

**City of Portland, Maine - Building or Use Permit Application**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 08-0846	Issue Date:	CBL: <i>442-A-006</i> 442-A005001
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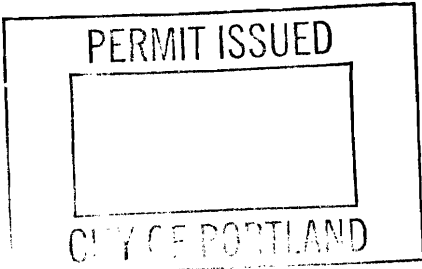
Location of Construction: <del>137</del> MARGINAL WAY	Owner Name: CITY OF PORTLAND	Owner Address: 389 CONGRESS ST	Phone:
Business Name:	Contractor Name: Portland Airconditioning, Inc.	Contractor Address: 205 Lincoln St. S. Portland	Phone: 2077674567
Lessee/Buyer's Name	Phone:	Permit Type: HVAC	Zone: <i>B-7</i>

Past Use: Commercial - "Miss Portland Diner"	Proposed Use: Commercial - "Miss Portland Diner" - install heating & air conditioning	Permit Fee: \$200.00	Cost of Work: \$17,452.00	CEO District: 1
		FIRE DEPT: <input type="checkbox"/> Approved <input type="checkbox"/> Denied <i>N/A</i>	INSPECTION: Use Group: <i>U</i> Type: <i>HVAC</i> <i>State Eng</i>	

Proposed Project Description: Commercial - "Miss Portland Diner" - install heating & air conditioning	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>
PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)		
Action: <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied		
Signature:		Date:

Permit Taken By: ldobson	Date Applied For: 07/10/2008	<b>Zoning Approval</b>	
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- This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
- Building permits do not include plumbing, septic or electrical work.
- Building permits are void if work is not started within six (6) months of the date of issuance. False information may invalidate a building permit and stop all work..



<b>Special Zone or Reviews</b> <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetland <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/> Date: <i>7/10/08</i>	<b>Zoning Appeal</b> <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied Date:	<b>Historic Preservation</b> <i>DA - 7/10/08</i> <input type="checkbox"/> Not in District or Landmark <input type="checkbox"/> Does Not Require Review <input type="checkbox"/> Requires Review <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date: <i>7/22/08</i> <i>J. Andrews</i>
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**CERTIFICATION**

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE

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<b>Permit No:</b> 08-0846	<b>Date Applied For:</b> 07/10/2008	<b>CBL:</b> 442 A006001
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<b>Location of Construction:</b> 140 Marginal Way	<b>Owner Name:</b> CITY OF PORTLAND	<b>Owner Address:</b> 389 CONGRESS ST	<b>Phone:</b>
<b>Business Name:</b>	<b>Contractor Name:</b> Portland Airconditioning, Inc.	<b>Contractor Address:</b> 205 Lincoln St. S. Portland	<b>Phone</b> (207) 767-4567
<b>Lessee/Buyer's Name</b>	<b>Phone:</b>	<b>Permit Type:</b> HVAC	

<b>Proposed Use:</b> Commercial - "Miss Portland Diner" - install heating & air conditioning	<b>Proposed Project Description:</b> Commercial - "Miss Portland Diner" - install heating & air conditioning
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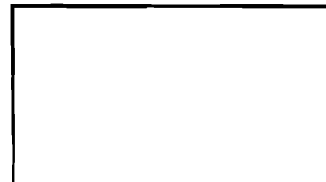
<b>Dept:</b> Historic	<b>Status:</b> Approved	<b>Reviewer:</b> Deborah Andrews	<b>Approval Date:</b> 07/22/2008
<b>Note:</b>			<b>Ok to Issue:</b> <input checked="" type="checkbox"/>
<b>Dept:</b> Zoning	<b>Status:</b> Approved	<b>Reviewer:</b> Marge Schmuckal	<b>Approval Date:</b> 07/10/2008
<b>Note:</b>			<b>Ok to Issue:</b> <input checked="" type="checkbox"/>
<b>Dept:</b> Building	<b>Status:</b> Approved with Conditions	<b>Reviewer:</b> Tammy Munson	<b>Approval Date:</b> 07/24/2008
<b>Note:</b>			<b>Ok to Issue:</b> <input checked="" type="checkbox"/>
1) The installation must comply with the State of Maine Gas Regulations.			



FILL IN AND SIGN WITH INK

Miss Portland Diner

# APPLICATION FOR PERMIT HEATING OR POWER EQUIPMENT



To the INSPECTOR OF BUILDINGS, PORTLAND, ME.

The undersigned hereby applies for a permit to install the following heating, cooking or power equipment in accordance with the Laws of Maine, the Building Code of the City of Portland, and the following specifications:

Location / CBL Marginal Way / Portland Use of Building Restaurant Date 7/2/08  
 Name and address of owner of appliance Tom Manning / Tom's LLC  
116 Harmon Rd Methuen NJ 07430  
 Installer's name and address Portland Airconditioning Inc.  
29 Washington Ave, Ste C Scarborough, ME 04074 Telephone 207-885-1256

### Location of appliance:

- Basement  Floor  
 Attic  Roof

### Type of Fuel:

- Gas  Oil  Solid

Appliance Name: Carrier

U.L. Approved  Yes  No

Will appliance be installed in accordance with the manufacture's installation instructions?  Yes  No

IF NO Explain: \_\_\_\_\_

### The Type of License of Installer:

- Master Plumber # \_\_\_\_\_  
 Solid Fuel # \_\_\_\_\_  
 Oil # \_\_\_\_\_  
 Gas # PNT 434  
 Other \_\_\_\_\_

### Type of Chimney:

- Masonry Lined  
 Factory built \_\_\_\_\_  
 Metal JUL 10 2008  
 Factory Built U.L. Listing # \_\_\_\_\_  
 Direct Vent  
 Type \_\_\_\_\_ UL# \_\_\_\_\_

Type of Fuel Tank Natural Gas Meter

- Oil  
 Gas

Size of Tank n/a

Number of Tanks \_\_\_\_\_

Distance from Tank to Center of Flame \_\_\_\_\_ feet.

