Number One Air Conditioning Maker

Carrier

Division of Carrier Corporation

Carrier Parkway • Syracuse N Y 13221

Installation, Start-Up and Service Instructions

50WQ

Single-Package Water Source Heat Pumps

INDEX

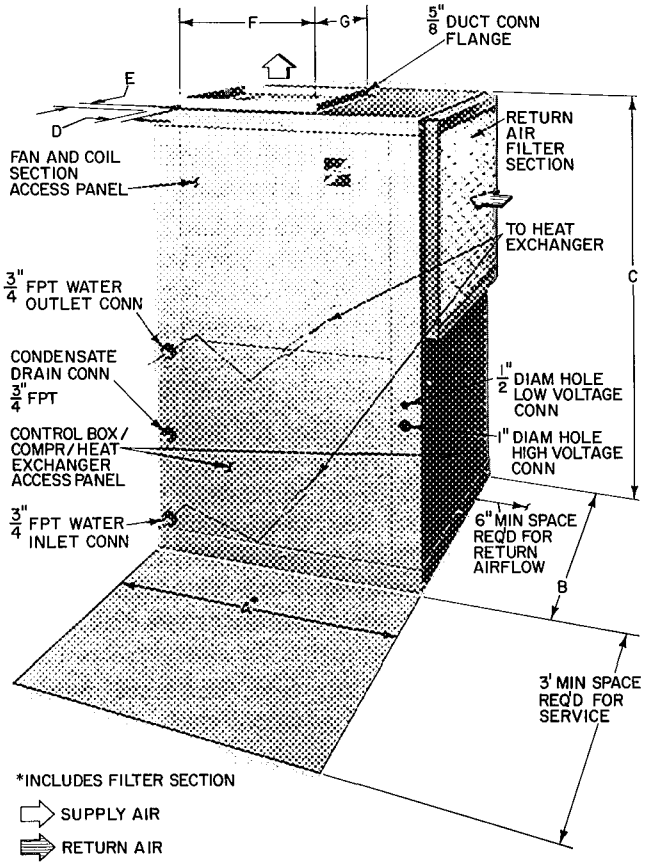
SAFETY CONSIDERATIONS

Installation and servicing of air conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair or service air conditioning equipment.

Untrained personnel can perform basic maintenance functions of cleaning coils and cleaning and replacing filters. All other operations should be performed by trained service personnel. When working on air conditioning equipment, observe precautions in the literature, tags and labels attached to the unit and other safety precautions that may apply.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for brazing operations. Have fire extinguishers available for all brazing operations.

WARNING: Before performing service or maintenance operations on system, turn off main power switch to indoor unit and outdoor unit. Turn off accessory heater power switch if applicable. Electrical shock could cause personal injury.



→ **Fig. 1 — Dimensions and Connections**

→ **Table 1 — Installation Data (see Fig. 1)**

MODEL 50WQ		014	018	022	027	033	042
OPER WT (lb)		220	240	260	270	290	320
DIMENSIONS (ft-in.)							
	A	1-10-1/8 (Includes Filter Section)					
	B	1-9-1/8					
	C	2-10-5/16	2-10-5/16	2-10-5/16	3- 2-5/16	3- 2-5/16	3- 2-5/16
	D	0- 1-1/2	0- 1-1/2	0- 1-1/2	0- 1-1/2	0- 1-1/2	0-3
	E	0- 1-5/8	0- 1-5/8	0- 7-5/8	0- 7-5/8	0- 7-5/8	0- 5-7/8
SUPPLY DUCT CONN. (ft-in.)	F	0-11-1/4	0-11-1/4	0-11-1/4	0-11-1/4	0-11-1/4	0-10-1/4
	G	0-10-1/4	0-10-1/4	0-11-7/8	0-11-7/8	0-11-7/8	1- 1-5/8
FILTER (1) Size (in.)		16x20	16x20	Disposable, 1-in thick 16x20	20x20	20x20	20x20

INTRODUCTION

The 50WQ units are completely self-contained cooling and heating systems. They are water-to-air heat pumps designed for indoor installation. They may be connected into existing duct systems which are properly sized and designed to handle air quantity of 350 to 450 cfm per ton of cooling. Required connections include supply air duct, water supply and return lines, high- and low-voltage wiring. Factory-supplied air filter is installed in rack on unit return air section. See Table 1 for filter size. Use recommended thermostat and subbase (Table 3) for proper unit operation.

INSTALLATION

Step 1 — Check Equipment and Jobsite

UNPACKAGE UNIT — Move to final location. Slide from carton taking special care not to damage service valves or grilles.

INSPECT EQUIPMENT — File claim with shipping company if shipment is damaged or incomplete.

COMPLETE OR CONSIDER THESE SYSTEM REQUIREMENTS before installation:

a. Consult local building codes and National Electrical Code (NEC) for special installation requirements.

b. Consider type of water source. Ensure there is an adequate supply of water at temperature of 45 F to 90 F with minimum pressure of 10 psig.

c. Provide sufficient space for water piping, condensate drain, wiring and servicing unit. See Fig. 1. When front (external) water piping connections are used, locate unit so piping does not block front access panels. (Units installed in confined areas may have to be removed for major servicing such as compressor or fan motor replacement.)

d. Provide a minimum 6-in. clearance between return air filter and adjacent wall.

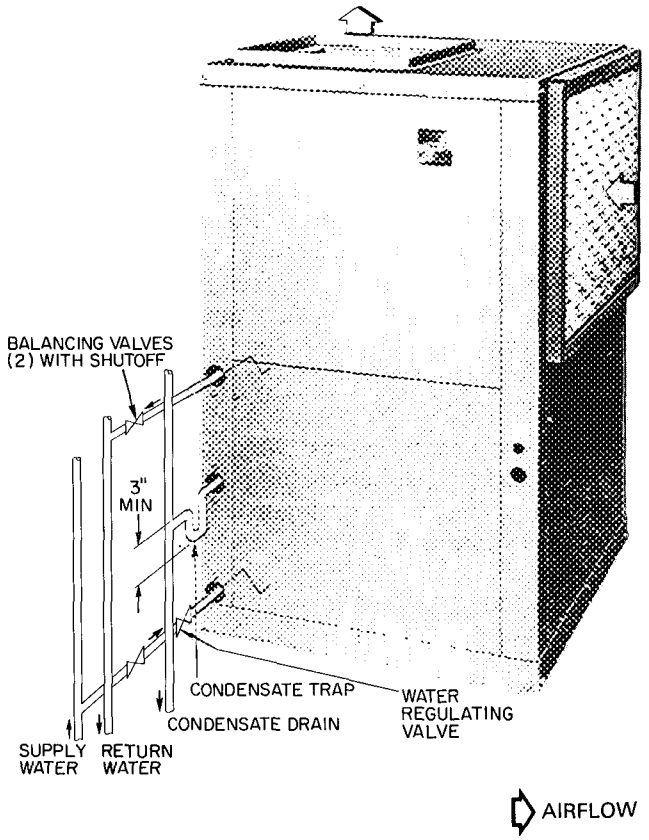
e. Mount 50WQ on floor or solid platform so unit is elevated. Make sure unit is supported from the bottom. To reduce sound transmission, especially when 50WQ is located in a closet or utility room having louvered doors, the following acoustical treatment is recommended: place an isolation pad under unit. Pad must be same size as unit base. Construct a 1-in. fiberglass sound shield in front of unit.

