Thermo Scientific
iCAP 7000 Plus Series ICP-OES

Gain more power

experience more performance

Thermo
SCIENTIFIC

Thermo Scientific iCAP 7000 Plus Series ICP-OES

Powerful, easy-to-use, solution for multi-element analysis

Maximize your analytical performance in routine and research applications with the Thermo Scientific™ iCAP™ 7000 Plus Series ICP-OES, which delivers the power and flexibility to analyze the most challenging samples.

iCAP 7000 Plus Series ICP-OES is the fastest route to analysis

The iCAP 7000 Plus Series ICP-OES provides low cost multi-element analysis for measuring trace elements in a diverse sample range. The instrument combines advanced performance with high productivity and ease of use, resulting in consistently reliable data, whilst ensuring compliance with global regulations and standards.

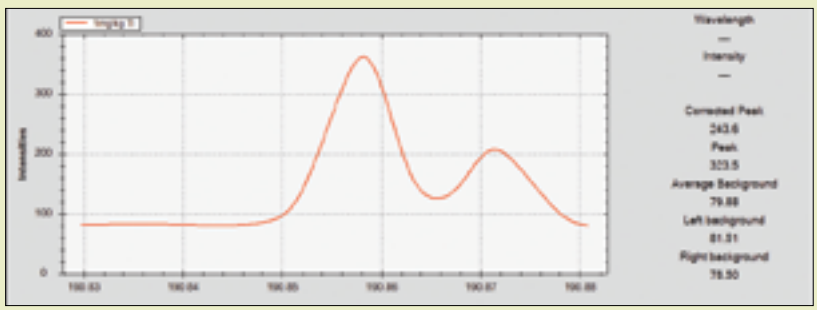
The innovative ICP-OES technology is driven by the Thermo Scientific™ Qtegra™ Intelligent Scientific Data Solution™ (ISDS) software and the Element Finder plug-in. The plug-in reduces method development time and removes the need for wavelength selection by the user. This delivers powerful, high performance and low-cost analysis for both high throughput routine and research laboratories.

Expect more power

- Analyze drinking water or crude oil: optimized sample introduction allows direct analysis of different sample types
- Maintain sensitivity in high matrix samples: robust plasma generation by the high efficiency (>78%), swing frequency RF for complex matrices
- Sub ppb detection limits: minimal optical surfaces transfer maximum signal to the detector
- Quantify from ppb to %: the Charge Injection Device (CID) detector allows for low and high concentrations to be analyzed simultaneously.

Experience more performance

- The Element Finder plug-in selects wavelengths suited to specific samples
- Automated method development with plasma parameter optimization tool
- Calibrate less frequently: mass flow controller gas boxes and enhanced temperature control ensure long term stability
- Develop robust self-monitoring methods: Qtegra ISDS software enables simple method development with the ability to incorporate monitoring of uptake, wash, internal standards and QCs
- Generate custom reports: Qtegra ISDS software displays customizable reports on demand.

