Gustave A. Larson Company

Heat Pump System with Fossil Fuel Furnace
Job-Site Information Sheet

Date _____

Case # _____

Owner

Name _____

Street _____

City _____ Zip_____

State _____

Phone _____

Servicing Contractor:

Name _____

Street _____

City _____ Zip_____

State _____

Phone _____

Equipment Information:

Heat Pump: Model # _____ Serial # _____ Date Installed: _____

Evaporator: Model # _____ Serial # _____ Date Installed: _____

Air Handler: Model # _____ Serial # _____ Date Installed: _____

Furnace: Model # _____ Serial # _____ Date Installed: _____

Description of Problem: _____

_____

_____

_____

_____

Actions Taken to Correct Problem: _____

_____

_____

_____

_____

Notes: _____

_____

_____

_____

_____

_____

_____

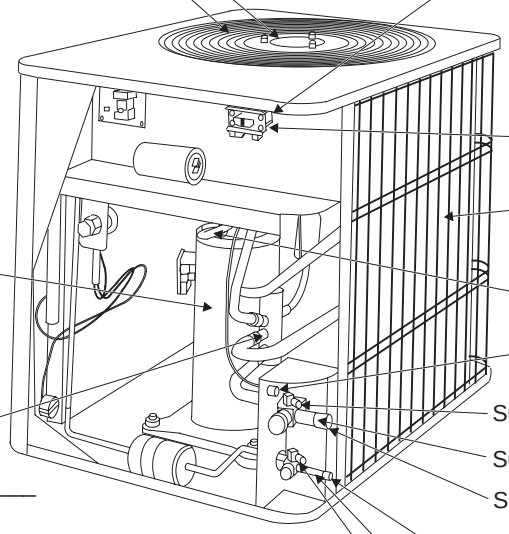
_____

_____

Outdoor Unit Data

IMPORTANT: *Run unit at least 10 minutes before taking measurements, except for the Standby Line Voltage measurements, which should be taken before the unit is turned on.*

Heat Pump Data – Cooling Mode



Condenser Air Discharge Temperature _____°F

Outdoor Fan Amps _____

Line Voltage:
Standby _____
Starting _____
Running _____
Wire Size _____

Outdoor Temperature _____°F

Low Voltage _____

Coil Condition (dirty/clean) _____
Fin Condition _____

Compressor Amps:
Starting _____
Running _____

Discharge Line Temperature _____°F

True Suction Port Pressure _____

Suction Pressure (B) _____

Reversing Valve:
Energized - 24V? (yes/no) _____

Suction Line Temperature (A) _____°F

Suction Line Set Size _____ Length _____

Liquid Line Set Size _____ Length _____

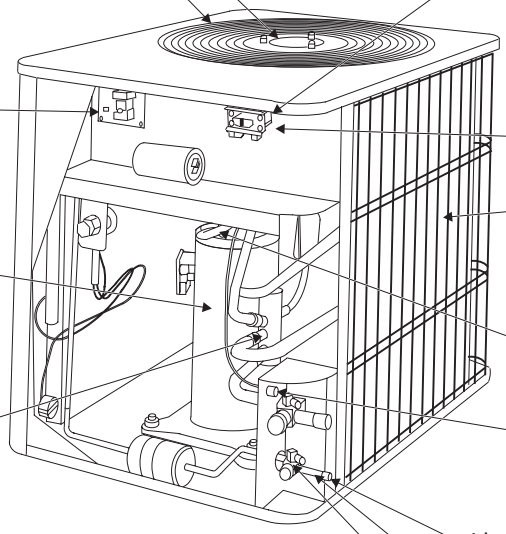
(A) – (B) temp. conversion = _____°F Superheat

