: http://www.heyco.com/Liquid_Tight_Cordgrips/index.cfm
- If you are using conduit or flex-cable, we recommend drilling your holes in the bottom of the enclosure and using an appropriate fitting such as:
  - McMaster Carr 7119K13 = ¾” Liquid-Tight Conduit Fitting/Heavy-Duty - http://www.mcmaster.com/#7119k13/=vg864m

Remember: sealing the outside of holes used for conduit coming up from the ground is only half of the job. You must also make the inside of the opening from the conduit water/air-tight to prevent ground condensation and even mice from coming up into the enclosure!
**Warranty Information**

**ENCLOSURE WARRANTY:**
*Mier Products, Inc.'s Limited Warranty Program*, for Standard Line or Custom Enclosures and Parts, protects the original owner for 30 days from the date of purchase against defects in original parts or workmanship. Mier Products, Inc. agrees to repair or replace parts (Mier’s option) that are deemed defective by our Quality Control Team, without charge for parts or labor, if the defective unit is returned prepaid to Mier Products, Inc., Kokomo, IN, within the 30-day period.

Enclosures and fabricated parts are not products containing complicated technology or electronics, so close inspection at the time of receipt by the customer will quickly determine product quality. Thus, Mier Products, Inc. recommends inspection of enclosures/parts immediately upon receipt and contacting Mier Products, Inc. if quality issues arise.

Mier Products, Inc. does not assume responsibility for claims or damages caused by improper installation or use of these products, accessories, and/or products connected to or stored within them. Mier Products, Inc. does not assume responsibility for damages to these products or their accessories due to shipping damage or damage occurring while in a customer’s warehouse and/or possession. These products and any accessories (including but not limited to air conditioning units, heaters, fans, filters, locks, latches, tamper switches, removable panels) must be shipped, handled, stored, and installed with strict adherence to OEM installation instructions.

This warranty constitutes the entire warranty with respect to Mier’s Drive-Alert Models and Accessories and IS IN LIEU OF ALL OTHERS, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OR MERCHANTABILITY AND WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND IN NO EVENT IS MIER PRODUCTS, INC., OR IT’S DISTRIBUTOR, DEALER, OR OEM PARTNERS, RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER.

Any warranty or sales questions should be directed to Mier Products at 800-473-0213, or via e-mail to info@mierproducts.com

Any repair work not covered by this Warranty is available for a nominal charge.

**AIR-CONDITIONER, HEAT EXCHANGER, AND FILTER WARRANTY**

Mier Products exclusively uses nVent (Mier’s business partner for the heating and cooling systems used in Mier’s Temperature Controlled Enclosures) air-conditioners and air-conditioners with integrated heating units. The following warranty information was taken from nVent’s warranty policy (10-1008-196 rev 5) for your information. All AC and Heater units come with a nVent instruction manual with warranty information included. That information, shipped with each nVent Thermal unit, supercedes what is written here:

**Synopsis of nVent Thermal Warranty**

Please note: Warranty effective at time of shipment.

nVent warrants that all material and workmanship are free of defects in quality which impair the usefulness of the air conditioner or heat exchanger for a period of five (5) years for non-operating parts, except for the filter; and for one (1) year for everything else when installed and operated under the following conditions:

A. Maximum voltage variation no greater than plus or minus 10% of nameplate nominal rating.
B. Maximum frequency variation no greater than plus or minus 3 Hz. of nameplate nominal rating.
C. Must not exceed minimum and maximum stated temperatures on the nameplate.
D. Not to exceed (BTU/Hr.) rating, including any heat sink, as indicated on the nameplate.
E. The unit must not be restarted for a period of one (1) minute after intentional or accidental shut-off.

(This does not apply to heat exchanger or filter fan.)

nVent warrants that all material and workmanship are free of defects in quality which impair the usefulness of the filter fan package and all custom air conditioners and heat exchangers for a period of one (1) year, except for the filter, when installed and operated under conditions A, B, C, and D above.

Not covered in this warranty is damage to the air conditioner or heat exchanger due to the introduction of other than the nameplate-designated refrigerant. Operation of any nVent product that has not been designed with proper protective coatings and/or options and is in an abnormal or corrosive environment voids the warranty.

***Prolonged operation with dirty filters also voids the warranty***

Should any part prove defective within the above warranty period, the customer may choose to return the defective product that is under warranty to nVent for repair at no charge or the customer has the option to repair the defective products at his own expense and nVent will supply repair parts at no charge providing the defective part is returned and found to have failed under warranty. Parts supplied as warranty replacement parts will assume the balance of the warranty on the part returned for warranty consideration.

Please be advised: According to the Federal Register, no person maintaining, servicing, repairing, or disposing of appliances may knowingly vent or otherwise release into the environment any class I or class II substance used as refrigerant. nVent assumes no liability beyond the repair or replacement of its own product. Customer modification of nVent products voids the warranty.

The purchaser assumes the responsibility of grounding the unit and installing it in accordance with local electrical and safety codes, as well as the National Electric Code (NEC) and OSHA.