

Air Handling Unit Construction Checklist

Project:	
Date:	
AHU Tag:	
Location:	

Submittal / Approvals

Submittal. The above equipment and systems integral to them are complete and ready for functional testing. The checklist items are complete and have been checked off only by parties having direct knowledge of the event, as marked below, respective to each responsible contractor. This construction checklist is submitted for approval, subject to an attached list of outstanding items yet to be completed. A Statement of Correction will be submitted upon completion of any outstanding areas. None of the outstanding items preclude safe and reliable functional tests being performed. ___ **List attached.**

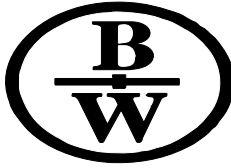
Mechanical Contractor	Date	Controls Contractor	Date
Electrical Contractor	Date	Sheet Metal Contractor	Date
TAB Contractor	Date	Turner	Date

Construction checklist items are to be completed as part of startup and initial checkout, preparatory to functional testing.

- This checklist does not take the place of the manufacturer’s recommended checkout and startup procedures or report.
- If this form is not used for documenting, one of similar rigor shall be used.
- Contractors assigned responsibility for sections of the checklist shall be responsible to see that checklist items by their subcontractors are completed and checked off.

Approvals. This filled-out checklist has been reviewed. Its completion is approved with the exceptions noted below.

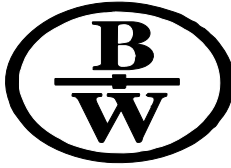
Commissioning Authority	Date	Owner’s Representative	Date



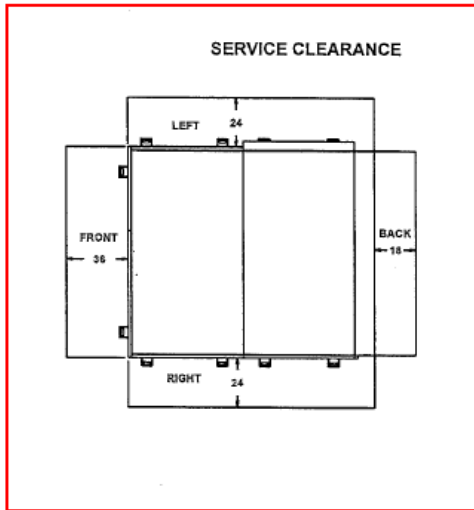
AHU Information					
Make		Model Number			
Serial Number		Capacity		CFM	
Volts/Phase		Function		Service Area	
Comments:					

Components Included					
Supply Fan	<input type="checkbox"/>	Filter(s)	<input type="checkbox"/>	Cooling Coil	<input type="checkbox"/>
VFD(s)	<input type="checkbox"/>	Smoke Detectors	<input type="checkbox"/>	Other	<input type="checkbox"/>
Compressors	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
Associated Checklists					
Sec. Chilled Water Pump	<input type="checkbox"/>	Condensate Piping	<input type="checkbox"/>	BMS	<input type="checkbox"/>
FAS	<input type="checkbox"/>	Other	<input type="checkbox"/>	Other	<input type="checkbox"/>
Comments:					

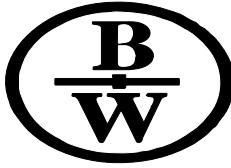
Requested documentation submitted	Rec'd	Comments
Manufacturer's cut sheets	<input type="checkbox"/>	
Performance data (fan curves, coil data, etc.)	<input type="checkbox"/>	
Installation and startup manual and plan	<input type="checkbox"/>	
O&M manuals	<input type="checkbox"/>	
Factory test results	<input type="checkbox"/>	
Sequences and control strategies	<input type="checkbox"/>	
Warranty Certificate	<input type="checkbox"/>	
Comments:		



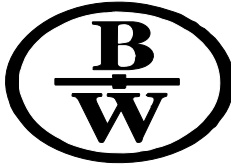
Pre-construction Checks			
Check if Acceptable; Provide comment if unacceptable		NA	Comment
Equipment checked against the Bill of Lading. List missing pieces.	<input type="checkbox"/>	<input type="checkbox"/>	
Model & Serial numbers recorded at time of receipt of unit	<input type="checkbox"/>	<input type="checkbox"/>	
Equipment inspected for shipping damage.	<input type="checkbox"/>	<input type="checkbox"/>	
Equipment matches approved submittals.	<input type="checkbox"/>	<input type="checkbox"/>	
Equipment labeling verified against the drawings and specifications and submittals.	<input type="checkbox"/>	<input type="checkbox"/>	
Equipment installed in correct location with proper orientation.	<input type="checkbox"/>	<input type="checkbox"/>	
Equipment properly protected from dust & debris.	<input type="checkbox"/>	<input type="checkbox"/>	
Sufficient lighting available for workers on this equipment.	<input type="checkbox"/>	<input type="checkbox"/>	
Unit installed with recommended clearances per approved submittal	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	



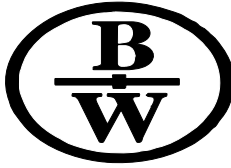
Installation Checks			
Check if acceptable, provide comment if unacceptable		NA	Comment
General			
Cabinet and general installation	<input type="checkbox"/>	<input type="checkbox"/>	
Permanent labels affixed, including for fans	<input type="checkbox"/>	<input type="checkbox"/>	
Casing condition good: no dents, leaks, door gaskets installed	<input type="checkbox"/>	<input type="checkbox"/>	
Access doors close tightly - no leaks	<input type="checkbox"/>	<input type="checkbox"/>	
Connection between duct and unit tight and in good condition	<input type="checkbox"/>	<input type="checkbox"/>	
Vibration isolation equipment (pads) installed	<input type="checkbox"/>	<input type="checkbox"/>	
Maintenance access acceptable for unit and components	<input type="checkbox"/>	<input type="checkbox"/>	
Sound attenuation installed	<input type="checkbox"/>	<input type="checkbox"/>	
Thermal insulation properly installed and according to specification	<input type="checkbox"/>	<input type="checkbox"/>	



Installation Checks		
Check if acceptable, provide comment if unacceptable	NA	Comment
Instrumentation installed according to specification (thermometers, pressure gages, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Clean up of equipment completed per contract documents	<input type="checkbox"/>	<input type="checkbox"/>
Filters installed and replacement type and efficiency permanently affixed to housing--construction filters removed	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
Valves, Piping and Coils		
Pipe fittings complete and pipes properly supported	<input type="checkbox"/>	<input type="checkbox"/>
Pipes properly labeled	<input type="checkbox"/>	<input type="checkbox"/>
Pipes properly insulated	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
Piping system properly flushed	<input type="checkbox"/>	<input type="checkbox"/>
No leaking apparent around fittings	<input type="checkbox"/>	<input type="checkbox"/>
All coils are clean and fins are in good condition	<input type="checkbox"/>	<input type="checkbox"/>
All condensate drain pans clean and slope to drain, per spec	<input type="checkbox"/>	<input type="checkbox"/>
Valves properly labeled	<input type="checkbox"/>	<input type="checkbox"/>
Valves installed in proper direction	<input type="checkbox"/>	<input type="checkbox"/>
OSAT, MAT, SAT, RAT, chilled water supply sensors properly located and secure (related OSAT sensor shielded)	<input type="checkbox"/>	<input type="checkbox"/>
Test plugs (P/T) and isolation valves installed per drawings	<input type="checkbox"/>	<input type="checkbox"/>
Fans and Dampers		
Supply fan and motor alignment correct	<input type="checkbox"/>	<input type="checkbox"/>
Supply fan belt tension and condition good	<input type="checkbox"/>	<input type="checkbox"/>
Supply fan protective shrouds for belts in place and secure	<input type="checkbox"/>	<input type="checkbox"/>
Supply fan area clean	<input type="checkbox"/>	<input type="checkbox"/>
Supply fan and motor properly lubricated	<input type="checkbox"/>	<input type="checkbox"/>
Fan & dampers interlocked	<input type="checkbox"/>	<input type="checkbox"/>
Filters clean and tight fitting	<input type="checkbox"/>	<input type="checkbox"/>
Filter pressure differential measuring device installed and functional (magnehelic, inclined manometer, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Smoke and fire dampers installed properly per contract docs (proper location, access doors, appropriate ratings verified)	<input type="checkbox"/>	<input type="checkbox"/>
All dampers close tightly	<input type="checkbox"/>	<input type="checkbox"/>
All damper actuators installed	<input type="checkbox"/>	<input type="checkbox"/>
Ducts		
	<input type="checkbox"/>	<input type="checkbox"/>
Duct joint sealant properly installed	<input type="checkbox"/>	<input type="checkbox"/>
No apparent severe duct restrictions	<input type="checkbox"/>	<input type="checkbox"/>
Turning vanes in square elbows as per drawings	<input type="checkbox"/>	<input type="checkbox"/>
OSA intakes located away from pollutant sources & exhaust outlets	<input type="checkbox"/>	<input type="checkbox"/>
Pressure leakage tests completed	<input type="checkbox"/>	<input type="checkbox"/>