Step 2 — Connect Supply Ductwork to unit supply air duct connection flange. Refer to Fig. 1 and Table 1 for connection size and location. If necessary, refer to Carrier System Design Manual, Part 2, for system air duct design. When designing and installing ductwork, consider the following:

a. Size duct for 350 to 450 cfm per ton of cooling capacity.

b. Avoid abrupt duct size increases and reductions.

c. Use flexible connectors between ductwork and unit to prevent transmission of vibration.



→ **Fig. 2 — Water Piping**

Table 2 — Electrical Data (60-Hz)

MODEL 50WQ	V/PH	OPER VOLTAGE*		COMPRESSOR		FAN	BRANCH CIRCUIT				
		Max	Min	LRA	RLA	FLA	Power Wire Size (AWG)	Max Ft Wire	Gnd Wire Size† (AWG)	Max Fuse Amps	Min Circuit Amps
014	208-230/1	253	197	37 5	9 6	0 7	14	41	14	20	12 7
018				54 0	13 4	0.9	14	33	14	30	17.7
022				65 0	13 3	1 5	14	31	14	30	18 1
027				75.0	16 2	1 7	14	38	12	35	22 0
033				88 0	23 3	2 5	12	43	10	50	31 6
042	230/1	253	207	100 0	27 7	3 2	10	56	10	60	37 8
033	208-230/3	253	187	75 0	13 8	2 5	14	52	12	30	19 8
042				80 0	18 5	3 2	12	54	10	40	26 3
033	460/3	506	414	30 0	6 0	1 1	14	135	14	15	8 9
042				36 5	6 9	1 6	14	118	14	15	10 2

FLA — Full Load Amps
LRA — Locked Rotor Amps
RLA — Rated Load Amps
*Permissible limits of the voltage range at which the units will operate satisfactorily
†Required when using nonmetallic conduit

NOTES:
1 Fan motors are 208-v, 230-v or 460-v single phase
2 All units equipped with 24-v transformer for external control circuit
3 Copper wire sizes based on 60 C Use copper or copper-clad aluminum wire only.

Table 3 — Accessories

PART NO.	DESCRIPTION	UNIT
HH01AD042	Honeywell Thermostat	All
HH93AZ044	Thermostat Subbase	All
38CQ900141	Solid-State Time Guard® Device (Six 38CQ900152)	All

d. Ducts passing thru an unconditioned space must be insulated and covered with vapor barrier in accordance with the latest issue of SMACNA (Sheet Metal and Air Conditioning Contractor's National Association) and NESCA (National Environmental Systems Contractor's Association) minimum installation standards for residential heating and air conditioning systems.

Step 3 — Make Piping Connections

CONNECT WATER SUPPLY AND RETURN LINES to water inlet and outlet pipe connections shown in Fig. 1 and 2. Place plug in unused connections. Use flexible hose for water line to reduce possible vibration and improve unit serviceability. Make sure hoses or pipes are suitable for system water pressure and sized for proper flow rate.

CAUTION: Improper heat exchanger water flow due to piping, valving or improper pump operation is hazardous to units.

For water flow and temperature data refer to Start-Up section, page 4.

CAUTION: Galvanized pipe or fittings are not recommended for use with these units due to possible electrolysis.

INSTALL BALANCING VALVES (with shutoff) in water supply and return lines for water flow adjustment and a means of water shutoff, if necessary, when servicing unit. When multiple units are connected to a cooling tower, valves permit removal of one unit without interrupting water flow to other units.

INSTALL WATER REGULATING VALVES (if used) in water supply line near unit. Multiple unit installations using cooling tower water do not normally use a water regulating valve.

MAKE CONDENSATE DRAIN LINE CONNECTION to female pipe connection provided on unit, Fig. 2. Install a trap in condensate line as close as possible to unit. Trap must be at least 3 in. deep and not higher than the bottom of unit condensate drain opening. Pitch condensate line to open drain or sump. Insulate a condensate drain line located above a living area.

Step 4 — Make Electrical Connections — Field wiring must comply with local and national fire, safety and electrical codes. Voltage to unit must be within the operating voltage range indicated on nameplate or in Table 2. On 3-phase units, phases must be balanced within 2%.

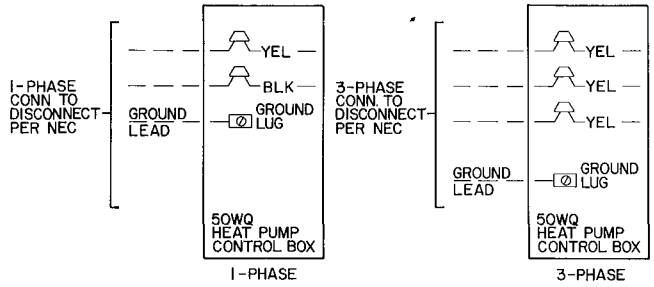
Operation of unit on improper line voltage or with excessive phase imbalance constitutes abuse and is not covered by Carrier Warranty.

INSTALL A BRANCH CIRCUIT DISCONNECT PER NEC of adequate size to handle unit starting current. Locate disconnect within sight of and readily accessible from the unit, per Section 440-14 of National Electrical Code (NEC).

BRING POWER LEADS INTO UNIT — Extend leads from disconnect per NEC thru hole provided (Fig. 1) into line wiring splice box, Fig. 3.

