

START UP CHECKLIST & REPORT

Packaged DOAS Units, models DLV and EWM

⚠ CAUTION

As with any mechanical equipment, personal injury can result from contact with sharp sheet metal edges. Be careful when you handle this equipment.

IMPORTANT

1. This Start Up Checklist and Report must be used in conjunction with the Installation and Service Manual originally shipped with the unit, in addition to any other accompanying component supplier literature.
2. The use of this Start Up Checklist and Report is specifically intended for a qualified installation and service agency. All installation and service of the unit(s) to which this applies must be performed by a qualified installation and service agency.

PROJECT INFORMATION	
Project Name:	
Jobsite Address:	
City, State, Zip:	
Order # <i>(from Unit Serial Plate):</i>	

MAIN UNIT INFORMATION

Model Number:	DLV																														
	1,2,3	4,5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24										
Serial Number:																															
Wiring Diagram:	8H07413 -										Unit Tag (if applicable):																				

GAS HEAT OPTION INFORMATION (if applicable)

Furnace Model Number:	F																												
	1	2	3	4	5	6	7	8	9	10	11	12	13																
Serial Number:																													

ENERGY RECOVERY MODULE INFORMATION (if applicable, C-cabinet only)

Model Number:	EWM																													
	1,2,3	4	5	6	7	8	9	10	11	12	13	14																		
Serial Number:																														
Wiring Diagram:	8H07413 -																													

THIS MANUAL IS THE PROPERTY OF THE OWNER.
PLEASE BE SURE TO LEAVE IT WITH THE OWNER WHEN YOU LEAVE THE JOB.

START UP CHECKLIST AND REPORT - PACKAGED DOAS UNITS

CONTACT INFORMATION		
Installing Contractor	Company Name:	
	Address:	
	Contact Name:	
	Phone Number:	
	Email Address:	
Start-Up Contractor	Company Name:	
	Address:	
	Contact Name:	
	Phone Number:	
	Email Address:	
Owner	Company Name:	
	Address:	
	Contact Name:	
	Phone Number:	
	Email Address:	

START UP CHECKLIST AND REPORT - PACKAGED DOAS UNITS

GENERAL INSPECTION CHECKLIST

The following items must be checked on all units prior to start-up.

Check (✓) if Complete	Section	
	Exterior and Interior	
<input type="checkbox"/>	Unit is inspected for rigging or shipping damage. (Report any damage to the installing contractor and to the manufacturer).	
<input type="checkbox"/>	Unit is installed correctly and level.	
<input type="checkbox"/>	Unit is secured/sealed to curb or mounting supports.	
<input type="checkbox"/>	All unit clearances to combustibles are as per manufacturer requirements.	
<input type="checkbox"/>	All unit clearances for service are as per manufacturer recommendations.	
<input type="checkbox"/>	Doors operate smoothly and gaskets are in place.	
<input type="checkbox"/>	Door handles and/or quarter turn latches are tightened to ensure complete gasket seal.	
<input type="checkbox"/>	All shipping blocks, tie downs, and bolts are removed.	
<input type="checkbox"/>	Compressor shipping brackets are removed.	
<input type="checkbox"/>	Crankcase heaters energized for a minimum of 12 hours before startup.	
<input type="checkbox"/>	Condensate drain is piped, trapped, and primed.	
<input type="checkbox"/>	External ductwork is complete, correctly installed and all registers are open.	
<input type="checkbox"/>	Separate Energy Recovery Module wired to the main unit (if applicable)	N/A <input type="checkbox"/>
<input type="checkbox"/>	Outdoor air intake hood is installed, bird screen is in place, and opening is unobstructed.	
<input type="checkbox"/>	Interior of unit is free of debris.	
<input type="checkbox"/>	All coils (evaporator, condenser, and hot gas reheat, if applicable) are free of damage.	
<input type="checkbox"/>	Copper tubing is secured and not rubbing.	
<input type="checkbox"/>	All mechanical connections are tight and properly sealed.	
<input type="checkbox"/>	Filters are installed correctly. Indicate filter thickness installed:	<input type="checkbox"/> 2" Filters <input type="checkbox"/> 4" Filters
	Fans and Motors	
<input type="checkbox"/>	Fan inlets and outlets are unobstructed.	
<input type="checkbox"/>	Fasteners, setscrews, and locking collars on the fan are secure.	
<input type="checkbox"/>	Fasteners on the motor and base are secure.	
<input type="checkbox"/>	Fan wheel rotates freely by hand and no parts are rubbing.	
<input type="checkbox"/>	Electrical connections are properly secured.	
<input type="checkbox"/>	Housing and ductwork, if accessible, are clear of obstructions and loose material that may damage the fan.	

