SPECTRO INDUSTRIAL TRIBOLOGY LABORATORY (ITL)

The Spectro Industrial Tribology Laboratory (ITL) is a turnkey system providing condition monitoring for machines and engines by oil analysis. The measurements made using the Industrial Tribology Laboratory determine both lubricant and machine condition, the cornerstones of any effective predictive maintenance system.

A lubricant will not perform properly if it is out of specification, or if its additives have been depleted, or if it has become contaminated with dirt, water, or fuel. Likewise, when a machine or engine enters an abnormal wear mode, the lubricant carries with it fine wear particles generated by the abnormal wear. Spectro has put together an instrument package which makes the necessary measurements to effectively monitor all the oil lubricated equipment in your plant or fleet.
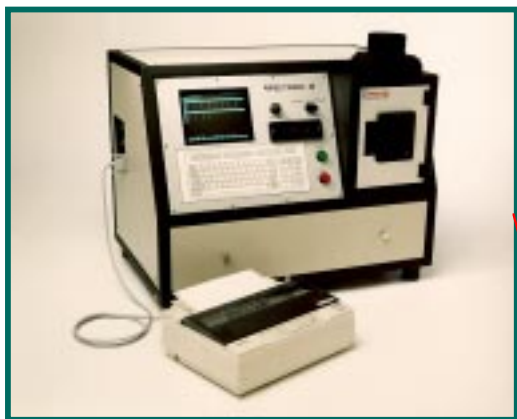
The instruments Spectro has chosen to accomplish this task are 1) a Spectro optical emission spectrometer for analysis of wear metals, additives and contaminants, 2) a Fourier Transform Infrared (FT-IR) spectrometer for analysis of organic components, 3) an automatic viscometer and 4) a computer for data storage, processing and retrieval. These instruments were chosen not only because they provide all the necessary data to effectively condition monitor your oil lubricated equipment, but because these instruments are easy to operate, easy to maintain, require a minimum of special utilities to install, and have good sample throughput (no measurement takes more than 1 minute). These three analytical instruments send their results to the central computer where they are stored in a data-base file for subsequent analysis. Optionally Spectro provides additional instruments to enhance the data generated by the basic three instruments of the turnkey industrial tribology configuration. These instruments include ferrography instruments, particle counters and titrators for TAN, TBN or Karl Fisher water determinations. A local area network (LAN) version of the ITL system is also available for laboratories that process large numbers of oil samples.

ATLAS© For Windows (FW) is a computerized expert equipment condition monitoring system based on oil analysis. It was designed to work in conjunction with Spectro's Industrial Tribology Laboratory System. It is a sophisticated, yet simple to use, LIMS software which administers the routine operations associated with a condition monitoring program based on oil analysis. ATLAS™ FW is a single or multi-user system which implements the tasks of a full function oil analysis laboratory including sample logging, analysis, data storage and retrieval, automatic evaluation and reporting.

Spectro installs and provides training for all instruments as an integrated system. Since the Industrial Tribology Laboratory is a turnkey system, supplied and installed by one vendor, the worry and learning curve errors associated with new methods and equipment are minimized during the startup process. Condition monitoring of your equipment can begin immediately after the installation of your equipment and during the initial training of your personnel.

Turnkey Oil Analysis Laboratory
Basic Version

Emission Spectrometer
Wear Metals, Contaminants & Additives

Analytical Ferrograph
Wear & Contaminant Particle Analysis

Central Data Station
Analytical Data Management

FT-IR Spectrometer
Lubricant Physical property Analysis

Viscometer
Viscosity