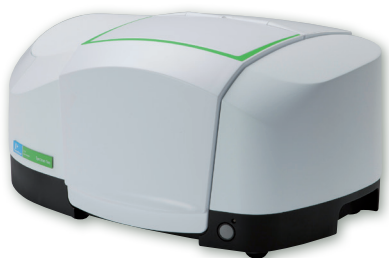




IR READY  
TO GO



**Spectrum Two**  
Cloud-Enabled FT-IR Spectrometer



IR FOR  
EVERYBODY  
EVERYWHERE  
EVERYDAY



## SPECTRUM TWO



## IR READY TO GO

Easy to use, powerful, compact and robust – Spectrum Two™ is the IR spectrometer of choice for everybody, everywhere, everyday. Spectrum Two systems are suited to a wide range of applications. With fully integrated, robust universal sampling for trouble-free measurements and portability options, Spectrum Two is ideal for use in both laboratory and remote testing environments.

Over 75 years of PerkinElmer spectroscopy know-how have been distilled into one instrument to assure the quality of your materials – fast. For confidence in your IR results, every day, choose Spectrum Two.



# SPECTRUM TWO FOR EVERY APPLICATION



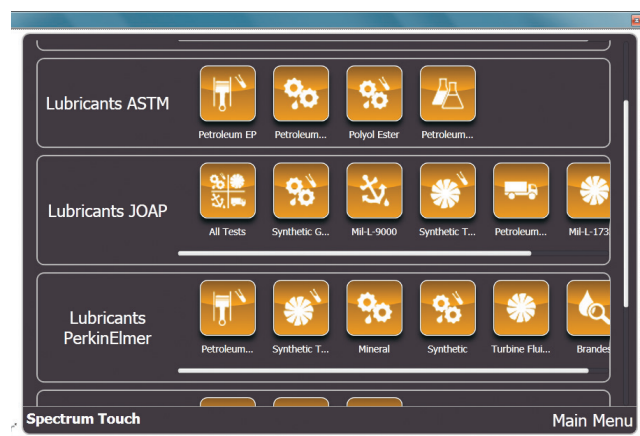
Spectrum Two breaks new ground in operational simplicity, combining superb performance with low maintenance design. For the first time, true laboratory performance IR for everyday analysis is now possible, for everyone, everywhere. PerkinElmer recognizes that every analysis application is different. The result is a complete solution to provide the fastest assurance of the quality of your materials, regardless of your application.

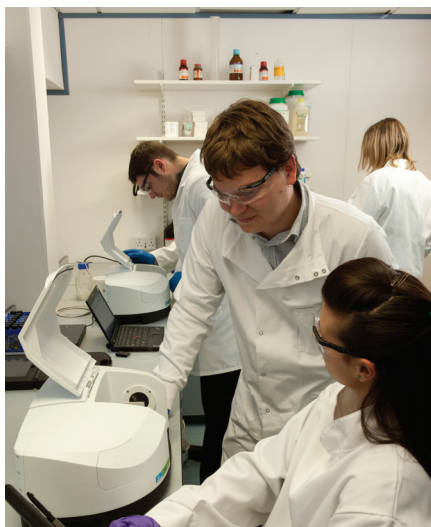
## In-service lubricants and fuels

Industries dealing in the manufacture of construction and mining equipment, diesel and natural gas engines rely on PerkinElmer instrumentation for high throughput and trouble-free spectroscopic analysis of in-service lubricants. Leveraging PerkinElmer's lubricant analysis expertise, Spectrum Two provides reliable oil condition results using industry-standard protocols in a robust and cost-effective instrument, suitable for small to mid-

sized laboratories. Spectrum Two provides simple operation with automated reporting for cost-effective fuel and lubricant analysis using standardized ASTM and JOAP methodology.

Spectrum Two's compact size provides full laboratory performance, everywhere. Battery and in-car power supply options, combined with OpticsGuard technology and a simple portable PC interface makes Spectrum Two ideal for use in harsher environments.





## Academia

For teachers and students of spectroscopy in academia, Spectrum Two helps develop an understanding of IR sampling techniques and spectral analysis. The special educational resource pack facilitates teaching of traditional synthetic chemistry analysis as well as more modern applications, such as recycling. Compact and robust, Spectrum Two is ideal for use in academic laboratories.

