# GDS900
Glow Discharge Spectroscopy

LECO

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LECO's Glow Discharge Spectrometer (GDS) offers you state-of-the-art technology designed specifically for routine elemental determination in most conductive ferrous and nonferrous materials. The GDS900 features improved performance, stability, accuracy, and precision in steel, iron (including as-cast), aluminum, copper, zinc, nickel, cobalt, tungsten, and titanium. Low melting alloys, resulfurized steel, powder metals, and other historically difficult-to-analyze materials can be run in a production environment. Sample types include bulk, sheet, wire, pressed, and mounted samples. Sample holders are available to meet non-standard sample forms.

User-Friendly Cornerstone® Brand Software

LECO's exclusive *Cornerstone* brand software with touch-screen interface enables complete access to analysis control, method settings, diagnostics, reporting, and more in a highly organized, intuitive, and immersive environment. Designed through a collaboration of customer feedback and innovative engineering, *Cornerstone* features all of the routine day-to-day operations within a single Analysis screen designed for speed and ease-of-use. Our innovative grouping of sample data into sets and replicates simplifies the data output and automatically calculates relevant statistics, alleviating the need for additional data processing.
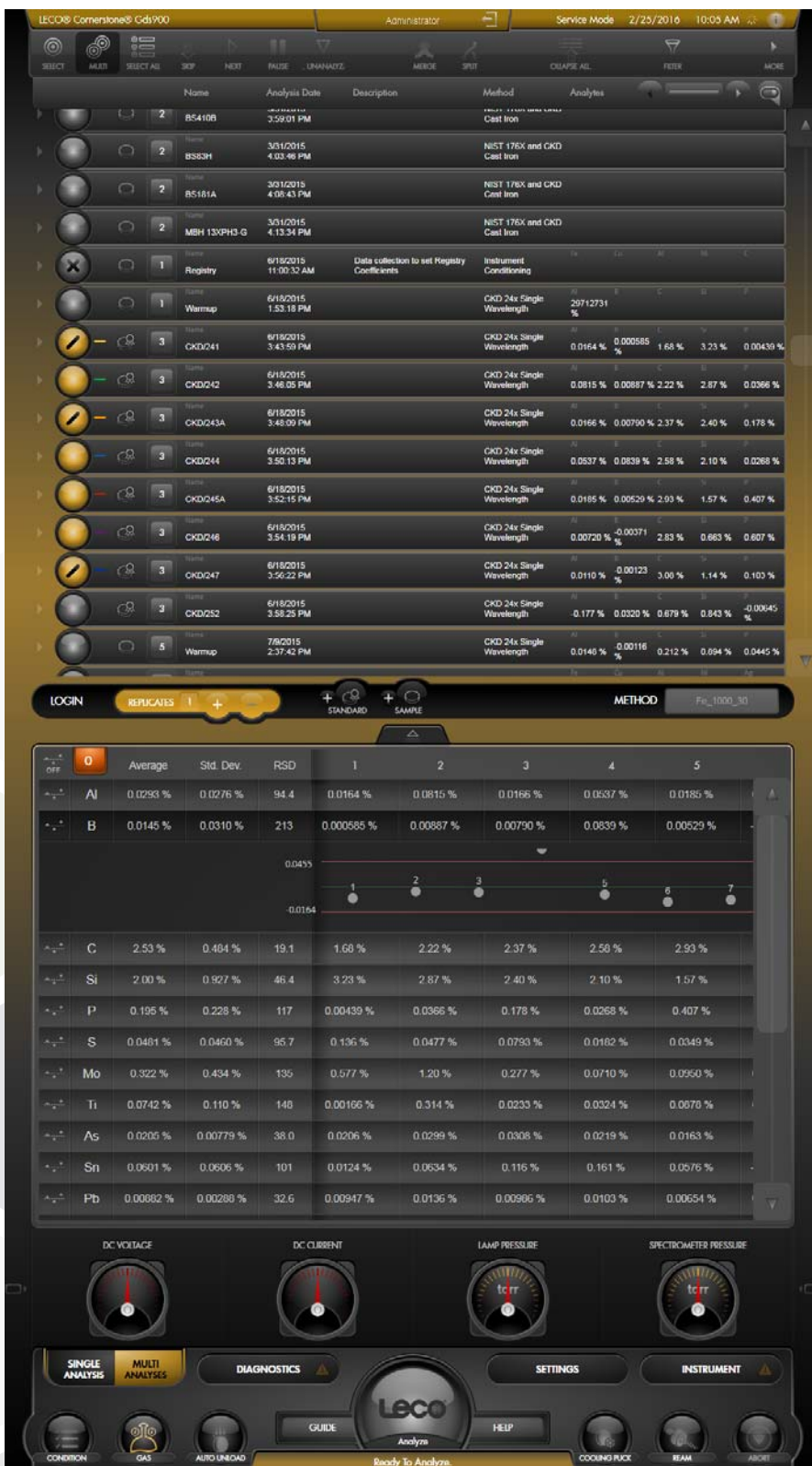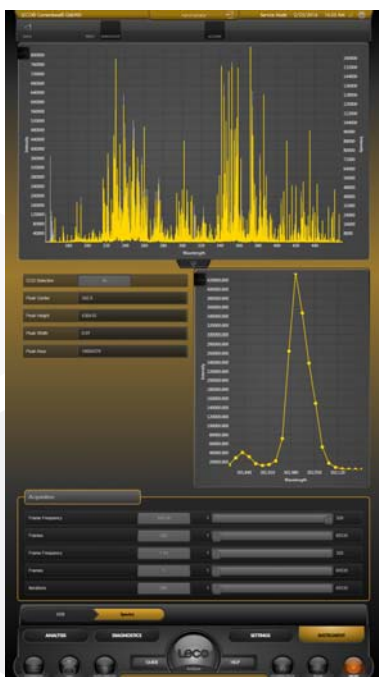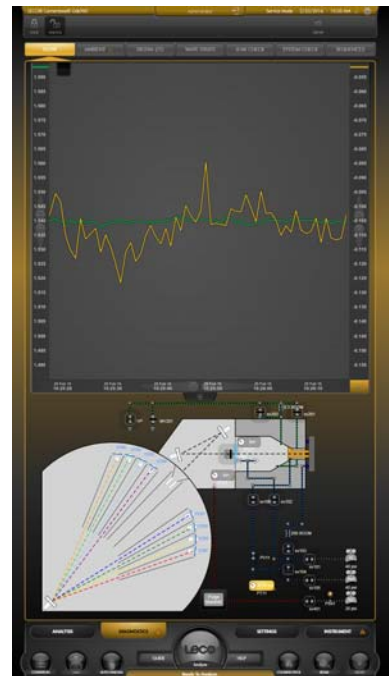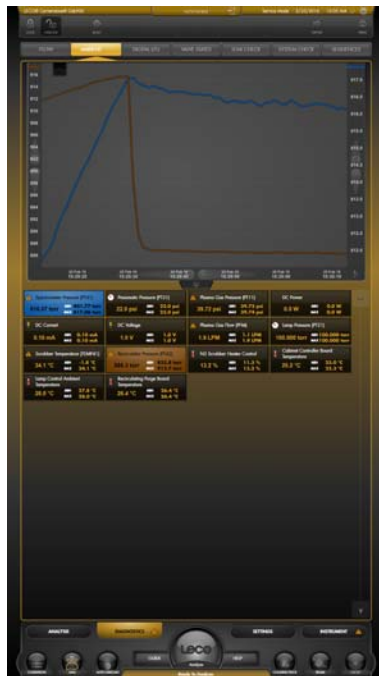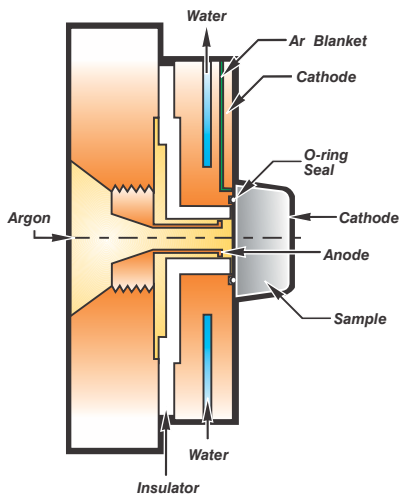
Software Features & Benefits

The software is divided into four main sections–Analysis, Diagnostics, Settings, and Instrument–for simplified navigation and organization. Toolbars, sliders, and drop-down menus make it easy to set parameters for calibration and data processing. The software also included real-time monitoring of ambient parameters and spectra, with a fully animated system diagram.

Advanced interactive diagnostic features include a thorough digital on-board manual, maintenance animations, photo illustrations, and screen captures that quickly provide the direction needed without having to refer to multiple manuals.

Cornerstone also supports a multilingual interface, user permissions, extended data archiving and filtering, compatibility with various Laboratory Information Management Systems (LIMS), and flexible reporting capabilities.

