

# FIELD START-UP TEST SHEET

230 W. BlueRidge Ave, Orange, CA 92865  
(714) 921-6000 Fax: (714) 921-6010  
www.dataaire.com



## FLOOR MOUNTED DIRECT EXPANSION SYSTEMS & MINI, MINI-PLUS, LCS CEILING, (gPOD) SYSTEMS

Air Cooled, Water/Glycol Cooled and Chilled Water Units

**Instructions:** This field start-up test sheet must be completely filled out during start-up and returned to Data Aire, Inc. Failure to return the test sheet may void or limit warranty coverage. Some of the terms listed require specific information to be entered and others only need a check mark that verifies a test of inspection has been conducted. Items not applicable should be marked "N/A".

### UNIT IDENTIFICATION:

Job Number: \_\_\_\_\_ Model Number: \_\_\_\_\_ Serial Number: \_\_\_\_\_

### STARTUP VOLTAGE:

Power A: A - B \_\_\_\_\_ A - C \_\_\_\_\_ B - C \_\_\_\_\_

Power B: A - B \_\_\_\_\_ A - C \_\_\_\_\_ B - C \_\_\_\_\_

### STARTUP CONDITIONS:

Supply Air Temperature (°F) \_\_\_\_\_ Condenser/Ambient Air Temp. (°F) \_\_\_\_\_

Return Air Temperature (°F) \_\_\_\_\_ Return Air Humidity (%) \_\_\_\_\_

### FAN DATA (EVAPORATOR):

Plug Fan Wheel Movement Free and Clear of any Debris? Yes:  No:  CFM\*: \_\_\_\_\_

Motor HP: \_\_\_\_\_ Motor KW: \_\_\_\_\_ Nameplate voltage: \_\_\_\_\_ Nameplate F.L.A.: \_\_\_\_\_

Motor, Drive and Pulleys Aligned? Yes:  No:  N/A:  Drive and Pulley Set Screws Tight? Yes:  No:  N/A:

Blower Wheel Clean of Debris? Yes:  No:  N/A:  Blower Pulley Size: \_\_\_\_\_ Belt Size: \_\_\_\_\_

#### Fan Motor Voltage:

Fan#1 L1-L2 \_\_\_\_\_ V L1-L3 \_\_\_\_\_ V L2-L3 \_\_\_\_\_ V

Fan#2 L1-L2 \_\_\_\_\_ V L1-L3 \_\_\_\_\_ V L2-L3 \_\_\_\_\_ V

Fan#3 L1-L2 \_\_\_\_\_ V L1-L3 \_\_\_\_\_ V L2-L3 \_\_\_\_\_ V

Fan#4 L1-L2 \_\_\_\_\_ V L1-L3 \_\_\_\_\_ V L2-L3 \_\_\_\_\_ V

Fan#5 L1-L2 \_\_\_\_\_ V L1-L3 \_\_\_\_\_ V L2-L3 \_\_\_\_\_ V

Fan#6 L1-L2 \_\_\_\_\_ V L1-L3 \_\_\_\_\_ V L2-L3 \_\_\_\_\_ V

#### Fan Motor Amp Draw:

L1 \_\_\_\_\_ A L2 \_\_\_\_\_ A L3 \_\_\_\_\_ A

L1 \_\_\_\_\_ A L2 \_\_\_\_\_ A L3 \_\_\_\_\_ A

L1 \_\_\_\_\_ A L2 \_\_\_\_\_ A L3 \_\_\_\_\_ A

L1 \_\_\_\_\_ A L2 \_\_\_\_\_ A L3 \_\_\_\_\_ A

L1 \_\_\_\_\_ A L2 \_\_\_\_\_ A L3 \_\_\_\_\_ A

L1 \_\_\_\_\_ A L2 \_\_\_\_\_ A L3 \_\_\_\_\_ A

#### Fan Speed:\*

\_\_\_\_\_ RPM

\_\_\_\_\_ RPM

\_\_\_\_\_ RPM

\_\_\_\_\_ RPM

\_\_\_\_\_ RPM

\_\_\_\_\_ RPM

\* If measurement device is available

### INDOOR CONDENSER (BLOWER): N/A:

Wheel Movement Free and Clear of any Debris? Yes:  No:  CFM\*: \_\_\_\_\_

Motor HP: \_\_\_\_\_ Motor KW: \_\_\_\_\_ Nameplate voltage: \_\_\_\_\_ Nameplate F.L.A.: \_\_\_\_\_