CONNECT GROUND LEAD TO GROUND LUG IN SPLICE BOX for safety. Connect power wiring. See Fig. 3. Splice line power leads to yellow and black pigtails on single-phase units or yellow pigtails on 3-phase units. Use wire nuts. Tape each connection.

Unit transformer on 208-230-volt units is factory wired for 230/24-volt operation. For 208/24-volt operation, remove black (230-v) transformer lead from unit contactor and connect red (208-v) lead to contactor. Cap unused transformer lead.



→ **Fig. 3 — Line Power Connections**

→SET FAN MOTOR SPEED — All units are factory wired for high fan speed operation. Set fan motor for medium or low speed operation as follows:

1. Remove unit fan section access panel.
2. Locate Molex fan speed selector block on fan housing, Fig. 5. Selector block receptacle 1 is high fan speed, receptacle 2 is medium fan speed and receptacle 3 is low fan speed. Yellow and black fan motor power leads from control box are connected to selector block receptacle C and 1. Yellow lead is common, black lead is speed-change lead.
3. Change fan motor speed by removing black lead from selector block receptacle 1 and plugging it into receptacle 2 or 3. Receptacle 4 is not used.

CAUTION: For proper unit operation, set unit fan motor speed for air quantity within range shown in Table 4.

Set fan motor speed on 460-volt units — Two-speed fan motor is factory wired for high-speed operation. (Yellow and black power leads from control box are connected to the yellow and black fan motor leads.) Change fan motor to low speed by wiring as follows:

1. Splice the violet and black fan motor leads together.
2. Splice yellow and black power leads from control box to yellow and red motor leads. (Yellow-to-yellow and black-to-red.)

CONNECT CONTROL POWER WIRING (24-v) — Power leads are brought thru 1/2-in. hole provided in unit, Fig. 1. Extend leads to low-voltage terminal board located on top of control box, Fig. 5. Connect leads to terminal board as shown in Fig. 3.

Use room thermostat HH01AD042 and thermostat subbase HH93AZ044 for proper unit operation. Be sure that field-installed jumper wire is connected between subbase terminals W and Y. Set thermostat heat anticipator at 0.45 amp for 1-phase units and 0.50 amp for 3-phase units.

START-UP

Water Flow and Temperature Data

1. Consider design water flow rates for efficient operation. See Table 4 for permissible water flow range.
2. Ensure that water temperature entering unit is between 45 F minimum and 90 F maximum. For water temperature below 60 F, insulate supply line and install a secondary drain pan under the unit to remove condensate from heat exchanger and internal plumbing.

CAUTION: Water temperature outside specified temperature range may cause damage to unit.

3. Ensure that supply water is clean and air is purged from system. Air in supply water causes scaling in heat exchanger. Foreign material in water and/or excessive velocity of water can cause damage to tubing.
4. When using a semi-closed system with an "open" cooling tower, a water treatment system should be operational with initial water flow.

To Start Unit — Ensure that air filter is in place on unit filter flanges provided. Do not operate unit without filter in place. Adjust the thermostat as follows:

1. Set selector switch at OFF.
2. Turn on main disconnect switch to unit.
3. Set fan switch as desired (ON or AUTO.).
4. Set thermostat dial at desired temperature.
5. Set selector switch at HEAT or COOL.

Check system refrigerant charge. See Refrigerant Charging on page 6.

→**Unit Single-Phase Compressors** that are equipped with a compressor start thermistor (PTC device) — When supply voltage is within limits indicated on nameplate and compressor will not start, check the thermistor with an ohmmeter.

If the PTC is good, and the compressor does not start, disconnect the PTC from the starting circuit and give unit a temporary capacitance boost. Refer to Carrier Standard Service Techniques Manual, Chapter 2, for details on capacitance boost procedure. If unit does not start with capacitance boost, compressor may be defective. If unit does not start, check starting capability with PTC assistance. If questionable, remove PTC, add start capacitor and start relay per start kit installation instructions.

WARNING: Capacitance boost or installation of start capacitor and start relay should be performed by trained personnel. Improper procedure could cause personal injury or equipment damage.

Unit Controls and Safety Devices

HIGH-PRESSURE RELIEF VALVE (except 50WQ014) is located in compressor. Relief valve opens at a pressure differential of approximately 550 psi between suction (low side) and discharge (high side) to allow pressure equalization.

CURRENT AND TEMPERATURE SENSITIVE OVERLOAD (linebreak) internal on all compressors except on 50WQ014 which has external shell mounted overload. Overload resets automatically when internal compressor motor temperature drops to a safe level (overloads may require up to 45 minutes to reset). When an internal overload is suspected of being open, check by using an ohmmeter or continuity tester. If necessary, refer to Carrier Standard Service Techniques Manual, Chapter 2, for complete instructions.

HIGH-PRESSURE SWITCH opens and shuts compressor off if discharge pressure rises above 395 psig. Switch closes at 295 psig.

FREEZE-UP PROTECTION — Two controls are used to prevent unit from operating if water approaches freezing temperature during heating cycle.

→1. Low Water Temperature Cutout (LWTC) — shuts unit off and energizes lockout relay if water temperature reaches 37 F.

2. Lockout Relay — locks itself in energized position and prevents unit from starting.

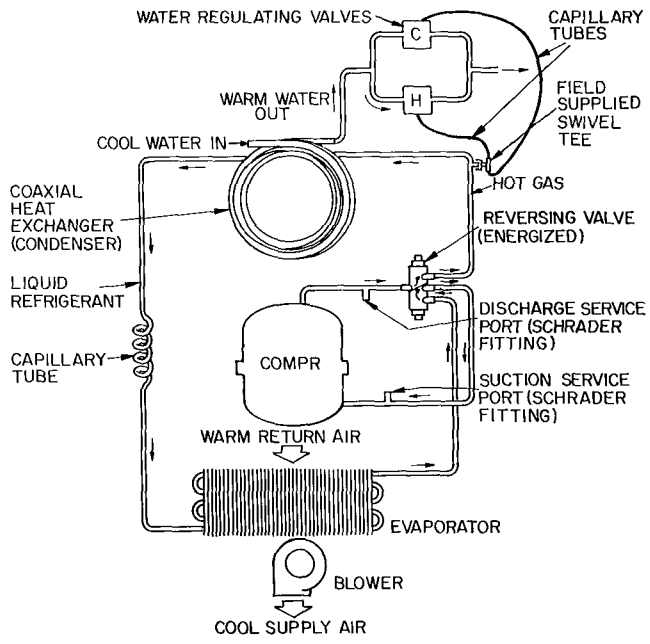
The unit can be restored to heating operation if the water temperature rises to 42 F, where the LWTC will reset, and if the thermostat circuit is interrupted either by lowering the thermostat setting or by moving system switch to OFF or COOL. Thermostat may then be readjusted to normal set point.