Cost of Work: \$ 17,452

Permit Fee: \$ 200

### Approved

Fire: \_\_\_\_\_

Ele.: \_\_\_\_\_

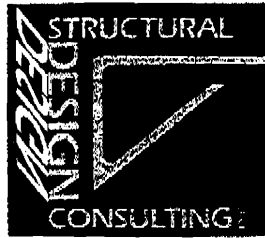
Bldg.: \_\_\_\_\_

### Approved with Conditions

- See attached letter or requirement

Signature of Installer [Signature] Inspector's Signature \_\_\_\_\_ Date Approved \_\_\_\_\_





22 Oakmont Drive  
Old Orchard Beach, ME  
04064-4121

207.934.8038  
Fax 207.934.8039

July 9, 2008

David Lloyd  
Archetype, P.A.  
48 Union Wharf  
Portland, ME 04101

Subject: Miss Portland Diner

David,

I have reviewed the roof framing at the addition to the relocated Miss Portland Diner building. The purpose of the review was to determine whether the framing is capable of supporting the proposed rooftop mechanical units. The proposed heating/cooling unit weighs 984 pounds and the proposed heat recovery unit weighs 600 pounds. Each of the units will be supported by three 3½" x 18" PSL beams that are parallel to the roof trusses.

I have determined by calculations that the roof framing has the required capacity to support the proposed rooftop units, the tributary roof dead load and the code stipulated snow load.

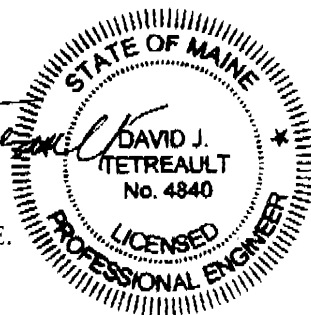
Please call me if there is any question or if you need additional information.

Sincerely,

STRUCTURAL DESIGN CONSULTING, INC.

A handwritten signature in black ink that reads "David J. Tetreault".

David Tetreault, P.E.

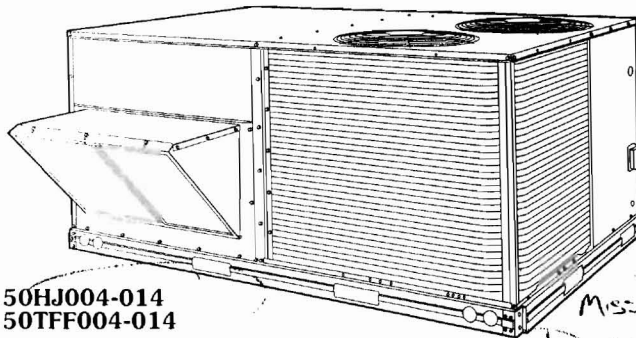




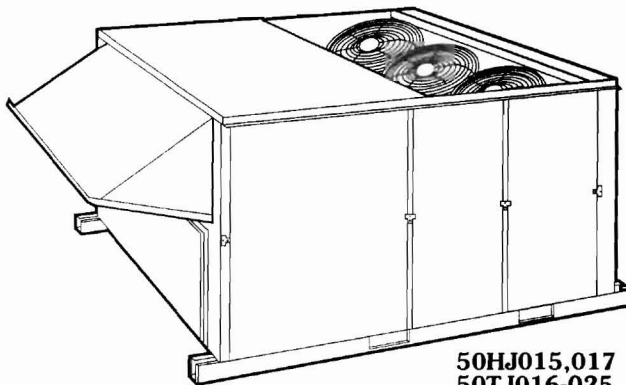
# Product Data

## WEATHERMAKER® 50TFF004-014, 50TJ016-028 WEATHERMASTER® 50HJ004-028 Single-Package Rooftop Units Electric Heating/Electric Cooling

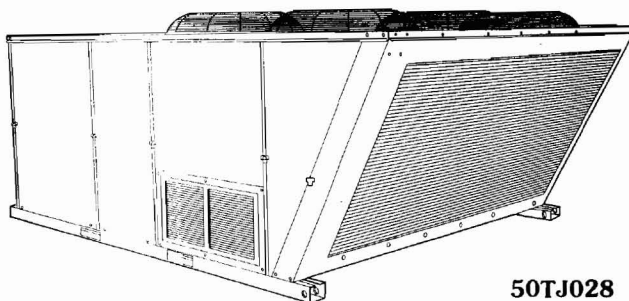
3 to 25 Nominal Tons



50HJ004-014  
50TFF004-014



50HJ015,017  
50TJ016-025



50TJ028

### Standard-Efficiency (TFF,TJ) and High-Efficiency (HJ) electric heating with electric cooling rooftop units offer:

- Pre-painted galvanized steel cabinet for long life and quality appearance
- Commercial strength base rails with built-in rigging capability
- Convertible design for vertical or horizontal supply/return (sizes 004-014 only)
- Non-corrosive, sloped condensate drain pan, meets ASHRAE 62 (IAQ)
- Two-inch return-air filters
- A wide assortment of factory-installed options available, including high-static drives that provide additional performance range
- Optional factory-installed COBRA™ energy recovery unit (option on 50HJ004-014 units only)
- Factory-installed PremierLink™ digital communicating controls
- Factory-installed optional gear driven EconoMi\$er IV (vertical return for sizes 004-012 only) for use with standard rooftop unit controls (includes CO<sub>2</sub> sensor control capability)
- Factory-installed optional gear driven EconoMi\$er2 (vertical return only) for use with PremierLink DDC controls (includes 4 to 20 mA actuator for demand control ventilation)
- Humid-MiZer™ adaptive dehumidification system (50HJ004-014)
- MoistureMi\$er™ dehumidification package

