REFRIGERATION SYSTEM OPERATIONAL ANALYSIS TABLE - SINGLE EVAPORATOR

This table must be used with detailed charts/checklists and other references to eliminate refrigeration components not listed on the table and external items (or problems) which can cause good refrigeration components to appear defective.

OPERATIONAL ANALYSIS (Listed below)	1	2	3	4
Ice Production	Published 24 hour ice production _____ Calculated (actual) ice production _____ NOTE: The ice machine is operating properly if the ice production and ice formation pattern is normal.			
Installation and Water System	Installation and/or water related problems can simulate a refrigeration component malfunction. Refer to "Installation/Visual Inspection Checklist" and "Water System Checklist" and correct all problems before proceeding.			
Ice Formation Pattern _____ _____ Refer to "Determining Ice Formation Patterns" for further details.	1. Ice formation is extremely thin on top of evaporator – or – 2. No ice formation on entire evaporator	1. Ice formation is extremely thin on top of evaporator – or – 2. No ice formation on entire evaporator	1. Ice formation is normal – or – 2. Ice formation is extremely thin on bottom of evaporator – or – 3. No ice formation on entire evaporator	1. Ice formation is normal (it is normal for "dimples" in top ice cubes of evaporator to be more pronounced than dimples in ice cubes in bottom of evaporator.) – or – 2. No ice formation on entire evaporator
Safety Limits Refer to "Analyzing Safety Limits" to eliminate problems and/or components not listed on this table.	Stops on Safety Limit 1	Stops on Safety Limit 1 or 4	Stops on Safety Limit 1 or 2 or 3	Stops on Safety Limit 4
After 5 minutes into freeze cycle, compare compressor discharge line temperature to the **hot gas valve inlet temperature.** Comp disc ____ Hot gas inlet ____	The inlet of hot gas valve is hot and approaches the temperature of a hot compressor discharge line.	The inlet of hot gas valve is cool enough to hold hand on and the compressor discharge line is hot.	Both the inlet ot hot gas valve and compressor discharge line are cool enough to hold hand on.	The inlet of hot gas valve is cool enough to hold hand on and the compressor discharge line is hot.
Compare inlet to outlet temperature of evaporator after 5 min. into freeze cycle: Inlet ____ Outlet ____	Inlet and outlet temperature within 7°F of each other.	Not within 7°F and inlet is colder than outlet.	1. Not within 7°F and inlet is warmer than outlet – or – 2. Inlet and outlet temperature within 7°F of each other.	Inlet and outlet temperatures within 7°F of each other.
Freeze cycle discharge pressure _____/_____/_____ Beginning Middle End	**Normal** discharge pressure – refer to "Analyzing Discharge Pressure" to determine if normal. **High or low** discharge pressure – refer to a freeze cycle high or low discharge pressure checklist, to eliminate problems and/or components not listed on this table, before proceeding.			
Freeze cycle suction pressure _____/_____/_____ Beginning Middle End	Normal suction pressure – suction pressure frops through freeze cycle. Refer to "Analyzing Suction Pressure" to determine if dropping normally. High or low suction pressure – refer to a freeze cycle high or low suction pressure checklist to eliminate problems and/or components not listed on this table before proceeding. High	Low	High	High
Miscellaneous Enter miscellaneous items in proper boxes.	_____ _____ _____ _____	_____ _____ _____ _____	Frost on compressor _____ _____ _____	Compressor dome extremely hot _____ _____ _____
Final Analysis Going downward, enter total number of boxes checked in each column.	Total boxes checked _____ HOT GAS VALVE LEAKING	Total boxes checked _____ LOW ON CHARGE – OR – TXV STARVING	Total boxes checked _____ TXV FLOODING	Total boxes checked _____ COMPRESSOR

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