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FOAM STABILITY **REPORT**

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COMPRESSOR OIL SYSTEM

Foam Stability ASTM D-892

The oil flooded rotary screw compressors experiences severe churning and foaming of the oil is likely to occur. Foam causes increased oxidation by exposing more of the surface area of the oil to oxygen. Foam also increases heat by acting like a blanket and not allowing the oil to dissipate the heat. Foam reduces the lubricating qualities of oil because the bubbles collapse and reduce the oil film in critical areas. The test oils were subjected to one test.

This test method is used to evaluate oils operating systems with high-speed gearing, high-speed bearings, high-volume pumping and splash lubrication.

This test consists of a 1000ml graduated cylinder, 200ml of oil and an air inlet tube which is fastened to a gas diffuser placed at the bottom. Air at a rate of 94 ml/min flows through the diffuser. The test is conducted in three sequences.

Sequence I is conducted at 75° F, Sequence II is conducted at 200° F and Sequence III is conducted at 75° F. The foam results are reported in ml of foam at test end and after 10 minutes settling.

Brand	Product	Foam Tendency
INGERSOLL - RAND	SSR COOLANT	0/0/0
COMP AIR LeROI	SSL-46 PLUS	0/0/0
SULLAIR	SULLUBE 32	0/0/0
INGERSOLL - RAND	ULTRA COOLANT	0/0/0
PSI - SUPERLUBE 46	SUPERLUBE 46	0/0/0/
SULLAIR	SULLAIR SRF 1/4000	0/10/0
GARDNER DENVER	AEON 9000 SP	150/10/110
KAESER	S-460	280/30/155

***After 10 minutes of settling, all test subjects registered 0/0/0**

Anti-wear

Anti-wear chemistries are not always used in compressor oils. It is speculated that this is done because the high-speed operation of flooded rotary compressors allows the bearings and components to ride on top of the oil film and therefore anti-wear additives are not needed. It is also speculated that anti-wear additives can inhibit other performance parameters of the oil such as oxidation stability.

Since the choice to use anti-wear chemistries is left to the oil manufacturers, and many have chosen to incorporate it, the anti-wear performance of each oil was measured. Test oils were evaluated for these criteria as follows: