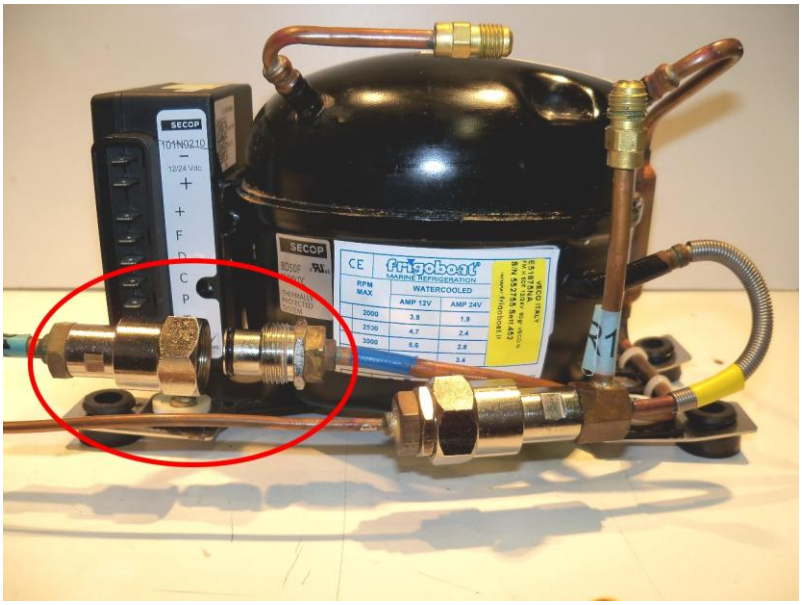
BD35 and 50 Compressor Suction Test

There have been some cases of compressor cylinder head gasket failure from extreme compressor overheating. Examples include running a Keel Cooled system when out of the water, or inadequate ventilation of an air cooled unit from fan failure or air flow blockage. This results in higher than normal suction pressure and poor performance, and is found mainly in freezer systems that still function but now can't maintain the same low temperature as was previously possible. The compressor suction can be checked by a technician simply by uncoupling the suction line coupling as shown by the red oval in the picture below while the system is running and with a suction refrigeration gauge connected. The compressor should then be able to draw the suction pressure down to at least 20 in Hg in around 15-20 minutes, as indicated by the red arrow on the refrigerant gauge dial below.



The valve plate in the compressor cylinder head can easily be damaged by overcharging a system with refrigerant to such an extent that liquid refrigerant is allowed to enter the cylinder. Refrigeration compressors are designed to compress gas only, not liquids, and the introduction of any liquids i.e.liquid refrigerant, water, excess oil, leak detecting fluids, "conditioners" etc. into the cylinder will almost certainly lead to valve plate failure. This condition will result in poor differential pressures (discharge-suction), again evidenced with the use of refrigeration gauges.

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