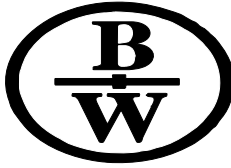
Installation Checks		
Check if acceptable, provide comment if unacceptable	NA	Comment
Branch duct control dampers operable	<input type="checkbox"/>	<input type="checkbox"/>
Ducts cleaned as per specifications	<input type="checkbox"/>	<input type="checkbox"/>
Balancing dampers installed as per drawings and TAB's site visit	<input type="checkbox"/>	<input type="checkbox"/>
Electrical and Controls		
Power disconnects located within sight of the unit it controls and labeled	<input type="checkbox"/>	<input type="checkbox"/>
All electric connections tight	<input type="checkbox"/>	<input type="checkbox"/>
Grounding installed for components and unit	<input type="checkbox"/>	<input type="checkbox"/>
Safeties installed and operational	<input type="checkbox"/>	<input type="checkbox"/>
Starter overload breakers installed and correct size	<input type="checkbox"/>	<input type="checkbox"/>
All control devices and wiring complete	<input type="checkbox"/>	<input type="checkbox"/>
Control system interlocks connected and functional	<input type="checkbox"/>	<input type="checkbox"/>
Smoke detectors in place	<input type="checkbox"/>	<input type="checkbox"/>
VFD (as applicable)		
Installation per manufacturer's requirements and start up instructions completed	<input type="checkbox"/>	<input type="checkbox"/>
Drive location not subject to excessive moisture or dirt	<input type="checkbox"/>	<input type="checkbox"/>
Drive location not subject to excessive temperatures	<input type="checkbox"/>	<input type="checkbox"/>
Appropriate Volts vs. Hz curve is being used	<input type="checkbox"/>	<input type="checkbox"/>
Drive size matches motor size	<input type="checkbox"/>	<input type="checkbox"/>
Drive mounted on house keeping pad (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>
Cooling air flow path clean and unobstructed	<input type="checkbox"/>	<input type="checkbox"/>
Permanent label affixed and UL stamp approved	<input type="checkbox"/>	<input type="checkbox"/>
VFD interlocked to control system	<input type="checkbox"/>	<input type="checkbox"/>
Unit is programmed with full written programming record on site	<input type="checkbox"/>	<input type="checkbox"/>
Accel time set to _____ and Decel time set to _____	<input type="checkbox"/>	<input type="checkbox"/>
Operation checked in HAND, OFF, and AUTO. As applicable operation also checked in BYPASS	<input type="checkbox"/>	<input type="checkbox"/>
Where applicable, ensure safeties are active in all modes	<input type="checkbox"/>	<input type="checkbox"/>
Coordinated with BMS for all interface ranges and signal isolation	<input type="checkbox"/>	<input type="checkbox"/>
Restart on Power Failure parameter set to auto	<input type="checkbox"/>	<input type="checkbox"/>
VFD powered (wired to controlled equipment)	<input type="checkbox"/>	<input type="checkbox"/>
Grounding installed for components and unit	<input type="checkbox"/>	<input type="checkbox"/>
Drive min and max speed set to _____ Hz min and 60 Hz max	<input type="checkbox"/>	<input type="checkbox"/>
Security settings set per Owner direction and Password documented for Owner	<input type="checkbox"/>	<input type="checkbox"/>
Drive response to loss of signal set to _____	<input type="checkbox"/>	<input type="checkbox"/>
Output pulse resolution set to _____ MHz. (This is coordinated with the application to minimize audible noise and coordinated with driven bearing allowances.)	<input type="checkbox"/>	<input type="checkbox"/>
Checked the input voltage with drive disconnected	<input type="checkbox"/>	<input type="checkbox"/>