### Heat Options

- Electric resistance heat elements
- Glycol hydronic coils

# Physical data — 50TFF008-014



UNIT SIZE 50TFF	008	009	012	014
NOMINAL CAPACITY (tons)	7 1/2	8 1/2	10	12 1/2
OPERATING WEIGHT (lb)				
Unit				
A/AI*	755	760	915	930
A/Cu*	766	776	937	957
Cu/Cu*	778	787	960	980
EconoMiser IV	75	75	75	75
Roof Curb†	143	143	143	143
COMPRESSOR	Reciprocating	Reciprocating	Reciprocating	Scroll
Quantity	2	2	2	2
No. Cylinders (per circuit)	2	2	2	2
Oil (oz)	42 ea	65 ea	54 ea	54 ea
REFRIGERANT TYPE		R-22, Acutrol™ Metering Device		
Operating Charge (lb-oz)				
Circuit 1	4-13	6-14	7- 3	8-10
Circuit 2	4-14	9- 2	7-13	8- 6
CONDENSER COIL		Enhanced Copper Tubes, Aluminum Lanced Fins		
Rows...Fins/in.	1...17	2...17	2...17	2...17
Total Face Area (sq ft)	20.50	18.00	20.47	25.00
CONDENSER FAN		Propeller Type		
Nominal Cfm	6400	6400	7000	7000
Quantity...Diameter (in.)	2...22	2...22	2...22	2...22
Motor Hp...Rpm	1/4...1100	1/4...1100	1/4...1100	1/4...1100
Watts Input (Total)	600	600	600	600
EVAPORATOR COIL		Enhanced Copper Tubes, Aluminum Double-Wavy Fins, Acutrol™ Metering Device, Face Split		
Rows...Fins/in.	3...15	3...15	3...15	4...15
Total Face Area (sq ft)	8.0	8.0	10.0	11.1
EVAPORATOR FAN		Centrifugal Type		
Quantity...Size (in.)				
Std	1...15 x 15	1...15 x 15	1...15 x 15	1...15 x 15
Alt	1...15 x 15	—	1...15 x 15	1...15 x 15
High-Static	1...15 x 15	1...15 x 15	1...15 x 15	—
Type Drive				
Std	Belt	Belt	Belt	Belt
Alt	Belt	—	Belt	Belt
High-Static	Belt	Belt	Belt	—
Nominal Cfm	3000	3100	4000	5000
Maximum Continuous Bhp				
Std	2.40	2.40	2.40	3.70
Alt	2.40	—	2.90	5.25
High-Static	3.70	3.70	5.25	—
Motor Frame Size				
Std	56	56	56	56
Alt	56	—	56	56
High-Static	56	56	56	—
Fan Rpm Range				
Std	590- 840	685- 935	685- 935	860-1080
Alt	685- 935	—	835-1085	830-1130
High-Static	860-1080	860-1080	830-1130	—
Motor Bearing Type	Ball	Ball	Ball	Ball
Maximum Allowable Rpm	2100	2100	2100	2100
Motor Pulley Pitch Diameter Min/Max (in.)				
Std	2.4/3.4	2.8/3.8	2.8/3.8	4.0/5.0
Alt	2.8/3.8	—	3.4/4.4	3.1/4.1
High-Static	4.0/5.0	4.0/5.0	2.8/3.8	—
Nominal Motor Shaft Diameter (in.)				
Std	5/8	5/8	5/8	7/8
Alt	5/8	—	7/8	7/8
High-Static	7/8	7/8	7/8	—
Fan Pulley Pitch Diameter (in.)				
Std	7.0	7.0	7.0	8.0
Alt	7.0	—	7.0	5.9
High-Static	8.0	8.0	5.8	—
Belt, Quantity...Type...Length (in.)				
Std	1...A...49	1...A...49	1...A...49	1...A...52
Alt	1...A...49	—	1...A...49	1...BX...46
High-Static	1...A...55	1...A...55	1...BX...46	—
Pulley Center Line Distance (in.)				
Std	16.75-19.25	16.75-19.25	15.85-17.50	15.85-17.50
Alt	15.75-19.25	—	15.85-17.50	15.85-17.50
High-Static	15.75-19.25	16.75-19.25	15.85-17.50	—
Speed Change per Full Turn of Movable Pulley Flange (rpm)				
Std	50	50	50	44
Alt	50	—	50	50
High-Static	60	60	60	—
Movable Pulley Maximum Full Turns From Closed Position				
Std	5	5	5	5
Alt	5	—	5	6
High-Static	5	5	5	—
Factory Setting				
Std	5	5	5	5
Alt	5	—	5	5
High-Static	5	5	5	—
Factory Speed Setting (rpm)				
Std	590	685	685	860
Alt	685	—	835	887
High-Static	860	860	887	—
Fan Shaft Diameter at Pulley (in.)	1	1	1	1
HIGH-PRESSURE SWITCH (psig)				
Standard Compressor Internal Relief (Differential)		450 ± 50		500 ± 50
Cutout		428		428
Reset (Auto.)		320		320
LOW-PRESSURE SWITCH (psig)				
Cutout			7 ± 3	
Reset (Auto.)			22 ± 7	
FREEZE-PROTECTION THERMOSTAT (F)				
Opens			30 ± 5	
Closes			45 ± 5	
OUTDOOR-AIR INLET SCREENS		Cleanable. Screen size and quantity varies with option selected.		
RETURN-AIR FILTERS		Throwaway		
Quantity...Size (in.)	4...16 x 20 x 2	4...16 x 20 x 2	4...20 x 20 x 2	4...20 x 20 x 2

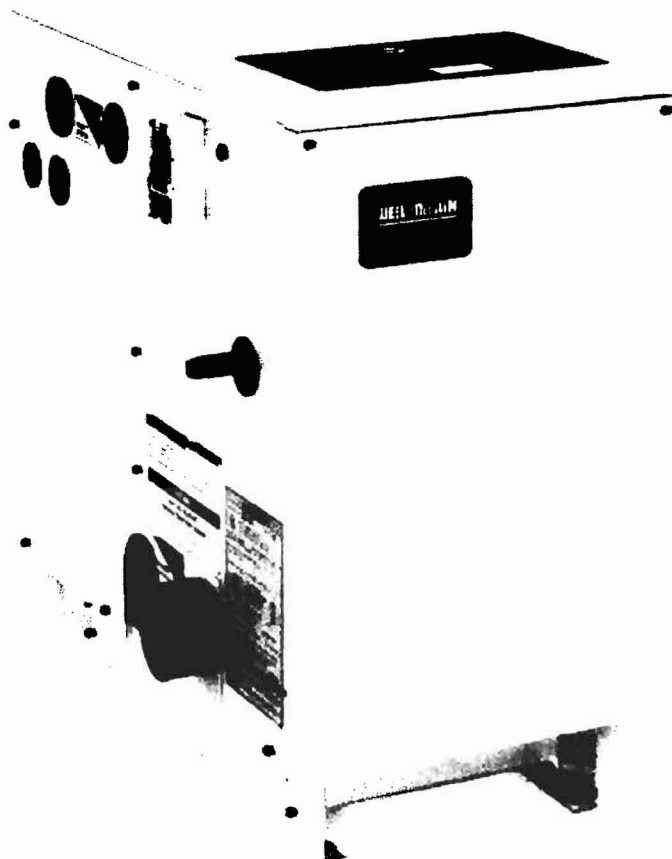
50TFF

**LEGEND**  
 AI — Aluminum  
 Bhp — Brake Horsepower  
 Cu — Copper

†Weight of 14-in. roof curb.  
**NOTES:**  
 1. The 50TFF units have a loss-of-charge switch located in the liquid line.  
 2. High-static motor not available on size 014 units.

\*Evaporator coil fin material/condenser coil fin material. Contact your local representative for details about coated fins.

# WEIL-McLAIN



## SERIES 4 GAS BOILER with Direct Vent

Water Net Ratings:  
**53,000 to  
133,000  
Btu/Hr.**



As an ENERGY STAR Partner  
Weil-McLain has determined that  
this product meets the  
ENERGY STAR guidelines for  
energy efficiency.