Motor, Drive and Pulleys Aligned? Yes:  No:  N/A:  Drive and Pulley Set Screws Tight? Yes:  No:  N/A:

Blower Wheel Clean of Debris? Yes:  No:  N/A:  Blower Pulley Size: \_\_\_\_\_ Belt Size: \_\_\_\_\_

Fan Motor Voltage: L1-L2 \_\_\_\_\_ V L1-L3 \_\_\_\_\_ V L2-L3 \_\_\_\_\_ V

Motor Amp Draw: L1 \_\_\_\_\_ A L2 \_\_\_\_\_ A L3 \_\_\_\_\_ A

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Air Cooled, Water/Glycol Cooled and Chilled Water Units

Water cooled Heat Exchanger (CIRCUIT # 1): N/A:

Supply Water Temper: \_\_\_\_\_ °F Return Water Temper: \_\_\_\_\_ °F Delta Temper: \_\_\_\_\_ °F

Supply Water Pressure: \_\_\_\_\_ PSIG Return Water Pressure: \_\_\_\_\_ PSIG Pressure Drop: \_\_\_\_\_ PSIG

Water Regulating Valve Spring Adjusted: Yes:  No:

REGRIGERANT TYPE:  R410A  R407A Charge: \_\_\_\_\_ Lbs \_\_\_\_\_ Oz

COMPRESSOR 1: Variable Speed:  Fixed Speed:

**NOTE:** Charge with compressor running at high speed only. When checking operating conditions allow the unit to run for 10 minutes before recording any readings. This will allow the refrigeration to stabilize, the coil to get wet, and the room conditions to stabilize).

Compressor oil sight-glass level before startup: \_\_\_\_\_ %

Crankcase heater temperature before start up: \_\_\_\_\_ °F **Note:** Before starting a compressor, the crankcase heater should be energized for a minimum of 12 hours to reduce the possibility of liquid slugging on start-up.

Compressor oil condition during the first 10 minutes of start-up \_\_\_\_\_ Clear \_\_\_\_\_ Foam

Operating Amps: L1 \_\_\_\_\_ L2 \_\_\_\_\_ L3 \_\_\_\_\_

### Hot Gas Discharge Parameters:

Discharge Line Temp: \_\_\_\_\_ °F

Discharge Pressure: \_\_\_\_\_ PSIG

Discharge Sat. Temp: \_\_\_\_\_ °F

Discharge Superheat: \_\_\_\_\_ °F

**Recommended Discharge Superheat:**  
45 - 65°F

### Liquid Line Parameters:

Liquid line Pressure: \_\_\_\_\_ PSIG

Liquid line Sat. Temp: \_\_\_\_\_ °F

Liquid line Temperature: \_\_\_\_\_ °F

Subcooling: \_\_\_\_\_ °F

**Recommended Sat temp 92 - 125°F**

**Air Cooled Subcooling: 8 - 12°F**

**Water/Glycol Cooled Sub: 1 - 5°F**

**w/ Low Ambient Receiver: 1 - 5°F**

### Suction Gas Parameters:

Suction Line Temp: \_\_\_\_\_ °F

Suction Pressure: \_\_\_\_\_ PSIG

Suction Sat. Temp: \_\_\_\_\_ °F

Suction Superheat: \_\_\_\_\_ °F

**Recommended Sat temp 34°F - 40°F**

**Recommended Superheat: 12 - 18°F**

EVD Percent Level: \_\_\_\_\_ % **Note:** When the system is properly charged the EEV valve should be between 55% and 85% with an indoor temperature of 70°F to 74°F

