

EQUIPMENT STARTUP CHECKLIST

For Retail Facilities – Split System

Equipment type: Split system
Equipment designation: AHU-1/ACCU-1
Barcode designation: 111111
Equipment type: Retail facility
Equipment type: Rooftop/Ceiling

ELECTRICAL INSPECTION

- | | | |
|--|-----------------------|-----------------------|
| | [Y] | [N] |
| • Electrical connections are completed. | <input type="radio"/> | <input type="radio"/> |
| • Disconnect is furnished and installed per code compliance. | <input type="radio"/> | <input type="radio"/> |
| • Starter and wire sized per contract documents. | <input type="radio"/> | <input type="radio"/> |
| • Motor bumped to verify rotation. | <input type="radio"/> | <input type="radio"/> |
| • Terminations and panel circuit labeled. | <input type="radio"/> | <input type="radio"/> |
| • Voltage and motor amps (per phase) documented. | <input type="radio"/> | <input type="radio"/> |

EQUIPMENT INSTALLATION

(PER CONTRACT DRAWING AND SPECIFICATION) [Y] [N]

- | | | |
|---|-----------------------|-----------------------|
| • Permanent labeling (or barcode) installed. | <input type="radio"/> | <input type="radio"/> |
| • DX piping installation complete at unit. | <input type="radio"/> | <input type="radio"/> |
| • Condensate drain piping run to drain. | <input type="radio"/> | <input type="radio"/> |
| • Gas piping installation complete at unit. | <input type="radio"/> | <input type="radio"/> |
| • Burner flue vent installation complete from unit to outdoors. | <input type="radio"/> | <input type="radio"/> |
| • Vibration isolation complete (if applicable). | <input type="radio"/> | <input type="radio"/> |
| • Seismic restraints complete (if applicable). | <input type="radio"/> | <input type="radio"/> |
| • Maintenance accessibility adequate. | <input type="radio"/> | <input type="radio"/> |
| • Interior of unit is clean of any debris. | <input type="radio"/> | <input type="radio"/> |
| • Filters are clean with no restricted airflow. | <input type="radio"/> | <input type="radio"/> |
| • Manufacturer's O&M available. | <input type="radio"/> | <input type="radio"/> |
| • Manufacturer's startup sheets attached with this checklist. | <input type="radio"/> | <input type="radio"/> |
| • Warranty certificate available. | <input type="radio"/> | <input type="radio"/> |

DISTRIBUTION (TO AND FROM EQUIPMENT) [Y] [N]

- | | | |
|--|-----------------------|-----------------------|
| • Piping pressure tested per contract documents. | <input type="radio"/> | <input type="radio"/> |
| • Insulation completed. | <input type="radio"/> | <input type="radio"/> |
| • Valves labeled and gauges installed. | <input type="radio"/> | <input type="radio"/> |
| • Head pressure controls installed (if necessary). | <input type="radio"/> | <input type="radio"/> |
| • Hot gas controls installed (if necessary). | <input type="radio"/> | <input type="radio"/> |
| • TAB report and field notes attached with this checklist. | <input type="radio"/> | <input type="radio"/> |
| • Identification per contract documents. | <input type="radio"/> | <input type="radio"/> |

AUTOMATIC CONTROLS

- | | | |
|---|-----------------------|-----------------------|
| | [Y] | [N] |
| • Temperature controls complete. | <input type="radio"/> | <input type="radio"/> |
| • Control points confirmed. | <input type="radio"/> | <input type="radio"/> |
| • Electrical system interlocks complete. | <input type="radio"/> | <input type="radio"/> |
| • Unit-furnished controls interfaced with owner's BAS computer. | <input type="radio"/> | <input type="radio"/> |

GENERAL CONSIDERATIONS/REQUIREMENTS [Y] [N]

- | | | |
|-------------------------------|-----------------------|-----------------------|
| • Consider using VSDs on fan. | <input type="radio"/> | <input type="radio"/> |
|-------------------------------|-----------------------|-----------------------|

DESIGN REVIEW AND TRICKS OF THE TRADE

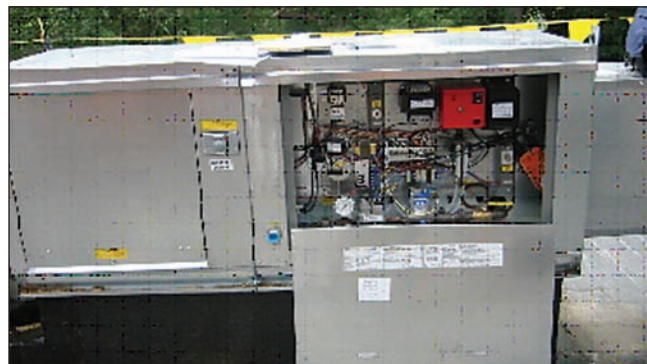
- Confirm there is safe access to the equipment.
- Confirm there is the manufacturer's recommended clearance around equipment.
- Spot-check heating capacity by dividing sq ft, and cooling capacity by dividing sq ft by tons cooling.
- Attach equipment schedule and design criteria to checklist.
- Attach sequence of operation to checklist.
- Attach associated contract detail drawing to checklist.

REFERENCE

- 2007 ASHRAE Handbook – Applications, Chapter 2, "Retail Facilities"
- 2008 ASHRAE Handbook – Systems & Equipment, Chapter 1, "HVAC System Analysis and Selection"
- 2008 ASHRAE Handbook – Systems & Equipment, Chapter 2, "Decentralized Cooling & Heating," and Chapter 9, "Design of Small Forced-Air Heating and Cooling"

NOTE

- Refer to equipment manufacturers' literature for additional data and requirements.
- Refer to "HVACR Designer Tips" from January 2008 for more information approach to design review for retail facility – split systems.
- Refer to the "B2B" January through March 2008 columns for the design engineer, commissioning engineer, and TAB engineer helpful hints associated with this installations. **ES**



If you have any comments, suggestions, or questions regarding this designer checklist, contact Amanda McKew at amckew@rdkengineers.com. This column is meant to provide some basic guidelines for good design. Always consult all necessary codes and resources relevant to each particular project.