- Easy to Install and Service**
- Low NO<sub>x</sub> Certified by South Coast Air Quality Management District (Rule 1146.2) in California**
- Made with Weil-McLain Quality**

### **Applications:**

- Commercial
- Residential
- Multiple Boilers
- Schools and Other Institutions
- Indirect-fired Water Heating
- Radiant Heating
- ... And Much More

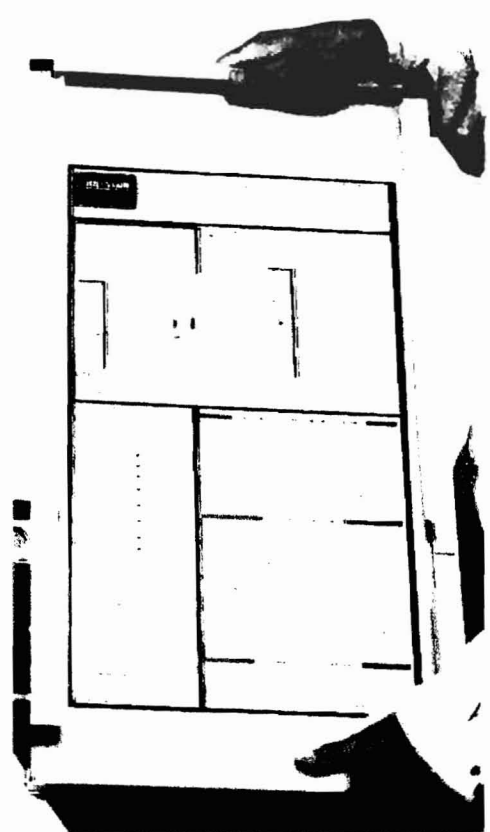


# GV

## SERIES 4

### GAS BOILER with Direct Vent

Water  
Net Ratings:  
53,000 to 133,000  
Btu/Hr.



## Design Advantages



The combustion area is at the top of the boiler. In addition to higher efficiency, this design makes sediment in older systems less of a problem. Wide waterways and larger crown sheets assure greater durability, even in marginal applications.

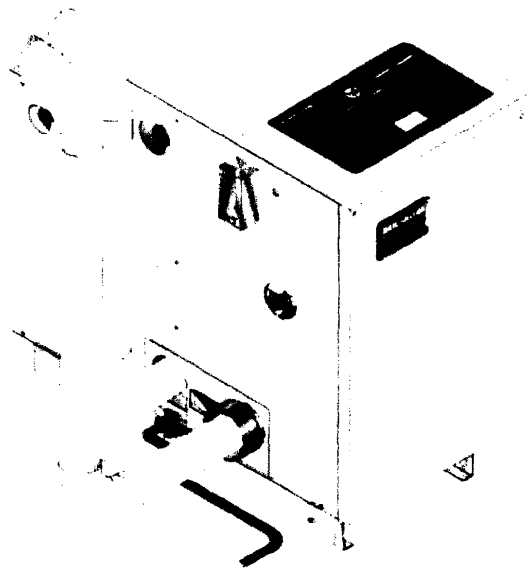
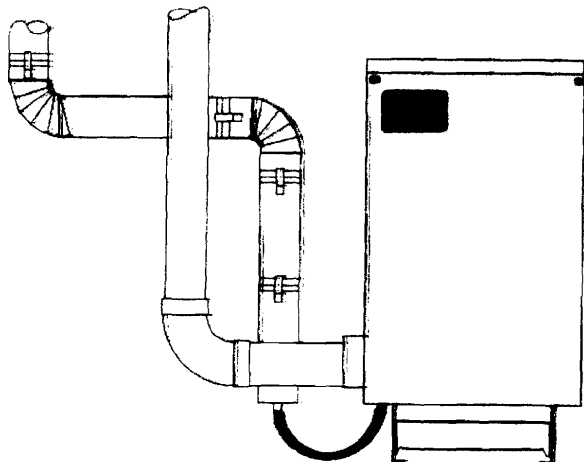
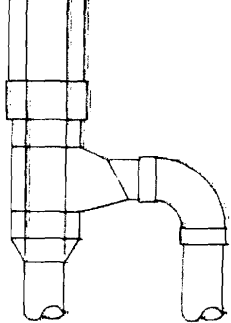
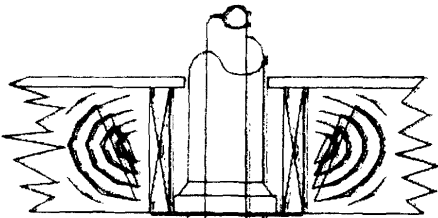
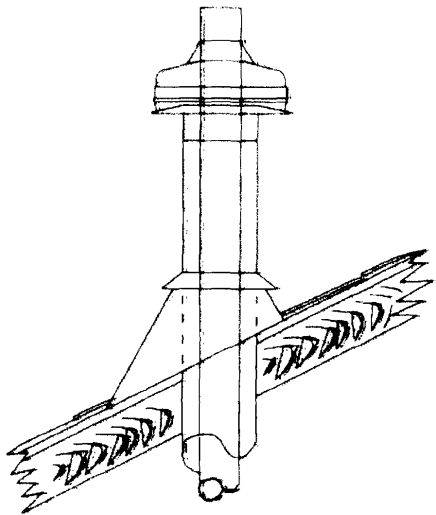
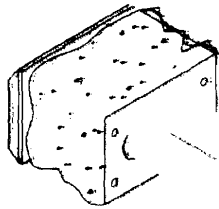
Modern elastomer sealing rings in the port openings provide a permanent watertight seal. The flexibility and elastic-memory of these seals (unlike metal push nipples), prevents leaks caused by thermal expansion and contraction.

A special high-temperature sealant between the ground joint sections assures gas tightness.

And, of course, cast iron means long life — it's not uncommon for a Weil-McLain boiler to last 35 years or more.



Premix technology mixes combustion air with the gas before it ignites at the burner cone, reducing NO<sub>x</sub> emissions ... and makes the GV boiler more environmentally friendly. The GV boiler is low NO<sub>x</sub> certified by the South Coast Air Quality Management District (Rule 1146.2) in California. The NO<sub>x</sub> level of the GV boilers is as low as 30 nanograms per joule, well below the SCAQMD limit of 40 ng/J.



### Direct Vent

The GV boiler must be vented directly outside — either through a wall, through the roof, or through an unused chimney.

Because condensation can occur in the venting system, AL29-4C® stainless steel venting systems must always be used and vent pipe manufacturers must be approved by Weil-McLain— see Venting Instructions for details.

When venting through an unused chimney, the vent pipe must be run through the entire length of the chimney. The chimney can be used only as a raceway.

To simplify condensate removal, a drain connection is located at the bottom of the vent starter drain tee.