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START UP CHECKLIST AND REPORT - PACKAGED DOAS UNITS

GENERAL INSPECTION CHECKLIST (continued)		
Check (✓) if Complete	Section	
	Controls and Electrical	
<input type="checkbox"/>	The main disconnect is off.	
<input type="checkbox"/>	Unit controls are off.	
<input type="checkbox"/>	Main power is wired to the disconnect.	
<input type="checkbox"/>	Power is wired to the convenience outlet (if applicable).	N/A <input type="checkbox"/>
<input type="checkbox"/>	Electrical service matches unit voltage on unit serial plate.	
<input type="checkbox"/>	Compressor and motor breakers or fuses are open (disabled).	
<input type="checkbox"/>	All electrical connections are tight.	
<input type="checkbox"/>	Discharge air sensor is installed and wired per the Installation & Service Manual.	
<input type="checkbox"/>	Indicate distance downstream from unit discharge air opening sensor location:	Feet
<input type="checkbox"/>	Optional field-mounted electrical components, if applicable, are installed and wired (see following):	
<input type="checkbox"/>	--pAD Space Temperature/Humidity (optional) Sensor	N/A <input type="checkbox"/>
<input type="checkbox"/>	--Supply Duct Smoke Detector	N/A <input type="checkbox"/>
<input type="checkbox"/>	--Space CO2 Sensor	N/A <input type="checkbox"/>
<input type="checkbox"/>	--Building Pressure Sensor	N/A <input type="checkbox"/>
<input type="checkbox"/>	--Ductwork Static Pressure Sensor	N/A <input type="checkbox"/>
<input type="checkbox"/>	Door switches functional (verify by continuity).	
<input type="checkbox"/>	Cooling drain pan condensate float switch functional (verify by continuity)	
<input type="checkbox"/>	Electrical field wiring is complete.	
	Gas Heating (if applicable)	N/A <input type="checkbox"/>
<input type="checkbox"/>	Gas piping is complete and gas lines are purged.	
<input type="checkbox"/>	Extended vent kits are properly installed (if applicable).	N/A <input type="checkbox"/>
<input type="checkbox"/>	Gas furnace condensate traps fitted and primed (90%+ efficient option only)	N/A <input type="checkbox"/>
	Hot Water Coil Heating (if applicable)	N/A <input type="checkbox"/>
<input type="checkbox"/>	Hot water piping system is complete.	
<input type="checkbox"/>	Control valves are installed and wired.	
<input type="checkbox"/>	Water coils are balanced to design GPM.	
<input type="checkbox"/>	Water system is free of air.	
<input type="checkbox"/>	Mechanical freeze stat setpoint verified and tested	

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START UP CHECKLIST AND REPORT - PACKAGED DOAS UNITS

MEASURED VOLTAGES			
Main Supply Voltage:	L1 to L2		
	L2 to L3		
	L3 to L1		
	Primary		Secondary
Main Transformer:			
Gas Transformer (if applicable):		N/A <input type="checkbox"/>	N/A <input type="checkbox"/>
Convenience Outlet (if applicable):		N/A <input type="checkbox"/>	