→HEAT PUMP CIRCUITS shown in Fig. 4 are refrigerant and water flow diagrams for heating and cooling cycles. Schrader service port located between the reversing valve and the heat exchanger permits field installation of swivel tee (Carrier Part No. DD44CA051) for connecting water regulating valves without losing refrigerant charge.

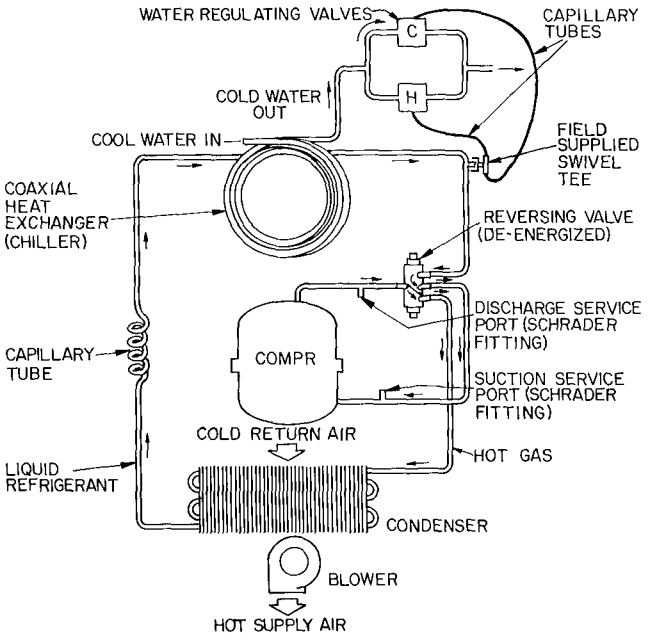
→WATER REGULATING VALVES control water flow to yield optimum performance in both the heating and cooling modes.

In cooling, the controlling valve is actuated by head pressure. As the head increases, the valve opens and allows more water to flow. If the supply water is very cold, the head pressure will drop, causing the valve to throttle back.

In heating, the direct-acting valve is closed due to very low pressure. The other valve is reverse-acting and opens on a drop in suction pressure. If the water temperature drops, the suction pressure will also drop causing the valve to open. This allows more water to flow, thereby preventing freeze-up. It also throttles back if the inlet water temperature rises.



COOLING CYCLE



HEATING CYCLE

Water In/Water Out can be to a ground water or surface water source

→Fig. 4 — 50WQ Refrigerant and Water Flow Diagrams

SERVICE

Table 4 — Service Data

MODEL 50WQ	014	018	022	027	033	042
R-22 CHG (lb-oz)*	1-8	1-10	1-14	2-0	2-2	2-11
Refrig control	Capillary Tube					
FAN	Centrifugal — Direct Drive					
Diameter (in. Nom)	10	10	10	10	10	11
Width (in. Nom)	7	7	7	7	7	7
Range Cfm	400-600	500-700	600-800	750-1000	950-1200	1040-1375
Motor Hp	1/8	1/8	1/6	1/6	1/4	1/3
Motor Rpm (3 speed)	1075 Nominal					
HEAT EXCHANGER	Tube-in-Tube; cupro nickel or copper					
Water Flow Range (Gpm)	1 5-5	2-6	2-8	2.5-9	3-10	4-12

