



CENTRIFUGAL DOWNSTREAM HEATER



TROUBLE SHOOTING GUIDE

Models: CDH2710-N/PV, CDH2710-LP, CDH2715-N/PV, CDH2715-LP
CDH2720-N/PV, CDH2720-LP, CDH30-25, 30-N/PV, CDH30-25, 30-LP
CDH33-40, 50-N/PV, CDH33-40, 50-LP



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Frequently Asked Questions

- How do the thermostats for the Hi/Lo system operate?
 - There are two thermostats required for the Hi/Lo system. First is the Hi-limit thermostat that is for safety, it will turn off the burner if the temperature reaches 250F.
 - The regular thermostat sets the temperature where you want your heater to cycle from.
- How do I rewire the new Siemens control units (Grey) to replace the older Siemens control unit (Black)?
 - Refer to the wiring diagram sent with the replacement unit (Grey). Contact customer service if needed an additional copy is needed
- What is the correct igniter gap?
 - 5/32" or thickness of a nickel
- How do I convert a Natural Gas heater to a LP heater?
 - LP heaters require a vapor coil to vaporize the liquid propane. Order vaporizer kit #0-48778 and the appropriate size orifice 0-48776-xxx. See heater manual MFH1800 for details.

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Centrifugal Heater CONTROL Troubleshooting Chart

No.	Symptom	Possible Causes	Possible Solutions	
1	Heater does not operate: check for 115V at the following locations to isolate problem. If less than 115V check causes			
		Black #7 wire & white wire from fan	Wires not connected properly in fan control box	Check wire connections in fan control box
		Black #7 wire & terminal #2 Red #11 wire & terminal #2	Faulty Heater selector switch (normally open)	Replace switch
		Red #10 wire & terminal #2	Blown 5A fuse	Check fuse and replace if needed
		Red #13 wire & terminal #2	Faulty housing high limit switch	Replace
	Red #12 wire & terminal #2	ON/OFF or Hi-Limit Thermostat open	Increase setting, reset or replace	
2	Green Power ON light does not illuminate	Bad bulb	Test bulb and replace if needed	
		Selector switch not turned to ON position	Place switch in ON position	
		Thermostat not calling for heat	Increase temp setting	
		Plenum Hi-limit tripped on Hi-Lo fired units	Reset limit switch	
		Housing Hi-limit switch is open	Reset or replace	
		Faulty burner selector switch	Replace	
3	Flame control cycles, but burner does not light, burner faults	No burner igniter spark visible through inspection window	Set spark igniter gap to 5/32"	
			Check igniter wire connections	
		Faulty ignition transformer	Replace	
		Improper gas pressure	Open fuel supply valve	
Empty LP fuel tank				
Restrictions in fuel supply line				

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Centrifugal Heater CONTROL Troubleshooting Chart

		Dirty fuel strainer	Clean	
3	Cont.	Vapor thermostat open (LP only)	Allow to cool, adjust vapor coil out of center of flame if needed	
		Faulty vapor valve	Replace	
		Faulty liquid valve (LP only)	Replace	
		Obstruction in orifice pipe	Clean out pipe	
		Incorrect orifice installed	See page 31 of Heater Manual # MFH1734	
4	Flame control runs continuously in the Purge cycle	Loose or no wire connected to terminal #6	Connect neutral wire or tighten	
5	Green power ON light illuminated but Flame Control does not run	Flame control not properly connected to base	Make sure control is snapped onto base	
		Poor wire connections at base terminals #2 & #12	Tighten terminals	
		Faulty flame control	Replace	
6	Burner blows a fuse			
		Immediately when the Burner Switch is turned ON	Faulty High Limit Switch	Replace
			Faulty thermostat or thermostat wires	Replace
	Faulty Flame Control		Replace	
	Immediately following the 25 second Purge cycle	Faulty ignition transformer	Replace	
		Faulty gas valve solenoid	Replace	
		Faulty vapor Hi-Limit thermostat (LP only)	Replace	
	Immediately following the 15 second trial for ignition cycle (35 seconds after turning burner on)	Faulty thermostat or thermostat wires	Replace	
		Faulty gas valve solenoid	Replace	

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Centrifugal Heater BURNER Troubleshooting Chart

No.	Symptom	Possible Causes	Possible Solutions
1	Purge cycle completes, and then burner immediately faults	Shorted flame rod	Adjust as required to clear
		Dirty flame rod	Clean or replace
		Shorted flame wire	Replace
		Poor ground	Check earth ground
		Faulty flame controller	Replace
2	Burner lights, runs 10 seconds, and then faults	Burner pressure to low or high to sense fire	Adjust pressure to appropriate range (page 31, manual MFH1734)
		Flame wire not connected	Reconnect
		Poor ground to burner	Check ground screw connection on Burner Control base
			Check for loose ground connections on Burner green ground wire
		Poor flame quality	
		Poor flame rod positioning	Reposition so flame rod is in major part of flame
3	Extremely yellow or sooty flame	Gas pressure too high	Reduce gas pressure to an appropriate range
			Open vent on fuel pressure gauge
			Check orifice size (page 31, manual MFH1734)
		Low air flow velocity due to high static pressure	Reduce gas pressure
			Reduce grain depth Plugged drying floor
		Restricted air flow in the burner venturi casting or diffuser	Remove the burner cup and check for obstructions
		Incorrect diffuser sizing	Check fuel specifications

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Centrifugal Heater BURNER Troubleshooting Chart

4	Heater runs two to three hours and then shuts down	Ambient temperature changes (day to night)	Adjust gas pressure as needed
5	Burner does not ignite	Incorrect ignitor gap	Set to 5/32" (thickness of a nickel)
		Burner controller error	Check page 29 of operators manual MFH1734 for list of error codes and causes
6	LP heater frosting up	Too low temperature	Increase temperature to at least 30°-40°F above ambient temperature
7	Weak or no flame	Regulator installed backwards	Check IN/OUT arrows on bottom side of regulator
		Gas solenoid not operating	Verify by feeling for click on solenoid when it opens. Replace or check controls
		Vapor coil too hot	Reduce gas pressure Adjust coil out of the center of the flame

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Document Revision History

June 2009	Created Document
July 2009	Added question to FAQ section <u>How do I convert a Natural Gas heater to a LP heater?</u> on page 7

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