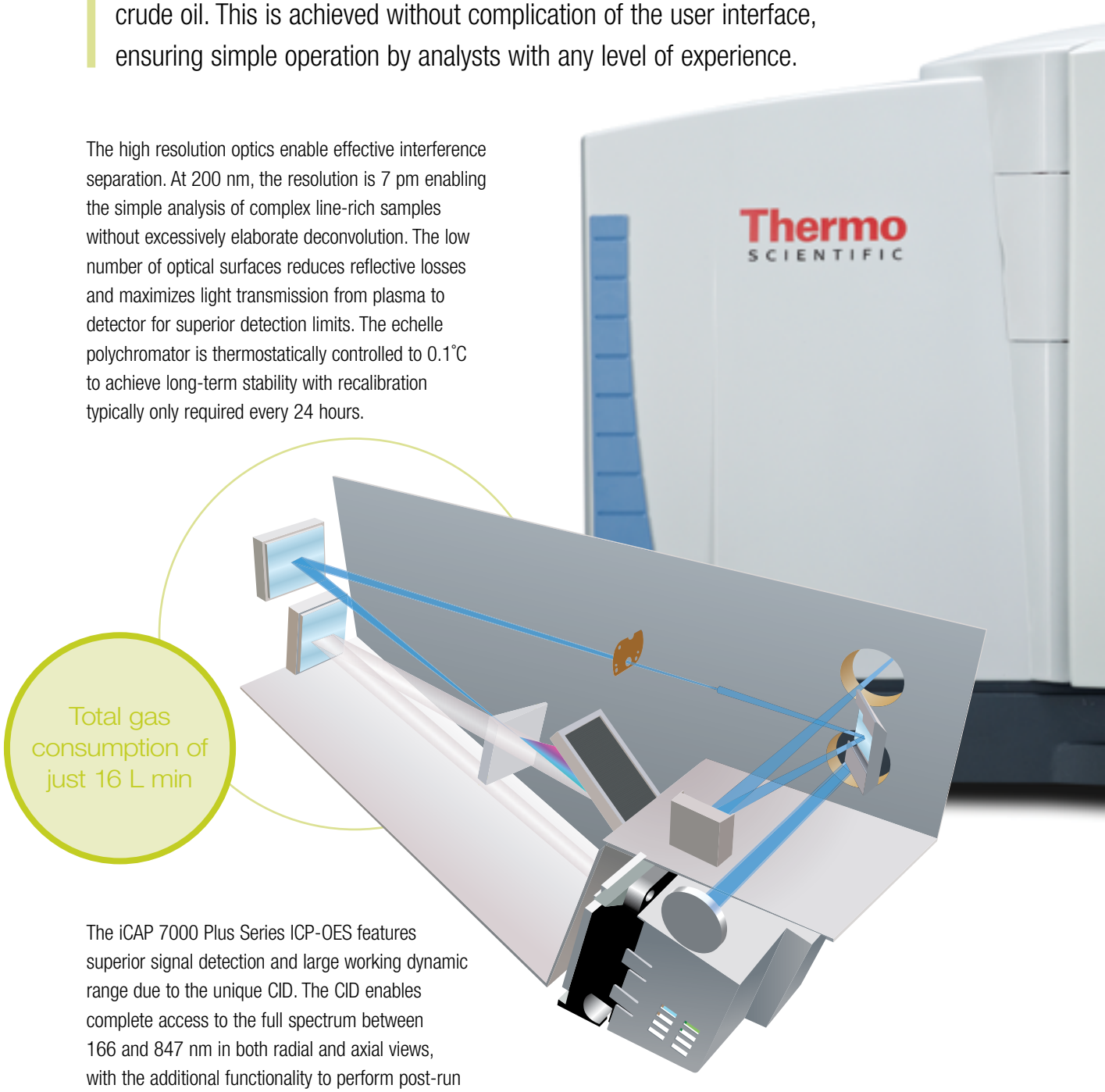


Thallium doublet at 190 nm.

Delivering powerful performance with advanced, easy-to-use technology

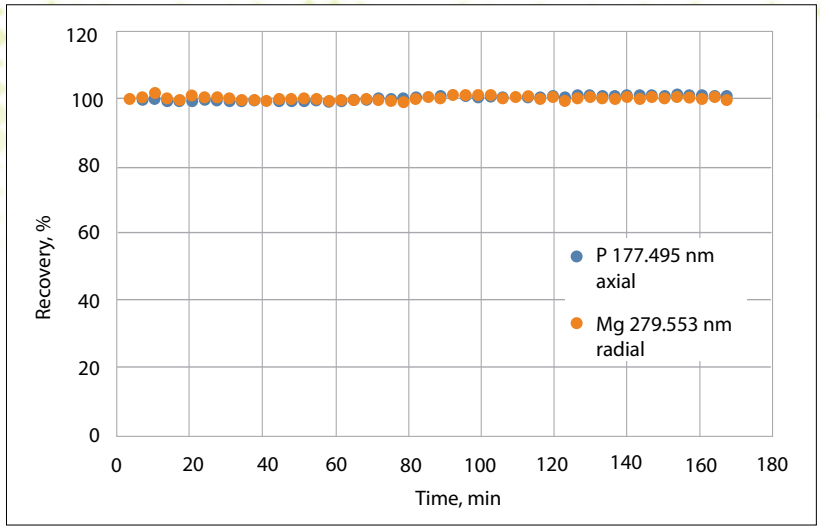
The implementation of advanced technology enables maximum performance and flexibility to exceed the needs of any application from drinking water to crude oil. This is achieved without complication of the user interface, ensuring simple operation by analysts with any level of experience.

The high resolution optics enable effective interference separation. At 200 nm, the resolution is 7 pm enabling the simple analysis of complex line-rich samples without excessively elaborate deconvolution. The low number of optical surfaces reduces reflective losses and maximizes light transmission from plasma to detector for superior detection limits. The echelle polychromator is thermostatically controlled to 0.1˚C to achieve long-term stability with recalibration typically only required every 24 hours.



