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OIL ANALYSIS

FOR SCREW, RECIPROCATING, ROTARY and CENTRIFUGAL COMPRESSORS

PREDICTIVE MAINTENANCE THROUGH OIL CHEMISTRY. The Frick Oil Analysis Program scientifically identifies and measures both the compressor unit and lubricant condition by the evaluation of periodic oil samples. The test reveals the presence and extent of moisture causing rust, harmful acids, corrosion products, metal particles indicating mechanical wear and the physical properties of the lubricant. A report is given on the relative severity of any abnormal test results, the most likely sources and causes of the abnormality and specific recommendations for locating and correcting the problem.

INCREASE COMPRESSOR LIFE. The Frick Oil Analysis Program is designed to prolong equipment life. Problems of oil contamination and component wear are detected and corrected - to reduce the potential causes of catastrophic failure.

REDUCE MAINTENANCE AND SYSTEM DOWNTIME COSTS. Oil analysis is a low cost, quick and easy method of monitoring your compressor without taking the equipment out of service. It is an invaluable tool in assessing the operating conditions of your compressor. Oil analysis is an integral part of your overall maintenance program to keep your compressor running at peak efficiency.

THE FRICK EXPERTISE ADVANTAGE. Frick's extensive compressor design, manufacturing and service experience, coupled with oil chemistry analysis offers a unique advantage over any other competitive programs.

THE FRICK OIL ANALYSIS PROGRAM

Periodic oil samples are analyzed and reported in qualitative and quantitative measurement readouts. Any abnormal conditions are evaluated for relative severity, likely problem sources and causes. Recommendations are given for locating and taking corrective action.

Warranty requires that a sample be taken 1000 hours after unit startup and at subsequent six (6) month intervals for Frick screw compressor packages and three (3) months for Frick bare screw compressors. This allows for comparative readings and evaluation of changes since the previous sample.

All samples are evaluated within 24 hours of receipt. Any resulting abnormalities are immediately reported. Results are provided by mail, fax, or e-mail three to four days after receipt of sample.

Oil Analysis Kit part number: 333Q0001853.

FOUR SEPARATE PHYSICAL TEST CATEGORIES ARE MADE AS FOLLOWS:

WATER CONTENT: The amount of water suspended in the oil, measured by the Karl Fischer Titration Method, in parts per million (PPM) by weight. Excessive moisture causes rust, reduction in the lubricating quality of the oil and can cause excessive oil foaming. Causes include heat exchanger leaks, improper evacuation of the system and the use of low grade refrigerant.

VISCOSITY: The measure of the oil's internal resistance to flow at a given temperature in relation to time. Proper viscosity is essential for good lubrication. Viscosity is adversely affected by oil dilution, oxidation and lubricant breakdown.

ALKALINITY/ACIDIC LEVEL (PH): Ammonia systems are measured by the Total Base Number for the alkaline products present. Alkaline (basic) solutions are corrosive. Halocarbon systems are measured by the Total Acid Number. An increase in acidity leads to corrosion and is caused by oil oxidation or contamination with an acidic product.

CHEMICAL ELEMENT CONTENT: Spectrochemical Analysis for 18 metallic elements, measured in parts per million (PPM) by weight. Warns if metallic content is high or rising. A specific particle element helps pinpoint a wearing part that should be checked for possible replacement. Improper oil additives and fluid leaks can also be detected.

OPTIONAL TESTS: Particle Count and High Performance Liquid Chromatography tests may be conducted depending on the oil.