



BY JOHNSON CONTROLS

AIR HANDLING UNITS

START-UP CHECKLIST

Supersedes: 100.00-CL1 (909)

Form 100.00-CL1 (313)

AIR HANDLER START-UP CHECKLIST

OFFICE LOCATION _____	UNIT TAG # _____
QUALIFIED TECHNICIAN _____	UNIT MODEL # _____
JOB NAME _____	UNIT SERIAL # _____
YORK JOB ID OR CONTRACT # _____	START DATE _____
JOB SITE LOCATION _____	
JOB SITE CONTACT AND PHONE # _____	

IMPORTANT SAFETY REQUIREMENT: FOLLOW THE LATEST "LOCK OUT TAG OUT" PROCEDURE.

PRE START-UP

GENERAL UNIT INSPECTION

Identify and perform appropriate "lock out/tag out" and safety rules. For details on points below see appropriate section of the Installation Instruction provided with each air handler.

For VFD equipped air handlers, refer to the VFD forms for additional requirements.



Serious damage to the AHU and/or system is eminent if the AHU is operated under any of the following conditions:

- **Without proper control of dampers.**
- **With smoke dampers closed.**
- **During a fire alarm or smoke purge test.**
- **Any airflow restriction greater than normal.**

Solution	AH Units	Form	102.20-OM1	Air Modulator	VFD Quick Start	Form	100.42-NO1
Custom	AH Units	Form	100.31-NOM1				

<input type="checkbox"/> Equipment received as ordered.	<input type="checkbox"/> Unit installed with proper clearances.
<input type="checkbox"/> Unit checked for damage to interior and exterior.	<input type="checkbox"/> Visually inspect roof curb for tight seal around unit.
<input type="checkbox"/> Unit installed on flat and level surface. Outdoor unit mounted within roof slope limitations where applicable.	<input type="checkbox"/> All penetrations MUST be sealed. All conduits MUST be sealed internally.
<input type="checkbox"/> Terminal screws and wiring connections secure in control, electric and Air Modulator panels.	<input type="checkbox"/> Clean air filters installed properly and secured.
<input type="checkbox"/> Air hoods installed properly.	<input type="checkbox"/> Filter gauge set to zero.
<input type="checkbox"/> Condensate drain properly trapped.	<input type="checkbox"/> All field wiring complete and inspected.
<input type="checkbox"/> All wiring and tubing connections made at shipping splits.	<input type="checkbox"/> All shipping splits sealed and secured properly.
<input type="checkbox"/> All field piping connections complete.	<input type="checkbox"/> Pipe chase floor sealed at penetrations.
<input type="checkbox"/> All shipped loose parts installed.	<input type="checkbox"/> All shipping bolts and other material have been removed. (Fan, VIFB, Energy Recovery Wheel, Damper).
<input type="checkbox"/> Installer has cleaned out interior.	<input type="checkbox"/> Damper linkage is tight and in correct "power off" position.
<input type="checkbox"/> Verify all plug-ins and wire connections are tight on UV equipment.	<input type="checkbox"/> Controls installation complete.
<input type="checkbox"/> Verify Energy Recovery Wheel turns freely and wheel segments are fully engaged.	<input type="checkbox"/> Verify all spacers removed from door edges.
<input type="checkbox"/> Verify all ductwork is complete and available for full air flow.	<input type="checkbox"/> Verify correct piping of split system. Reference Section 2 of Solution IOM & Split System Application Guide (050.40-ES3).

FAN INSPECTION	
<input type="checkbox"/> Check bearings and locking collars for properly tightened setscrews, bolts and nuts.	<input type="checkbox"/> Fan wheel properly aligned, tight on shaft and freely moving.
<input type="checkbox"/> Sheaves properly aligned and tight on shaft.	<input type="checkbox"/> Check fan base isolators and thrust restraints for proper adjustment. Note: Do not remove functional bolts from seismic isolators.
<input type="checkbox"/> Belt tension adjusted properly per drive pkg. label on fan.	
<input type="checkbox"/> Check fan alignment with unit discharge. Adjust with isolation.	<input type="checkbox"/> Fan bearings have been re-lubricated properly.

START-UP

PERFORM THE FOLLOWING STEPS IN ORDER:

Refer to safety standards. Ensure all door latches are secured before starting.

<input type="checkbox"/> 1. With all Electric Power off, all disconnect switches open and fuses removed, check each circuit with an Ohm meter to ground observing no continuity. Reinstall fuses.	<input type="checkbox"/> 8. Immediately check current draw of each leg of each motor.
<input type="checkbox"/> 2. Energize power to the unit disconnect switch.	<input type="checkbox"/> 9. VFD, refer to manufactures start up guide
<input type="checkbox"/> 3. Verify correct voltage, phase and cycles.	<input type="checkbox"/> 10. Check doors and latches for air leaks.
<input type="checkbox"/> 4. Energize fan motor(s) briefly (bump) and check for correct fan rotation.	<input type="checkbox"/> 11. Check for obvious audible leaks.
<input type="checkbox"/> 5. Check operation of dampers. Insure unit will not operate with all dampers closed.	<input type="checkbox"/> 12. Apply steam to cold coils slowly to prevent damage.
<input type="checkbox"/> 6. Energize fan motor(s). Observe fan(s) for smooth operation.	<input type="checkbox"/> 13. Observe energy recovery wheel rotation is correct.
<input type="checkbox"/> 7. Check motor nameplate Full Load Amp rating.	<input type="checkbox"/> 14. Purge on energy recovery wheel is set to specification.

RECORD DATA

POWER SUPPLY: Unit Nameplate V___ PH___ CYC, ___ Verify V _____ / _____ / _____

DATA

	SUPPLY FAN MOTOR	EXHAUST/RETURN FAN MOTOR
Nameplate	Volts _____ Amps _____	Volts _____ Amps _____
Run Amps	_____ / _____ / _____	_____ / _____ / _____
Catalog Number	_____	_____
Spec Number	_____	_____
Horse Power	_____	_____
RPM	Nameplate _____ Actual _____	Nameplate _____ Actual _____
Frame size	_____	_____
Service Factor	_____	_____
Jump (Skip) Frequencies	_____ / _____ / _____	_____ / _____ / _____
	SUPPLY FAN	EXHAUST/RETURN FAN
Manufacture Name	_____	_____
Type or Model Number	_____	_____
Code or Shop Order Number	_____	_____
Serial Number	_____	_____
	SUPPLY FAN DRIVE KIT	EXHAUST/RETURN FAN DRIVE KIT
Belts (Qty & ID#)	_____	_____
Belt Tension	Tag _____ Actual _____	Tag _____ Actual _____
Fan RPM (DN)	Tag _____ Actual _____	Tag _____ Actual _____

OTHER UTILITIES

Steam Pressure	Heating Coils _____ PSI,	Humidifier _____ PSI
Hot Water Pressure/Temp.	Supply _____ PSI, _____ °F,	Return _____ PSI, _____ °F
Chilled Water Pressure/Temp.	Supply _____ PSI, _____ °F,	Return _____ PSI, _____ °F
Potable Water Pressure	_____ PSI,	Pneumatic Air Pressure _____ PSI

MAINTENANCE

Upon completion of start-up the customer assumes responsibility for periodic maintenance of this equipment in order to continue warranty. Refer to the Installation Operation and Maintenance Manual (Form 102.20-OM1).

Customer's agent signature: _____ **Date:** _____