Thanks to a unique power management system and OpticsGuard™ Spectrum Two can be switched in and out of standby without risk to sensitive optical components, significantly reducing power consumption and long term cost of ownership. Wireless operation and multi-user site licenses are also available for enhanced data system security in teaching environments.



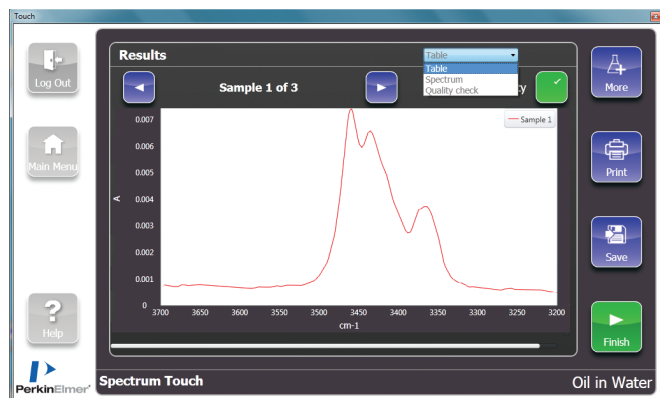
## Polymers

Robust and easy to use, Spectrum Two can be used for simple polymer identification and straightforward quantification of additives such as UV-stabilizers or slip agents. Trouble-free operation and portable PC control allow results to be obtained more conveniently on location. Automatic system test sequencing via the built-in laboratory scheduler ensures your instrument is always ready for use, while the ScAnalyze™ feature delivers an answer, not data, in real time. Single, push button analysis and the analyzer-style interface provide ease of use for inexperienced or infrequent users.

## Environmental

The requirement for accurate determination and monitoring of hydrocarbon levels in our environment spans many industries. From industrial waste-water monitoring to land reclamation and decommissioning of fuel storage facilities, the rapid and sensitive analysis of petroleum hydrocarbons, oil and grease in water and soil means it's the perfect instrument for field-based analysis.

Battery-powered and compact, Spectrum Two also supports ASTM standard D7066 for analysis with halogenated extraction solvents and features an alternative cyclohexane method for hydrocarbon solvent transmission analysis. An additional HATR method provides maximum extraction solvent flexibility.



## Pharmaceuticals and Nutraceuticals

Developed with every QA/QC analyst in mind, Spectrum Two delivers everything required to perform IR analysis confidently within regulated environments. Offering users the best in spectral quality and analytical performance, Spectrum Two is used by developers and manufacturers of pharmaceuticals and traditional and herbal medicines – from rapid raw material identification, through to sensitive analysis of formulated products.

Single, push button analysis combined with easy to use, fully validated software for 21 CFR Part 11 compliance, ensures Spectrum Two can be used by everybody. For accurate and repeatable measurements, day after day, Spectrum Two employs an ultra-low maintenance optical system, while the proven interferometer design ensures unmatched reliability. The robust design and integrated sampling permits analysis of raw materials in warehouse environments worldwide, eliminating the need to send samples for analysis.



# SPECTRUM TWO IS GOING PLACES



Spectrum Two incorporates a number of features to enable your infrared analysis to move out of the laboratory. Multiple power options allow Spectrum Two to be used with or without external mains power. Once powered, a fast warm-up facilitates rapid measurement while optional wireless connectivity allows portable PC control. Compact and robust, Spectrum Two can easily be transferred from one location to another and the user-install capability allows instruments to be set-up by anyone, anywhere.

# SIMPLIFIED ANALYSIS ANYWHERE

Spectrum Touch™ is our unique software interface designed from the ground up for user interaction and experience. Its sole purpose is to simplify analysis operations in environments where use of a standard PC is impractical. Examples include new fuel and in-service lubricants quality control analysis.

Spectrum Touch brings easy workflow control and accelerated results through:

- Minimal decision points
- Intuitive one-click operation
- Robust touchscreen interface
- Multilingual options

Spectrum Touch applications can be optimized on your PC and downloaded to remote Spectrum Two instruments to convert them to turnkey analyzers. Multiple apps can be configured on a single instrument and easily upgraded as your application needs change over time. You can be sure your analyzer remains current using Touch Apps™.

