



# Liebert Challenger 3000 Warranty Inspection Check Sheet

**The following information must be fully completed and forwarded to your local Liebert sales office to establish your equipment warranty.**

Installer \_\_\_\_\_ Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Owner \_\_\_\_\_ Address \_\_\_\_\_  
\_\_\_\_\_

Owner e-mail address \_\_\_\_\_ \_\_\_\_\_

Installation Date \_\_\_\_\_

Was the unit received in good condition?  Yes  No

If no, has the carrier been notified?  Yes  No

Have the manuals been kept with unit?  Yes  No

## **PRE-START-UP**

**Evaporator Serial Number:** \_\_\_\_\_

**Evaporator Model Number:** \_\_\_\_\_

**Condenser/Drycooler Serial Number:** \_\_\_\_\_

**Condenser/Drycooler Model Number:** \_\_\_\_\_

**Compressor Serial Number:** \_\_\_\_\_

**Compressor Model Number:** \_\_\_\_\_

# Liebert Challenger 3000

## Warranty Inspection Check Sheet

---



### WARNING

Arc flash and electric shock hazard. Open all local and remote electric power disconnect switches, verify with a voltmeter that power is off and wear personal protective equipment per NFPA 70E before working within the electric control enclosure or any hazardous voltage electric connection enclosure. Failure to comply can cause serious injury or death.

**With the electric power to the unit OFF check the following items as noted:**

- Internal piping clamps tight and secure on Evaporator and Condenser.
- Field piping properly supported and secure.
- Hot Gas line pitched according to User Manual.
- Field piping trapped according to User Manual.
- Field piping properly sized according to the User Manual.
- ALL electrical connections are tight and properly terminated on Evaporator and Condenser/Drycooler.
- Heat Rejection Interlock wiring has been correctly installed between Evaporator and Condenser/Drycooler (70 and 71).
- CAN Communication cable has been correctly installed between Evaporator, Condenser.
- Equipment is installed level.
- Remove all debris from unit area.
- Water supply line(s), condensate pump, or gravity drain connections are tight and do not leak. Drain lines are open and clear of dirt and debris.
- Duct work is complete, and secured. (If Applicable)
- Verify Proper Water/Glycol Maintenance/Treatment has been performed.
- Yes       No (if no, conformation available please inform end user)
- Filters are installed in the unit?

**Filter Size** \_\_\_\_\_ **Quantity** \_\_\_\_\_

# Liebert Challenger 3000

## Warranty Inspection Check Sheet

---

Blower drive system rotates freely and belts are properly aligned and tensioned

Main fan HP \_\_\_\_\_ Voltage \_\_\_\_\_

Belt Size \_\_\_\_\_ Motor Sheave \_\_\_\_\_ Fan Pulley \_\_\_\_\_

### **WARNING**

Risk of electric shock, contact with high speed moving parts and hot surfaces, Can cause serious injury or death. Use extreme caution when working inside the unit cabinet of an energized unit near bare live hazardous voltage terminals, high speed moving parts such as blower wheels and shafts, pulleys, belts, EC fan blades and hot surfaces such as motors, heater elements, hot gas lines, and humidifier bulbs

### Evaporator Inspection

1. Check voltage at disconnect and record.

L1-L2 \_\_\_\_\_ L2-L3 \_\_\_\_\_ L1-L3 \_\_\_\_\_

2. Close all local and remote electric power disconnect switches. Verify with a voltmeter that power is on and the supply voltage matches the marked unit voltage rating.

### **WARNING**

Arc flash and electric shock hazard. Wear personal protective equipment per NFPA 70E before working within the electric control enclosure or any hazardous voltage electric connection enclosure. Use extreme caution when checking the status of live hazardous voltage circuits. Failure to comply can cause serious injury or death.

- Check unit electrical phasing with a phase meter. If phasing is incorrect, change wiring at input source to unit. Do not change any unit or component phasing.
- Check the compressors for proper rotation by bumping the contactors and watching the gauge pressures. If the pressures are equalized and the compressor sounds noisy, then compressor is running backwards.

3. Check and record control voltage transformers for proper output. (Secondary voltage should not be under 23 VAC or exceed 27 VAC under load, change tap if necessary).

T1 \_\_\_\_\_ Volt

4. Record iCOM Software Version: \_\_\_\_\_

**NOTE:** The software version is located in the Network Menu that is located in Service Menus.

# Liebert Challenger 3000

## Warranty Inspection Check Sheet

---

**NOTE:** Check operation of each component by utilizing the Service Menu that is located in the Service Menus on the iCOM Control

5. Enable Manual Mode.

6. Enable Fans and record Main Fan amperage.

L1 \_\_\_\_\_ L2 \_\_\_\_\_ L3 \_\_\_\_\_ Fuse \_\_\_\_\_

7. Enable Reheats and record amperage. Disable Reheats after test.

L1 \_\_\_\_\_ L2 \_\_\_\_\_ L3 \_\_\_\_\_ Fuse \_\_\_\_\_

**NOTE:** On units with Infrared humidifiers, fill pan with water before turning on the lamps. Check water level and adjust high limit float for proper operation.

8. Enable Humidifier and record amperage. Check for leaks at all piping connections. Disable Humidifier after test.



### WARNING

Risk of electric shock and contact with extremely hot parts, can cause serious injury or death. Use extreme caution when working near bare live hazardous voltage terminals or energized humidifier bulbs.

L1 \_\_\_\_\_ L2 \_\_\_\_\_ L3 \_\_\_\_\_ Fuse \_\_\_\_\_

9. Check condensate pump for proper operation by filling pump with water. Check for leaks at all piping connections. Record pump amperage. (If Applicable)



### WARNING

Risk of electric shock and contact with hot motor surfaces, Can cause serious injury or death. Use extreme caution when working near bare live hazardous voltage terminals or the energized condensate pump motor. Do not remove the condensate pump electric connection terminal cover. Use extreme caution and do not spill water on the motor or the electric connection cover.

L1 \_\_\_\_\_ L2 \_\_\_\_\_ Fuse \_\_\_\_\_

### Chilled Water/Freecooling Units

Set 3P 1/2 Actuator Open to On. Check for full valve travel. Set 3P 1/2 Actuator Open to Off.

Set 3P 1/2 Actuator Close to On. Check for complete valve closure. Set 3P 1/2 Actuator Close to Off.

Check for leaks at all piping connections.

# Liebert Challenger 3000

## Warranty Inspection Check Sheet

---

### Compressorized Units

#### **NOTES:**

- *On air cooled systems an initial refrigerant charge of at least 75% to 80% of the calculated charge should be added to the circuit before starting the compressor.*
- *Digital compressor must be at fully loaded operation.*

10. Enable compressor in the Charge Mode and allow the system to operate for 10-15 minutes.

### Air-Cooled Condenser w/Fan Speed

Add additional refrigerant to obtain the proper superheat and subcooling for fan speed model condensers. Refer to associated condenser warranty inspection sheet for additional information.

### Air-Cooled Condenser w/Lee-Temp

On the receiver at the condenser there are two refrigerant-level sight glasses. Refrigerant level will vary with outside temperature. Check refrigerant level after the system has been on for at least 15 minutes. Add additional refrigerant to achieve refrigerant level based on the ambient condition.

**Ambient Temperature** \_\_\_\_\_

a. **Sight Glass Level** (Check appropriate box)

40°F (4.5°C) and lower—bottom sight glass is 3/4 full

40 to 60°F (4.5 to 15.5°C)—bottom sight glass is full

60°F (15.5°C) and higher—top sight glass is 3/4 full

b. Record Voltage to Heater Pads \_\_\_\_\_ **Volts**

# Liebert Challenger 3000

## Warranty Inspection Check Sheet

---

### Water/Glycol System Operation

- If the head pressures recorded below equal **105°F** condensing temperature, no adjustment of the glycol/water regulating valves or Motorized Ball Valves are required.
- If the condensing temperatures are above **110°F**, adjust the glycol/water regulating valves/Motorized Ball Valves to lower the head pressure. If the system has balancing valves in it, these valves should be adjusted to the required GPM for this piece of equipment.
- After the condensing temperature has been set up properly, the system should be allowed to run for 10 to 15 minutes to obtain stable conditions.

**Note:** To adjust the head pressure with Motorized Ball Valves, go to the Service Menus and then to the Options Set-up Menu. Adjust parameter S427 (Ball Valve Setpoint Offset). The default setting is +30. The range is +0 to +70. Lowering the setpoint will decrease the head pressure and an increase in the setpoint will increase the head pressure.

**Entering condenser water/glycol temperature** \_\_\_\_\_

**Leaving condenser water/glycol temperature** \_\_\_\_\_

11. Record Suction and Discharge Pressures.

**Suction Pressure** \_\_\_\_\_      **Discharge Pressure** \_\_\_\_\_

12. Check superheat and record. Superheat should be approximately 15°.

**Superheat** \_\_\_\_\_ °F

13. Check subcooling. (Refer to MC Condenser User Manual and Warranty Inspection sheet for subcooling requirement.)

**Subcooling** \_\_\_\_\_ °F

14. Record Total Charge

**Circuit #1** \_\_\_\_\_ LBS

15. Record Compressor amperage.

**L1** \_\_\_\_\_      **L2** \_\_\_\_\_      **L3** \_\_\_\_\_      **Fuse** \_\_\_\_\_

16. Disable Compressor.

17. Turn OFF Manual Mode.

# Liebert Challenger 3000

## Warranty Inspection Check Sheet

---

18. Record compressor crankcase heater amperage. **Amperage** \_\_\_\_\_

*Start-up is now complete.*

**Your input is important to us. Your input is important to us. Did you encounter any factory or field issues? If YES, please check the YES box and supply detailed description below. If NO, please check the NO box; however please feel free to provide any additional comments or suggestions.**

**YES**       **NO**

**Comments:**

---

---

---

---

---

---

**START-UP PERFORMED BY** \_\_\_\_\_ **START-UP DATE** \_\_\_\_\_  
(Please print name)

**COMPANY** \_\_\_\_\_ **PHONE #** \_\_\_\_\_

### IMPORTANT:

**This form must be properly completed and returned to your local Liebert Sales office. If you do not know who your local Liebert sales office is, call 1-800-Liebert or check our website at:**

<https://www.vertivco.com/en-us/products/brands/liebert/>