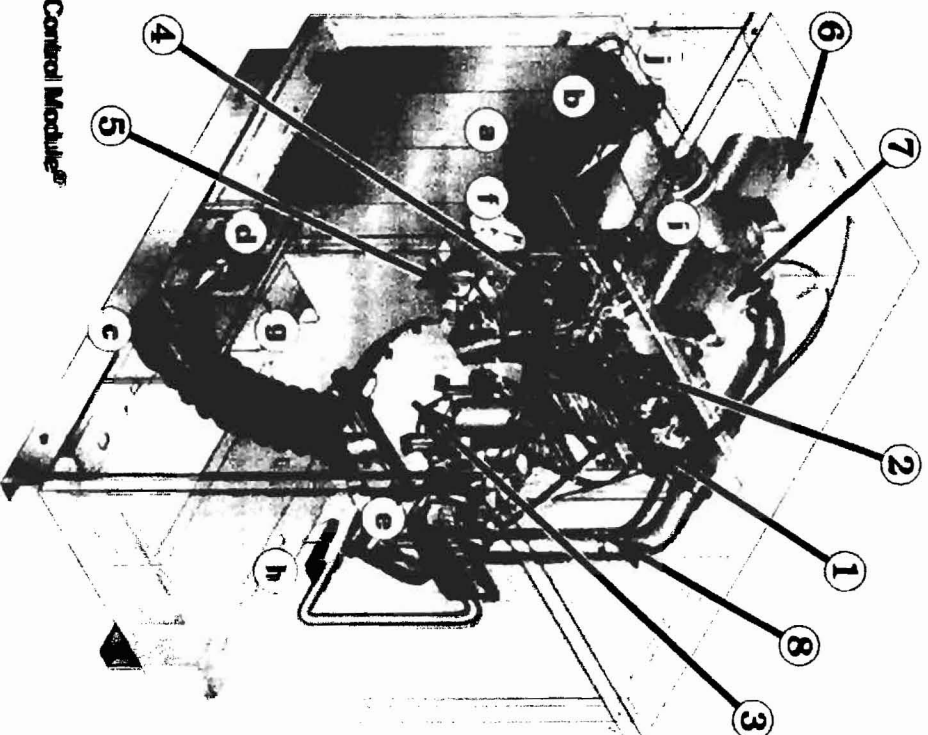
### Sealed Combustion

The Weil-McLain GOLD GV is a high-efficiency residential gas boiler with sealed combustion technology — that means using outside air for combustion. This feature lowers fuel bills by reducing air infiltration and eliminates problems caused by indoor air contaminants.

Outside combustion air can be used when the boiler is vented through a side wall or through the roof. To provide outside air, use galvanized or aluminum pipe, dryer vent or P.V.C.

A patented sidewall vent kit is furnished as standard equipment. A through-the-roof vent kit is available as additional equipment.

# Sequence of Operation



- ① GCM GOLD Control Module<sup>®</sup>
- ② Control transformer
- ③ Blower
- ④ Air pressure switch
- ⑤ Limit switch
- ⑥ System circulator
- ⑦ Bypass circulator
- ⑧ Weather temperature sensor

- a Supply to system
- b Return from system
- c Combustion air inlet fitting
- d Flue outlet
- e Gas valve
- f Pressure/temperature gauge
- g Flueway inspection port cover
- h Sensor hose trap
- i Manual air vent
- j Relief valve

## ***How the boiler works ...***

When a room thermostat calls for heat, the GCM starts the system circulator and blower.

The GCM runs the blower long enough to purge the boiler flue passages, then turns on the igniter and lets it warm up.

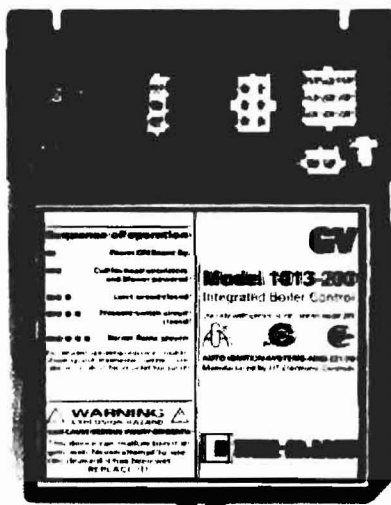
After a 15-second warmup, the GCM opens the gas valve, turns the igniter off, and checks for flame. The flame must come on within 4 seconds or the GCM will shut down and try the full cycle again.

When the room thermostat is satisfied, the GCM turns off the boiler components and waits for the next call for heat.

The GCM indicator lights show normal sequence when the lights are on steady. When a problem occurs, the GCM flashes a combination of lights, which indicates the most likely reason for the problem.

# Features ... Advantages ... Benefits

- *Easy stand-up service.* Components are easy to get to by removing the top jacket panel.
- *Easy to understand.* Pictorial wiring diagrams and troubleshooting guide in the top jacket panel.
- *Fewer parts.* Faster, easier service ... more reliable operation.
- *Sealed combustion.* Reduces energy usage by eliminating air infiltration.
- *Built-in bypass circulator system.* With sensor for temperature control.
- *Unique combustion technology.* Assures higher efficiency with fewer parts and less complexity. Achieved through premix technology - gas and air are thoroughly mixed in the blower before entering the single burner.
- *GCM GOLD Control Module®.* Designed for Weil-McLain ... Mistake proof wiring ... diagnostic indicator lights.
- *Simple propane conversion.* Just change the orifice plate provided with the boiler - simple to do.
- *Easy to handle.* New crate design with the weight at the bottom for easy hand-trucking.
- *Factory-tested.* Every boiler is tested at the factory to assure dependable operation.
- *Hot surface ignition.* Provides more reliable starts without adjustments.
- *New parts approach.* Parts furnished in convenient kits with everything needed.
- *Limited lifetime warranty.* Covers cast iron sections.
- *Multiple boiler systems.* Use two or more high-efficiency GV boilers in place of one large-capacity boiler to meet the space-heating requirements of larger buildings.
- *Easy power hookup.* J-box is located on the outside of the boiler and has pre-stripped wires.



## WEIL-McLAIN CONTROL MODULE

Just as the GV GOLD Boiler is a major breakthrough in gas boiler design, the GCM GOLD Control Module® is a major breakthrough in boiler controls. It is the first control designed specifically for boilers — still another Weil-McLain exclusive.

The enclosed GCM has:

- five indicator lights — power, thermostat & circulator, limit, pressure switch, flame — that show proper operation and make troubleshooting easy without complicated add-on wiring.
- plug-in connectors that attach only one way to assure mistake proof wiring if components ever need to be replaced.

The GCM controls:

- all ignition, operating and safety-related functions. In addition, its microprocessor continually checks itself 60 times each second. If a situation such as electrical "noise" or low voltage is encountered, the GCM restarts and retries, eliminating nuisance lockouts.
- the flow rate of the system circulator depending on the temperature of the water entering the boiler section.
- the bypass circulator, mixing hot water from the boiler outlet with colder return water from the system when needed. By balancing the flow rates of the system and bypass circulators, the GCM can protect against condensation even if return water is as low as 60°F.