## SETTING THE STANDARD

Assure ID™ is the gold standard software tool for material identity and quality assurance applications. Its enhanced functionality allows non-expert users to quickly generate accurate and reliable results in all FT-IR analytical testing. For more tightly-controlled regulatory environments Assure ID is also available in an ES compliant configuration.

Assure ID mimics existing QA workflows and allows users to customize methods for each type of analysis required. Every



workflow step can be configured to provide a framework for analysis. Results for each application are stored in the continually updated database to allow long-term monitoring of product quality trends. Available in minutes, results can be reviewed and approved remotely to maximize laboratory productivity. The Assure ID wizard-style interface also allows tailoring of on-screen prompts for specific SOP requirements and local languages.

# THE BEST JUST GOT BETTER

## Introducing Spectrum Two +

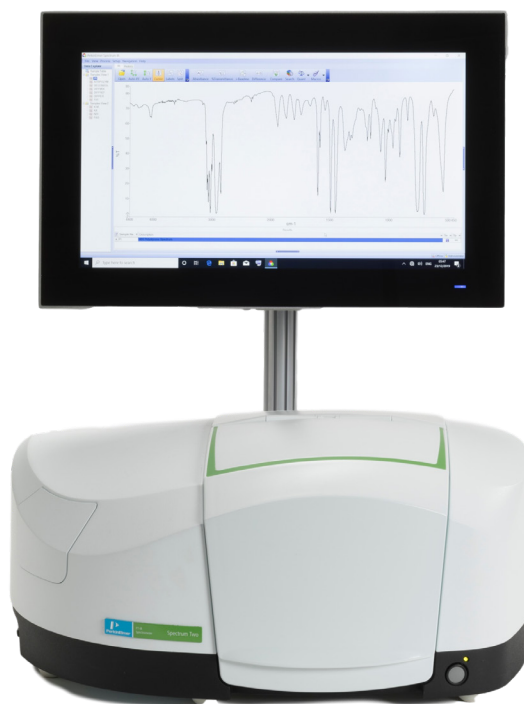
Spectrum Two + offers a secure, cloud-connected solution that is ideal for use in both laboratory and remote testing environments. The new UATR (universal attenuated total reflectance) accessory design offers improved robustness and higher resistance to a wide range of solvents for improved sampling and accurate results.

The robust integrated touchscreen is built to withstand heavy usage from routine and demanding applications on a daily basis to offer flexibility and an intuitive, easy-to-use interface through the Spectrum 10 software. Built-in workflows for routine protocols enable higher productivity and simplify detailed spectral interpretation for faster analyses and insights.

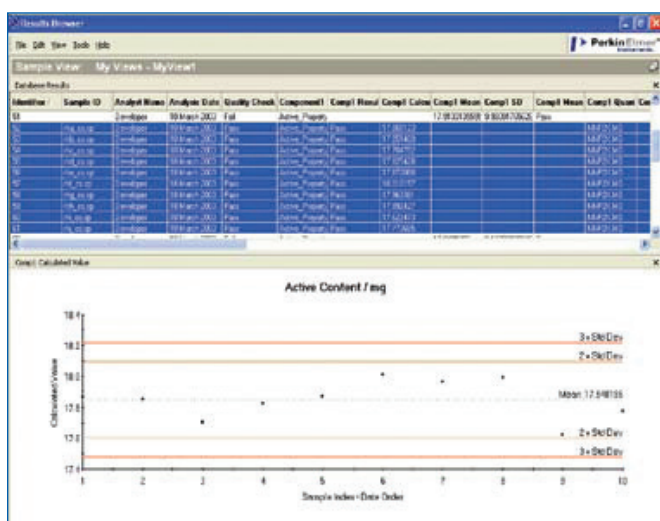
## Collaborate from the Cloud

The success of your business in a rapidly advancing and globally interdependent world is dependent on the ability of your workforce to connect, securely share and collaborate in real-time.

Spectrum 10 software with NetPlus IR cloud connectivity offers new sharing and collaborative tools that allow you to access data from any device, any time, and anywhere. Selectively distribute and download data and methods through the built-in publishing tool.



