



HVAC DESIGNER TIPS DESIGN REVIEW AND EQUIPMENT STARTUP CHECKLIST

For 24/7 Air Displacement System

Equipment type: RTU-1

Equipment designation: RTU-1

Bar code designation: 111111

Area served: Underfloor system

Equipment location: Building roof

ELECTRICAL INSPECTION

	YES	NO
• Electrical completed and disconnect installed per code compliance.	<input type="checkbox"/>	<input type="checkbox"/>
• Emergency electrical power completed.	<input type="checkbox"/>	<input type="checkbox"/>
• Is control wiring power source on emergency power?	<input type="checkbox"/>	<input type="checkbox"/>
• Starter and wire sizing per contract documents.	<input type="checkbox"/>	<input type="checkbox"/>
• Outdoor disconnect furnished and installed.	<input type="checkbox"/>	<input type="checkbox"/>
• Motor "bumped" to verify rotation.	<input type="checkbox"/>	<input type="checkbox"/>
• Terminations and panel circuit labeled.	<input type="checkbox"/>	<input type="checkbox"/>
• Voltage and motor amps (per phase) documented.	<input type="checkbox"/>	<input type="checkbox"/>
• Emergency generator installation complete.	<input type="checkbox"/>	<input type="checkbox"/>

ELECTRICAL INSTALLATION (PER CONTRACT DRAWINGS AND SPECIFICATION)

	YES	NO
• Piping complete at unit.	<input type="checkbox"/>	<input type="checkbox"/>
• Vibration isolation complete.	<input type="checkbox"/>	<input type="checkbox"/>
• Seismic restraints complete.	<input type="checkbox"/>	<input type="checkbox"/>
• Interior of RTU-1 cleaned and new filters provided.	<input type="checkbox"/>	<input type="checkbox"/>
• Manufacturers' O&M available.	<input type="checkbox"/>	<input type="checkbox"/>
• Manufacturers' startup sheets attached with this checklist.	<input type="checkbox"/>	<input type="checkbox"/>
• Warranty certificate available.	<input type="checkbox"/>	<input type="checkbox"/>

DISTRIBUTION (TO AND FROM EQUIPMENT)

	YES	NO
• Air displacement underfloor walls sealed air tight.	<input type="checkbox"/>	<input type="checkbox"/>
• Air displacement underfloor wall penetrations sealed air tight.	<input type="checkbox"/>	<input type="checkbox"/>
• Air displacement raised floor sealed air tight.	<input type="checkbox"/>	<input type="checkbox"/>
• Air displacement floor outlets (electric and tel/data sealed air tight).	<input type="checkbox"/>	<input type="checkbox"/>
• Insulation complete.	<input type="checkbox"/>	<input type="checkbox"/>
• Identification per contract documents (specification and details).	<input type="checkbox"/>	<input type="checkbox"/>
• TAB report and field notes) attached with this checklist.	<input type="checkbox"/>	<input type="checkbox"/>
• Identification per contract documents.	<input type="checkbox"/>	<input type="checkbox"/>

AUTOMATIC CONTROLS

	YES	NO
• Temperature controls complete.	<input type="checkbox"/>	<input type="checkbox"/>
• Control "points" confirmed.	<input type="checkbox"/>	<input type="checkbox"/>
• Electrical system interlocks complete.	<input type="checkbox"/>	<input type="checkbox"/>
• Unit furnished controls interfaced with owner's BAS computer.	<input type="checkbox"/>	<input type="checkbox"/>

REFERENCE

- 2004 ASHRAE Handbook –Systems & Equipment, Chapter 1.
- Refer to equipment manufacturers' literature for additional data and requirements.

DESIGN REVIEW / TRICKS OF THE TRADE

- Create an airflow diagram indicating CFM, air changes, and space pressure.
- Confirm there is safe access to the equipment.
- Confirm manufacturer's recommended clearance around equipment.
- Consider routine maintenance can be achieved without shutting down the RTU-1 .
- Attach equipment schedule and design criteria to checklist.
- Attach sequence of operation to checklist.
- Attach associated contract detail drawing to checklist. **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.

