



Анализаторы компании LECO (США) для определения содержания углерода и серы в органических материалах

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Delivering The Right Results





Laboratory
Equipment
COmpany

- Компания основана в 1936г в Сент. Джозеф (США)
- Представительства более чем в 100 странах по всему миру
- Производство, продажа, гарантийное и послегарантийное сервисное обслуживание
- Полная методическая поддержка пользователей
- Представительство в Украине работает 12 лет
- Центральный офис в Киеве
- в Украине работает более 650 ед. оборудования

**Ведущий всемирно известный производитель
аналитического оборудования**



**LECO LSCA
Centre**

**Anechoic
Chamber**

West ↑

**Research &
Development**

**Machine
Shop**

**Manufacturing
Facility**

**Global
Support**

**Завод LECO в США
Более 2000 сотрудников**

Delivering The Right Results



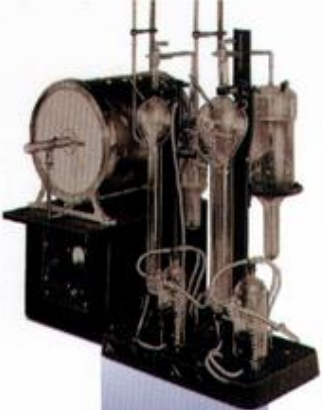






Delivering The Right Results





RAPID
1936 год

Определение
«C» и «S»



**LECO - анализаторы
нового поколения**



Time	Temp	Flow	Pressure	Concentration
10:00:00	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:00:05	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:00:10	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:00:15	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:00:20	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:00:25	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:00:30	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:00:35	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:00:40	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:00:45	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:00:50	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:00:55	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:01:00	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:01:05	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:01:10	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:01:15	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:01:20	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:01:25	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:01:30	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:01:35	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:01:40	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:01:45	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:01:50	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:01:55	300.00 °C	10.00 L/min	1.00 bar	0.0000 %
10:02:00	300.00 °C	10.00 L/min	1.00 bar	0.0000 %

Эволюция развития:

Delivering The Right Results **LECO**

LECO Instrumentation - Комплексное оснащение лабораторий

Elemental Analysis

Inorganic

C/S Analysis



- CS-200 Series Carbon/Sulfur Determinators**
- Quick, accurate determination
 - Reliable results via approved recommended combustion analysis method
 - Upgradeable Windows®-based software
 - Flexible configuration

- CS-400 Series Carbon/Sulfur Determinators**
- Fast, reliable results
 - Approved, recommended method of analysis
 - Designed to grow with your lab's changing needs
 - Optional autoloader

- CS600 Series Carbon/Sulfur Determinators**
- Patented solid-state infrared (IR) detector
 - Segmented leak check
 - Auto high/low analyte detection
 - Windows®-based operating system
 - High frequency induction furnace
 - Optimized stability - requires less calibration
 - Optional autoloader

N/O/H Analysis



- TC500 Series Nitrogen/Oxygen Determinators**
- Fast, simultaneous measurement of nitrogen and oxygen
 - Improved solid-state infrared (IR) and thermal conductivity (TC) detectors
 - Accuracy and precision to low ppm levels
 - Upgradeable from single to dual-element detection

- TC600 Series Nitrogen/Oxygen Determinators**
- Advanced Nitrogen/Oxygen determination
 - Auto high/low analyte detection
 - Unmatched performance from ppm to weight % levels
 - Windows®-based software
 - Exclusive ECLIPSE network protocol

- TH600 Series Nitrogen/Oxygen Determinators**
- State-of-the-art solid-state infrared (IR) and thermal conductivity (TC) detectors
 - Auto high/low analyte detection
 - Maximized sample size
 - Lower detection limits and expanded instrument range
 - Optimal accuracy and precision
 - Reduced maintenance
 - Pre-defined application techniques
 - Optional autoloader and auto-cleaner

H₂ Analysis



- DH-404/RH-402 Hydrogen Determinators/Furnace**
- Designed to satisfy demanding needs for accurate and precise analysis
 - RH-404 is specifically designed for inorganic materials requiring high temperature fusion
 - Greater flexibility by fusion or hot extraction with RH-402 and HF-402
 - RH-404 effectively determines refractory metals (Ti, Zr, Hf) and features an electrode impure furnace
 - RH-402 features a programmable ramping furnace (bulk & surface analysis)

Optical Emission Spectrometers

Glow Discharge Spectrometers



- GDS500A Atomic Emission Spectrometer**
- Spectral range from 120 to 800 nm
 - Continuous profile of concentration/thickness
 - Large, dynamic range with concentrations from ppm to 100% by weight
 - Short analysis time (minutes)
 - True Plasma Power™ for running non-conductive samples
 - SmartLine™ modem service support

- SA-2000 Bulk/Surface Analyzer**
- Spectral range from 149 to 450 nm
 - Windows®-based software
 - Performs bulk analysis (24 elements nominal)
 - Performs quantitative depth profile analysis (from nm to ~100 microns or more)
 - SmartLine™ modem service support

- GDS500A Spectrometer**
- Solid-state spectrometer
 - Innovative design eliminates previous limitations associated with CCD systems
 - Optimum wavelength range for production and process control
 - Stability, flexibility, and performance for ferrous and nonferrous applications
 - Linear calibrations
 - Analyze difficult materials
 - Freedom from metallurgical history
 - Auto cleaning
 - SmartLine™ modem service support

LC-TOFMS



- Unique™ LC-TOFMS**
- Compact benchtop design with convenient switchable low-flow ESI, high-flow ESI, and APCI ion sources
 - Superior performance from 100 spec/sec., 5 ppm mass accuracy, and 300 attomole sensitivity
 - ChromaTOF™ software automatically locates all peaks allowing simplification of chemical profiling and complex sample comparisons

GC-TOFMS



- Pegasus® GC-TOFMS**
- Pegasus III with 200 spectra per second offers the fastest GC-MS for unparalleled throughput
 - Award-winning ChromTOF™ Software gives the ability to take sample characterization to the next level
 - Award-winning Pegasus 4D provides the ultimate in chromatographic resolution for the most fully integrated GC-MS system available

