



Air Conditioner Owner's Manual

INSTRUCTIONS FOR MODELS 1.5 to 10 ton

Your **Freus**TM refrigerated air conditioner is the product of many years of experience and research. The effort invested in developing your new cooling equipment was the result of a genuine concern for our environment and a commitment to reducing energy consumption. Your added bonus is a unit requiring a minimum in service and maintenance while saving energy dollars at the same time.

WHAT THIS MANUAL COVERS

This manual explains the scheduled maintenance of a **Freus**TM refrigeration

unit only. This unit is typically installed as part of a complete system that includes the following: indoor evaporator coil, furnace/air handling assembly, refrigeration lines, and thermostat controls.

YOU WILL ALSO NEED

The instructions from the manufacturer of your air handling unit (furnace), your evaporator coil, and thermostat controls.

READ AND SAVE THIS MANUAL

It has important safety and maintenance instructions. Record your model and serial numbers for future reference.

TO BE FILLED OUT AT TIME OF INSTALLATION BY INSTALLER

FreusTM Cabinet

Mod.# _____

Ser.# _____

Indoor Evaporator Coil

Mod.# _____

Ser.# _____

Manufacturer: _____

Indoor furnace on air handler

Mod.# _____

Ser.# _____

Manufacturer: _____

SAFETY CONSIDERATIONS

Signal Words: **WARNING** or **DANGER** denote safety alerts regarding hazards that *will* result in severe injury or death, **CAUTION** denotes alerts to unsafe practices that *can* result in minor personal injury or equipment damage or required procedures for proper equipment performance, **NOTE** denotes *possible* injury, equipment damaging practices, or tips for better and more efficient installation.

Installation and servicing of cooling equipment can be hazardous due to electrical components, moving fan blades, presence of water, etc. Only trained and qualified personnel should install, repair or service refrigeration sections. Use only factory authorized replacement parts and accessories when servicing this equipment.

Owners may perform basic maintenance including: cleaning, rinsing the intake screen, pump intake and sump area, float adjustments, winter closed down, draining, and spring startup. Other operations should be performed by trained service

personnel. When working on cooling equipment, observe warnings in the literature, tags and labels attached to the equipment, and any other safety precautions that apply. Follow all safety codes. Wear safety glasses and work gloves when servicing the equipment.

REFRIGERANT HANDLING

The United States Environmental Protection Agency (EPA) has issued various regulations regarding the introduction and disposal of refrigerant including that used in this unit. Failure to follow these regulations can result in harm to our environment and the imposition of substantial fines and other penalties. Because these regulations may be updated periodically, we strongly recommend that only certified refrigeration mechanics service the refrigeration components of this unit. You may contact your local EPA office directly for more information.

WATER TREATMENT

Chemical water treatment is generally not recommended. The chlorine and other treatments added to city water are generally more than adequate biocide treatments for residential applications.

The flush pump is provided to control mineral deposits. The increased city water intake caused by the flush pump brings in additional biocides from the city water. The water pan is shaded by the intake assembly to restrict the growth of algae. If chemical water treatment is used, the **Freus**TM warranty will not be affected by any chemicals approved by the Cooling Tower Institute for use on evaporative condensers with copper tubes. Check local codes and water authorities for permissible disposal of chemical water treatments. Note: the flush line may have to be appropriately rerouted.



Standard Freus Cleaning

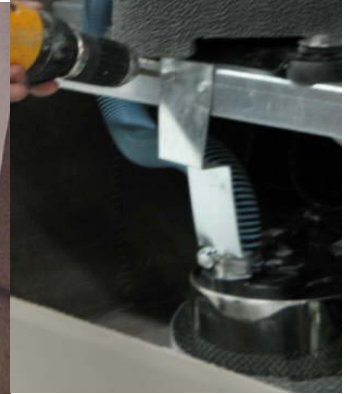
Mineral deposits are automatically controlled by Freus' self-cleaning systems and routine annual maintenance. If the flush system fails excessive minerals can build up and a more stringent cleaning may be required, if so please see cleaning "Excessive Mineral Deposits". Please note that some scale on the copper coils is desirable because it increases the surface "wetting" and improves performance. Following is a step by step procedure for normal sump cleaning.



Disconnect All Electricity Before Servicing To avoid Electricity DANGER Of Serious Injury or Death



Remove the screened intake louver



Disconnect Pump Bracket



Remove water drain cap.



If desired, use a standard water hose to drain water to another location.



No need to remove pump's wiring Connection; only move pump to one side



**Remove pump & clean screen
clean sump with a rag
wearing gloves & eye guards.**



**Rinse sump with Hose
Reinstall Pump.**



**set water to 4"-
then close unit up.**

Flush Pump will automatically change out water after approximately 6 hours run time.

Regular maintenance and/or service is the key to long trouble-free performance from your *Freus*TM unit. The following schedule will help you maintain an efficient unit with good appearance. Adhering to the suggested scheduled replacement of components at the start of the season will reduce in-season maintenance requirements.

CAUTION: Wear gloves & safety glasses when servicing.

SEASONAL CLOSE-UP

1. Turn off and/ or disconnect electricity. Warning: There may be multiple disconnects and all disconnects must be turned off!
2. Remove the drain cap
3. Turn off and drain the water supply line.
4. Thoroughly rinse off the interior with a water hose to remove loose minerals that may be in the cabinet.

SEASONAL START-UP INSPECTION

Check the following and adjust, clean or replace as needed.

1. Rinse out the base to remove debris and minerals.
2. Check that drain cap is firmly seated and not leaking.
3. Check water level (should be 2 1/2" – 3" deep) and make sure the *Freus*TM unit is mounted level.
4. Turn on and/or connect electricity.
5. Check that the flush pump works if not install a replacement flush pump.
6. Turn thermostat lower to turn on unit and note that the fan, pump, and compressor all come on within a few minutes, if not call for professional service.

EXCESSIVE SCALE BUILD UP (MAY INDICATE FLUSH PUMP FAILURE)

1. See step by Step procedures.

! WARNING !
 Turn off all power before working on *Freus*TM condenser, or electrical outlets. There may be more than one disconnect. When you put your hands in the unit you run the risk of injury if the unit is accidentally turned on from inside the house. Never wear slick soled shoes when working on a roof. You may slip when you least expect it. Gloves and safety glasses are required when working on this equipment.

Periodic service or maintenance		
Service needs	Semi Annual "Startup"	Semi Annual "Close-up"
Rinse off face of <i>Freus</i> TM louver screen	X	X
Clean water pump screen	X	X
Rinse out base	X	X
Check/ Replace Anode	X	X
Indoor Furnace / Air Handler; Filter	X	X
Probable life of major parts*		
Every 3-5 years	Every 6-10 years	Every 11-20 years
Supply Pump & Hose Flush Pump & Hose Float Valve Drain Gasket	Anodes Timers Contactor Capacitors Condenser Fan Motor Fan Grille	Inlet Louver Compressor / Filter Dryer Pressure Switches Copper Condenser Coil Nozzle System
<ul style="list-style-type: none"> • Check major components every 1-3 years. • Check refrigerant charge every 1-3 years. 		
<p>*NOTE: EXPECTED CABINET LIFE IS OVER 30 YEARS Fiberglass components have demonstrated a service life well beyond 30 years in Coast Guard patrol boats. Accelerated weatherometer tests on fiberglass samples have indicated a service life in excess of 30 years. Fiberglass evaporative cooler cabinets have been in service nearly 30 years with no apparent loss of strength or service ability. <i>Freus</i>TM Fiberglass components carry a 15 year limited warranty. See complete <i>Freus</i>TM limited warranty.</p>		

