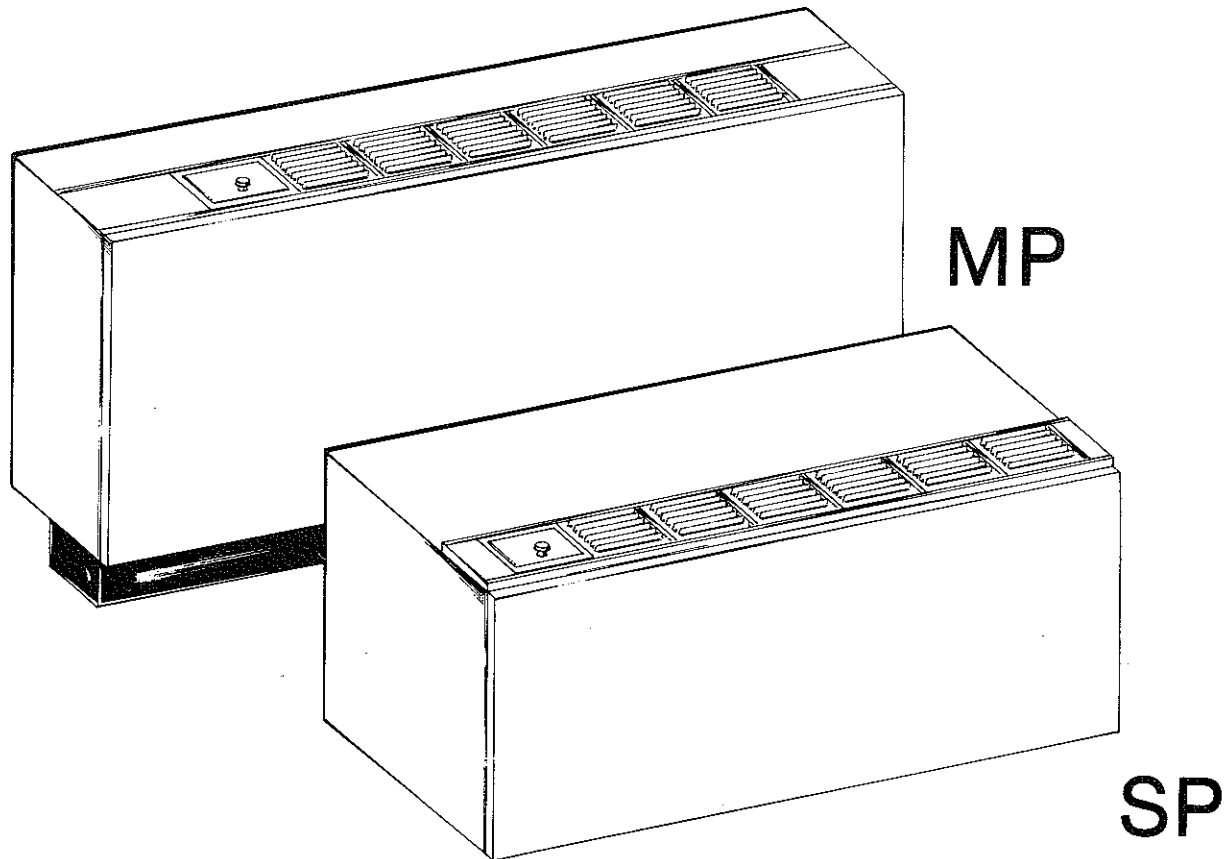


# **INSTALLATION INSTRUCTIONS**



**Climate Master**  
**702/703/704 SERIES**  
**SP AND MP PACKAGED TERMINAL**  
**AIR CONDITIONERS AND HEAT PUMPS**

## DESCRIPTION

### 702

The Friedrich Climate Master 702 Series Packaged Terminal Air Conditioners (PTAC) are through-the-wall cooling only or combination cooling/heating individual zone air conditioners. The 702 Series is available in two cabinet styles, the SP and MP models. The SP and MP cooling/heating units are provided with a factory installed and wired electric heating element. The MP is available with an optional hydronic heat coil for either hot water or steam heat. A hydronic subbase is optional for the SP cabinet.

### 703

The Friedrich Climate Master 703 Series Package Terminal Heat Pumps (PTHP) are through-the-wall air to air heat pumps.

The 703 Series offers heat pump operation to 29° F. (outdoor coil temp.) before changing over to electric heat (if applicable).

The options available on the 703 Series are the same as the 702 Series.