ICP-TOFMS



- Renaissance® ICP-TOFMS**
- Multi-element analysis of small sample volumes (10 µl)
 - Ideally suited for routine measurement of transient peaks (less than 0.1 second duration)
 - Windows®-based software
 - Import/export capabilities
 - Built-in spectral correction equations
 - Quantitative and semi-quantitative analysis
 - Easy-to-use custom report designer

Organic

Calorimeter



- AC-350 Isoperibol Calorimeter**
- Accurate calorific measurements
 - Integral water-measuring/ combustion vessel-filling station
 - Analysis time in as little as 4.5 minutes
 - Meets or exceeds ASTM and DIN requirements
 - 6,000 to 15,000 BTU/lb for 1 g sample

Micro CHNS/O Analysis



- CHN-900/CHNS-932 Determinators**
- Carbon, Hydrogen, Nitrogen, Sulfur determination atmospheres
 - High temperature combustion
 - Rapid determination of microsamples
 - Optional VTF-900 Pyrolysis furnace for oxygen

- RC-412 Determinator**
- Multi-phase carbon/moisture determination
 - Oxidizing/reducing atmospheres
 - Programmable furnace ramping to 1100°C
 - High and low range detection

NIR Analysis



- Quik-Check® Near Infrared (NIR) Spectrometers**
- Rapid, non-destructive testing method
 - Environmentally friendly - no toxic chemicals
 - 10- or 20-filter instruments
 - Multiple constituent analysis in less than one minute (including moisture, protein, fat, and ash)
 - Liquid sample temperature control
 - Complete internal diagnostics
 - Built-in printer and built-in interface for download to PC

Mercury Analysis



- AMA254 Advanced Mercury Analyzer**
- Fast, accurate mercury determination in solids or liquids
 - Analysis in as little as six minutes
 - Optional automatic 45-position autoloader
 - Easy to use Windows®-based software

TGA Analysis



- TGA701 Thermogravimetric Analyzer**
- Determines moisture/ash or weight-loss in various organic samples
 - Expanded temperature control (up to 1000°C) with variable atmospheres and ramp rates
 - Pneumatic carousel mechanism and ergonomic design increases sample throughput, decreases downtime, and improves serviceability
 - Complies with AOAC, AACC, and ASTM methodology

Metallography

Sectioning



- MSX-PT-Series Sectioning Machines**
- Low heat/low deformation - oscillating motion
 - Automatic load control for optimal sectioning efficiency
 - Flexible model configurations with blades* up to 24 in. (600 mm)
 - Optional integrated Y-table for parallel sections
 - Advanced spindle design provides long life and precise sections
 - Optional magnetic filtration system for ferrous environments

- CM-Series Cutoff Machines**
- Low sample deformation
 - Optional side access ports to cut variable-length specimens
 - Submerged cutting operation or integrated cooling

- VC-50 Precision Diamond Saw**
- Precisely sections ceramics, minerals, metals, and electronic components
 - Up to 1-inch cross-section samples
 - Minimal material loss/deformation

Mounting



- PR-4X Mounting Press**
- Modularity—Supports three independently-operated auxiliary units
 - Pre-programmed methods for various mounting materials
 - 5 mold sizes: 1/4 in., 1/2 in., 3/8 in., 40 mm, 50 mm
 - Easy-to-remove sample: simply release pressure and push upper unit aside
 - Sealed electro-hydraulic design

Grinding/Polishing



- BG-Series Belt Grinders**
- Wet or dry applications
 - Coarse grinding or Single- or dual-belt models
 - Dust collector available

- Spectrum System 1000® Fine Grinders**
- Rugged 3/4 HP motor
 - Variable-speed base
 - 2 HP motor
 - Head assembly and optional dispenser maximizes efficiency
 - Up to six simultaneous 1 1/4-inch samples
 - Built-in timer
 - Adjustable water faucet for each wheel

- Spectrum System 2000® Fine Grinders**
- Variable-speed
 - Single- or multiple-sample prep
 - Accommodates 8-, 10-, and 12-inch discs
 - Independent wheel operation
 - Selectable wheel speed, direction, duration, water dispensation
 - Stainless steel touchpad with LCD display
 - Programmable methods

Sulfur/Carbon Analysis



- SC-144DR Sulfur/Carbon Determinator**
- Simple, fast sulfur/carbon determination
 - 250 mg nominal sample size
 - Easy-to-use Windows®-based software

- SC-444 Sulfur/Carbon Determinator**
- Advanced sulfur/carbon determination
 - Simultaneous sulfur and carbon detection
 - Complete analysis in less than two minutes
 - Modular detection ranges

C/H/N/Protein Analysis



- TruSpec™ Elemental Determinator**
- Determines Carbon, Hydrogen, and Nitrogen/Protein in various organic samples
 - Based on Dumas Method of combustion for sample sizes up to 1g
 - World's fastest analysis time—less than four minutes
 - Maintenance-free autoloader with capacity for up to 120 samples
 - Complies with AOAC, AACC, AOCS, ASBC, and ASTM-approved methods of analyses

Nitrogen/Protein Analysis



- FP-528 Nitrogen/Protein Determinator**
- Keypad control
 - 150 mg nominal size
 - Results in three minutes
 - Minimal routine maintenance
 - Ideal for cost conscious laboratories with low sample throughput

Fat Analysis



- TFE2000 Total Fat/Oil Determinator**
- Specifically designed for the rapid extraction of fat and oil
 - Three simultaneous analysis
 - Minimal routine maintenance
 - Optional PC links up to eight TFE2000 units
 - Easy-to-use Windows®-based software
 - Optional on-line modifier addition system

Automatic/Manual Hardness Testing



- LM-Series Automatic Hardness Testing Systems**
- Analog and digital models
 - Dual leafspring indenter supports
 - Touch-screen capability on LM-700 models
 - Energy saving standby mode stores current pre-test information
 - Easily-centerable optics
 - Auto turret
 - Available in manual, semi-automatic, and automatic video/image analysis systems
 - All models conform to ASTM specifications



