REFRIGERATION SYSTEM OPERATIONAL ANALYSIS TABLES

Q, J and B Model Single Expansion Valve

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

Operational Analysis	1	2	3	4
Ice Production	Air-Temperature Entering Condenser_____ Water Temperature Entering Ice Machine_____ Published 24 hour ice production_____ Calculated (actual) ice production_____ NOTE: The ice machine is operating properly if the ice fill patterns is normal and ice production is within 10% of charted capacity.			
Installation and Water System	All installation and water related problems must be corrected before proceeding with chart.			
Ice Formation Pattern	Ice formation is extremely thin on outlet of evaporator -or- No ice formation on the entire evaporator	Ice formation is extremely thin on outlet of evaporator -or- No ice formation on entire evaporator	Ice formation normal -or- Ice formation is extremely thin on inlet of evaporator -or- No ice formation on entire evaporator	Ice formation normal -or- No ice formation on entire evaporator
Safety Limits Refer to "Analyzing Safety Limits" to eliminate all non-refrigeration problems.	Stops on safety limit: **1**	Stops on safety limit: **1**	Stops on safety limit: **1 or 2**	Stops on safety limit: **1**
Freeze Cycle Discharge Pressure _____ _____ _____ 1 minute Middle End into cycle	If discharge pressure is High or Low refer to freeze cycle high or low discharge pressure problem checklist to eliminate problems and/or components not listed on this table before proceeding.			
Freeze Cycle Suction Pressure _____ _____ _____ 1 minute Middle End	If suction pressure is High or Low refer to freeze cycle high or low suction pressure problem checklist to eliminate problems and/or components not listed on this table before proceeding.			
	Suction pressure is **High**	Suction pressure is **Low or Normal**	Suction pressure is **High**	Suction pressure is **High**
Wait 5 minutes into the freeze cycle. Compare temperatures of **evaporator inlet** and **evaporator outlet.** Inlet ____ ° F (° C) Outlet ____ ° F (° C) Difference ____ ° F (° C)	Inlet and outlet **within 7°** of each other	Inlet and outlet **not within 7°** of each other -and- Inlet is colder than outlet	Inlet and outlet **within 7°** of each other -or- Inlet and outlet **not within 7°** of each other -and- Inlet is warmer than outlet	Inlet and outlet **within 7°** of each other
Wait 5 minutes into the freeze cycle. Compare temperatures of **compressor discharge line** and **harvest valve inlet.**	The harvest valve inlet is **Hot** -and- approaches the temperature of a **Hot** compressor discharge line.	The harvest valve inlet is **Cool** enough to hold hand on -and- the compressor discharge line is **Hot.**	The harvest valve inlet is **Cool** enough to hold hand on -and- the compressor discharge line is **Cool** enough to hold hand on.	The harvest valve inlet is **Cool** enough to hold hand on -and- the compressor discharge line is **Hot.**
Discharge Line Temperature Record freeze cycle discharge line temperature at the end of the freeze cycle _____**°F (°C)**	Discharge line temperature **160°F (71.1°C) or higher** at the end of the freeze cycle	Discharge line temperature **160°F (71.1°C) or higher** at the end of the freeze cycle	Discharge line temperature **less than 160°F (71.1°C)** at the end of the freeze cycle	Discharge line temperature **160°F (71.1°C) or higher** at the end of the freeze cycle
Final Analysis Enter total number of boxes checked in each column.	**Harvest Valve Leaking**	**Low On Charge -Or- TXV Starving**	**TXV Flooding**	**Compressor**