Liquid Line Temperature (C) _____°F

(C) – (D) temp. conversion = _____°F Subcooling

Liquid Pressure (D) _____

Heat Pump Data – Heating Mode



Condenser Air Discharge Temperature _____°F

Outdoor Fan Amps _____

Line Voltage:
Standby _____
Starting _____
Running _____
Wire Size _____

Defrost Control:
24V between R + C? _____
DFS Closed/Open? _____

Low Voltage _____

Coil Condition (dirty/clean) _____
Fin Condition _____

Compressor Amps:
Starting _____
Running _____

Discharge Line Temperature _____°F

True Suction Port Pressure _____

Reversing Valve:
Energized? (yes/no) _____

Liquid Line Set Size _____ Length _____

Liquid Line Temperature _____°F

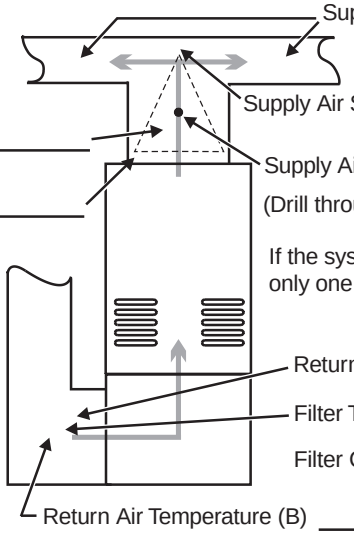
Outdoor Temperature _____°F

Liquid Pressure _____

Indoor Unit Data

Upflow

IMPORTANT: *Run unit at least 10 minutes before taking measurements.*



Supply Air Temperature (A) _____ °F (DB)
_____ °F (WB)

Supply Air Static Pressure - Downstream of Coil + _____ " W.C.

Coil Condition _____

Supply Air Static Pressure - Upstream of Coil + _____ " W.C.

Condensate Trap? (yes/no) _____

(Drill through A-plate of coil to get this static measurement)

If the system does not include an evaporator coil, only one Supply Air Static Pressure measurement is needed.

Type of Metering Device

TXV _____

Piston (Size) _____

Cap Tube _____

Line Voltage _____

Low Voltage _____

Return Air Static Pressure − _____ " W.C.

Filter Type/Size _____

Filter Condition _____

Return Air Temperature (B) _____ °F (DB)
_____ °F (WB)

Plenum Size:

Return _____

Supply _____

(B) – (A) = _____ °F Temperature Drop

Blower Motor Speed Tap (Cooling) _____

Suction Line Size _____

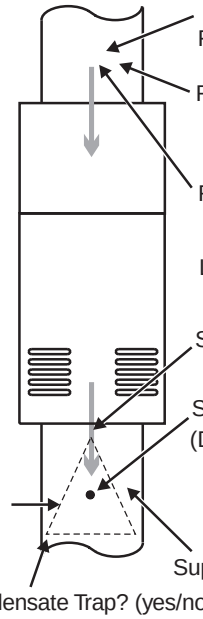
Liquid Line Size _____

Total Static Pressure _____ " W.C.

Number of Runs _____

Counterflow

IMPORTANT: *Run unit at least 10 minutes before taking measurements.*



Filter Type/Size _____

Filter Condition _____

Type of Metering Device

TXV _____

Return Air Temperature (B) _____ °F (DB)
_____ °F (WB)

Piston (Size) _____

Cap Tube _____

Return Air Static Pressure − _____ " W.C.

Plenum Size:

Return _____

Line Voltage _____ Low Voltage _____

Supply _____

Supply Air Static Pressure - Upstream of Coil + _____ " W.C.

Number of Runs _____

Supply Air Static Pressure - Downstream of Coil + _____ " W.C.

(Drill through A-plate of coil to get this static measurement)

If the system does not include an evaporator coil, only one Supply Air Static Pressure measurement is needed.

Coil Condition _____

Supply Air Temperature (A) _____ °F (DB)
_____ °F (WB)

Condensate Trap? (yes/no) _____

(B) – (A) = _____ °F Temperature Drop

Blower Motor Speed Tap (Cooling) _____

Suction Line Size _____

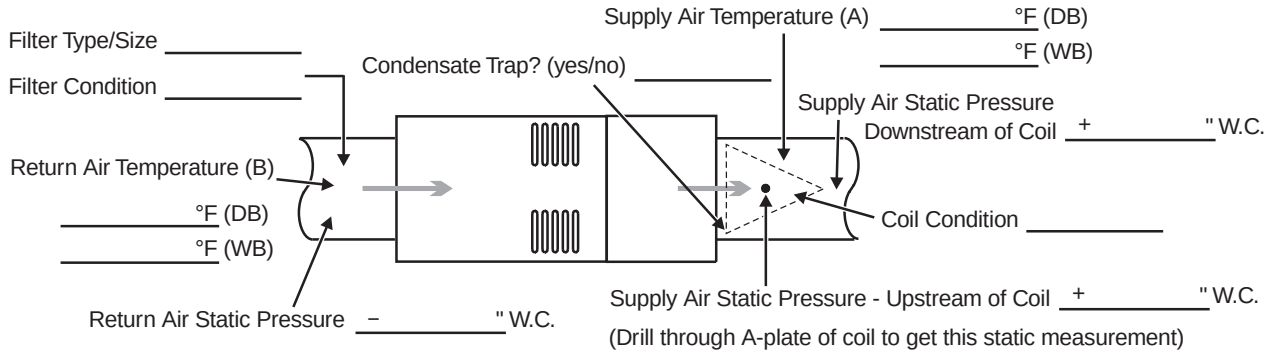
Total Static Pressure _____ " W.C.