CONTROLLER INFORMATION			
Controller Make/Model	Carel	<input type="checkbox"/> pCO3	<input type="checkbox"/> pCO5
Program Revision			
Bios			
Boot			
Controller Date/Time Set?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
BMS INTEGRATION INFO (if applicable)	BMS Network Protocol (check one)		Device Information (complete only for protocol that is checked)
	<input type="checkbox"/> BACnet MS/TP	MAC Address	N/A <input type="checkbox"/>
		Device Instance	N/A <input type="checkbox"/>
	<input type="checkbox"/> BACnet IP/Ethernet	Device Instance	N/A <input type="checkbox"/>
		Subnet	N/A <input type="checkbox"/>
		Static IP Address	N/A <input type="checkbox"/>
		Gateway	N/A <input type="checkbox"/>
	<input type="checkbox"/> LONWorks FTT-10	Card .XIF File	N/A <input type="checkbox"/>
		Card Neuron ID	N/A <input type="checkbox"/>

DAMPERS			
Damper Config (check one)	<input type="checkbox"/> Outside Air Only <input type="checkbox"/> Outside and Return Air <input type="checkbox"/> No Dampers		
	Outside Air Damper	Return Air Damper (if applicable)	
Damper Actuator Model			N/A <input type="checkbox"/>
Actuator Installed Side CW or CCW?			N/A <input type="checkbox"/>
Actuator End Switch Set At?			N/A <input type="checkbox"/>
All Linkages Secure?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Actuator/Blade Operation Correct?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Dampers Fully Close when Off?	<input type="checkbox"/> Yes <input type="checkbox"/> No		

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



START UP CHECKLIST AND REPORT - PACKAGED DOAS UNITS

SUPPLY AND EXHAUST (if applicable) FANS						
Fan		Supply Fan #1	Supply Fan #2 (if applicable)	N/A <input type="checkbox"/>	Exhaust Fan (if applicable)	N/A <input type="checkbox"/>
Motor Manufacturer/Model						
Nameplate Amps						
Measured Amps (at full speed)	L1					
	L2					
	L3					
Rotation Direction						
VFD Manufacturer/Model						
VFD Design Frequency Setting (Hertz)						
Design Motor RPM						
Actual Motor RPM						
For Belt Drive Units Only:						
--Belt Alignment Correct?						
--Belt Tensioner Correct?						
--Belt Size						
--Fan RPM (at full speed)						

CONDENSER FANS							
		B and C Cabinet Units			D Cabinet Units Only		
Condenser Fan:		#1	#2	#3 (if applicable)	#4	#5 (if applicable)	#6 (if applicable)
Nameplate Amps							
Measured Amps (at full speed)	L1						
	L2						
	L3						
Motor RPM (at full speed)							
Motor Manufacturer/Model							
Rotation Direction Correct							
VFD Manufacturer/Model							
Unit Design VFD Max Frequency (Hertz)							

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START UP CHECKLIST AND REPORT - PACKAGED DOAS UNITS

COOLING MODE (compressors set at 100% load)				
Measured Temperatures (°F)	Outdoor Air			
	Air Off Wheel (if applicable)			N/A <input type="checkbox"/>
	Return Air (if applicable)			N/A <input type="checkbox"/>
	Supply Air			
Refrigeration System Conditions	Circuit #1		Circuit #2 (D Cabinet Only)	N/A <input type="checkbox"/>
Discharge Pressure (psig)				
Suction Pressure (psig)				
Superheat (°F)				
Subcool (°F)				
	Compressor #1	Compressor #2	Compressor #3 (D Cabinet Only)	Compressor #4 (D Cabinet Only)
Measured Amps (at full speed)	L1			
	L2			
	L3			
Sketch Compressor Sight Glass Oil Level (if applicable)				
	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>	N/A <input type="checkbox"/>
Does Digital Compressor Modulate with Demand?	<input type="checkbox"/> Yes <input type="checkbox"/> No			