- LV-Series Rockwell-Type Hardness Testers**
- Analog and digital models
 - Dual leafspring indenter supports
 - Touch-screen capability on LV-700 models
 - Auto turret
 - High quality, reliable testers
 - Available in manual, semi-automatic, and automatic video/image analysis systems
 - All models conform to ASTM specifications



- LR-Series Rockwell-Type Hardness Testers**
- Load Cell technology
 - Analog and digital models
 - Highly accurate, reliable results
 - Conforms to ASTM E18-02



- AMH-Series Automatic Hardness Testing Systems**
- Fully automatic
 - Exceptional precision
 - Increased operator efficiency
 - Performs sample testing, measuring, conversions, documenting

Optical Equipment



- Microscopes**
- LECO LX-31 Inverted Metallograph
 - A full range of Olympus® Microscopes and Metallographs for metallurgical examination
 - Olympus GX-Series (GX71/GX51)
 - Olympus BX2M Series (BX41M/BX51M/BX61M)
 - Olympus SZ Series
 - Olympus SX212/SZX9

- IA32 Image Analyzer**
- Complete analysis and printed report for almost any sample
 - Application procedure to guide through set-up process
 - Full screen application
 - Ideally suited for a wide variety of image analysis needs

- PAX-IT Image Management System**
- Electronic filing system
 - Search, sort, and organize images according to descriptive fields
 - Measuring
 - Archiving
 - Teleconferencing

- Video Accessories**
- Full range of digital and analog cameras
 - Monitors
 - Video printers
 - Supplies



1. Приборы для анализа неорганических материалов

2. Приборы для анализа органических материалов

3. Металлография, пробоподготовка, измерение твердости

4. Газовая хроматография и масс-спектрометрия



Направления применения:

- Энергетика
- Угольная, нефтехимическая промышленность
- Metallургия
- Машиностроение
- Научные исследования
- **Защита окружающей среды**
- Пищевая промышленность
- Ветеринария, СЭС
- Экспертно-криминалистические лаборатории
- Институты, университеты
- ...



Определение содержания Серы и Углерода в органических материалах:



Delivering The Right Results





Анализатор SC – 832

Delivering The Right Results





Анализатор SC – 832

Delivering The Right Results



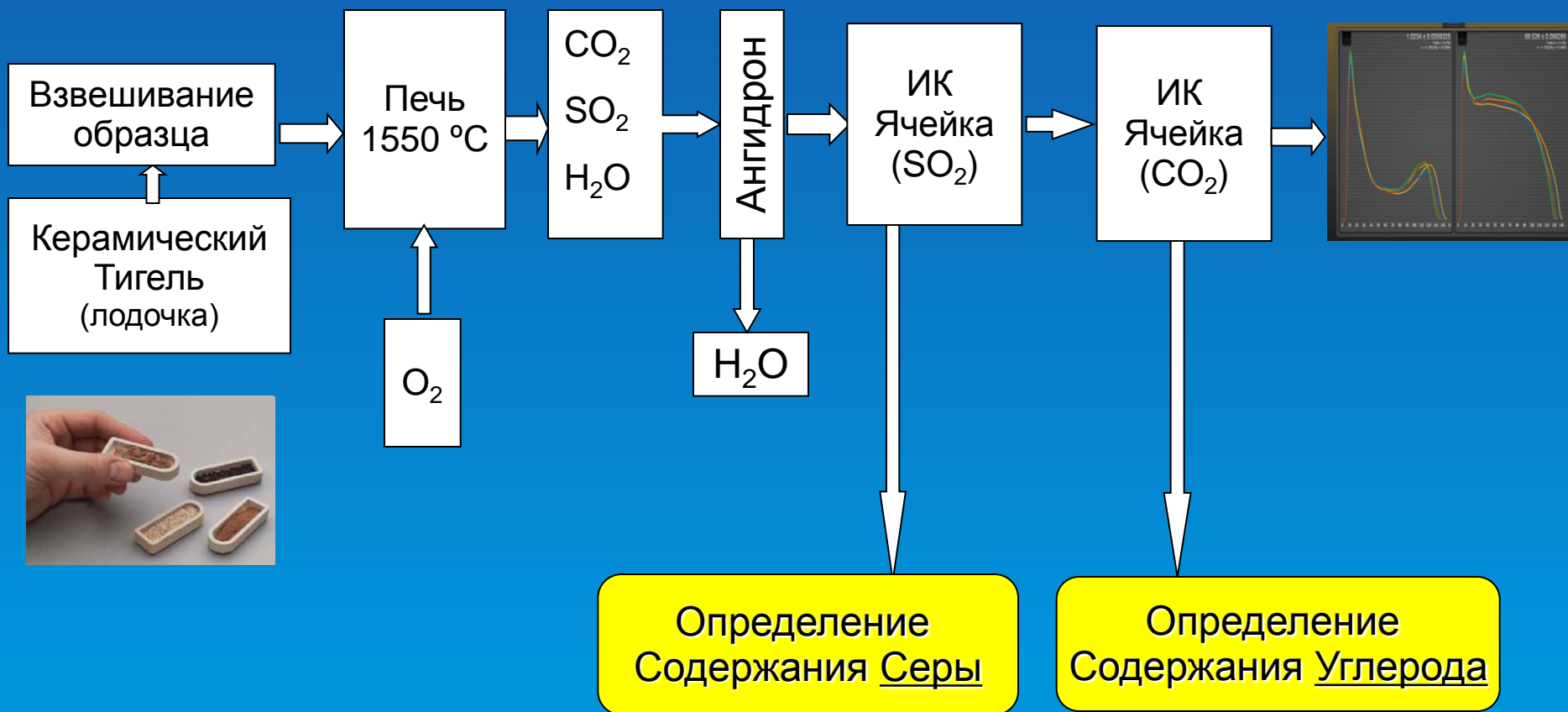


Анализатор SC – 832

Delivering The Right Results



Принцип действия SC серии:



