

SERVICE AND APPLICATION NOTES

November 13, 2013

CBX27UH-024 with ECB29(EH)-12.5 and 15 kW Electric heater

AFFECTED MODELS:

CBX27UH-024-230-XX with (ECB29 {EH}-12.5CB-P) and (ECB29 {EH}-15CB-P)

ISSUE:

Reports from the field of 12.5 and 15 kW electric heater limit trips when installed in the reference air handler on installations where system statics are above 0.4" W. C. external static pressure.

INVESTIGATION:

Test Equipment: Testing was conducted with a 2-ton heat pump and CBX27UH-024 with 15kW of electric heat installed.

Operating Environment: 70°F outdoor ambient for heat pump heating and a return air temperature of 70°F.

Test 1: The test equipment configuration and operating environment confirmed the system passed the CSA-C22.2 (No. 236 – UL 1995 -45.9 Limit Control Cutout Test – Simultaneous electric resistance heat and refrigerant heat test) when operating at maximum capacity at the UL required 0.4" W. C. external static pressure. Under these conditions, the system air discharge air temperature does not exceed the maximum allowable temperature of 200°F (93.3° C).

Test 2: When testing the system at external static pressures above 0.4" WC, one of the electric heat limits tripped shortly after the system was cycled **ON** thus resulting in the system running with only 10 kW of electric heat. We have concluded from this test that installation of 12.5KW or 15KW electric heater in referenced air handler has no value to the end user due to the electric heat section only supporting up to 10 kW.

Conclusion: Based on these findings and not having any way to prevent these size heaters from being installed in systems with higher than 0.4" W. C. external static pressure, Lennox has removed both the 12.5 and 15 kW electric heater match-ups from the CBX27UH-024-xx nameplate (see figure 1 for example).

Current Installations: There should be no issue with maintaining continuity in systems operating with less than 0.4" W. C. external static pressure and will require no corrective action. Installations with external static pressures above 0.4" W. C., may experience continuity issues. Adjustments to the balance point temperature ranges (indoor and outdoor) may be necessary to allow the electric heat to maintain continuity during heating demands. (Example: Adjustment of balance points on the room thermostat or the addition of outdoor unit lockouts.)

ALTERNATE MATCH-UP:

Applications that require that a 12.5 or 15kW electric heat will require the use of a CBX27UH-030 air handler that is in one size larger cabinet, or use the CBX32MV-024/030 variable speed air handler.