Installation Checks		
Check if acceptable, provide comment if unacceptable	NA	Comment
Input of motor FLA represents 100% to 105% of motor FLA rating	<input type="checkbox"/>	<input type="checkbox"/>
Upper frequency limit set at 100%, unless explained otherwise	<input type="checkbox"/>	<input type="checkbox"/>
Sensors and Gages		
Temperature, pressure and flow gages and sensors installed	<input type="checkbox"/>	<input type="checkbox"/>
Piping gages, BMS and associated panel temperature and pressure readouts match.	<input type="checkbox"/>	<input type="checkbox"/>
TAB		
Installation of system and balancing devices allowed balancing to be completed following specified NEBB or AABC procedures and contract documents	<input type="checkbox"/>	<input type="checkbox"/>

Installation Checks		
Check if acceptable, provide comment if unacceptable	NA	Comment
Compressors		
Maintenance access acceptable for compressor replacement	<input type="checkbox"/>	<input type="checkbox"/>
Insulation properly installed and according to specification	<input type="checkbox"/>	<input type="checkbox"/>
Verify: Refrigerant as approved by engineer: R407c	<input type="checkbox"/>	<input type="checkbox"/>
All required labels (safety, refrigerant, instructions, warnings,) are immediately visible.	<input type="checkbox"/>	<input type="checkbox"/>
MSDS information available on site for this refrigerant.	<input type="checkbox"/>	<input type="checkbox"/>
Verify: 4-Way reversing valve & suction line accumulator	<input type="checkbox"/>	<input type="checkbox"/>
Verify: Expansion valve with replaceable thermostatic element	<input type="checkbox"/>	<input type="checkbox"/>
Verify: High Pressure Switch	<input type="checkbox"/>	<input type="checkbox"/>
Verify: Low Pressure Switch	<input type="checkbox"/>	<input type="checkbox"/>
Verify: T'stat for coil freeze protection during low temp operation or loss of air during operation	<input type="checkbox"/>	<input type="checkbox"/>
Verify: Brass service valves in discharge & liquid lines.	<input type="checkbox"/>	<input type="checkbox"/>
Verify: Refrigerant dryer	<input type="checkbox"/>	<input type="checkbox"/>
Verify: Low Ambient Switch	<input type="checkbox"/>	<input type="checkbox"/>

Operational Checks		
Check if acceptable, provide comment if unacceptable	NA	Comments
Supply fan rotation correct (If VFD, check rotation in bypass and VFD Inverter mode)	<input type="checkbox"/>	<input type="checkbox"/>
Supply fan has no unusual noise or vibration	<input type="checkbox"/>	<input type="checkbox"/>
Inlet vanes aligned in housing, actuator spanned, modulate smoothly and proportional to input signal and EMS readout	<input type="checkbox"/>	<input type="checkbox"/>
All dampers (OSA, RA, EA, etc.) stroke fully without binding and spans calibrated and BMS reading site verified	<input type="checkbox"/>	<input type="checkbox"/>
Valves stroke fully and easily and spanning is calibrated	<input type="checkbox"/>	<input type="checkbox"/>



Operational Checks		
Check if acceptable, provide comment if unacceptable	NA	Comments
Valves verified to not be leaking through coils when closed at normal operating pressure	<input type="checkbox"/>	<input type="checkbox"/>
Specified point-to-point checks have been completed and documentation record submitted for this system	<input type="checkbox"/>	<input type="checkbox"/>

Sensor and Actuator Calibration

All field-installed sensors and gages, and all actuators (dampers and valves) on this piece of equipment shall be calibrated in accordance with Specification Section 019113. All test instruments shall have had a certified calibration within the last 12 months: **Y/N** _____. Sensors installed *in* the unit at the factory with calibration certification provided need not be field calibrated.

Sensor or Actuator Tag & Location	Location OK	1 st Gage or BMS Value	Instrument Measured Value	Final Gage or BMS Value	Pass Y / N

Comments: