



ES Service Information

File In/With: N/A	SI0098
	New 10-04
Equipment Affected: YK & YT Chillers	
Troubleshooting Atmospheric Shaft Seal Leaks	

General

The atmospheric shaft seal used on these compressors is a mechanical face seal that requires lubrication. It is a “wet seal” that uses oil from the compressor lubrication circuit to create and maintain a fluid film. This information letter defines the maximum leak rate and identifies the leak source.

Leak Rate

A leak rate of 750 milliliters (equivalent to YORK supplied catch bottle) within 14 days is considered the signal to schedule replacement of the seal. The chiller can be kept in operation until a convenient time to schedule repairs.



The above is independent of hours of operation.

Troubleshooting

Troubleshoot both the source and the cause of the leak as follows:

1. First, review operating data.
2. Identify the leak path:
 - (A) Is an excessive amount of oil present inside the motor adapter or on the outside of the drain tube?
(IF YES) - The leak is coming from either the shaft sleeve “C-ring”/“O-ring” or the shaft seal flange-to-housing “O-ring”. The seal cartridge may not require replacement. Order/replace the C-ring or O-ring.
(IF NO) - Proceed to (B)
 - (B) Is the leak collecting in the YORK supplied 750-milliter bottle and with little to no oil collecting in the motor adapter? (If unit does not have a motor adapter, is the coupling guard or face of the shaft seal cover plate dirty?)
(IF YES) - Check the following:
 - Verify that the oil cooler is functioning properly.
 - Verify the operation of the A-mot valve (or thermal expansion valve on YK Style "F" chillers) which controls operating oil temperature.
 - Verify operation of the chiller in accordance with design parameters. High head, light loads, fouled condenser tubes, etc. will result in elevated discharge temperatures. This will contribute to high operating oil temperature and may impact the life of the shaft seal.
 - Verify the oil supply to the compressor is within a range of 100° F to 120° F.



If neither A nor B identify the leak source, contact the YORK Service Technical Support Group.

Seal Replacement

If the seal is replaced by YORK personnel, the old seal must be returned per "ESWP 002 - Return Material Policy" located on the YORK intranet (http://yorkpawebssrv01.york.com/qahome/Monthly_Books/aswp002.PDF).