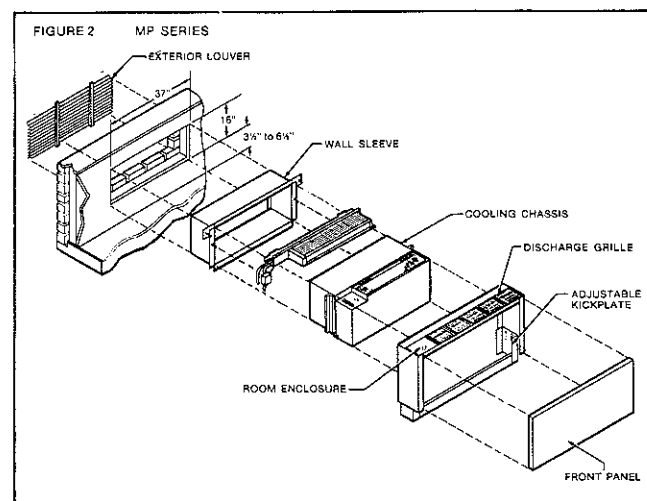
### 704

The Friedrich Climate Master 704 Series Packaged Terminal Heat Pumps (PTHP) are through-the-wall air to air heat pumps.

The 704 Series is basically the same as the 703 Series with the exception that it has an extended range of heat pump operation...to 10° F ambient temperature, defrost and a factory installed electric back up heater.

## GENERAL

The SP model consists of three sections which are individually packaged; chassis (actual refrigeration system with controls), cabinet/sleeve with front panel, and outdoor louver. (See Figure 1.)



Positive removal of condensate is provided by evaporation on the condenser coil by means of a multi-blade fan/slinger ring connected directly to the outdoor fan motor. (702 and 703 Series only).

A fresh air damper is located between the indoor and outdoor sections to provide up to 15% outside ventilation. Motorized or 5 position manually operated dampers are available. All hydronic heat models must specify a motorized damper to prevent accidental freezing of the hydronic coil.

The room discharge grilles can be removed and turned to any one of four positions to change direction of airflow.

## PRE-INSTALLATION CHECKS

Inspect unit and report any damage or missing parts to the carrier's agent. Request an inspection and a report.

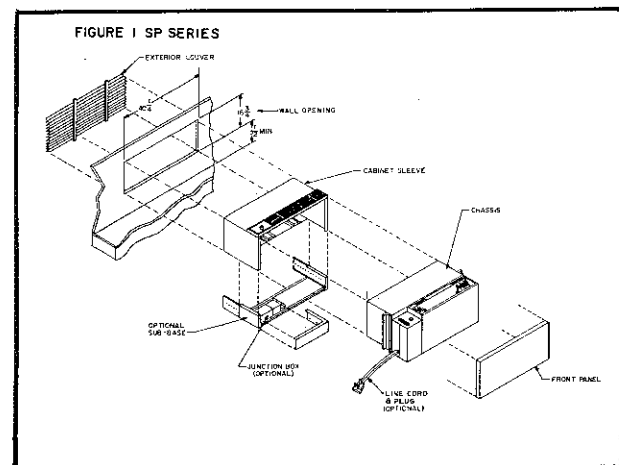
The required wall openings for the SP and MP are shown in Figure 1 and 2. A minimum distance from floor to bottom of wall opening is 3 1/2" to allow for adequate return air.

The SP can be installed in walls 1/2" to 12" in depth, and will require a factory or field supplied subbase for walls 5" and under. A subbase is also required for SP installations when line cord and receptacle box are specified. Optional for walls over 12" in depth are a 4" (Part No. ARCE001) and 10" (Part No. ARCE002) SP room cabinet extension. A wall depth of 5" to 25" is required for MP installations.

Verify that the voltage rating on the unit rating plate matches the power supply.

## SP INSTALLATION CABINET/SLEEVE AND CHASSIS (Figure 1)

1. Attach subbase (if used) to cabinet/sleeve with (4) screws provided.
2. If optional power connection box is specified, attach to bracket in subbase with (2) screws provided.
3. Install cabinet/sleeve in wall opening, flush with outside wall.
4. Adjust subbase to wall thickness and lock into position with screws provided. Shim vertically if required.



The MP model consists of four sections; wall box, chassis, room cabinet with front panel and outdoor louver. (See Figure 2) A temporary weather seal is provided with the wall box to protect interiors until installation is complete.

The standard control on both SP and MP models contain an OFF/HIGH COOL/LOW COOL/HEAT and FAN setting plus a self-contained adjustable thermostat. An automatic changeover control (off/auto/fan) is available as an option.

5. Make sure cabinet/sleeve is set horizontally level and vertically plumb. Use top surface and sides of cabinet sleeve for leveling. The base has a built-in pitch of  $\frac{1}{4}$ " to the outside.

Secure cabinet/sleeve in wall opening. For masonry wall installation, use masonry anchors. For wood framing, use nails or screws, but never through bottom of cabinet.

