

HCI Oil Requirements

Comp Type	Refrig Used	Oil to be Used	Min Evap Temp	Max Evap Temp	Saturated Cond Temp	Max Disch Temp
MSC LSC	R-22	300 SUS 68 ISO Mineral	-50°F	50°F	125°F or below	NHF = 210°F NLF & NUF = 170°F
MSC LSC	R-22	CPI 4214-150 POE	-50°F	50°F	145°F or below	NHF = 210°F NLF & NUF = 170°F
MSC LSC	R134a	120 ISO POE (CPI Solest 120)	0°F	50°F	110°F or below <i>(Flooded Applications)</i>	NHL = 210°F
MSC LSC	R134a	120 ISO POE (CPI Solest 120)	0°F	50°F	111°F to 145°F <i>(Flooded Applications)</i>	NHL = 210°F
MSC LSC	R-507 R404A R407C	120 ISO POE (CPI Solest 120)	-50°F	0°F	130°F or below	NHL = 210°F NLF & NUF = 170°F
MSC LSC	R-507 R404A R407C	220 ISO POE (CPI Solest 220)	0°F	50°F	130°F or below	NHF = 210°F NLF & NUF = 170°F
LSC	R717	150 SUS / 32 ISO 3GS Mineral Oil	-50°F	0°F	135°F or below	LSC's = 212°F
LSC	R717	300 SUS 68 ISO Mineral	0°F	50°F	135°F or below	LSC's = 212°F
LSC	R717	CPI CP-1009-68	-50°F	50°F	135°F or below	LSC's = 212°F
LSC	R717	CPI CP-4612-100	10°F	50°F	135°F or below	LSC's = 212°F
LSC	R717	CPI CP-1505-100	-50°F	10°F	135°F or below	LSC's = 212°F

Notes

- The maximum discharge temperature for the LSC line is 212°F
- Solest 220 is recommended to be used on water-cooled systems when the minimum discharge superheat is 20°F. (See EDS-X-0600-002 for oil requirements & limitations.)
- The oils indicated must be used for the conditions listed above. This will insure that the bearings inside of the compressor are properly lubricated. These requirements are subject to change.

Alternate Gas being used	Oil to be used
R744 (CO ₂)	CPI : CP-4624-68F 68 ISO Polyalphaolefin
R50 (CH ₄) & Landfill gas mixtures	CPI : CP-9001-100 100 ISO Paraffinic
Pure HC's for refrigeration and process	CPI : CP-1516-150 150 ISO Polyalkalene Glycol

LSC Material Compatibility Notes

1. R22 with POE is not compatible with standard (e.g. Carbon face) shaft seals above 30°F.
2. Landfill gas mixtures with high H₂S content are not compatible with brass cage thrust bearings or bronze journal bearings in "E" and "F" version unloader spindles.
3. Compressors with machined brass cage thrust bearings are compatible with R717 using insoluble oils. (The bronze journal bearing is not exposed to refrigerant.)

Oil Approval

If a different brand of oil is to be used other than the CPI oils listed above, it must be approved in writing by HCI Application Engineering Department and must be identical in characteristics to the CPI oils listed above.

Precautions and Guidelines

Oils of different manufacturers can not be mixed together even if they have the same viscosity. This is due to the fact that each manufacturer has different additives and each oil will react differently at varying conditions. In the event that oil of two different manufacturers are used in the same compressor, the mixed oil must be removed and the proper oil added to the system in its' place. At least one or two oil flushes is necessary in order to properly remove as much of the mixed oil as possible.

If the guidelines above are not followed the warranty of the compressor will be voided.

Compressor oil analysis and Warranty Validation

- In order to complete the validation of the compressor warranty HCI requires that a spectrographic oil analysis be taken shortly after the compressor is started. (Usually between 12 and 24 running hours) The results of this oil analysis must be sent to the HCI application engineering department to confirm warranty validation.
- As a preventative maintenance tool, HCI recommends that oil samples be taken three times per year for annual operation and twice per year for seasonal operation (ex. air conditioning)
- HCI recommends the use of the OIL KARE[®] oil analysis program. Through this program, oil sample containers are furnished with complete instructions as well as prepaid mailing containers. The results are returned to the customer and include an analysis of wear metal concentration, contaminants, moisture, acids and viscosity. A copy is sent to HCI who will evaluate the results and offer any maintenance suggestions.
- To purchase OIL KARE[®] sampling kits (part #053498A1), contact the HCI customer service department.

These requirements are subject to change. Please contact the HCI application engineering dept. for any updates or addendums to this bulletin.