

Physical layout
Refrigerant line size Liquid line _____ inches Vapor line size _____ inches
Refrigerant line length _____' _____" ft. in. one story structure <input type="checkbox"/> two story structure <input type="checkbox"/>
If more than two stories <input type="checkbox"/> Line length up to indoor unit _____' _____" ft in
If more than one story <input type="checkbox"/> line length up to outdoor unit on roof _____' _____" ft in.
Indoor coil metering devise TXV <input type="checkbox"/> PIN <input type="checkbox"/> # _____ (Size of pin)
Outdoor metering devise TXV <input type="checkbox"/> Cap tube <input type="checkbox"/> PIN <input type="checkbox"/> # _____ (size of pin)

Electrical Readings
single phase unit <input type="checkbox"/> three phase unit <input type="checkbox"/> (208/230v.) three phase unit <input type="checkbox"/> (460 v.)
voltage at the outdoor disconnect _____ v. voltage at compressor contactor _____ v.
line voltage at indoor air handling unit _____ v. voltage across elect. heat element _____ v.
Voltage at compressor between common and run winding _____ v. (3F, L1 and L2) <input type="checkbox"/>
Voltage at compressor between run and start winding _____ v. (3F, L2 and L3) <input type="checkbox"/>
Voltage at compressor between start and common winding _____ v. (3F, L3 and L1) <input type="checkbox"/>
Voltage at red and common output of transformer _____ v. (24 v. cir.)
Voltage at red and common of thermostat sub-base _____ v. (24v. cir.)
Voltage at red and common of outdoor unit field wiring _____ v. (24v.cir.)
Voltage at red and common of outdoor unit field wiring in the defrost mode _____ v. 24v

Air flow Calculations
<i>Air flow test using temperature rise method</i>
Note: This method will only work when the auxiliary heat is measured without the operation of the compressor. Temperature readings from the supply duct should be made a minimum of 3 feet from electric strip heaters. Several temperature readings should be made and averaged for an accurate finding.
Voltage and Amp draw readings should be of the heater circuit only.
Voltage across the heater element circuit(s) _____ v.
Amp draw of the heater element circuit _____ a.
Temp. at air handling unit return duct _____ F° Temp. at air handling unit supply _____ F°
Voltage = _____ X Amp = _____ X 3413 = _____ watts
Supply temp. - Return temp. X 1.08 = _____
$\frac{\text{volts x amps} = \text{watts}}{\text{S-R x 1.08}} = \text{CFM}$
A second method can also be used if a means of establishing External Static pressure can be taken. This method will also require blower performance curves for the unit in question
A static pressure probe must be placed in the supply duct and one in the return duct. The combined pressures should than be compared with blower performance table supplied by ICP. This method done correctly, will give as accurate a reading as possible for the field technician.

Refrigerant Operating Pressure and Temperature Readings
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Cooling Mode
Discharge pressure at charging port _____ psig

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Vapor pressure at vapor line charging port _____ psig		
Liquid pressure at liquid line service valve _____ psig		
Vapor pressure at vapor line service valve _____ psig		
Liquid line temperature at service valve _____ F°		
Vapor line temperature at service valve _____ F°		
Temperature drop across indoor coil (ΔT) _____ F° db _____ F° wb		
Outdoor temperature at condensing coil _____ F° db		

Heating Mode Operation

Discharge pressure at liquid line charging port _____ psig
Vapor pressure at suction side charging port _____ psig
Vapor pressure at vapor line service valve (<i>Note: this is high pressure</i>) _____ psig
Liquid pressure at liquid line service valve _____ psig
Discharge temperature at compressor _____ F°
Temperature across the indoor coil _____ F° (ΔT) db
Out door Temperature at the condenser unit _____ F°

Defrost Mode Operation

Initiation pressure at beginning of cycle liquid pressure _____ psig
suction pressure _____ psig
Termination pressure at end of defrost cycle Liquid pressure _____ psig
suction pressure _____ psig
Length of defrost cycle _____ min.
After defrost is completed, did coil fully clear <input type="checkbox"/> yes <input type="checkbox"/> no
Did auxiliary heat operate during defrost <input type="checkbox"/> yes <input type="checkbox"/> no
Was defrost initiated through shorting test pins <input type="checkbox"/> yes <input type="checkbox"/> no
Was defrost initiated through normal run time operation <input type="checkbox"/> yes <input type="checkbox"/> no
Defrost initiation temperature at defrost sensor _____ F°
Defrost termination temperature at defrost sensor _____ F°

Other points to check

Check that thermostat is level to wall
The indoor air filter is clean
Check that all air outlet registers are open, and that all return openings are clear of obstruction

Report completed by :	DATE