And regardless of future control improvements, the GCM design assures newer controls will always fit.

# Ratings



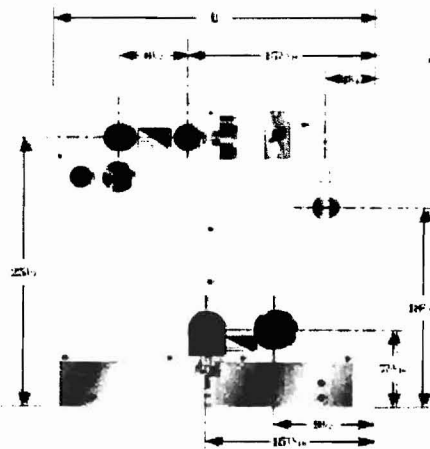
Boiler Model	A.G.A. Input MBH	DOE Heating Capacity MBH (1)	Net I-B-R Water Ratings MBH (2)	Approx. Shipping Weight (Lbs.)	DOE Seasonal Efficiency (AFUE) %	Vent Diameter Inches (3)	Boiler Water Content (Gall.)
GV-3	70	61	53	270	87.5	3	3.3
GV-4	105	92	80	320	87.3	3	4.2
GV-5	140	122	105	355	87.2	3	5.1
GV-6	175	153	133	410	87.0	3	6.0

- Notes:**
- 1) Based on standard test procedures prescribed by the United States Department of Energy.
  - 2) Net I-B-R ratings are based on net installed radiation of sufficient quantity for the requirements of the building and nothing need be added for normal piping and pick-up. Ratings are based on a piping and pick-up allowance of 1.15. An additional allowance should be made for unusual piping and pick-up loads.
  - 3) GV boilers must be vented directly to the outside.

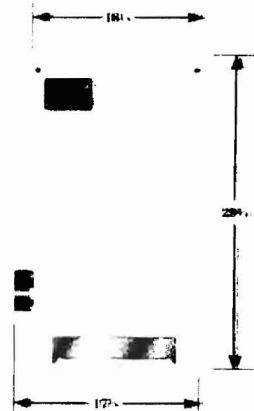
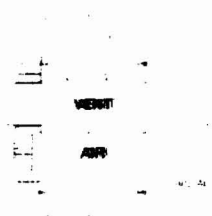
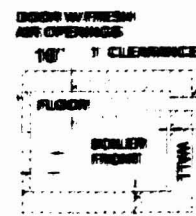
Low NOx certified by SCAQMD in California, as low as 30 nanograms per joule.

A.G.A. design certified for installation on combustible flooring. Tested for 50 PSI working pressure. GV automatically compensates for altitude resulting in reduced input as follows: 2000 ft. - 93%; 3000 ft. - 90%; 4000 ft. - 87%; and 3% for each additional 1000 ft. For boilers used at altitudes above 5500 ft. a high altitude kit must be installed.

# Dimensions



Boiler Model	Length - Inches L	Supply Size Inches	Return Size Inches	Gas Connection Size Inches	Crate Dimensions (Outside Measurements - in.)		
					Length	Width	Height
GV-3	30-3/4	1	1	1/2	33-1/2	22	36
GV-4	30-3/4	1	1	1/2	33-1/2	22	36
GV-5	37-3/4	1	1	1/2	33-1/2	22	43
GV-6	37-3/4	1	1	1/2	33-1/2	22	43



\* Circulators supplied with boiler cannot be removed and cannot be used as a zone circulator in multiple zone systems.  
 \*\* Includes inside and outside plates, vent cap and hardware.

## Standard and Additional Equipment

### Standard Equipment:

- Factory Tested
- Insulated/Extended Jacket
- Cast Iron Sections with Built-in Air Separator
- Steel Base
- GCM GOLD Control Module\*\* with Indicator Lights
- Blower Assembly with Observation Port
- Gas/Air Manifold Assembly
- Gas/Air Orifice Plate for Natural Gas (separate plate furnished for conversion to propane)
- Stainless Steel Burner Cone and Ring Assembly
- Negative Regulation Gas Valve
- Hot Surface Ignition System
- Air Pressure Switch
- System Circulator\*\*
- Built-in Bypass Circulator System with Sensor for Temperature Control\*\*
- Condensate Drain Trap
- Sidewall Vent Termination Kit\*\*
- 40VA Transformer
- Electrical Junction Box

- 30 PSI ASME Relief Valve (boiler sections tested for 50 PSI working pressure)
- Water Temperature Limit Switch
- Section Block Temperature Limit Switch
- Combination Pressure-Temperature Gauge
- Drain Valve

### Additional Equipment:

- Expansion Tank Package #109 - sizes 3 thru 5; #110 - size 6. Shipped in separate carton.
- Through the Roof Termination Kit - includes 5" x 5" x 3" tee, 5" cap, flue support, spacer clamps, debris screen and hardware. 5" Type B vent pipe and fittings must be furnished by installer.
- High Altitude Kit
- W-M 5 & 10 Year Homeowner Protection Plan
- W-M Indirect-fired Water Heaters
- W-M MaxiFlo® Pool Heaters
- W-M AlumiPex® Radiant Heating Products
- W-M Baseboard Units

In the interest of continual improvements in product and performance, Weil-McLain reserves the right to change specifications without notice.



Locate our Sales Offices by visiting our Website:  
[www.weil-mclain.com](http://www.weil-mclain.com)

Weil-McLain  
 500 Blaine Street  
 Michigan City, IN 46360-2388

**FY4A, FA4C  
Base Series Fan Coil  
Sizes 1 1/2 – 5 Ton (018 Thru 060)**



Turn to the Experts

## Product Data

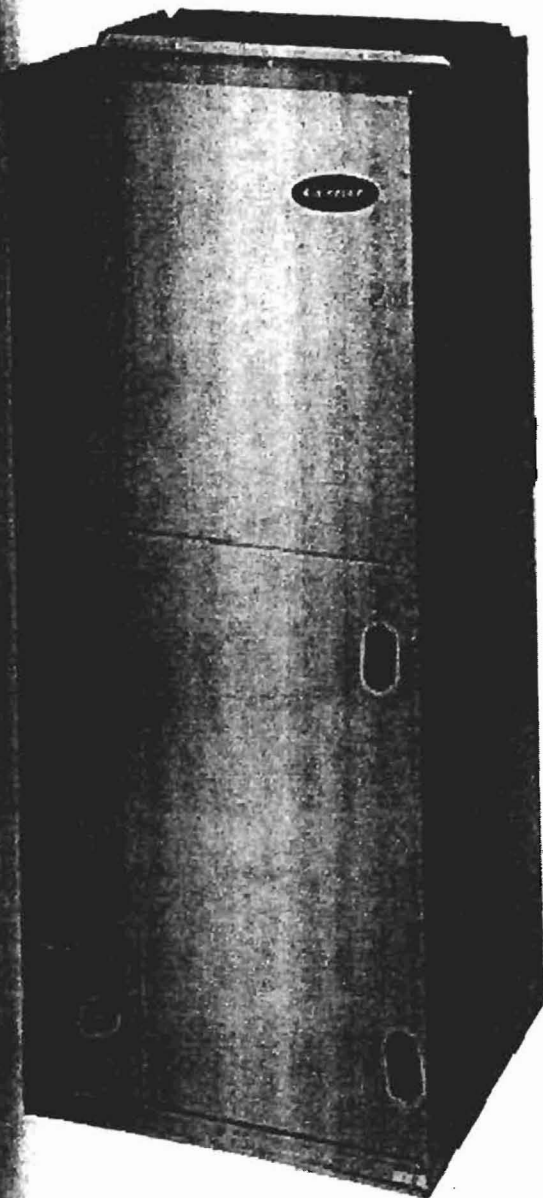
### AIR HANDLER TECHNOLOGY AT ITS FINEST