Total gas consumption of just 16 L min

The iCAP 7000 Plus Series ICP-OES features superior signal detection and large working dynamic range due to the unique CID. The CID enables complete access to the full spectrum between 166 and 847 nm in both radial and axial views, with the additional functionality to perform post-run integration of previously unquantified elements.



Stability plot of phosphors and magnesium.

Analyze challenging samples with a self optimizing robust plasma delivered by the swing frequency RF generator. The innovative design of the iCAP 7000 Plus Series ICP-OES delivers powerful analytical performance and stability.

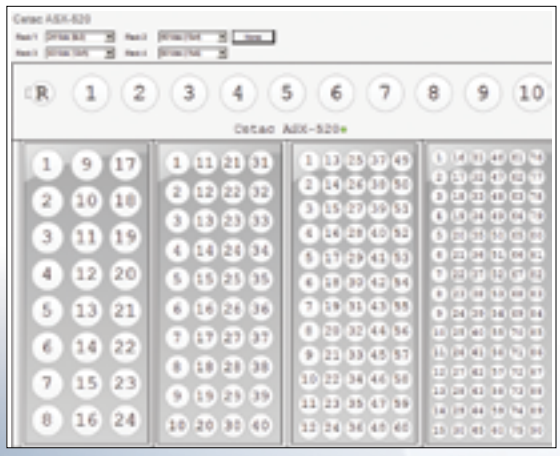
The user-friendly sample introduction system with push-fit connections ensures rapid assembly and disassembly for cleaning and maintenance. Additional sample introduction components can be added to increase the speed of analysis or for the analysis of special sample types.

Unique features, for example, the drain sensor removes the usual challenges often associated with ICP-OES analysis

Laboratory optimization

Enable your analytical team to achieve more with advanced instrumentation

The minimal training required for your team and the fast instrument start-up increases productivity. Automated method development simplifies routine analysis with the iCAP 7000 Plus Series ICP-OES. Accessories are simple to connect to the sample introduction system and controlled by the Qtegra ISDS software plug-ins, which dramatically expand the power and performance of the instrument.



Discreet Sampling and Auto Dilution

Higher throughput, lower maintenance and auto dilution reduce the time and cost of analysis. Auto dilution enables calibration from a single stock solution and the automatic dilution of samples that exceed the calibrated range, eliminating the need for additional post-run analysis.

The integrated Sprint Valve enables the maximum sample throughput when combined with an auto sampler. The Qtegra ISDS monitors data and makes decisions with respect to QCs and calibrations, these are used to perform dilutions with the prep*FAST*.

Hydride Generation

A simple solution for increasing the detection capability of the hydride forming elements. The confident detection of these elements at sub ppb concentration is delivered by the following options:

- The basic hydride kit enables both non and hydride forming elements to be determined simultaneously
- The integrated hydride generation accessory enables the maximum improvement in detection of the hydride forming elements.

The Thermo Scientific Qtegra Intelligent Scientific Data Solution (ISDS) software and the Element Finder plug-in delivers quality and drives productivity. The intuitive and easy-to-use Element Finder plug-in automatically selects wavelength and optimizes the plasma.

Ease of Use

Simple workflows minimize the steps needed to perform a task, giving analysts more time to focus on other activities. The 'Get Ready' feature takes your instrument from standby to ready-for-analysis through a fully automated process, saving you time and ensuring consistent performance.

Element Finder plug-in

The Element Finder plug-in automates method development, selecting wavelengths suited to your analysis and optimizing the plasma with a advanced tuning procedure. This eliminates interferences before you know have them and ensures maximum analyte sensitivity for all matrix.

Create a LabBook in five clicks and automatically start an intelligent workflow with a fully integrated QA/QC protocol.

Integration of Peripherals

The plugin architecture of Qtegra ISDS software enables the connection to multiple industry standard sample preparation devices and auto samplers.

Common Platform

Qtegra ISDS is a control software supporting different analytical devices. This makes cross-training and the adoption of new instrumentation faster and easier, so you can expect increased flexibility in multi-technique laboratories.

Automated Reports and Calculations

Data is exceptionally easy to manage, removing the need for proactive monitoring. The iCAP 7000 Plus Series ICP-OES and Qtegra ISDS software minimize the requirement for analyst interaction during the analytical determinations.