Instrument Highlights and Features

Water · **Ar Blanket** · **Cathode** · **O-ring Seal** · **Argon** · **Cathode** · **Anode** · **Sample** · **Water** · **Insulator**

Glow Discharge Source Advantages

- Simple, Linear Calibrations: GD-AES provides narrow emission lines, less interference, increased dynamic range, and less complex spectra when compared to other sources.
- Controlled Excitation: GD-AES provides a non-thermal source to uniformly remove sample material from the surface. Excitation of the sample occurs away from the surface, reducing chemical and metallurgical effects. Very little sample-to-sample carryover allows quick matrix changes. Uniform sample excitation offers improved precision.
- Interchangeable Anodes: Choice of 4 mm and 2 mm anodes to optimize spot size to sample size and type.
- Reduced reference material consumption allows more acquisition between required resurfacing and shallower burn spots requiring less material removal during resurfacing.
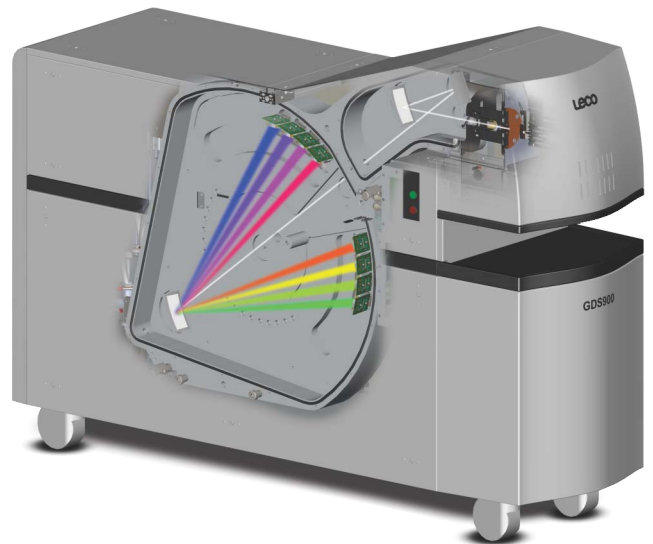
Detection System Advantages

- The inherent sensitivity, dynamic range, and linearity of CCD detectors coupled with the GD source ensures stability, flexibility, and performance for all bulk elemental applications.
- The all CCD detection system provides full wavelength coverage from 160 nm to 460 nm.
- 50 pm (0.050 nm) resolution to differentiate even the most complex features of bulk elemental spectra.

GDS900

System Level User Advantages

- Very easy to operate, maintain and service. Minimal training required.
- Low consumable consumption for minimized cost per test.
- Automatic cleaning between samples saves time, minimizes matrix effects for increased precision.
- Open lamp design and ambidextrous controls allow both right and left hand operation.

Reliability with Trusted Service and Support

- Knowledgeable sales force with a customer-centered focus dedicated to helping you understand and identify the best instrumentation fit for your application.
- State-of-the-art Technical Services Laboratory with experienced technical application chemists to assist in method development and other application related requests.
- Global and regional LECO service network comprised of regional support centers and over 25 international LECO subsidiaries, dedicated to providing service and support offerings, including field service visits over the lifetime of the instrument.

Model Availability

GDS900C	GDS900 Package with PC, touch-screen, software
GDS900RC	GDS900 Package with, PC, touch-screen, software, nitrogen purge recirculation

Options

Enhance the ergonomics of the system with the choice of an optional integrated desk or mobile workstation.

Optional recirculating nitrogen purge system reduces nitrogen consumption by ~1200% annually.

Our optional extension spectrometer extends spectral coverage from 460 to 850 nm, allowing access to higher wavelength elements like sodium, potassium, and lithium.

Optional vacuum pump sound abatement enclosure reduces ambient noise from vacuum pump by ~7 dBa.

LECO—Your source for total analytical solutions

CS Series: Carbon/Sulfur by Combustion
- Carbon and sulfur determination by combustion infrared detection
- Quick, accurate, and affordable determination for both production control and research
- Calibration, analysis, evaluation, and diagnostic functions accessible via user-friendly *Cornerstone* brand software

ONH Series: Oxygen/Nitrogen/Hydrogen by Fusion
- Oxygen, nitrogen, and hydrogen by inert gas fusion
- State-of-the-art infrared and thermal conductivity detectors with no moving parts and no manual adjustments
- User-friendly *Cornerstone* brand software
- Custom software interface designed specifically for touch-screen operation

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