SC - технические характеристики:

	SC-832	
Метод детектирования:	НД ИК абсорбция	
Диапазон определения: * Сера: * Углерод:	* Диапазон указан для номинальной навески 350 мг: от 0,001% до 28 % от 0,005% до 57 %	
Точность определения: * Сера: * Углерод:	0,0005 % или 1% СКО 0,0025 % или 1% СКО	
Калибровка:	* одноточечная * многоточечная	
Время анализа:	от 60 до 120 сек.	
Номинальная навеска образца:	350 мг	
Температурный диапазон печи:	от 800 до 1550 °С	
Газ-носитель:	Кислород, чистота 99,5 %, 1 бар	
Управление анализатором:	Внешний ПК или Cornerstone	
Питание:	220 В, 50/60 Гц	
Габаритные размеры:	460 * 800 * 790 мм	

SC серия – пользователи в Украине

Предприятие	SC144	SC632	S144/ S632
1. ДТЭК КРИВОРОЖСКАЯ ТЭС		1	
2. ДТЭК ЗАПОРОЖСКАЯ ТЭС		1	
3. ДТЭК БУРШТЫНСКАЯ ТЭС	1		
4. ДТЭК ДОБРОТВОРСКАЯ ТЭС	1		
5. ДТЭК ЛАДЫЖИНСКАЯ ТЭС	1		
6. ДТЭК ДОБРОПОЛЬСКАЯ ЦОФ	1		
7. ДТЭК ШАХТА КОМСОМОЛЕЦ ДОНБАССА	1		
8. ДТЭК СВЕРДЛОВСКАЯ ЦОФ	1		
9. ДТЭК МОСПИНСКОЕ УПП	1		
10. ДТЭК ЛАБОРАТОРИЯ ЦЕНТРАЛЬНАЯ	1		
11. ДТЭК ЦОФ ОКТЯБРЬСКАЯ	1		
12. ДТЭК ЦОФ КУРАХОВСКАЯ	1		
13. ДТЭК ШУ ДОБРОПОЛЬЕУГОЛЬ	1		
14. ДТЭК ЦОФ ПАВЛОГРАДСКАЯ	1		
15. ДТЭК ЛАБОРАТОРИЯ СВЕРДЛОВАНТРАЦИТ	1		
16. ДТЭК ГОФ ЦЕНТРОСОЮЗ	1		
17. ДТЭК ГОФ ВАХРУШЕВСКАЯ	1		
18. ДТЭК ЛАБОРАТОРИЯ ПЕРШОТРАВНЕВА	1		
19. ДТЭК ГОФ РОВЕНЬКОВСКАЯ	1		
20. ДТЭК ЦОФ ЧЕРВОНОПАРТИЗАНСКАЯ	1		
21. ПАО АЛЧЕВСЬКОКС	1		
22. ПАО АЛЧЕВСКИЙ МЕТАЛЛУРГИЧЕСКИЙ КОМБИНАТ	1		
23. ПАО ЗАПОРОЖКОКС	1		
24. УХИН		1	
25. ПАО «АРСЕЛОРМИТТАЛ КРИВОЙ РОГ»	4		
26. ПАО ЗАПОРОЖСТАЛЬ	1		
27. АВДЕЕВСКИЙ КХЗ	1		
28. ПРАО ДОНЕЦКСТАЛЬ	2		
29. ПАО ЕВРАЗ ДКХЗ	1		
30. УГЛЕГОРСКАЯ ТЭС	1		
31. ТРИПОЛЬСКАЯ ТЭС	1		
32. ЗМИЕВСКАЯ ТЭС	1		
33. ММК ИЛЬИЧА	2		
34. ПАО ПОДОЛЬСКИЙ ЦЕМЕНТ	1		
35. ХАРЬКОВСКИЙ КОКСОВЫЙ ЗАВОД	1		
36. УКРАИНСКИЙ ГРАФИТ			1
37. ПАО ЕВРАЗ ДМЗ ПЕТРОВСКОГО			1
Всего:	37	3	2

Детектора – ИК ячейки

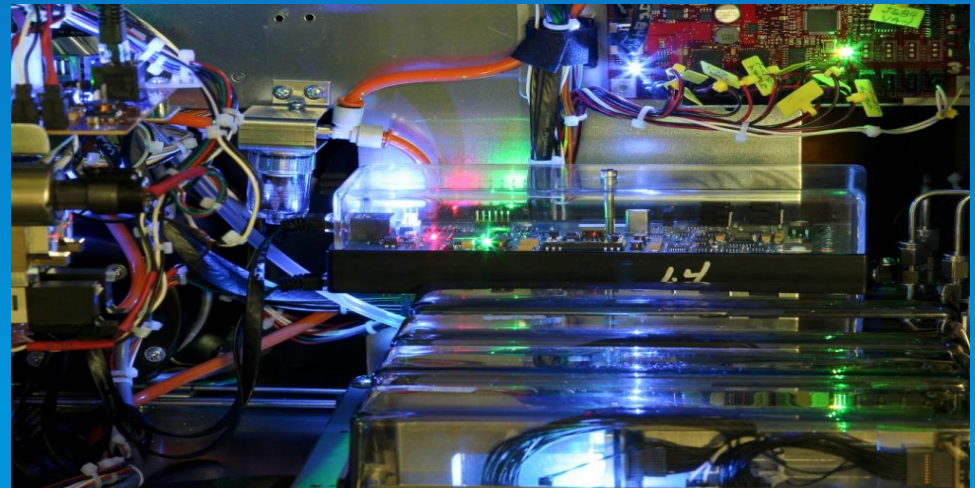
Новый дизайн ИК ячеек:

- определение C и S
- запатентованная электронно-модулированная конструкция (без движущихся частей)



Преимущества:

- простота в настройке
- улучшенная сходимость
- повышенная точность и чувствительность



Сенсорная панель управления

- Программное обеспечение на платформе Cornerstone™
- Интерфейс Touch Screen
- Встроенная функция HELP
- Простота эксплуатации и удобство работы