Liquid Solenoid Valve: Yes:  No:  Sight Glass Moisture Indicator Status: Green  Yellow

Compressor Unloader: Yes or No Discharge Pressure (unloaded) \_\_\_\_\_ PSIG

Suction Temperature (unloaded) \_\_\_\_\_ °F Amps (unloaded) L1 \_\_\_ L2 \_\_\_ L3 \_\_\_

Entering Air Temperature: \_\_\_\_\_ °F

Exiting Air Temperature: \_\_\_\_\_ °F

Temp. Differential Evap. Coil – Delta T: \_\_\_\_\_ °F

Condenser Pressures: Inlet: \_\_\_\_\_ PSI Outlet: \_\_\_\_\_ PSI N/A:

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Air Cooled, Water/Glycol Cooled and Chilled Water Units

**Water cooled Heat Exchanger (CIRCUIT # 2):** N/A:

Supply Water Temper: \_\_\_\_\_°F Return Water Temper: \_\_\_\_\_°F Delta Temper: \_\_\_\_\_°F

Supply Water Pressure: \_\_\_\_\_PSIG Return Water Pressure: \_\_\_\_\_PSIG Pressure Drop: \_\_\_\_\_PSIG

Water Regulating Valve Spring Adjusted: Yes:  No:

**REGRIGERANT TYPE:**  R410A  R407A Charge: \_\_\_\_\_ Lbs \_\_\_\_\_ Oz

**COMPRESSOR 2:** Variable Speed:  Fixed Speed:

NOTE: Charge with compressor running at high speed only. When checking operating conditions allow the unit to run for 10 minutes before recording any readings. This will allow the refrigeration to stabilize, the coil to get wet, and the room conditions to stabilize).

Compressor oil sight-glass level before startup: \_\_\_\_\_ %

Crankcase heater temperature before start up: \_\_\_\_\_°F **Note:** Before starting a compressor, the crankcase heater should be energized for a minimum of 12 hours to reduce the possibility of liquid slugging on start-up.

Compressor oil condition during the first 10 minutes of start-up \_\_\_\_\_ Clear \_\_\_\_\_ Foam

Operating Amps: L1 \_\_\_\_\_ L2 \_\_\_\_\_ L3 \_\_\_\_\_

### Hot Gas Discharge Parameters:

Discharge Line Temp: \_\_\_\_\_°F

Discharge Pressure: \_\_\_\_\_PSIG

Discharge Sat. Temp: \_\_\_\_\_°F

Discharge Superheat: \_\_\_\_\_°F

**Recommended Discharge Superheat:**  
45 - 65°F

### Liquid Line Parameters:

Liquid line Pressure: \_\_\_\_\_PSIG

Liquid line Sat. Temp: \_\_\_\_\_°F

Liquid line Temperature: \_\_\_\_\_°F

Subcooling: \_\_\_\_\_°F

**Recommended Sat temp 92 - 125°F**

**Recommended Subcooling: 8 - 12°F**

**Water/Glycol Cooled Sub: 1 - 5°F**

**w/ Low Ambient Receiver: 1 - 5°F**

### Suction Gas Parameters:

Suction Line Temp: \_\_\_\_\_°F

Suction Pressure: \_\_\_\_\_PSIG

Suction Sat. Temp: \_\_\_\_\_°F

Suction Superheat: \_\_\_\_\_°F

**Recommended Sat temp 34°F - 40°F**

**Recommended Superheat: 12 - 18°F**

EVD Percent Level: \_\_\_\_\_% **Note:** When the system is properly charged the EEV valve should be between 55% and 85% with an indoor temperature of 70°F to 74°F

Liquid Solenoid Valve: Yes:  No:  Sight Glass Moisture Indicator Status: Green  Yellow

Compressor Unloader: Yes or No Discharge Pressure (unloaded) \_\_\_\_\_PSIG

Suction Temperature (unloaded) \_\_\_\_\_°F Amps (unloaded) L1 \_\_\_ L2 \_\_\_ L3 \_\_\_