7. Caulk between cabinet/sleeve and outside wall for a weather tight seal. Caulking may be necessary between cabinet/sleeve and finished inside wall.
8. Remove temporary weather panel and install outdoor louver. Tie a safety line to the louver, then place the louver (fins facing outdoors and blades downward) through the outdoor opening of the wall box. Pull inward until the louver is squarely seated in recess of cabinet/sleeve. Mount louver using (4) nuts supplied. (See Figure 3).
9. Before installing the chassis, make sure the closed-cell material is attached to the chassis (sides and bottom) for a weather tight seal to the cabinet/sleeve.
10. Install and attach chassis to cabinet/sleeve mounting studs (2) and tighten nuts on studs. Nuts are packed in hardware bag in cooling chassis carton.
11. Attach front panel to (4) metal tabs on cabinet sleeve. To remove, lift up to disengage slots in front panel from metal tabs on cabinet/sleeve.
12. The cabinet may be protected until ready to use by reinstalling the protective cardboard cover supplied as part of the shipping carton.

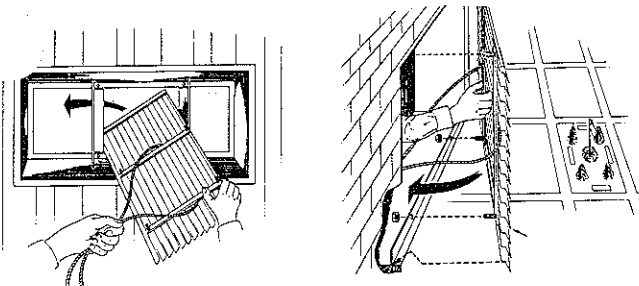


FIGURE 3 OUTDOOR LOUVER

## MP INSTALLATION

### WALL BOX, ROOM CABINET AND CHASSIS (Figure 2)

1. Install wall box flush with outside wall. Mounting flange of wall box must never be recessed into finished interior wall. Do not remove temporary weather panel while installing wall box. (See figure 4).

NOTE: Make certain that correct wall box depth is used at each location as specified in plans.

2. Make sure wall box is set horizontally level and vertically plumb. Use top surface and sides of cabinet sleeve for leveling. The base of the wall box has a built in pitch and should not be used as a level reference point.
3. Secure wall box in position. Use masonry anchors for masonry wall installation and nails or screws for wood framing, but never through bottom of wall box.

4. Caulk between wall box and outside wall for a weather tight seal. Caulking may be necessary between wall box and finished inside wall.
5. Install outdoor louver (as previously described in SP Installation).
6. Remove baffles from condenser when the depth of the wall box being installed is greater than 10 inches. Wall boxes larger than 10 inches have baffles factory installed. (See Figure 5).

NOTE: Do not remove baffles from the condenser when a 10 inch wall box is installed. These baffles prevent air-recirculation of the discharge air. (See Figure 5).

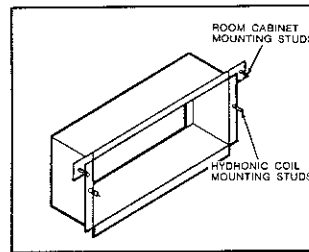


FIGURE 4 WALL BOX

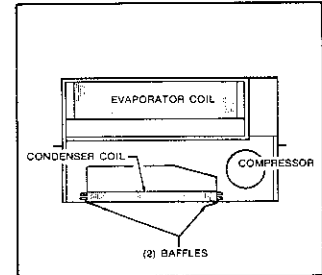


FIGURE 5 TOP VIEW

7. Before installing the chassis, make sure the closed-cell material is attached to the chassis (sides and bottom) for a weather tight seal to the wall box.
8. If a hydronic coil is specified (See Figure 6), install on wall box mounting studs. (See Figure 4.) Hydronic coil has a metal tab that fits over top flange of wall box.
9. Install chassis (See Figure 7) on same mounting studs (See Figure 4) as hydronic coil and tighten nuts on studs.
10. Check to see that voltage rating is same on chassis and heat section. Insert male connector from the hydronic coil into the female connector in control module.
11. Remove (4) screws from kickplate and invert. (See Figure 8.) Position kickplate to cabinet mounting flanges and replace screws loosely. (See Figure 9.)
12. Attach room cabinet flange (See Figure 10) to wall box mounting studs. Use top hole on each cabinet flange if hydronic coil is not installed. For hydronic coil installations, use bottom hole.
13. Locate kickplate in final position and tighten screws.