# RESULTS MATTER

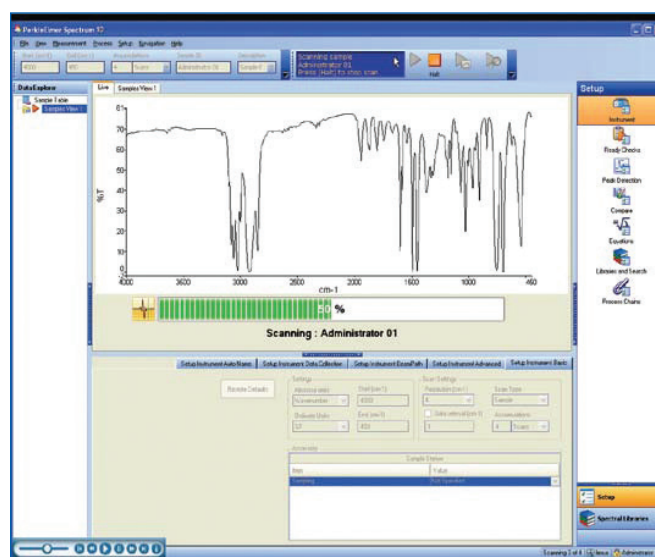


The AssureID™ software interface is the most powerful solution for QA/QC screening and qualification

With over 75 years of industry experience, PerkinElmer has the experience and depth of understanding to address any application problem. Our scientific team can collaborate with you on method development and application support to optimize instrument performance. For example, developing customized procedures or providing compliance advice.

From material and contaminant identification to quantitative analysis, the comprehensive Spectrum 10™ software suite allows you to focus on what matters most – results.

Designed for busy industrial or academic laboratories that require efficient operation combined with a wide range of capabilities, this comprehensive FT-IR software package facilitates data collection, processing and results generation. Simple macro and equation editors allow the straightforward building of operating procedures and custom processing without programming, and the refinement of Touch Apps for re-distribution. The software enables users without scientific training to generate infrared spectra from a sample and validate them against reference spectra in minutes, or even seconds. The ability to provide such a quick positive identification of materials helps maintain the highest possible quality standards, while saving time that can be invested in other quality control procedures.



Spectrum™ 10 software has a powerful, intuitive interface allowing users to easily acquire data

# PATENTED PERKINELMER TECHNOLOGY

PerkinElmer's patented technology ensures superior spectra regardless of your application. With an exceptional signal-to-noise ratio, advanced electronics and optimized sensitivity, Spectrum Two's consistent performance is guaranteed.

## Dynascan™ interferometer

Fixed mirror-pair interferometer design does not require dynamic alignment to compensate for errors found in linear mirror movement systems. Our field-proven interferometer incorporates a simple, non-critical bearing for unmatched longevity and reliability.

## IR Microscopy Options

Optional external beam allows expansion to infrared microscopy technology for microspectroscopy and mapping.

## Atmospheric Vapor Compensation™ (AVC)

AVC features an advanced digital filtering algorithm designed to compensate for CO<sub>2</sub> and H<sub>2</sub>O absorptions in real time. AVC effectively eliminates interference from these atmospheric components, removing the need for instrument purging, allowing your laboratory to achieve more consistent results.

## Leading PerkinElmer Technology

Our use of leading PerkinElmer technology in the digitization of the FT-IR interferogram improves dynamic range, reduces spectral artifacts and increases ordinate linearity to produce accurate, reproducible results, day after day.

## Absolute Virtual Instrument™ (AVI)

AVI standardization using gas phase spectra ensures your instruments are accurately calibrated. The instrument's wavenumber and line shape are standardized to a higher degree of accuracy than with conventional calibration methods. This unique standardization allows data to be transferred precisely between instruments, whether they are side-by-side or in remote locations.