Delivering The Right Results



Действие

Установки

Окно Логина

Активное окно визуализации

Счетчики

Кнопки навигации

Управление

LECO ONH836 [Cornerstone 0.972.4 2011/03/03 1:23 PM] [Imc 2011/02/28 10:50 AM] User Name 3/4/2011 9:52 AM

Name	Description	Method	Oxygen	Nitrogen	Hydrogen	Date
502-416 lot 0653-1		Steel Method	26.5 ppm	742.0 ppm	2.3 ppm	3/2/2011 2:38:26 PM
502-416 lot 0580-65		Steel Method	50.2 ppm	573.0 ppm	7.0 ppm	3/2/2011 2:56:47 PM
1.00900 g	Comments	Operator	3/2/2011 2:49:48 PM	Oxygen	Nitrogen	Hydrogen
1.00730 g	Comments	Operator	3/2/2011 2:53:25 PM	Oxygen	Nitrogen	Hydrogen
1.00750 g	Comments	Operator	3/2/2011 2:56:47 PM	Oxygen	Nitrogen	Hydrogen
Blank	includes Ni basket and graphite	Refractory Method	0.0 ppm	0.0 ppm	0.0 ppm	3/3/2011 9:15:02 AM
501-653 lot J0322-9		Refractory Method	490.0 ppm	80.0 ppm	33.4 ppm	3/3/2011 9:54:52 AM
501-320 lot J0413-5		Refractory Method	1,830 ppm	190.1 ppm	27.7 ppm	3/3/2011 9:47:17 AM
762-741 lot J0499		Refractory Method	1,375 ppm	26.7 ppm	22.3 ppm	3/3/2011 10:14:01 AM

LOGIN: [Icons] REPS 3

50.18 ± 0.54
Oxygen ± 1σ (ppm)
n = 3, RSD(%) = 1.1

573.0 ± 3.4
Nitrogen ± 1σ (ppm)
n = 3, RSD(%) = 0.60

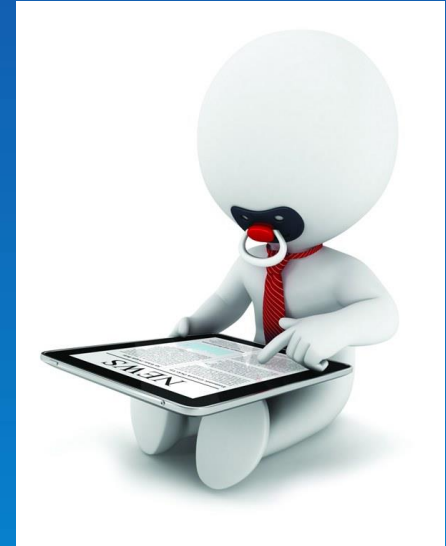
7.00 ± 0.26
Hydrogen ± 1σ (ppm)
n = 3, RSD(%) = 3.7

FURNACE CURRENT: 4
COOLANT TEMPERATURE: 25.4
INCOMING PRESSURE: 21.8 psi
DFC PRESSURE: 120 mmHg
MASS FLOW: 449.8 ccm
FURNACE POWER: 0

ANALYSIS | DIAGNOSTICS | SETTINGS | INSTRUMENT

LEAKCHECK | GAS | VACUUM | 75 years | ANALYZE | HELP

Ready To Analyze



Начало анализа
Окно статуса

Сенсорная панель управления



**Эргономично, Удобно, Функционально –
как во время анализа, так и при обслуживании**

Интерактивная диагностика



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Встроенная проверка утечек газового тракта



LECO ONH836 (Cornerstone 0.973.3 2011/03/18 5:03 PM) (Lmic: 2011/03/03 8:00 AM Matlab 2010b w/o Patch) User Name 3/22/2011 9:54 AM

PRINT EXPORT LOCK RESET FILTER

FLOW AMBIENT SOLs & SWs VALVE STATES **LEAK CHECK** SYSTEM CHECK SEQUENCES

22 Mar 11 09:53:50 22 Mar 11 09:54:00 22 Mar 11 09:54:10 22 Mar 11 09:54:20 22 Mar 11 09:54:30 22 Mar 11 09:54:40

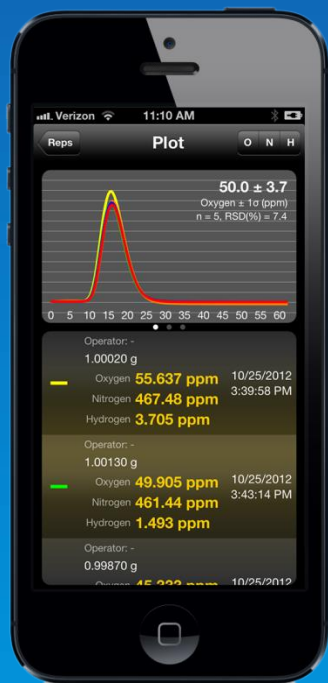
SYSTEM LEAK CHECK SYSTEM FURNACE BYPASS LEAK CHECK SEGMENTED LEAK CHECK SEGMENTED FURNACE BYPASS LEAK CHECK PNEUMATIC LEAK CHECK

INITIAL PRESSURE 31.0 mmHg
CURRENT PRESSURE 31.0 mmHg
CHANGE IN PRESSURE
RESULT
SYSTEM LEAK CHECK has not yet been performed.