The FY4A and FA4C direct-expansion fan coils are designed to cover a wide range of air handling requirements. They are compact and ready to fit where needed, in the basement, crawlspace, attic, utility room, or closet. The unique cabinet design of these fan coils meet new stringent regulations for cabinet air leakage, a requirement of 2% cabinet leakage rate when tested at 1.0 inches of static pressure.

The FY4A and FA4C units are shipped with a factory-installed hard-shutoff thermostatic expansion valve (TXV) metering device with an internal check valve for reverse flow bi-pass capability. All units come with solid state fan controls, 1-in. thick insulation with R-value of 4.2, super-quiet multispeed motors, and fully-wettable coils. Units can accommodate factory- or field-installed heaters from 3 to 30 kW.

The FY4A design is a residential new construction (RNC) model available for use with Puron®, the environmentally sound refrigerant. It comes with or without factory-installed disconnects. It has a pre-painted (gray) galvanized insulated steel casing, 2-speed PSC motor in the 018 through 036 sizes, and 3-speed PSC motors in the 042 through 060 sizes.

The FA4C has all the same quality features as the FY4A, but is for use with R-22 refrigerant.



Miss Portland  
Diner Car  
located on slab  
under car

# SPECIFICATIONS



FY4A	018	024	030	036	042	048	060
Refrigerant Device	TXV - factory installed hard-shutoff, bi-flow type for heat pump application						
Capacity	2 ton		3 ton			4 ton	
Fans Per In.	3 / 14.5						
Area (Sq. Ft.)	2.23	2.97	3.46	4.45	5.93	7.42	
Orientation	Slope				A		
Nominal)	600	800	1000	1200	1400	1600	2000
Type	PSC	PSC	PSC	PSC	PSC	PSC	PSC
Hp	1/4	1/4	1/4	1/3	1/2	3/4	3/4
(In.)	21 - 1/2 x	13	16-3/8	19-7/8		23-5/16	
<b>CONFIGURATION OPTIONS</b>							
	1-piece	1-piece	1-piece	1-piece	1-piece	1-piece	Modular

Must be field-supplied for FY4A units.

FA4C	018	024	030	036	042	048	060
Refrigerant Device	TXV - factory installed hard-shutoff, bi-flow type for heat pump application						
Capacity	3 ton			5 ton		6 ton	
Fans Per In.	3 / 14.5						
Area (Sq. Ft.)	2.23	2.97	3.46	4.45	5.93	7.42	
Orientation	Slope				A		
Nominal)	600	800	1000	1200	1400	1600	2000
Type	PSC	PSC	PSC	PSC	PSC	PSC	PSC
Hp	1/4	1/4	1/4	1/3	1/2	3/4	3/4
(In.)	21 - 1/2 x	13	16-3/8	19-7/8		23-5/16	
<b>CONFIGURATION OPTIONS</b>							
	1-piece	1-piece	1-piece	1-piece	1-piece	1-piece	Modular

Must be field-supplied for FA4C units.

FY4A / FA4C

## PERFORMANCE DATA

### AIRFLOW PERFORMANCE (CFM)

MODEL & SIZE	BLOWER SPEED	TOTAL EXTERNAL STATIC PRESSURE					
		0.10	0.20	0.30	0.40	0.50	0.60
FY4A, FA4C 018	High	913	863	807	745	676	601
	Low	852	810	758	696	625	544
FY4A, FA4C 024	High	1055	991	926	860	793	724
	Low	934	878	818	754	686	614
FY4A, FA4C 030	High	1070	1032	978	908	822	721
	Low	910	888	849	791	715	621
FY4A, FA4C 036	High	1352	1316	1273	1223	1167	1103
	Low	1137	1112	1081	1043	998	946
FY4A, FA4C 042	High	1720	1668	1602	1521	1426	1316
	Medium	1576	1540	1488	1421	1338	1239
	Low	1388	1367	1330	1278	1209	1124
FY4A, FA4C 048	High	1902	1824	1743	1659	1571	1479
	Medium	1830	1763	1690	1611	1527	1436
	Low	1625	1584	1531	1465	1387	1296
FY4A, FA4C 060	High	2128	2050	1965	1875	1778	1674
	Medium	1959	1898	1829	1750	1663	1566
	Low	1748	1709	1659	1598	1525	1442

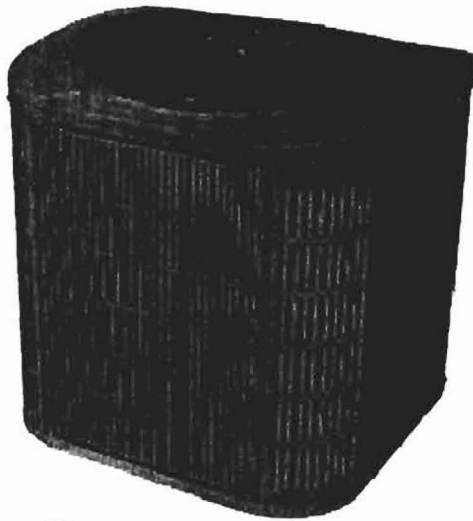
- Flow based upon dry coil at 230v with factory-approved filter and electric heater (2 element heater sizes 18 through 36, 3 element heater sizes 42 through 60).
- Avoid potential for condensate blowing out of drain pan prior to making drain trap.
- Static pressure must be less than 0.40 in. wc.
- Horizontal applications of 042 - 060 sizes must have supply static greater than 0.20 in. wc.
- Rating - Airflow outside 450 cfm/ton.
- Flow above 400 cfm/ton on 048-060 size could result in condensate blowing off coil or splashing out of drain pan.