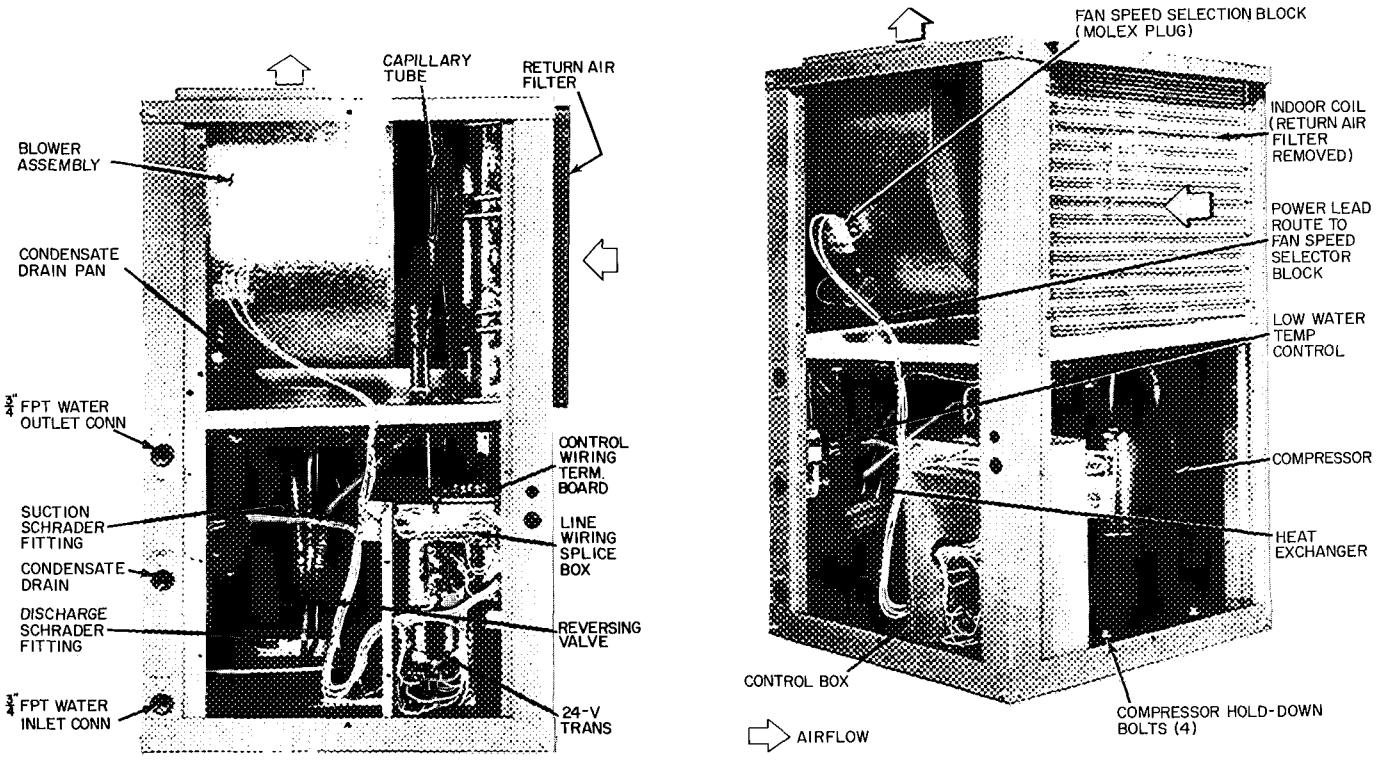
*Factory refrigerant charge

Refrigerant Charging — Unit refrigerant system is factory charged. When recharging is necessary during heating or cooling season, weigh in total charge indicated in Table 4. Remove any refrigerant remaining in system before recharging. If system has lost complete charge, evacuate system to 500 microns (29.7 in. vacuum) before recharging. Service port connections are provided on high and low sides of refrigerant system for evacuation and charging. (See Fig. 4 for service port location.)

Dial-a-charge charging cylinder is an accurate device used to recharge systems by weight. These cylinders are available at refrigeration supply firms.

To check and/or adjust refrigerant charge during cooling season, use correct cooling cycle charging chart (Fig. 6, 8, 10, 12, 14, 16) or Carrier Chargemaster® charging device (Carrier Part No. 38GC680004). Charging charts or Chargemaster may also be used as alternate methods of recharging system. Charging methods are described below.

To check *system operation* during heating cycle, use correct Heating Cycle Operation Check Chart (Fig. 7, 9, 11, 13, 15, 17). These charts indicate whether a correct relationship exists between unit operating pressures and water temperature leaving heat exchanger. If pressure and water temperature lines do not intersect on chart, the system refrigerant charge may not be correct or other system abnormalities may exist. Do not use Operation Check Charts to adjust refrigerant charge. Weigh charge into system.



→ **Fig. 5 — Component Location**

COOLING CYCLE CHARGING CHART METHOD

1. Operate unit a minimum of 10 minutes before checking charge, and after each charge adjustment.
2. Measure suction pressure by attaching a gage to 50WQ unit suction service port (Schrader Fitting).
3. Measure discharge pressure by attaching a gage to unit discharge service port (Schrader Fitting).
4. Using a sling psychrometer, measure wet-bulb temperature of air entering unit.
5. Refer to correct Charging Chart. Locate on curves where unit discharge pressure line and indoor air wet-bulb temperature line intersect.
6. From intersect point, project horizontally left to chart suction pressure line. Compare chart suction pressure to unit suction pressure (step 2).
7. If unit suction pressure is lower than chart pressure, add refrigerant to unit until chart pressure is reached. If unit suction pressure is higher than chart pressure, remove refrigerant until chart pressure is reached.

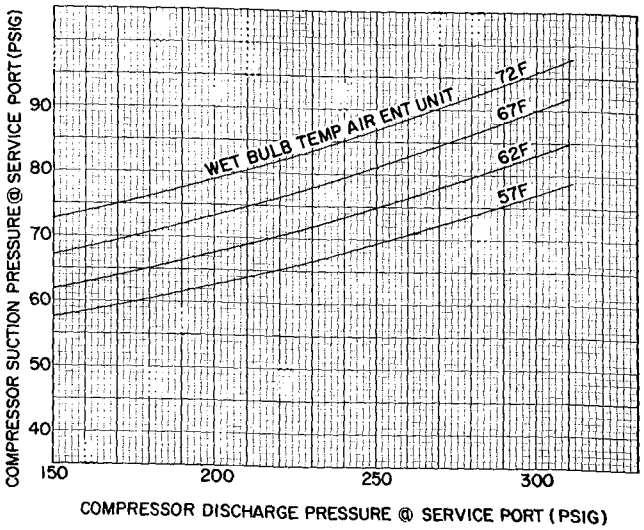


Fig. 6 — 50WQ014 Cooling Cycle Charging Chart (R-22)

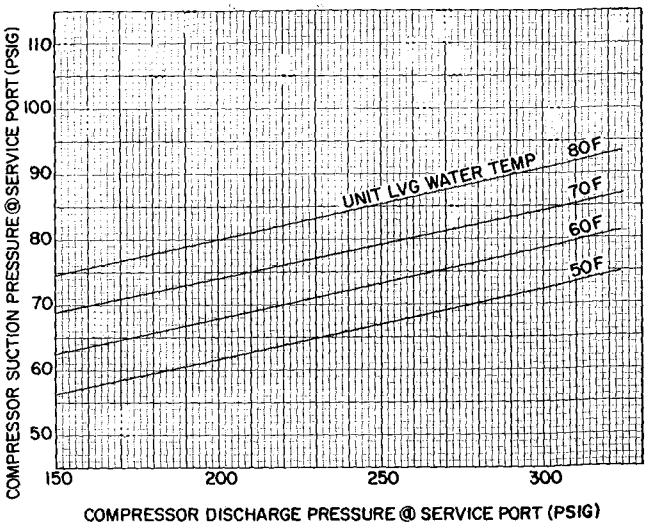


Fig. 7 — 50WQ014 Heating Cycle Operation Check Chart (R-22)

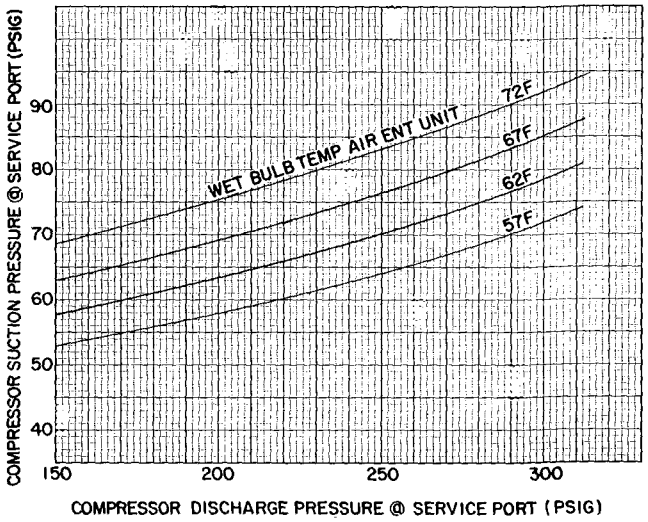


Fig. 8 — 50WQ018 Cooling Cycle Charging Chart (R-22)

