LAB-X 5000

HITACHI
Inspire the Next

Every shift. Every test. Every time.

LUBRICATING OIL

Tight quality control for every batch

The LAB-X5000 benchtop XRF analyser is ideal for measuring precise levels of additives in the lubricating oil blending process. It's able to measure a wide range of elements in oil, including Mg, P, S, Cl, Ca, Zn and Mo. The analyser easily meets the precision requirements of international test methods such as ASTM D6481 and D7751.

The LAB-X is designed for reliability and accuracy in a high throughput environment and is durable enough for 24/7 operation. It's easy to use, has short measurement times and requires no sample preparation, making it a simple process to verify lubricating oil blend composition for every batch within your facility.

The LAB-X5000 gives you a complete elemental analysis in one fast measurement.

Results you can trust

The LAB-X5000 includes the best XRF detection technology (a high-resolution silicon drift detector – SDD) as standard for repeatable results and low detection limits. The analyser **automatically corrects for variations in oil matrices**, ensuring you get reliable results for each blend regardless of the underlying hydrocarbon matrix. Most of the measurements can be taken in air, however the LAB-X has an option for using helium where necessary, for example for low levels of magnesium (Mg), providing the best results while keeping costs down.

The analyser is **easy to use** with a simple one-button start, intuitive user interface and a large, easy to read display, reducing the likelihood of user error. It comes with several options available for data storage, including automatic export to the **ExTOPE Connect** cloud, export via USB, a built-in printer, and stores up to 100,000 results.

Durability and reliability by design

The LAB-X5000 is a small, self-contained unit that fits easily within a production environment. A safety window protects crucial components. The **automated turntable** moves the sample away from the analyser's critical components as soon as the measurement is complete.

The design includes robust, field-proven components and an industrial grade PC, and the analyser has been subjected to a series of rigorous tests to ensure it won't let you down.

Instant feedback on production quality

Measurements take only a few minutes and **no sample preparation** is required: simply pour a small amount of lubricating oil into the sample cup and place in the analyser. This quick process makes it easy to verify blend composition at any stage of your production, helping you to ensure the final product meets specifications.

The analyser can be calibrated to check for all blend elements, and the **SmartCheck** feature allows you to set pass and fail criteria for each element. This makes it easy for the LAB-X operator to see if there's a problem and helps to prevent mis-interpretation of the results.

Low running costs

You won't need to recruit specialist personnel or give extensive training to use the instrument. The **LAB-X5000 can be used by anybody** with a small amount of training – which we'll provide.

In the detection of elements that emit relatively low energy X-rays (Mg to Cl), variations in air temperature and pressure can interfere with the results and cause inaccurate readings. Traditionally, the way round this was to measure in helium. The LAB-X5000 has **built-in atmospheric variation compensation** which detects changes in air temperature and pressure and compensates accordingly. This means that the majority of measurements can be taken in air, keeping helium usage and costs to a minimum.

The only consumables needed are sample cups and sample film; you won't have to buy additional chemicals or sample preparation equipment. **Maintenance costs are low**, especially when compared to other analytical methods, like ICP.

The LAB-X5000 benchtop analyser is ideal for round-the-clock lubricating oil blend verification

All the features and technical aspects of the LAB-X 5000 at a glance:

Features	
ASTM D7751 and D6481 compliant	Meets the performance requirements of these international standard test methods for lubricating oil analysis with XRF
One-touch measurement	Simple routine operation: load the sample, press start and the analysis begins
Intuitive software	Clear, intuitive interface reduces operator error and increases sample throughput
Large touch screen	The 7-inch industrial-grade screen is durable and clearly displays results and menus for complete ease of use
SmartCheck software	Define upper and lower acceptance limits for key elements and calculations for rapid decision making
Rugged	Engineered to work in harsh environments to minimise analyser downtime and maintenance costs
Automated turntable	Minimises the risk of damage and contamination to the analyser's critical components by rotating the sample away from them when the analysis is complete
Safety window	The critical elements of the analyser are protected from oil spillages with an easy to change safety window
Corrects for variations in oil matrices	Calibration parameters are optimised to compensate for matrix effects of different oil blends, ensuring accuracy for all measurements
Fast analysis	Initial results in seconds; complete comprehensive analysis in typically less than five minutes
Little or no helium consumption	Calibration parameters are optimised to use helium only when strictly needed (e.g. for Na and Mg). With its automatic atmospheric variation compensation, the LAB-X can measure a wide range of elements in air, reducing running costs

Every shift.
Every test. Every time.

The LAB-X5000 Lubricating Oil packages include:*

- LAB-X5000 benchtop analyser
- User manual
- Optimised calibration parameters
- Simple Calibration instructions
- Consumables pack (sample cups and sample film)

All the parameters, accessories and consumables you need are provided with the instrument to get you up and running fast. You can choose support and maintenance packages that are most cost effective for your facility.

Services: backed by decades of expertise

Our priority is keeping you up and running, so we're committed to giving you everything you need to get the most from your analyser. And should you have a problem, we'll provide a fast response that minimises your downtime.

Telephone help-desks

Whenever you have a problem, we're ready to help.

Self diagnostics

Built-in diagnostics give you the confidence that analyser is working as it should.

Training

To help you get the most out of your analyser and its full range of features.

Extended warranties

To provide peace of mind and avoid unplanned costs.

Service Agreements

We offer a fast and efficient repair service, recertification and maintenance through our service agreements. This ensures your analyser is maintained in excellent condition and avoids any unplanned costs.

See the LAB-X5000 in action

MORE INFORMATION

To find out more about the LAB-X5000 visit
www.hitachi-hightech.com/hha

You may also be interested in…

With over 40 years experience developing XRF analysers, we offer a range of related products, including:

- **X-Supreme8000:** with a 10-position autosampler, the X-Supreme offers additional versatility and increases testing throughput

Browse our full range of products online at
www.hitachi-hightech.com/hha

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