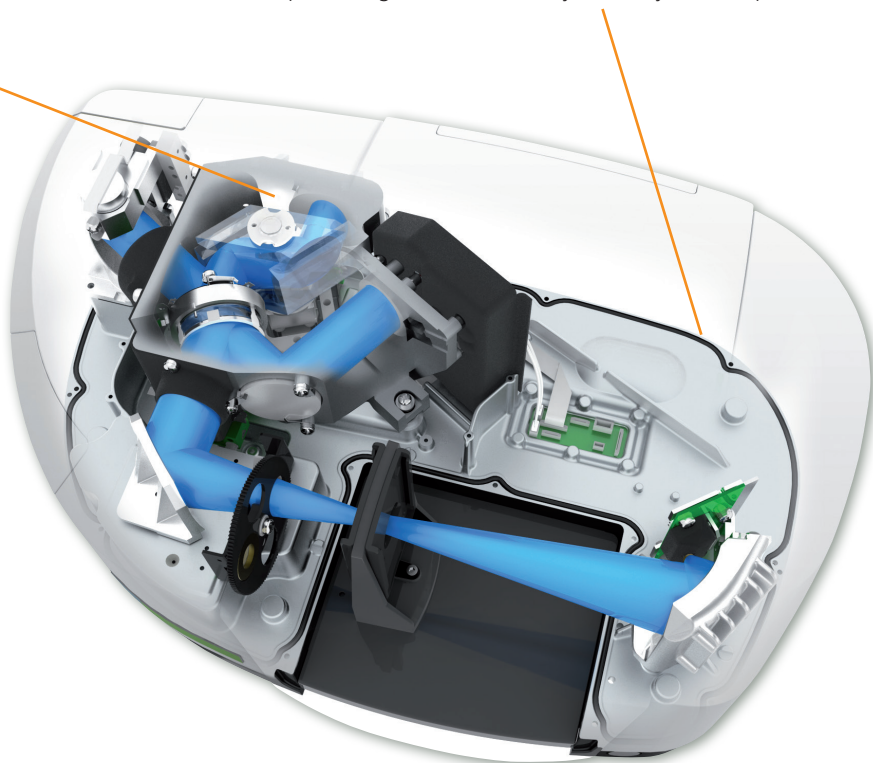
## Your Sample in Spotlight

The flexibility of our optics allows you to upgrade your spectrometer to include our industry-leading microscopic and imaging functionality, including Spotlight™ 150i and 200i systems. Our Spotlight series of high-performance FT-IR microscopy and FT-IR/NIR imaging systems uses the same patented interferometer technology as the Spectrum Two platform.

Spotlight imaging systems reveal the identity of a vast array of chemical components within materials, as well as areas of

## OpticsGuard™ technology

A unique humidity shield design protects Spectrum Two from environmental effects allowing it to be used in more challenging environments. Our long life desiccant ensures maximum instrument uptime, regardless of where your analysis takes place.



homogeneity and variation. The go-to materials-testing technique because of its speed, ease of use, and reliability, FT-IR/NIR imaging provides higher levels of understanding to facilitate your research.

Spectrum Two microscopy options include transmission and reflection microsampling, and its micro ATR option delivers information down to areas as small as 3μ. Sample automation and detector options are available to suit many applications in pharmaceuticals, academia, chemicals, and materials.

# OUR COMMITMENT



At PerkinElmer, everybody is committed to protecting the quality of our environment for a healthier today and an even better tomorrow. Everyday we develop and implement solutions and services that are used in critical applications everywhere. Our technology and expertise – from analytical instrumentation to environmental monitoring support – are employed to ensure clean air and water; safe products and food; and efficient, renewable energy.

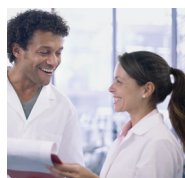
We are proud that Spectrum Two has made significant advances in relation to environmental concerns compared with previous instruments in this category



# SERVICE SUPPORT

When additional set-up, service or training is required, PerkinElmer offers a range of support services so that you can get the best from Spectrum Two. Our global network of over 1500 certified service technicians provide in-depth training, perform software and hardware upgrades and can protect your compliance status with our leading validation and qualification solutions. For easy transfer from one location to another, a user-install capability allows instrument set-up by anyone, anywhere. Plus on-site installation with guided user-training is available. In addition, a special IR Learners Pack provides samples and instruction for self-guided training and refresher courses for industrial sampling techniques. This is particularly useful for remote locations with a high turnover of operations staff.

Our high-quality engineering and extensive testing process ensures years of trouble-free service. While offering preventative maintenance and instrument care, our service engineers also provide on-site, on-demand repair as required. And with telephone support from personnel operating in 150 countries, help is just a phone call away.



For more information, visit [www.perkinelmer.com/spectrumtwo](http://www.perkinelmer.com/spectrumtwo)

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