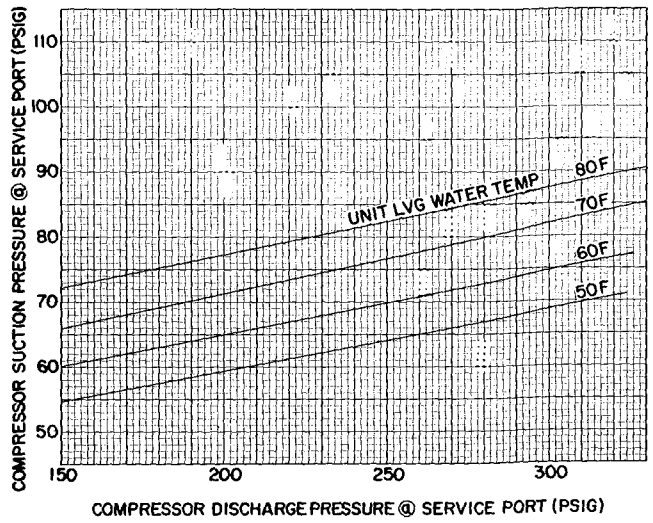


Fig. 9 — 50WQ018 Heating Cycle Operation Check Chart (R-22)

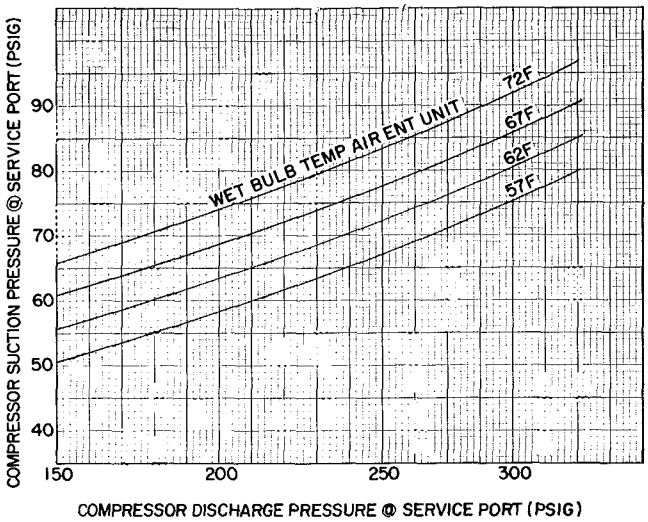


Fig. 10 — 50WQ022 Cooling Cycle Charging Chart (R-22)

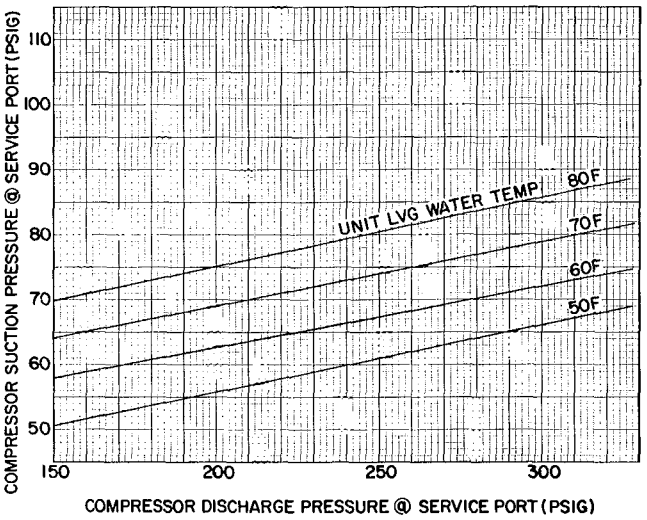


Fig. 11 — 50WQ022 Heating Cycle Operation Check Chart (R-22)

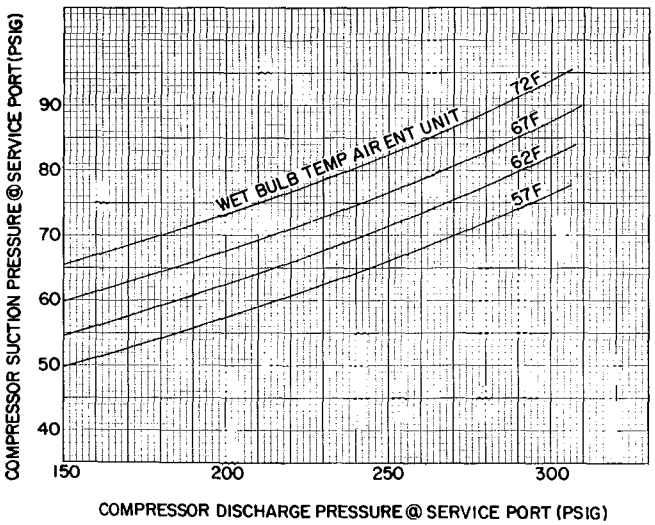


Fig. 12 — 50WQ027 Cooling Cycle Charging Chart (R-22)

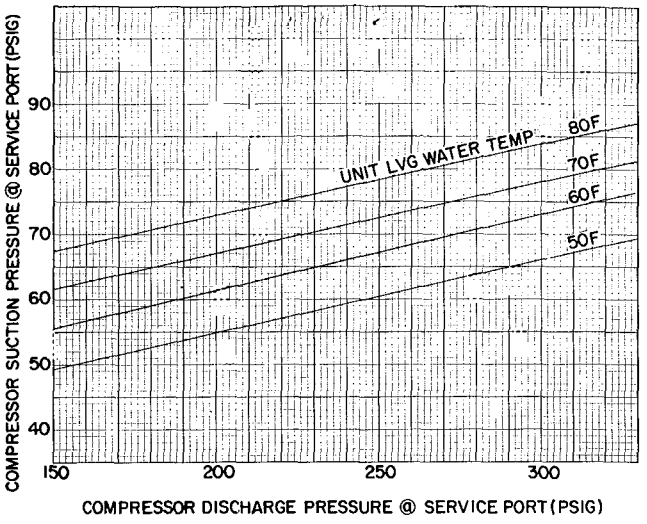


Fig. 13 — 50WQ027 Heating Cycle Operation Check Chart (R-22)

