ICE MACHINE REFRIGERATION COMPONENT DIAGNOSTIC CHART

This chart is used with a detailed outline of each of the Six Steps listed.
Failure to follow the details of each step in order will result in a misdiagnosis.

STEPS	HOT GAS VALVE LEAKING (not wide open)	TXV STARVING	TXV FLOODING	INEFFICENT COMPRESSOR	ACTUAL FINDINGS
1. Visual Inspection	Visual inspection includes checking for proper installation, location, dirty condensers, etc., and talking to the ice machine user to identify the perceived problem(s). (Refer to Step 1, page 49.)				
2. Ice Production	Normal ice production. ☐	Low production – may not make ice. ☐	Low production – may not make ice. ☐	Minimal to low production. ☐	
3. Ice Fill Pattern	Ice fill will be normal. ☐	Ice fill will be thick on the bottom portion of the evaporator and thin on the top or no ice. ☐	Ice fill will be thin on the bottom portion of the evaporator and thick on the top or no ice. ☐	Ice fill will be normal. ☐	
4. Water System	Water related problems can simulate a refrigeration component malfunction. Water related problems must be eliminated before proceeding to Step 5, page 52. Refer to Step 4, page 51, for complete water system analysis.				
5. Refrigeration System 5A. Discharge Pressure	Discharge pressure must be normal before proceding to Step 5B.				
5B. Freeze Cycle Suction Pressures	1 to 4 psi high at end of freeze cycle. ☐	Lower than normal throughout freeze cycle. Usually may stabilize at one pressure. ☐	Higher than normal throughout freeze cycle. Usually may stabilize at one pressure. ☐	Slightly higher throughout freeze cycle. Pressures normally do pull down although take a long time. ☐	
5C. Hot Gas Valve Inlet Feel Check	The inlet of hot gas valve is hot and approaches temperature of discharge line. ☐			The inlet of hot gas valve is cooler than discharge line. NOTE: An extremely hot compressor can give a false indication of hot gas valve leak. Refer to Steps 5C and 5E for details. ☐	
5D. TXV Operational Check	Evaporator inlet and outlet temperatures within 5°F of each other. ☐	Evaporator inlet and outlet temperatures not within 5°F; evaporator inlet temperature is colder than outlet temperature. ☐	Evaporator inlet and outlet temperatures not within 5°F; evaporator inlet temperature is warmer than outlet temperature. ☐	Evaporator inlet and outlet temperatures within 5°F of each other. ☐	
Miscellaneous	☐	☐	☐	☐	
6. Final Analysis (number of boxes checked)	A.	B.	C.	D.	