

HRV2000i and HRV2000e Start-up Form and Checklist

IMPORTANT

- Complete this form for each unit and email, fax or mail to Venmar CES immediately after start-up to validate warranty and to provide valuable information for personnel performing future maintenance or for factory assistance to address below.
- Read the Installation, Operation and Maintenance Instructions Manual before proceeding.
- Leave a copy of this report with the Owner and at the unit for future reference and permanent record.
- To ensure proper operation of each unit qualified personnel should perform the start-up, complete the checklist and report.
- All units are factory run tested. Blowers are set up to run correct when power is connected. If any blower is running backwards disconnect power and switch two leads (on three-phase power) to ensure proper rotation.

Venmar CES

1502 D Quebec Avenue
 Saskatoon, Saskatchewan
 Canada S7K 1V7
 Phone: 1-866-4-VENMAR (1-866-483-6627)
 Fax: (306) 651-6009

Unit Identification Information

Project: _____
 Model Number: _____
 Serial Number: _____
 Tag: _____
 Jobsite Contact: _____
 Job Name: _____
 Job Address: _____
 Telephone: _____
 Email: _____

Table K1: Pre Start-up Checklist

	Checklist Item	Yes	N/A
1	Is the electrical disconnect set to the 'Off' position?		
2	Have shipped loose parts, obstructive packaging, objects, tie downs on fans been removed?		
3	Are fans and motors rotating freely?		
4	Are fan wheels and drive set screws tight?		
5	Are belt alignment and tension correct?		
6	Are air filters installed, clean or replaced? If filters are equipped with optional differential pressure switch, check desired setpoint does not exceed factory setting of 0.8" w.c. [200 Pa].		
7	Are damper and linkages free of movement?		
8	Is ductwork connected and complete?		
9	Are condensate drain connections trapped, installed correctly and filled?		
10	Are all shipped loose or field supplied components correctly installed and wired?		
11	Has power supply and control wiring been inspected and approved by the Local Authorities?		
12	Have factory and field wiring connections been checked and tightened?		
13	Are all fuses properly installed in holders?		
14	Is voltage at the disconnect switch within 10% of nameplate and phase-to-phase readings within 2% of nameplate?		
15	Are field piping and venting installation and connections for heating and cooling options completed and tested?		
16	Have all thermostat setpoints been checked and adjusted?		

Serial Number: _____

Table K2: Start-up Checklist

	Checklist Item	Yes	N/A
1	Before proceeding, complete the pre start-up checklist.		
2	For the unit to start when the disconnect switch is turned on, a ventilation and fan speed call is required.		
	a. Is a ventilation call available from the remove wall control connection, occupied timer/sensor connection or BMS, whichever is used? See Appendix F for which terminal connections should be closed (contacts made) once power is connected. Circle which device is used.		
	b. Is either a low speed or high speed (if equipped) call available from the remote fan control, CO ₂ ventilation control or BMS, whichever is used? See Appendix F for which terminal connections should be closed (contacts made) once power is connected.		
	c. If 'a' and 'b' are not connected, start can be accomplished by using temporary external dry contacts or a jumper wire closing timer contacts 3 and 4 (left side) plus low speed contacts 3 and 4 (right side) or high speed contacts 4 and 5 (right side). Are temporary dry contacts or a jumper wire used for start?		
<p>⚠ WARNING</p> <p>Only low or high speed contacts must be closed at any one time using dry contacts/jumper wires, not both otherwise permanent damage to the motor and wiring will occur.</p> <p>Remote controls, if installed and connected, operate in conjunction with the dry contacts/jumper wires. When controlling units with remote controls, use extreme caution around moving mechanical components such as fans and motors as they can lead to severe personal injury.</p>			
3	Close all access panels or doors.		
4	Turn the unit disconnect switch to the 'On' position.		
	<p>IMPORTANT</p> <p>On initial power up, the unit will perform a system check and operate at high speed for five seconds.</p>		
5	Are dampers operating properly?		
6	Wait for fans to run and then shut off unit's disconnect switch. Are the fans and motors rotating in the correct direction? To reverse fan rotation, interchange two wires on load side of three-phase power supply.		
7	Close all access doors and turn the unit's disconnect to the 'On' position.		
8	Re-check the voltage at the disconnect switch against the nameplate and against phase-to-phase readings on three-phase with all blowers operating. If the voltage is not within 10% of rated or 2% of phase-to-phase have the condition corrected before continuing start-up.		
9	Check amperage draw to each motor on each phase against motor nameplate FLA. Do not allow the motor's amp draw to exceed the Motor Manufacturer's nameplate data. Excessive amp draw will cause premature failure of the motor and void the motor warranty. If significantly different check ductwork static, adjust fan motor sheave to reduce fan rpm and/or take corrective action.		
10	Check the fan operation on Low, Com and High (if equipped). Use a wall control or the dry contact switching to run fan speeds as shown in Appendix F .		
11	Check the operation of the control options and accessories provided with the unit. See Frost Control , Sequence of Operation and Appendix F for functional descriptions and further details.		
12	Check the setpoints on thermostats and controls; adjust and record changes as required.		
13	When unit has achieved steady state take measurements and complete readings section of start-up form for each operating cycle to verify all components are functioning properly.		

Start-up Readings

Serial Number: _____

- Allow unit to reach steady state before taking readings.
- Complete based on options included with the unit.

Table K3: Start-up Readings

Mode of Operation			Heating	Cooling		
Power supply	Nameplate voltage					
	Voltage at disconnect no motors	L1-L2				
		L2-L3				
	L1-L3					
Power supply with all loads connected	Voltage at full load L1/L2/L3					
	Supply fan	Full load amps				
		Amp draw L1/L2/L3				
		Overload amp setting				
		RPM				
		Hertz				
	Exhaust fan	Full load amps				
		Amp draw L1/L2/L3				
		Overload amp setting				
		RPM				
Hertz						
Airside	Airflow CFM	Supply				
		Exhaust				
	Temperature °F db/wb	Outdoor entering				
		Supply leaving				
		Return entering				
		Exhaust leaving				
	Static pressure inches w.c.	Outdoor duct				
		Supply duct				
		Return duct				
		Exhaust duct				
	Electric heating	Stage	1	2	3	4
		Amp draw – L1				
Amp draw – L2						
Amp draw – L3						

This unit has been checked out and started according with the above procedures and completed forms and is operating satisfactorily.

After 24 hours of satisfactory operation, shut down the unit and check all foundation bolts, shaft bearings, drive set screws and terminals. Tighten where required.

Additional Comments:

Start-up

By: _____

Date: _____

Email: _____

Company Name: _____

Telephone: _____

Email to Tech Support (venmarservice@venmarces.com) or fax to 306-244-4221.