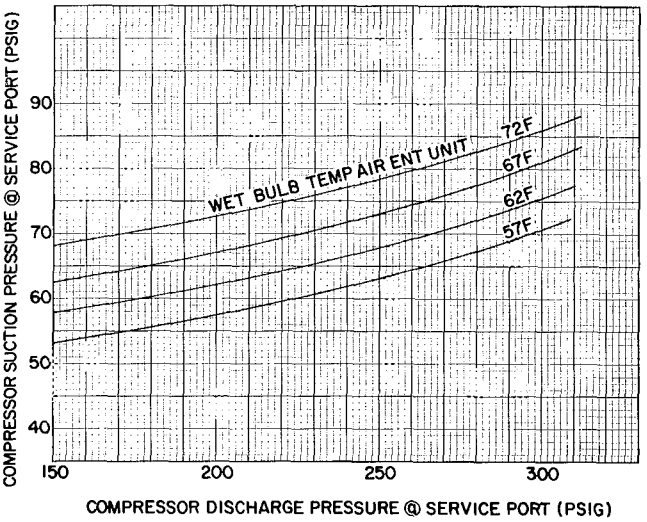


Fig. 14 — 50WQ033 Cooling Cycle Charging Chart (R-22)

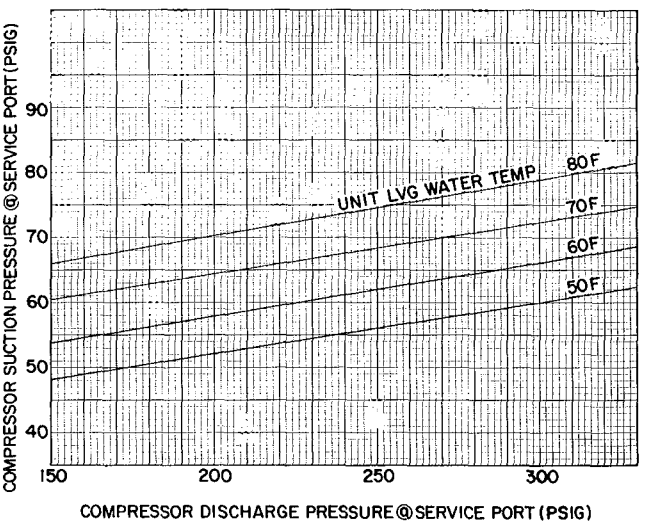


Fig. 15 — 50WQ033 Heating Cycle Operation Check Chart (R-22)

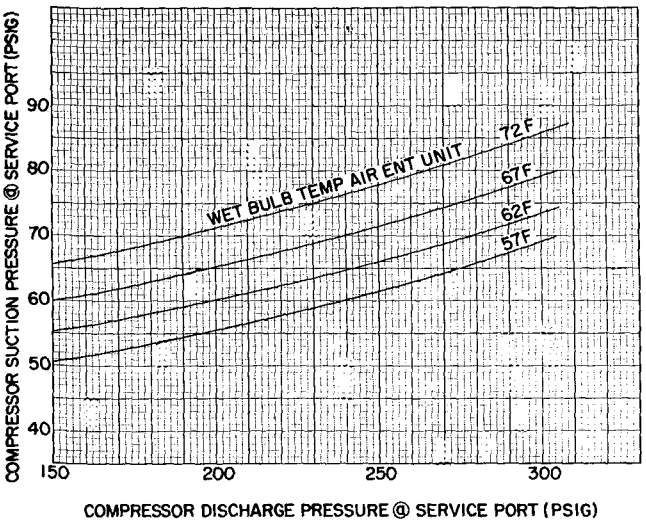


Fig. 16 — 50WQ042 Cooling Cycle Charging Chart (R-22)

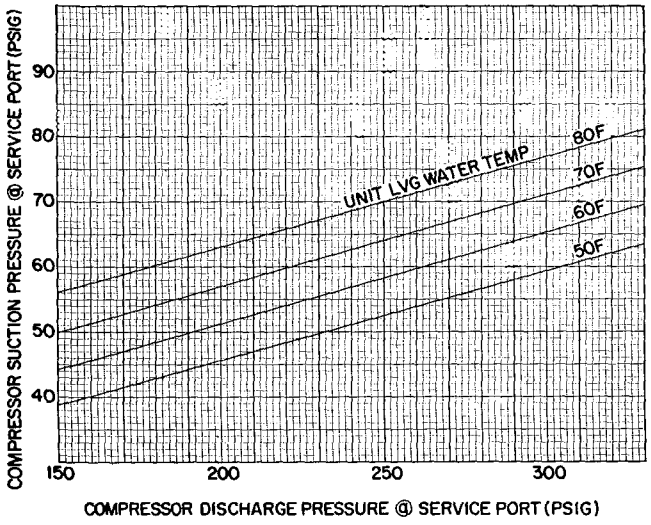


Fig. 17 — 50WQ042 Heating Cycle Operation Check Chart (R-22)

CHARGEMASTER® DEVICE OPERATION — Operate unit 10 minutes before using device. Ensure unit indoor fan section access panel is in place for proper Chargemaster operation.

1. Tape Chargemaster feeler bulb to unit suction line. Insulate bulb. Ensure suction line is clean for good contact with bulb.
2. Connect refrigerant drum to Chargemaster inlet port with drum in position for vapor charging.
3. Connect Chargemaster outlet port (loosely) to unit suction line Schrader valve.
4. Crack valves on refrigerant drum and Chargemaster device to purge lines from drum to suction line Schrader valve. After purging lines, close valve on Chargemaster device only. Tighten Chargemaster connection at suction line Schrader valve.
5. Measure unit leaving water temperature.
6. Read *evaporator temperature at red needle position* on Chargemaster temperature gage and *suction line temperature at black needle position.*

CAUTION: Do not read evaporator temperature with Chargemaster valve open.

7. Enter 50WQ Chargemaster Charging Chart, Table 5, at unit leaving water temperature (step 5) and evaporator temperature (step 6). *(Do not use standard charging chart on cover of Chargemaster device.)* Find the suction line temperature required for correct system charge. If actual suction line temperature (step 6) is higher than table value, the system is undercharged. If suction line temperature is lower than table value, the system is overcharged.