Entering Air Temperature: \_\_\_\_\_°F

Exiting Air Temperature: \_\_\_\_\_°F Temp. Differential Evap. Coil – Delta T: \_\_\_\_\_°F

Condenser Pressures: Inlet: \_\_\_\_\_PSI Outlet: \_\_\_\_\_PSI N/A:

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**REHEAT:** N/A:

Type: Electric  Hot Water  Hot Gas  Steam  Other, Describe: \_\_\_\_\_

Operating Amps: L1 \_\_\_\_\_ L2 \_\_\_\_\_ L3 \_\_\_\_\_ High Temp Safety Operation: Yes:  No:

### Chilled Water/Energy Saver:

Energy Saver Cooling: Yes:  No:  Auxiliary Chilled Water Cooling: Yes:  No:

DC Volt Setting: \_\_\_\_\_ Modulate Open: Yes:  No:  Modulate Close: Yes:  No:

Actuator Model Number: \_\_\_\_\_ Valve Type: 2-Way \_\_\_\_\_ 3-Way \_\_\_\_\_ Valve Size: \_\_\_\_\_

**HUMIDIFIER:** N/A:

Steam Generator: Yes:  No:  Operating Amps: L1 \_\_\_\_\_ L2 \_\_\_\_\_ L3 \_\_\_\_\_

Water Level: \_\_\_\_\_ % Capacity Setting: \_\_\_\_\_ % Water Pressure Switch: Yes:  No:

### The following items must be installed, checked, adjusted or verified, as required:

Remote Shutdown Jump:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Smoke Detector Magnet Test:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Filters Clean:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	System Leak Checked:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Unit in Standby Alarm:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Compressor VFD Fault Alarm:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Comp. # 1 High pressure Alarm:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Comp. # 2 High pressure Alarm:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Water Detection Probe Alarm:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Underfloor Water Detection Alarm:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
No Airflow Alarm:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Dirty Filter Alarm:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Manual Override Alarm:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	High Condensate Water Alarm:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Expansion Module:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Heat Exchanger Type:	Plate Fin: <input type="checkbox"/> Cox: <input type="checkbox"/>
Pump Down: _____ PSIG	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Phase Loss Relay:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
No Water Flow Alarm:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	AC Power Loss Cap:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Fan Motor Overload Alarm:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Fan Failure Alarm:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Liquid Line Solenoid Valve:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Power Meter:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Hot-Gas Bypass Valve:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Receiver:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Hot-Gas Bypass Solenoid Vlv:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Condenser Aux. Contact:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Humidistat & Temp sensor:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Discharge Air Sensor:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
HW Reheat Protection Sensor:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	CO2 Sensor Setting: _____	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Electrical Connections Tight	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Copper Conductors Used:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
Disconnect Switch:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>	Dual Power ATS:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>

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### INSTALLATION:

Unit Clearance: Front \_\_\_\_\_" Back \_\_\_\_\_" Right Side \_\_\_\_\_" Left Side \_\_\_\_\_"

Location of condenser: \_\_\_\_\_ Total Vertical Pipe Height: \_\_\_\_\_ Total Horizontal Pipe length: \_\_\_\_\_

Field Piping Size: Discharge Line: \_\_\_\_\_"OD Liquid Line: \_\_\_\_\_"OD Suction Line: \_\_\_\_\_"OD

Total Field Piping Length: \_\_\_\_\_ Feet Total # of Elbows: \_\_\_\_\_ Total # of traps: \_\_\_\_\_

Discharge Check Valve Installed? Yes:  No:

DATA ALARM PROCESSOR (dap4) STARTUP SHEET CHECKLIST COMPLETED & ATTACHED? Yes:  No:

### Comments:

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### Customer Acceptance:

Company Name: \_\_\_\_\_

Company Representative: \_\_\_\_\_ Title: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### Start-Up Completed by:

Company Name: \_\_\_\_\_ Telephone: (\_\_\_\_\_) \_\_\_\_\_

Address: \_\_\_\_\_

Startup Technician: \_\_\_\_\_ Date: \_\_\_\_\_

Email: \_\_\_\_\_