

Thermo Scientific MultiLab 2000



Multitechnique Surface Analysis Instrument



Metals



Ceramics



Catalysts



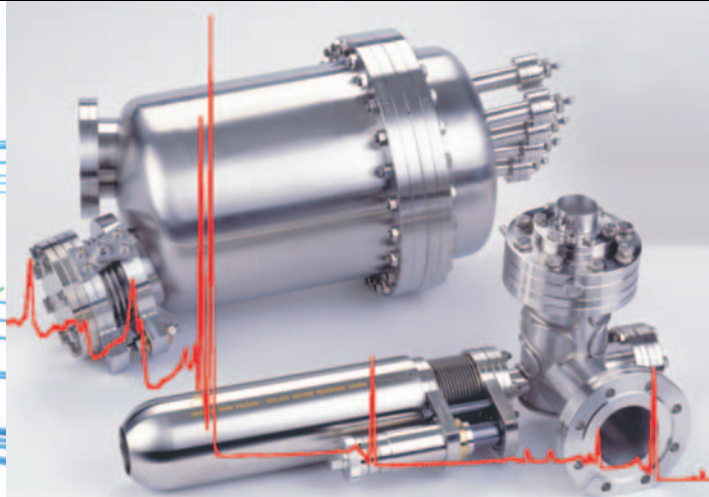
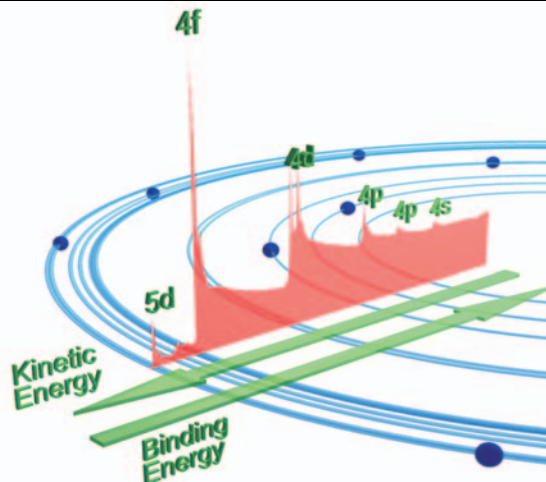
Polymers

MultiLab 2000

Thermo Scientific MultiLab 2000 is the versatile multi-technique surface analysis instrument.

MultiLab 2000 has been designed for routine XPS applications and is an ideal choice for surface analysis in any laboratory. MultiLab 2000 can be configured into a powerful multi-technique instrument by choosing from a wide range of options and accessories. This can be done either at the initial purchase stage or subsequently through retrofit upgrades.

- High transmission electron energy analyzer
- Twin crystal X-ray monochromator
- High flux dual anode X-ray source
- AES/SEM/SEM electron gun
- High flux UV source
- Depth profiling and ISS ion gun
- Low energy charge neutralization source
- Broad spot sample cleaning source



High Performance and Versatility

Electron Analyzer

A true 180° compact, high performance, electron energy analyzer for XPS, SAXPS, ARXPS, AES, UPS and ISS applications.

- Excellent energy resolution
- Precise small area XPS
- Angle-resolved XPS
- UPS, AES and ISS

Microfocused X-ray Monochromator

Twin crystal monochromator with small spot electron gun for maximum sensitivity from selected areas.

- Excellent resolution in XPS
- Source-defined SAXPS
- Moveable anode for longer life

Twin Anode X-ray Source

400 W high emission, low maintenance source.

- Al and Mg anodes
- Eliminate stray peaks
 - *Very low crosstalk < 0.35%*
 - *Silver substrate*

UV Source

Small spot source with integral tilt mechanism.

- High photon flux
- He I and He II modes
- 2-stage differential pumping

Charge Compensation

Electron gun for charge neutralization.

Differentially Pumped Ion Gun

High performance gun for precision depth profiling

- Uniform depth profiles
- ISS
- Energy range: 100 eV - 5 keV

Sample Cleaning Ion Gun

Cross ionization gun for broad area cleaning and uniform etch profiles.

- Broad static beam
- Energy range: 300 eV - 3 keV
- Compact design

Sample Preparation

Fast entry air lock with multiple port options.