**24ABA3  
Base™ Series 13 Air Conditioner  
with Puron® Refrigerant**



Turn to the Experts

## Product Data



A04030

Carrier's Air Conditioners with Puron® refrigerant provide a collection of features unmatched by any other family of equipment. The 24ABA has been designed utilizing Carrier's Puron refrigerant. The environmentally sound refrigerant allows you to make a responsible decision in the protection of the earth's ozone layer. Carrier's air conditioning system with Puron refrigerant meets the Energy Star® guidelines for energy efficiency.

### INDUSTRY LEADING FEATURES / BENEFITS

#### Efficiency

- 13 SEER/11 EER
- Microtube Technology™ refrigeration system
- Indoor air quality accessories available

#### Sound

- Sound level as low as 76 dBA

#### Comfort

- System supports Thermidistat™ or standard thermostat controls

#### Reliability

- Puron® refrigerant - environmentally sound, won't deplete the ozone layer and low lifetime service cost.
- Front-seating service valves
- Scroll compressor
- Internal pressure relief valve
- Internal thermal overload
- Filter drier
- Balanced refrigeration system for maximum reliability

#### Durability

##### WeatherArmor™ protection package:

- Solid, Durable sheet metal construction
- Dense wire coil guard
- Baked-on, complete coverage, powder paint

#### Applications

- Long-line - up to 250 feet total equivalent length, up to 200 feet condenser above evaporator, or up to 80 ft. evaporator above condenser (See Longline Guide for more information.)
- Low ambient (down to -20°F) with accessory kit

#### Warranty

- 5 year limited compressor warranty
- 5 year limited parts warranty

Miss Portland

Diner Car

located on slab  
at right hand  
side of car



# PHYSICAL DATA

<b>UNIT SIZE SERIES</b>	<b>18</b>	<b>24</b>	<b>30</b>	<b>36</b>	<b>42</b>	<b>48</b>	<b>60</b>
<b>Operating Weight (lb)</b>	125	125	134	152	189	210	236
<b>Shipping Weight (lb)</b>	146	146	155	175	218	235	270
<b>Compressor Type</b>	Scroll						
<b>REFRIGERANT</b>	Puron® (R-410A)						
<b>Control</b>	TXV (Puron® Hard Shutoff)						
<b>Charge (lb)</b>	4.25	4.35	4.75	5.25	6.2	8.35	8.75
<b>COND FAN</b>	Propeller Type, Direct Drive						
<b>Air Discharge</b>	Vertical						
<b>Air Qty (CFM)</b>	1880	2200	2200	2950	3170	3365	4050
<b>Motor HP</b>	1/12	1/10	1/10	1/4	1/5	1/4	1/5
<b>Motor RPM</b>	1100	1100	1100	1100	1100	1100	825
<b>COND COIL</b>							
Face Area (Sq ft)	9.85	9.85	11.49	14.77	17.25	21.56	25.15
Fins per In.	20	20	25	25	25	25	25
Rows	1	1	1	1	1	1	1
Circuits	3	3	3	3	4	5	5
<b>VALVE CONNECT. (In. ID)</b>							
Vapor	5/8	5/8	3/4	3/4	7/8	7/8	7/8
Liquid	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
<b>REFRIGERANT TUBES* (In. OD)</b>							
Vapor (0-80 Ft Tube Length)	5/8	5/8	3/4	3/4	7/8	7/8	1-1/8
Liquid (0-80 Ft Tube Length)	3/8"						

\* For tubing sets between 80 and 200 ft. horizontal or 20 ft. vertical differential, consult the Longline Guideline.  
 Note: See unit Installation Instruction for proper installation.

## VAPOR LINE SIZING AND COOLING CAPACITY LOSS PURON 1-STAGE AIR CONDITIONER APPLICATIONS

**LONG LINE APPLICATION:** An application is considered "Long line" when the total equivalent tubing length exceeds 80 ft or when there is more than 20 Ft vertical separation between indoor and outdoor units. These applications require additional accessories and system modifications for reliable system operation. The maximum allowable total equivalent length is 250Ft. The maximum vertical separation is 200 Ft when outdoor

unit is above indoor unit, and up to 80 Ft when the outdoor unit is below the indoor unit. Refer to Accessory Usage Guideline below for required accessories. See Long-Line Application Guideline for required piping and system modifications. Also, refer to the table below for the acceptable vapor tube diameters based on the total length to minimize the cooling capacity loss.

Unit Nominal Size (Btuh)	Acceptable Vapor Line Diameters (In. OD)	Cooling Capacity Loss (%)										
		Standard Application			Long Line Application Requires Accessories							
		25	50	80	80+	100	125	150	175	200	225	250
18000 1 Stage Puron AC	1/2	1	2	3								
	5/8	0	0	1								
24000 1 Stage Puron AC	5/8	0	1	1								
	3/4	0	0	0								
30000 1 Stage Puron AC	7/8	0	0	0								
	5/8	1	2	3								
36000 1 Stage Puron AC	3/4	0	0	1								
	7/8	0	0	0								
42000 1 Stage Puron AC	5/8	1	2	4								
	3/4	0	0	1								
48000 1 Stage Puron AC	7/8	0	0	1								
	1 1/8	0	0	0								
60000 1 Stage Puron AC	3/4	0	1	2								
	7/8	0	1	2								
	1 1/8	0	0	0								

Standard Length = 80 Ft or less total equivalent length

Applications in this area may have height restrictions that limit allowable total equivalent length when outdoor unit is below indoor unit. See Long Line Application Guidelines

24ABA3

## BUILDING PERMIT INSPECTION PROCEDURES

Please call 874-8703 or 874-8693 (ONLY )

to schedule your inspections as agreed upon

Permits expire in 6 months, if the project is not started or ceases for 6 months.

The Owner or their designee is required to notify the inspections office for the following inspections and provide adequate notice. Notice must be called in 48-72 hours in advance in order to schedule an inspection:

**By initializing at each inspection time, you are agreeing that you understand the inspection procedure and additional fees from a "Stop Work Order" and "Stop Work Order Release" will be incurred if the procedure is not followed as stated below.**

**A Pre-construction Meeting will take place upon receipt of your building permit.**

  X   Framing inspection required for the installation of the supports for the units.

  X   Final inspection required at completion of work.

Certificate of Occupancy is not required for certain projects. Your inspector can advise you if your project requires a Certificate of Occupancy. All projects DO require a final inspection.

**If any of the inspections do not occur, the project cannot go on to the next phase, REGARDLESS OF THE NOTICE OR CIRCUMSTANCES.**

**CERIFICATE OF OCCUPANICES MUST BE ISSUED AND PAID FOR, BEFORE THE SPACE MAY BE OCCUPIED.**

\_\_\_\_\_  
Signature of Applicant/Designee

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Inspections Official

\_\_\_\_\_  
Date