Data Handling

- Query
- Reporting
- LIMS

Compliance

- 21CFR PART 11
- Data security and access control
- Compliance management

More power, more performance

In action: Agriculture, Environment, Food, Pharmaceuticals and Nutraceuticals

Powerful software and maximized instrument performance enable compliance with the latest regulations and legislation

Agricultural Screening

Maximize sample throughput when screening samples for nutrients and toxic elements. The iCAP 7000 Plus Series ICP-OES incorporates productivity enhancing technology, for example, the Sprint Valve which eliminates uptake and wash. In addition, the robust sample introduction and plasma generation enable analysis of high matrix samples such as soil extracts.

Environmental Analysis

Accurately quantify the elemental composition of a wide range of environmental samples. For challenging high solid samples such as sludge, the sample introduction and plasma generation efficiently process the matrix. For the analysis of drinking water, the iCAP 7000 Plus Series ICP-OES has the powerful detection capabilities required for the quantification at ppb concentrations.

Food Production and Safety

Monitor key toxic elements during food production for consumer safety and ensure accurate labeling of products with nutritional elements. The use of templates, electronic signatures and workflow ensures full traceability of an analytical result.

Pharmaceutical and Nutraceutical Compliance

Ensure you have the qualified instrumentation to comply with new and future legislation. Qtegra ISDS software provides full traceability of results and workflow, incorporating features to support compliance with CFR 21 Part 11.

In action: Chemicals, Petrochemicals, Metals and Mining

Powerful instrumentation delivers the highest performance for challenging samples

Chemical QA and QC

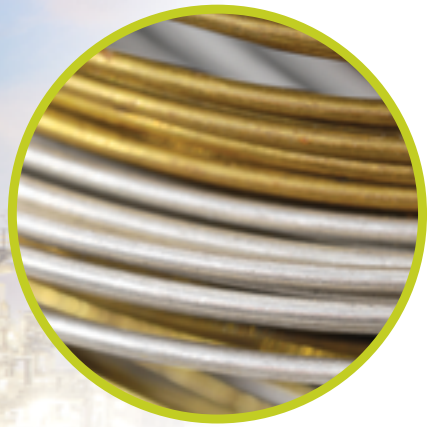
The iCAP 7000 Plus Series ICP-OES increases your laboratory productivity with superior stability. Confidence in your results is ensured with the dedicated sample introduction for different sample types; minimizing the drift associated with sample introduction, often caused by matrix deposition.

Petrochemical

The robust sample introduction system easily analyses a range of samples from crude oil to volatiles such as gasoline. The iCAP 7000 Plus Series ICP-OES exceeds the requirements of demanding high-throughput applications, for example the analysis of in-service oil.

Metals and Materials

The powerful high resolution ICP-OES reduces interferences in complex matrices, ensuring consistent, accurate and precise analysis. Auto dilution and monitored uptake and wash, both reduce carry-over between samples, virtually eliminating the need to re-analyze expensive samples.



Mining

The iCAP 7000 Plus Series ICP-OES is field proven with low gas consumption for remote sites. The robust instrument is designed to maximize uptime with minimal user maintenance. Create a LabBook in five clicks and automatically start a simple intelligent workflow.

We manage your instruments so you can focus on the science

When you buy a Thermo Scientific product, you gain the peace of mind that comes from the backing of a global team of Unity Lab Services experts committed to your long-term success.

iCAP 7200 ICP-OES

The iCAP 7200 ICP-OES is a simple alternative to the Atomic Absorption technique and Microwave Plasma technology, providing a multi-element analysis solution for laboratories with increasing demands for sample throughput and lower detection limit capability.

iCAP 7400 ICP-OES

The Thermo Scientific iCAP 7400 ICP-OES is ideal for QA/QC and contract laboratories requiring highest sensitivity from full wavelength coverage. The instrument achieves an advanced level of performance for a range of liquid applications with the minimum of user set-up and maintenance. The instrument offers laboratories broad analytical capabilities with stability, sensitivity and regulatory compliance.

iCAP 7600 ICP-OES

The Thermo Scientific iCAP 7600 ICP-OES is the ideal solution for the most demanding analytical challenges. The instrument has the highest throughput, sensitivity and detection limits. Productivity is increased by the integrated sample loop which efficiently delivers the sample to the plasma. The iCAP 7600 ICP-OES maximizes scalability and advanced accessory connectivity to support expanding laboratory requirements.

Gain more power, experience more performance

www.thermoscientific.com/TraceElemental

Thermo Fisher Scientific (Bremen) GmbH Management System Registered to ISO 9001:2008

Thermo SCIENTIFIC

A Thermo Fisher Scientific Brand

BR43247-EN 0316C