Liquid Line Size _____

Indoor Unit Data (cont.)

Horizontal – Left to Right Airflow

IMPORTANT: *Run unit at least 10 minutes before taking measurements.*



Type of Metering Device

TXV _____

Piston (Size) _____

Cap Tube _____

Line Voltage _____

Low Voltage _____

(B) – (A) = _____ °F Temperature Drop

Total Static Pressure _____ " W.C.

Blower Motor Speed Tap (Cooling) _____

Suction Line Size _____

Liquid Line Size _____

Plenum Size:

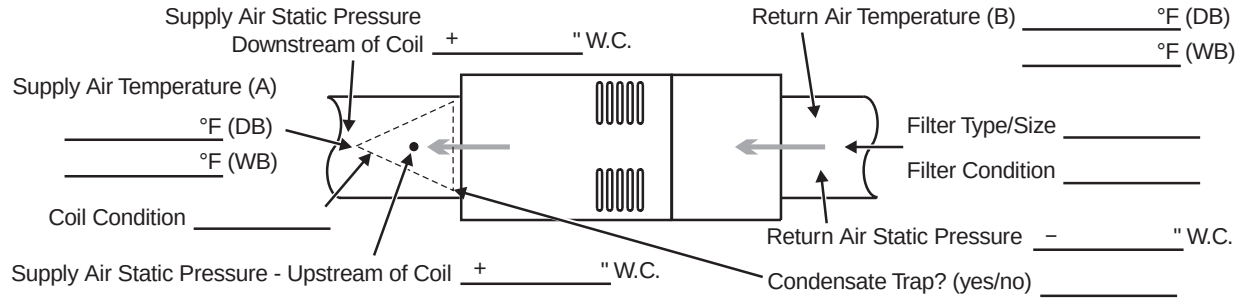
Return _____

Supply _____

Number of Runs _____

Horizontal – Right to Left Airflow

IMPORTANT: *Run unit at least 10 minutes before taking measurements.*



Type of Metering Device

TXV _____

Piston (Size) _____

Cap Tube _____

Line Voltage _____

Low Voltage _____

(B) – (A) = _____ °F Temperature Drop

Total Static Pressure _____ " W.C.

Blower Motor Speed Tap (Cooling) _____

Suction Line Size _____

Liquid Line Size _____

Plenum Size:

Return _____

Supply _____

Number of Runs _____

SEQUENCE OF OPERATION

Outdoor Temperature Above Application Balance Point

1. Thermostat calls for heat, first stage heating.
2. Furnace blower and heat operation start.
3. Heat pump continues to operate until thermostat is satisfied.

Outdoor Temperature Below Application Balance Point

1. Thermostat calls for heat, first stage heating.
2. Furnace blower and heat operation start.
3. Heat pump continues to operate–cannot satisfy thermostat–temperature in house continues to drop 2° – 3° F below setting.
4. Second stage heating contacts close on thermostat.
5. Coil “on” relay energizes, closing furnace contacts and opening heat pump contacts.
6. Furnace turns on and continues to operate until first stage of thermostat is satisfied.

Outdoor Temperature Above Application Balance Point – Emergency Heat On

1. Emergency heat locks out heat pump circuit.
2. Thermostat calls for heat.
3. Coil “on” relay energizes, closing furnace contacts.
4. Furnace turns on and continues until thermostat is satisfied.
5. Indoor thermostat remains on first stage heating.

Typical Defrost Cycle

1. Thermostat operating on first stage heating.
2. Defrost control initiates reversing valve to cooling mode to defrost outdoor coil.
3. Furnace starts up and runs until defrost ends or thermostat is satisfied.
4. Reversing valve returns to heating mode.
5. Furnace burner shuts down but blower continues to run with heat pump.
6. Heat pump runs until thermostat is satisfied.

Connection Diagram