ANALYSIS **DIAGNOSTICS** SETTINGS INSTRUMENT

LEAKCHECK GAS VACUUM GUIDE ANALYZE HELP RECTRODE CLEAN ABORT

Опциональная мобильная платформа Cornerstone



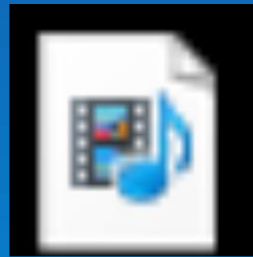
SAMSUNG

Sets Counters

Sample Type	Name	Analysis Date
Standard	149 J0362...	1/25/2012 8:00:17 AM
Oxygen	Nitrogen	Hydrogen
669.25 ppm	-1.630 ppm	0.391 ppm
Description Conditioning		
Sample Type	Name	Analysis Date
Standard	257 0587	1/25/2012 8:26:13 AM
Oxygen	Nitrogen	Hydrogen
59.259 ppm	628.91 ppm	2.492 ppm
Description NIST		
Sample Type	Name	Analysis Date
Standard	644 04575...	1/25/2012 9:03:41 AM
Oxygen	Nitrogen	Hydrogen
34.360 ppm	93.655 ppm	1.247 ppm
Description NIST		
Sample Type	Name	Analysis Date



Эксплуатация: просто – быстро – удобно (видео презентация):



Leco - demo.MP4

Другое оборудование LECO для анализа органических материалов

Delivering The Right Results



Определение содержания C/H/N/S/O

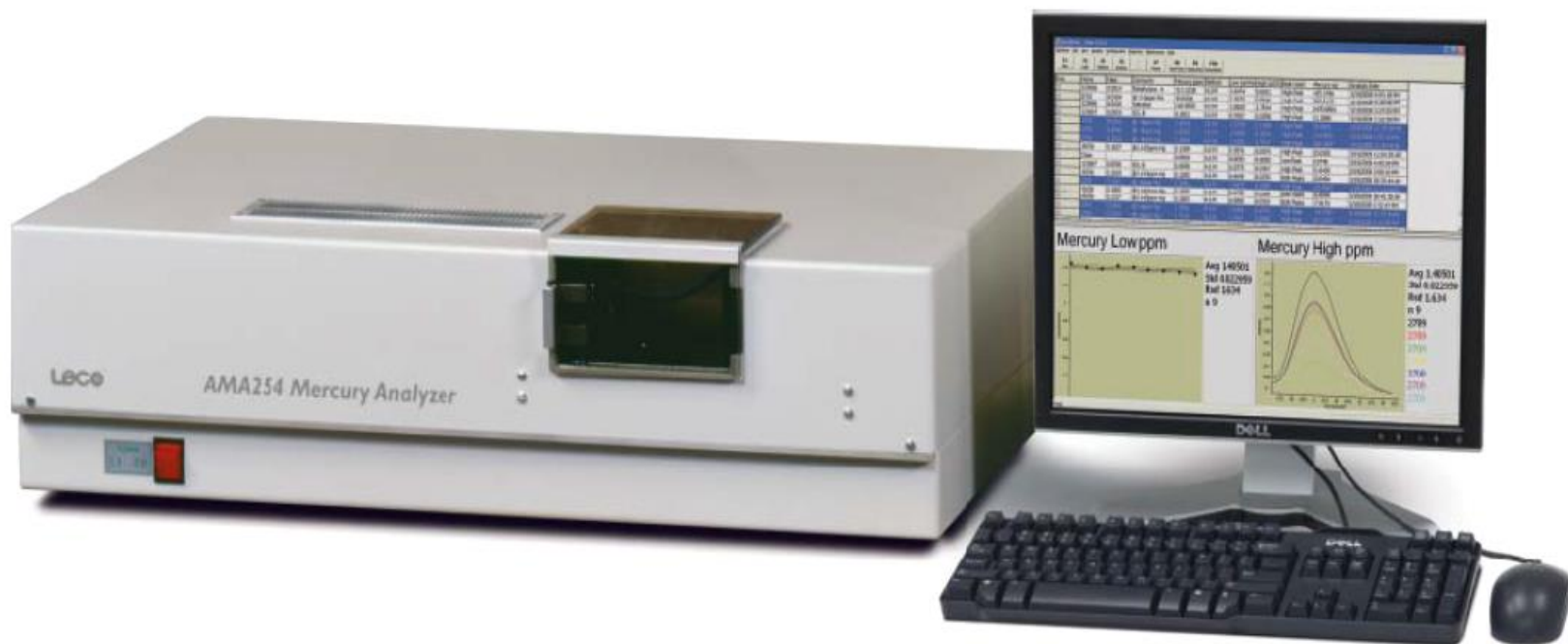


CHN-628

Delivering The Right Results



Анализатор ртути (без пробоподготовки)



AMA-254

Delivering The Right Results



Определение влаги, золы и выхода летучих



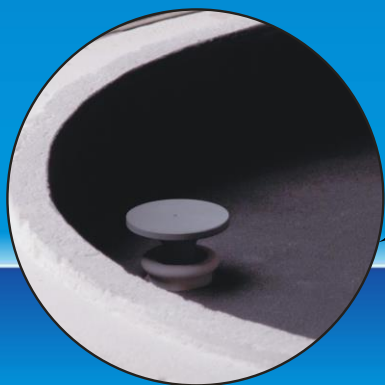
TGA-701

Delivering The Right Results



TGA-701 - Основные преимущества:

- Одновременный анализ до 19-ти образцов
- Сотрудничество LECO & Sartorius (встроенные высокоточные весы)