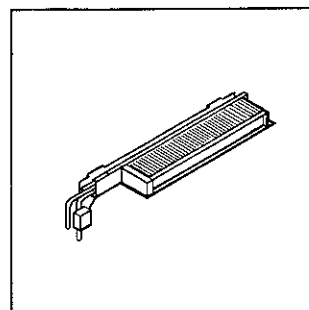


FIGURE 6 HYDRONIC COIL

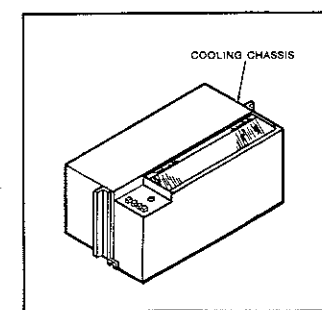


FIGURE 7 CHASSIS

14. If optional power connection box is specified, mount to front flange of room cabinet with (2) screws provided. Box can be mounted to left or right hand flange, depending on the location of the chassis cord.
15. Install front cover (as described previously in SP Installation).
16. Install protective cardboard cover if needed (as described previously in SP Installation).

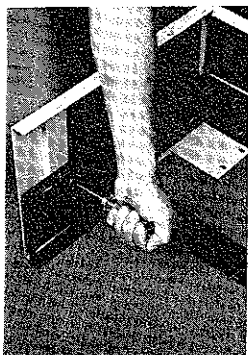


FIGURE 8



FIGURE 9

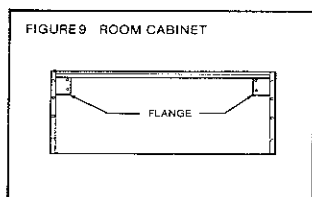


FIGURE 10 ROOM CABINET

## ELECTRICAL

All wiring should be in accordance with the National Electric Code and local building codes.

The SP and MP can be either direct connected or supplied with an optional line cord and receptacle box. A field supplied receptacle box can be used for 208/230 volt electric heat units.

Each unit must have a separate branch circuit protected by a fuse or breaker. Refer to the unit rating plate data for proper wire and fuse (breaker) size. Use of extension cords are prohibited. Sample of a rating plate is shown in Figure 11.

Friedrich Climate Master		Friedrich Air Conditioning & Refrigeration Co. 2007 Beechgrove Place, Utica, New York 13501	
MODEL 703	385A0A00008	BLWR AMPS	55
COOLING CAPACITY BTU/HR	14500	BLWR HP	1/12
HEAT PUMP HEATING CAPACITY BTU/HR	14500	FAN AMPS	75
VOLTS/PH	208	FAN HP	1/12
CYCLE	40	COMP BLA	2 2
PHASE	1	WTR AMPS	15.25
COMP LBA	44.6	TOTAL COMP AMPS	9.50
CHARGE R-22	40.802	TOTAL COMP HP	15.80
DESIGN PRESSURE-HIGH SIDE	350 PSIG	LOW SIDE	150-250 PSIG
MINIMUM CIRCUIT AMPACITY	25 AMPS		
MAXIMUM FUSE SIZE (TIME DELAY) OR NACR CIRCUIT BREAKER	25		
MINIMUM VOLTAGE	197 VOLTS		

FIGURE 11 SAMPLE OF  
703 RATING PLATE

## OPERATION

**HEAT**—Adjust thermostat knob clockwise to coolest setting and press HEAT button. Roomside blower will start immediately on high speed. Turn thermostat knob counterclockwise to warmest setting. Heating unit will now operate and discharge air will be warm.

**LOW COOL**—Adjust thermostat knob counterclockwise to the warmest setting. Press LOW COOL button. Roomside blowers will run at low speed. Turn thermostat knob clockwise to coolest setting. Compressor and condenser motor will now operate and discharge air will be cooler.

**HIGH COOL**—With compressor and condenser motor running, press HIGH COOL button. Roomside blower speed will increase.

**VENT (Motorized)**—Press FAN button. Compressor and condenser motor will stop. Roomside blower will run at low speed. The motorized damper will open and provide outside air for ventilation. NOTE: Motorized fresh air damper will operate only when the concealed damper override switch is set to the open position. Damper switch (for motorized damper only) is located behind control button panel.

**VENT (Manual)**—Same as above except damper position must be manually set.

**OFF**—Press OFF button. All system operations will stop. NOTE: STBY may be used instead of OFF with certain control options. The unit may operate with the STBY button down, for example, when the room temperature is below 50° F.

**ON (Optional Automatic Changeover Only)**—Unit will operate on heating or cooling depending on the thermostat setting.

## SAFETY

Servicing of our conditioning systems should be performed by qualified personnel only, because of hazards due to electrical components and system pressures. Basic maintenance such as cleaning coils and the replacing of filters can be performed by unskilled personnel. When performing service or maintenance on the system, power to the unit should be off. Wear safety goggles and gloves when working with refrigerants. Do not attempt to braze on a system which is under pressure; remove refrigerant first. A quenching cloth, which is used as a heat-sink, is recommended when brazing. Keep a fire extinguisher on hand for all brazing operations.

When using nitrogen and refrigerant for leak testing, always charge the refrigerant in first.

**Friedrich Climate Master®**

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