- Ion gun
- Gas cell
- Gas dosing
- Sample heating and cooling post

Data System

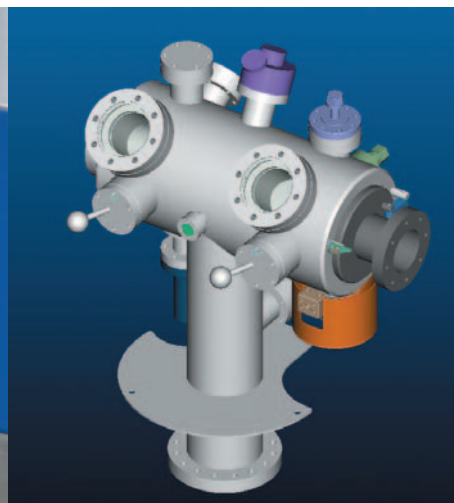
Data acquisition and processing system.

- Windows® based
- User friendly
- Digital control of components

Full technical descriptions of MultiLab 2000 and analytical options are available in the following documents, these can be obtained from your local Thermo Fisher Scientific office (see back page):

AN31066 - MultiLab 2000
AN31054 - Electron Analyzer
AN31058 - UV Source
AN31005 - Data System

AN31056 - Microfocus Monochromator
AN31061 - Differentially Pumped Ion Gun
AN31057 - Twin Anode X-ray Source
AN31062 - Sample Cleaning Ion Gun



MultiLab 2000

MultiLab 2000

Electron Analyzer

- Double focusing spherical sector analyzer
- Electrostatic input lens for large area, small area and angle resolved spectroscopy
- Multi-channel spectroscopic detector

Specimen Manipulator

- High precision 4-axis specimen manipulator
- Five specimen holders

Specimen Viewing

- X-ray shielded viewports
- Zoom microscope with monochrome CCD TV video camera for specimen alignment
- High-power fibre optic light source

Fast Entry and PREPLOC Chamber

- Ports for ion gun, gas cell, gas dosing, and sample heating and cooling post
- UHV-compatible specimen transfer mechanism
- Manual gate valve to analysis chamber
- Turbomolecular pump

Data System

- Digital instrument control
- Data acquisition and processing

Options

Twin Anode XPS Source

- MgK α /AlK α X-ray source with linear motion drive
- Water cooled

Microfocused Monochromator

- 0.5 meter Rowland circle monochromator
- Electron gun and multi-position anode
- Twin quartz toroidal crystals
- Electron flood gun for charge compensation

UV Photoelectron Source (UPS)

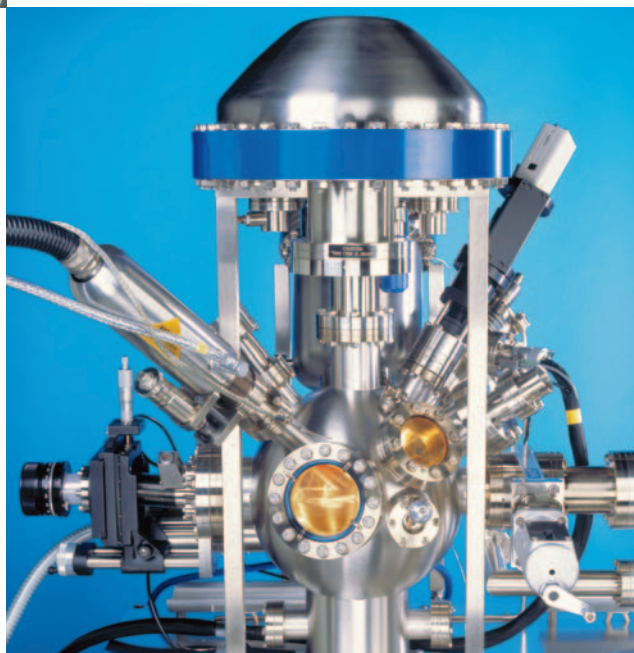
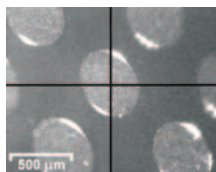
- Two stage differential pumping
- Helium gas admission system

Sample Cleaning Ion Gun

- Broad spot ion source
- Gas inlet leak valve and manifold

Depth Profiling and ISS Ion Gun

- High precision gas inlet leak valve
- Absorbed current imaging for ion beam alignment



In addition to these offices, Thermo Fisher Scientific maintains a network of representative organizations throughout the world.

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