   Example: At leaving water temperature of 93 F and evaporator temperature of 41 F, the system is correctly charged at 50 F (±2 F) suction line temperature.
8. Add charge by slowly opening Chargemaster valve. If necessary, reduce charge by bleeding at liquid line Schrader valve. Check outdoor air and evaporator temperature during procedure. If they change, refer back to Chargemaster Charging Chart for new value.

Correct use of Chargemaster device ensures that an optimum refrigerant charge is in system when conditions and system components are normal. However, the device does not solve or fix system abnormalities. It indicates correct charge for condition of system. It does not make corrections for dirty filters, slow fans, or other abnormal conditions. This charging device ensures that a correct relationship exists between leaving water temperature, evaporator temperature, and suction line temperature on a specific system.

Table 5 — Chargemaster Charging Chart

UNIT LEAVING WATER TEMP (F)	EVAPORATOR TEMP (F)*									
	30	33	36	39	41	44	47	50	53	56
	Suction Line Temperature (F)									
69	46	49	51	54	57	59	61			
75	45	47	50	53	55	58	60	64		
81		46	49	51	54	56	57	63		
87			48	50	52	54	56	62	65	
93			46	48	50	53	55	57	61	
99				47	49	51	54	56	61	64
105				45	47	50	53	56	60	63
112					46	49	53	55	59	62
117					45	47	52	55	57	61
123						46	50	53	55	56

*Saturated evaporator temperature which is the equivalent temperature of pressure taken at unit suction service valve.

Compressor Removal — See Table 6 for compressor information and Fig. 5 for component location. Follow safety codes, and wear safety glasses and work gloves. Have quenching cloth available (step 7).

→ CAUTION: Copper tubing and aluminum fins are used in 50WQ unit coils. Do not overheat or place excessive strain on tubing or damage may result.

1. Shut off power to unit. Failure to do so may result in electric shock. Remove unit compressor section access panels, Fig. 1.
2. Remove refrigerant from unit using refrigerant removal methods described in Carrier Standard Service Techniques Manual, Chapter 1.
3. Remove core from suction and discharge line Schrader valves.
4. Disconnect compressor wiring at compressor terminal box.
5. Using a tubing cutter, cut suction and discharge lines at convenient place near compressor for easy reassembly to new compressor with copper slip couplings.

CAUTION: Excessive movement of copper lines at compressor may cause a break where lines connect to coil.

6. Remove compressor hold-down bolts and lift compressor out.
7. Carefully unbraze suction and discharge line piping stubs from compressor. If oil vapor in piping stubs ignites, use quenching cloth.
8. Braze piping stubs (removed in step 7) on new compressor.
9. Clean system. Add new suction line filter-drier as described below.
10. Install new compressor in unit. Braze suction and discharge lines to compressor piping stubs (at points where cut, step 5) using field-supplied copper couplings. Ensure compressor hold-down bolts are in place. Connect wiring.
11. Evacuate and recharge unit.

Filter-Drier — Install a filter-drier in compressor suction line when refrigerant system is opened for service as described under Compressor Removal. Check filter-drier pressure drop at drier service port and unit suction line Schrader fitting. Ensure pressure drop does not exceed 2 psi.

→ **Table 6 — Compressor Data**

MODEL 50WQ	V/PH	PRODUCTION COMPRESSOR	OIL RECHARGE (oz)
014	208-230/1	AJ5518E	24
018		AB5519F	32
022		MD2023HB	42
027		MD2423HB	42
033		MD3423HB	42
042	230/1	MD4023HB	42
033	208-230/3	MF3423HB	42
042		MF4023HB	
033	460/3	MH3423HB	42
042		MH4023HB	

MAINTENANCE

CAUTION: Before performing recommended maintenance, be sure main power switch to unit is turned off.

Lubrication

COMPRESSOR contains factory oil charge. Replace oil when lost. See Table 6 for oil recharge. If necessary, refer to Carrier Standard Service Techniques Manual, Chapter 1, pages 1-21, for oil recharging procedure. Use Carrier PP33-1, Texaco Capella B or Suniso 3G oil.

FAN MOTOR BEARINGS are prelubricated for 3 years heavy-duty or 5 years normal-duty service. When lubrication is necessary, send motor to authorized motor repair shop.

Cleaning Coil and Condensate Pan — Clean and inspect coil, condensate pan and drain before each cooling season.

1. Remove coil section access panels and slide air filter out of filter flanges.
2. Disconnect condensate drain line at pan drain connection.
3. Use vacuum cleaner nozzle to clean the face of coil.
4. Clean condensate drain trap with a bottle brush. Clean condensate pan.
5. Hold pail under condensate pan drain connection and flush pan out with clean water. Ensure water flows freely thru condensate drain. Do not overflow pan.
6. Reconnect condensate drain line.
7. Install access panel and air filter.

Indoor Fan Wheel should be centered in housing. To adjust fan, loosen setscrew holding fan to motor shaft. Adjust fan and retighten setscrew.

INDOOR BLOWER ASSEMBLY REMOVAL

1. Remove fan section access panel, Fig. 1.
2. Remove power wires from Molex plug, Fig. 5.
3. Place a spacer beneath blower housing for support.
4. Remove blower assembly mounting bracket. (Rear flange on top of blower housing and spacer now hold blower assembly in place.)
5. Support blower housing at bottom and remove spacer. Tilt blower assembly downward and lift out of unit.

Indoor Fan and Motor Removal

1. Remove blower assembly from unit.
2. Remove Molex plug from bracket on fan housing.
3. Loosen setscrew holding fan to motor shaft.
4. Loosen motor mounting band and remove motor.
5. Remove fan cutoff plate from blower housing outlet.
6. Remove fan wheel from blower housing outlet.

Clean Indoor Fan Wheel — When coil is cleaned, remove caked-on dirt from fan wheel and housing with brush; remove grease with mild solvent. When replacing blower assembly, make sure fan wheel is centered in housing.

Return Air Filter — Replace throwaway filter 4 times a year. For other types of filters, refer to filter manufacturer's instructions as required.

CAUTION: Never operate unit without a filter as coil will plug and damage to fan motor may result.

Heat Exchanger — If excessive discharge pressure is experienced with normal water flow, the heat exchanger tubes may be fouled and require cleaning. Contact a local water treatment firm for details on chemical cleaning.

For replacement items use Carrier Specified Parts.

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

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Form 50WQ-2SI Supersedes 50WQ-1SI Printed in U S.A 12-80 PC 101 Catalog No 535-063