



BY JOHNSON CONTROLS

# Service Information

File In/With: N/A

SI0225

810

Equipment YK Chillers

Checking the YK Shaft Seal Oil Utilization

## General

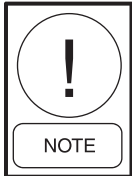
The atmospheric shaft seal utilized on centrifugal high pressure compressors is a mechanical face seal that requires lubrication. It is a “wet seal” that utilizes oil from the compressor lubrication circuit to create and maintain a fluid film. This letter defines the maximum oil utilization rate and oil utilization detection method.

## Utilization Rate

An oil utilization rate of 750 milliliters (equivalent to YORK / JCI supplied catch bottle) within a 14 day period is considered the signal to schedule the replacement of the seal regardless of hours of operation. The chiller can be kept in operation until a convenient time to schedule repairs.

## Detection Method for Oil Utilization Rate

The detection method used is the catch bottle filling within a 14 day period. The reason for this method is that within the seal cartridge there is no direct path for refrigerant vapor to escape to the atmosphere. The seal internal components are flooded with oil only, even during standby conditions. The software design activates the oil pump every 24 hours to maintain a flooded chamber. This flooded chamber maintains a barrier to the atmosphere as displayed in Figure 1.



*Electronic refrigerant detectors may identify false-positive readings based on the out-gassing of diminutive traces of refrigerant vapor dissolved within the oil.*

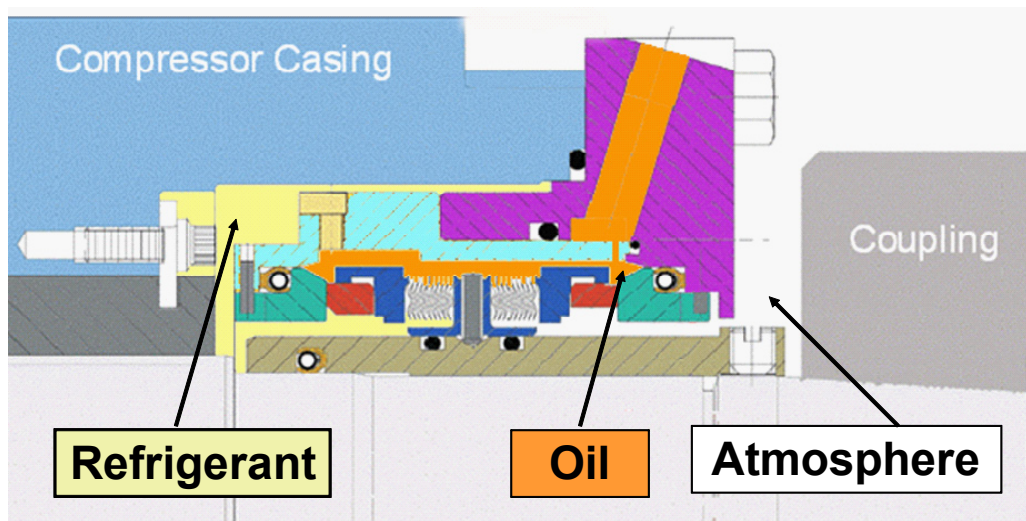


Fig. 1 Cartridge shaft seal. Flooded oil chamber creates a barrier preventing direct path of refrigerant to the atmosphere.