

ENGINEERING POLICY

Tecumseh Compressor Company
Compressor Group



Tecumseh

Engineering Policy on: **Application Precautions Relating to the
Usage of Direct Suction Compressors**

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System contamination continues to be of a serious concern to our industry at both the manufacturing and the field installations levels as it relates to compressor failures. Frequently liquid line strainers or strainer driers are installed on the condenser outlet in order to protect the refrigerant metering device. These strainers are located in the middle of the system and offer very little compressor protection. System contaminants beyond the strainers will move through the system and enter the compressor through the suction line. On older compressor designs, these contaminants would find their way into the oil and often settle to the bottom of the housing often causing little, if any damage to the compressor bearings. Presently, the quest for higher compressor efficiencies has caused the designer to consider semi-direct and direct suction approaches which route the contaminants directly into cylinder bearings and valves causing compressor seizure and / or valve failure.

Some compressors with direct suction are factory equipped with screens that must remain in place to protect the compressor and the compressor warranty. These screens are part of the warranted performance specifications. The best assurance to maintain good compressor performance is to use good system cleanliness and brazing practices. Clean coils and subassemblies brazed together with an internal atmosphere of nitrogen or other non-oxidizing gasses will assure good system design performance. If it is recognized that field-installed equipment will not meet desired cleanliness standards, then a suction line filter should also be considered.