Delivering The Right Results

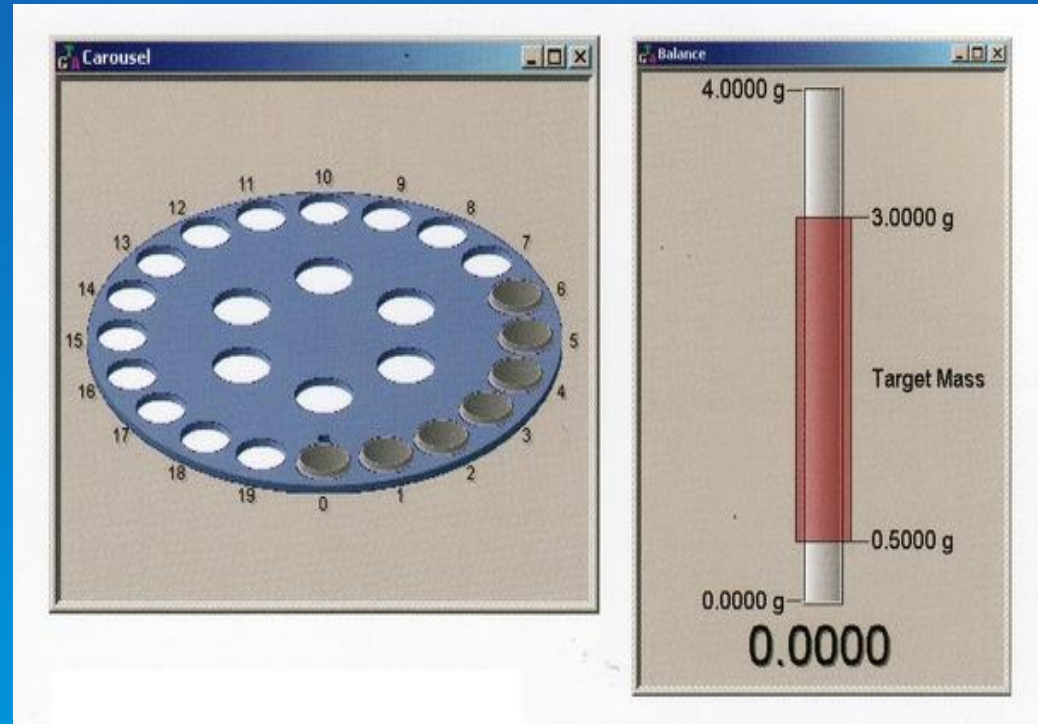


TGA-701 - Основные преимущества:

Удобное и простое программное обеспечение для онлайн контроля



Многоразовые тигли
(навеска до 5 г)



Изопериболические калориметры для определения теплоты сгорания как твердых, так и жидких образцов

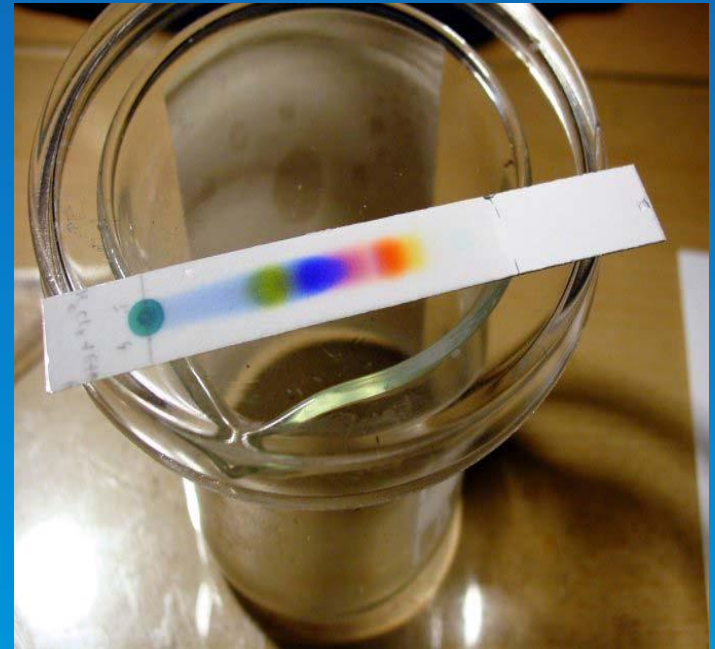
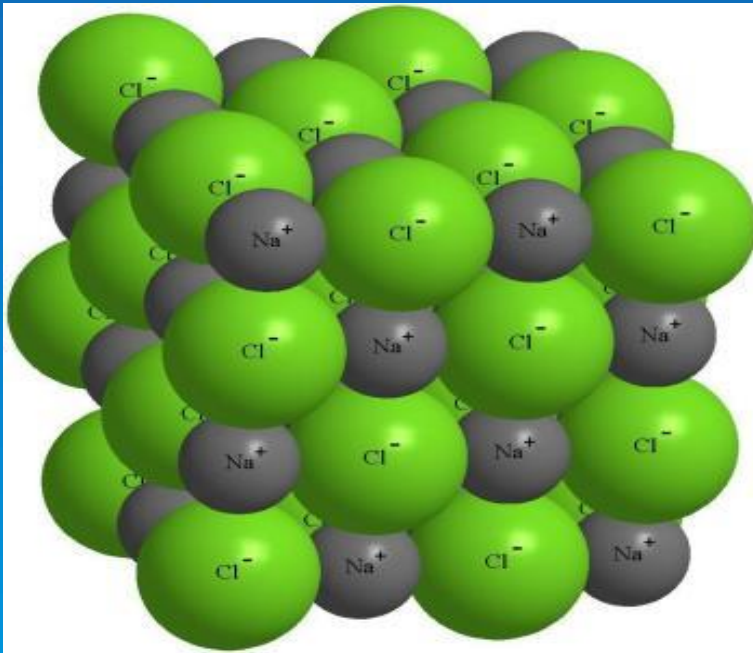


AC-600

Delivering The Right Results



Газовая хроматография и Масс-Спектрометрия



Предлагаемые системы LECO:

1. Газовые хроматографы с пламенно-ионизационным детектором

- GCxGC-FID (ГХxГХ-ПИД)

2. Хромато-масс-спектрометры низкого и высокого разрешения:

- Pegasus HT (GC-TOF MS)

- Pegasus 4D (GCxGC-TOF MS)

- Pegasus GC-HRT (GC-High Resolution MS)

- Pegasus GCxGC-HRT 4D (GCxGC-High Resolution MS)



Сотрудничество LECO и Agilent

HSB REGISTRATION SERVICES
595 E. SWEDESFORD ROAD
WAYNE, PENNSYLVANIA 19087

Certificate of Registration

This is to certify that:
LECO Corporation
Central Office
3000 Lakeview Avenue
St. Joseph, MI 49085

Has established and applied a Quality Management System for:
**Design, Manufacture and Service of: Ceramic Melting
Crucibles, Ladle Liners and Supplies. Analytical Instruments for
Carbon, Sulphur, Nitrogen, Hydrogen and Oxygen in Metals,
for Organic and Inorganic Applications. Metallographic / Optical
and Spectrographic Equipment and Supplies. Sample Preparation.
Supplies and Equipment. Laboratory Services.**