Disconnect All Power then RINSE LOUVER & SCREEN



TROUBLE SHOOTING CHART

SYMPTOM	POSSIBLE CAUSES	POSSIBLE REMEDY
Unit fails to start or perform well.	<ol style="list-style-type: none"> 1. No electrical power to unit. 2. Fuse blown. 3. Circuit breaker tripped. 4. Condenser fan cord unplugged or damaged. 5. Faulty wiring or shorts. 6. Thermostat setting 7. High Limit Switch 	<ol style="list-style-type: none"> 1. Check power. 2. Replace fuse. 3. Reset breaker. 4. If cord is O.K., plug in cord. If damaged call electrician. 5. Call electrician. 6. Check thermostat. 7. Call service technician.
Inadequate cooling.*	<ol style="list-style-type: none"> 1. Inadequate condenser exhaust. 2. Insufficient water flow to media; not wet. 3. Pump too small. 4. Pad plugged. 5. Distribution holes clogged. 6. Pump not working. 7. Water level too low (operating below 3-1/2" at pump) 8. Loose connection in water system. 9. Insufficient bleed-off water. 	<ol style="list-style-type: none"> 1. Clear debris from condenser's exhaust fan, from condenser coils, from evaporative filter media, and from water pump filter. 2. Check water distribution system. Clean water lines. 3. Install pump (per specs HP). Must be thermal protected. 4. Clean, de-lime or replace pad. 5. Clear holes. 6. Clean impeller housing of all foreign matter. Pump must be thermally protected. 7. Adjust float. 8. Check for leaks, tighten as needed. 9. Clean or replace bleed-off kit and adjust.
Water draining from <i>Freus</i> TM cabinet.	<ol style="list-style-type: none"> 1. Cabinet not level. 2. Water level too high. 3. Drain cap loose or worn. 	<ol style="list-style-type: none"> 1. Level unit with shims or adjust / replace mounting pad. 2. Adjust water level by adjusting float setting. 3. Tighten or replace drain cap.
Musty or unpleasant odor.	<ol style="list-style-type: none"> 1. Stale or stagnant water in reservoir. 2. Pad mildewed or clogged. 3. Pad not completely wet while <i>Freus</i>TM unit is turned on. 	<ol style="list-style-type: none"> 1. Drain, flush and clean reservoir. Check bleed-off flow. Treat water per water treatment section in this manual. 2. Clean or replace pad 3. Check pump, water lines, and evaporative media.

NOTES:

Inadequate cooling listed above refers only to the *Freus*TM portion of the complete system. If cooling does not improve after checking the above listed items, consult the literature provided for your evaporator coil system and air handler.



WARRANTY

All parts warranties may not begin more than one year after manufacture date. If within fifteen (15) years from purchase any fiberglass part of the *Freus*TM cabinet should prove defective and non-serviceable in materials or workmanship, it will be replaced or repaired at factory option. Labor is paid per Freus labor schedule for one year on all warranties. The copper condenser coil and compressor are warranted for ten (10) years in

accordance with the following schedule. All other components carry a five (5) year warranty, with proof of purchase is required on all warranties. Any additional service or installation is between dealer and purchaser and not the responsibility of the manufacturer. *Freus*TM does not pay the cost of a service call at the site of installation to diagnose cause of trouble, the cost of labor install or remove a part after one (1) year or mileage to or from the site.

This warranty is in lieu of any other expressed or implied warranty and all other obligations on the part of *Freus*TM. *Freus*TM does not authorize any other person to extend or alter any portion of this warranty in connection with the products.

This warranty gives you specific legal rights and you may have other rights which vary from state to state.

Manufacturer's Address:
 EP Investments
 8240 Doniphan Dr.
 Anthony Texas 79821

Place staple or tape here



Warranty Registration Department Fax (915) 886-9070

**PO Box 1328
Anthony, N.M. 88021**

Fold Here Second

Fold Here First

Install Date ____ / ____ / ____

Homeowner's Name _____

Homeowner's Address _____

Homeowner's Telephone # (____) _____ -- _____ **Freus Model #** _____

Freus Serial # _____ **Furnace/Air Handler Model #** _____

Coil Manufacturer _____ **Coil Model #** _____

Install Contractor Name _____

Address _____

Contractor Telephone # (____) _____ -- _____