DEHUMIDIFICATION MODE (if applicable) (compressors set at 100% load)				N/A <input type="checkbox"/>
Measured Temperatures (°F)	Outdoor Air			
	Air Off Wheel (if applicable)			N/A <input type="checkbox"/>
	Return Air (if applicable)			N/A <input type="checkbox"/>
	Supply Air			
Refrigeration System Conditions	HGRH Stage #1		HGRH Stage #2	
Discharge Pressure (psig)				
Suction Pressure (psig)				
Does HGRH / Condenser Modulation Valve(s) Operate Correctly?	<input type="checkbox"/> Yes <input type="checkbox"/> No			

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START UP CHECKLIST AND REPORT - PACKAGED DOAS UNITS

GAS HEATING (if applicable)					N/A <input type="checkbox"/>
Gas Type		<input type="checkbox"/> Natural Gas			
Gas Supply Piping Size					
Regulator Model					
Regulator Size					
Regulator Cap Installed		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Regulator Vent Installed		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Main Gas Valve Model (Single Stage)					
Modulating Gas Valve Model					
Vent Hood (81% Eff) or Flue Pipe (90%+ Eff) Installed?		<input type="checkbox"/> Yes <input type="checkbox"/> No			
Cabinet Heater Measured Amps/Setting (90%+ Efficiency Only)		A		Stat Setting	N/A <input type="checkbox"/>
Measurements		Furnace #1	Furnace #2 (if applicable)	Furnace #3 (if applicable)	Furnace #4 (if applicable)
All Circuits at <u>HIGH</u> Fire	Primary Inlet Pressure (" W.C.)				
	Main Valve Outlet Pressure (" W.C.)				
	Modulated Valve Outlet Pressure (" W.C.)				
	Power Exhauster Measured Amps (A)				
All Circuits at <u>LOW</u> Fire	Primary Inlet Pressure (" W.C.)				
	Main Valve Outlet Pressure (" W.C.)				
	Modulated Valve Outlet Pressure (" W.C.)				
	Power Exhauster Measured Amps (A)				

ELECTRIC HEATING (if applicable)					N/A <input type="checkbox"/>
KW Rating					
Nameplate Amps					
Measured Amps (at 100% Output)	L1				
	L2				
	L3				

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START UP CHECKLIST AND REPORT - PACKAGED DOAS UNITS

ENERGY RECOVERY WHEEL SECTION (if applicable)		N/A <input type="checkbox"/>	
Controller Information			
Controller Make/Model	Carel	pCOxs	
Program Revision			
Bios			
Boot			
Energy Wheel			
Energy Wheel Motor Nameplate Amps			
Measured Amps	L1		
	L2		
	L3		
Motor Voltage			
Overload Setting			
ERW Rotation Correct?			
Rotation Detection Installed?			
Bypass Damper			
Damper Actuator Model			
Dampers Fully Closed when Unit Off?			
Wheel Measurements	Outdoor Air Temperature (°F)		
	Outdoor Air Humidity (%)		
	Air Off Wheel Temperature (°F)		
	Air Off Wheel Humidity (%)		
Energy Recovery Section Options			
Door switches functional (verify by continuity)?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Exhaust Fan Airflow Switch functional?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	
Wheel Pressure Switch functional (if applicable)?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>
Filters Installed (check one)	<input type="checkbox"/> Outside Air Only <input type="checkbox"/> Outside and Return Air		
Filter Dirty Filter Switches Functional (if applicable)?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>
Electric Pre-Heater (if applicable)		N/A <input type="checkbox"/>	
Nameplate Amps			
Measured Amps	L1		
	L2		
	L3		
KW Rating			

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Lennox Industries, Inc. has a continuous product improvement program,
and therefore reserves the right to change design and specifications without notice.

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