*Proof has been furnished that the requirements according to
ISO 9001:2008
are fulfilled.*

EA Code: 12,15,18,19,34

Certificate Number: HQ-Q-994

Initial Audit Date: December 14, 2011

Effective Date: January 30, 2013

Expiration Date: January 29, 2016

Revision Date:




Signed on behalf of HSB Registration Services

Certificate Number: H-Q-994

Page 1 of 2

**Соответствие
международной системы
менеджмента качества
ISO-9001:2008**

**Подтверждено
Британским институтом
стандартов**

Поставка запасных частей и расходных материалов:



Разветвленная СЕРВИСНАЯ СЛУЖБА LECO в Украине



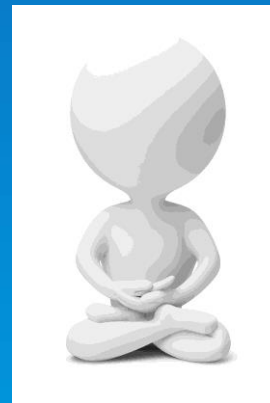
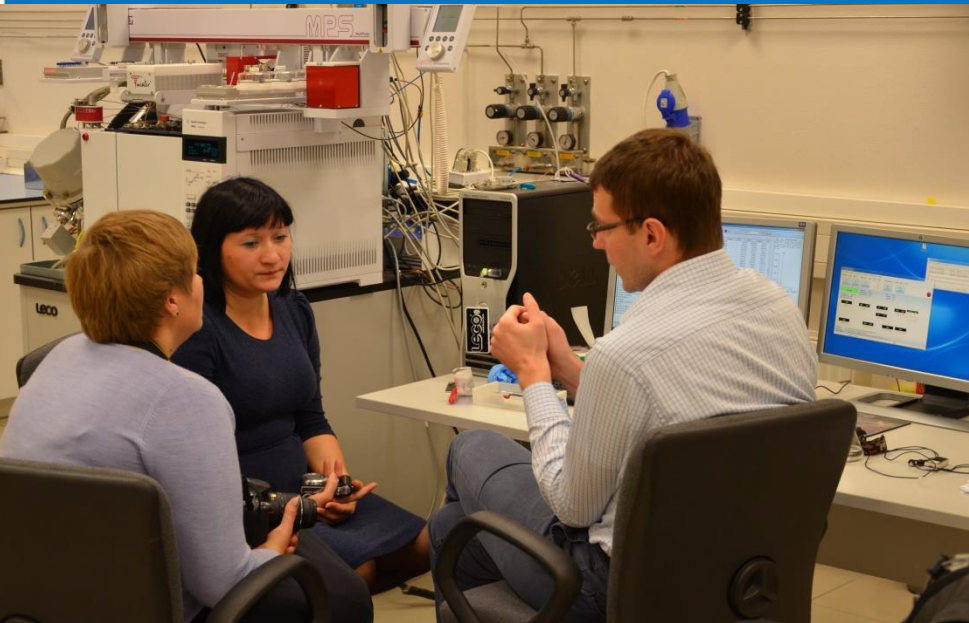
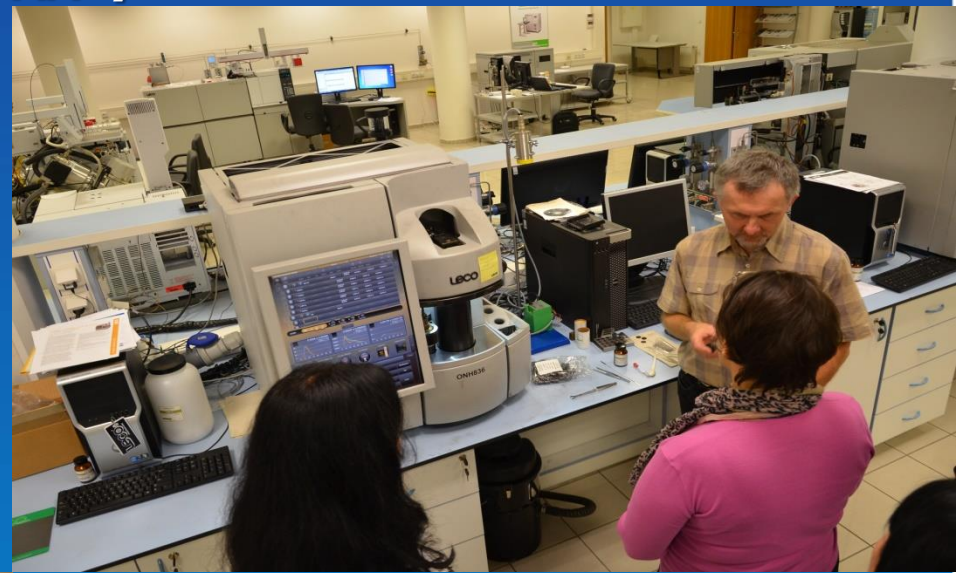
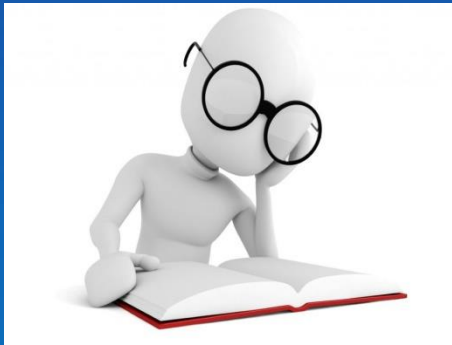
- 6 сервисных инженеров
- Инсталляция поставленного оборудования
- Обучение специалистов лаборатории принципам работы и рутинному ТО
- Гарантийное обслуживание
- Послегарантийное обслуживание



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Полная методическая поддержка пользователей



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Европейский демонстрационный центр LECO



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LECO в Украине

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тел./факс: (044) 494-17-20/21

www.ua.leco-europe.com

