Subject: Excessive Evaporator Load Troubleshooting

SYMPTOMS
- No ice bank.
- Heavy frost on the expansion valves.

EXEMPLARY OF HEAVY FROST

SCOPE
Model 50

ACTION
When troubleshooting the Model 50 and before diagnosing with low refrigerant, thermostatic expansion valve malfunction, defective compressor, or too high ambient temperature be sure to check for INDUCED EVAPORATOR LOAD. In rare cases a leaking water line or added load through the refrigeration system can deplete the refrigeration effect by removing the ice bank. If there have been some changes such as remodel, filter installation, additional tower removed or added to the system then INDUCED EVAPORATOR LOAD may be the cause.

Check for water leakage through an uncapped line, water line discs, and capped but eroded through lines. Check additional piped in lines for leaking which could be adding additional load and water loss through the water bath.

FURTHER ACTIONS
Check for excessive load by making sure the carbonator(s) or bag-in-box pumps are not cycling or pumping when not in use. Turn off the refrigeration, shut off the water to the non-carbonated beverages, and start the refrigeration system again. If the refrigeration system starts to build a good ice bank there is a leak downstream on the water circuit for the non-carbonated valves. Pressure test the line with an air tank or CO2. Find and repair the leak(s). Check all lines, not just the ones that go to existing dispensers. Once all leaks are repaired turn on the water for the non-carbonated drinks. Make sure the unit continues to build an ice bank. If there is no excessive load it is possible there is a low refrigerant charge in the unit.

To check for a low refrigerant charge recover the refrigerant. Pressure test for leaks with dry nitrogen. Repair all leaks and replace the drier. Evacuate the system to 500 microns. Weigh in the proper refrigerant charge based on the data plate, length of line set and the type of remote condenser being used. Make sure the unit builds a proper ice bank.

If the refrigerant charge is correct, compressor is performing to specifications and no ice bank is built, a replacement of the expansion valve(s) is required. You will need the Single Valve Conversion Kit 000003932 if you can say “yes” to one of the following:
- You currently have a dual TXV unit and need to replace the TXVs.
- You have a distributor feed style evaporator.
- You have a unit that was produced prior to Serial Number 110743482 which has not yet been converted to a Single Valve.