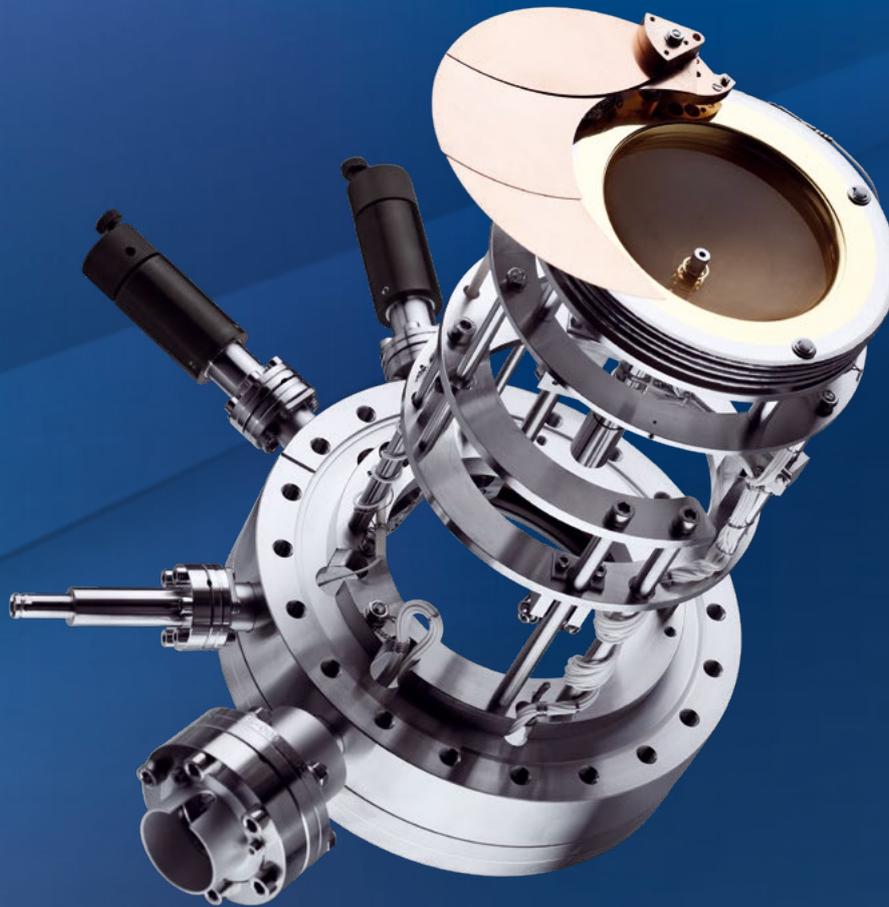


ErLEED 100/150

PRECISE CHARACTERISATION OF CRYSTALLINE SURFACES
AFTER THIN FILM GROWTH OR CLEANING PROCESS

KEY FEATURES

- High performance optics
- Light shielded miniature electron gun
- Easy upgrade for Auger-Meitner spectroscopy
- Fully remote controllable power supply
- Set, measure and evaluate via software



SPECS[™]
A member of SPECSGROUP

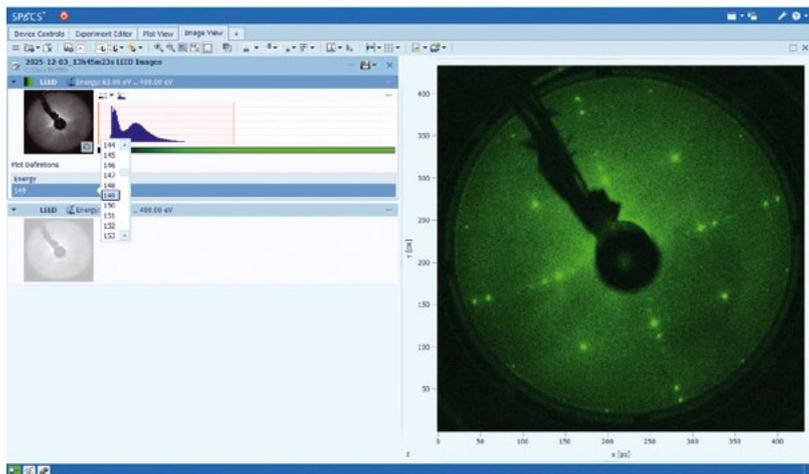
ErLEED 100/150

UPGRADABLE WITH AUGER-MEITNER SPECTROSCOPY (AES)
FOR SURFACE ORDER AND CHEMICAL COMPOSITION DETAILS

Reverse View LEED Optics

The reverse view ErLEED optics was designed at the University of Erlangen-Nürnberg (Lehrstuhl für Festkörperphysik) and has been developed over a period of 20 years to its current high performance specifications.

It is manufactured exclusively by SPECS. In order to guarantee the highest possible quality and performance of each optics, the selection of the materials and components as well as the quality of the mechanical and electrical manufacturing is of highest priority.



Components

Electron Gun

The miniature electron gun allows a full view of the diffraction pattern. It is completely light shielded in order to avoid stray light and thus to be able to measure quantitative LEED I(E) curves or spot profiles. Two types of filaments are available: thoria coated iridium hairpin and LaB₆ single crystal. The thoria coated iridium filaments allow the operation of the gun at pressures of up to 10⁻⁴ mbar oxygen. All filaments are easily replaceable in the user's laboratory.

Grids

The high transmission grid assemblies are made of gold coated tungsten ensuring long term mechanical stability as well as a uniform work function and nonmagnetic characteristics. The optics are available in 3 or 4 grid versions. Two different sizes are offered. The ErLEED 100 is mounted on a DN100CF flange (6"CF, 152mm OD), while the ErLEED 150 is on a DN150CF flange (8"CF, 203mm OD).

Retraction

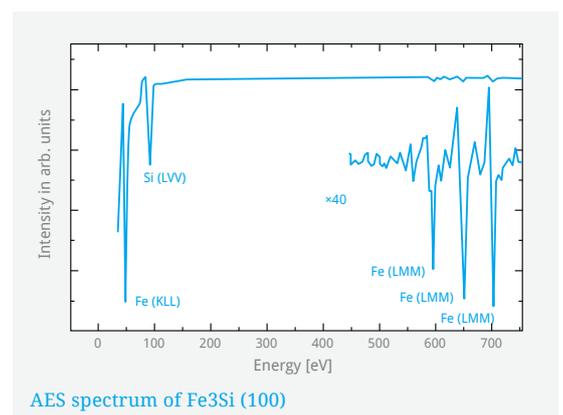
A z-retraction mechanism allows the optics to be moved into or withdrawn from a restricted working area. Z-travel of 50mm or 100mm is available.

Shutter

The optics can be protected by an integral multi-segment shutter mounted in front of all grids.

Upgrade with AES Auger-Meitner Spectroscopy

The ErLEED package can be easily upgraded with a dedicated compact preamplifier. This opens the door to elemental composition of the top atomic layers and provides correlated chemical identity to the crystallographic order. Such a complete real-time surface verification improves workflow and sample quality.



COSCON Power Supply

The ErLEED optics is controlled by a new generation of power supplies, the SPECS COSCON. It provides precise setting of values for outstanding performance. The COSCON is a fully remote controllable power supply. It is operated either via SpecsLab Prodigy or via its own web interface. An integration into measurement automation is available through the TCP/IP interface. For stand-alone operation it can be supplied with a compact and versatile tablet to set and run a measurement directly in front of the system.



Software

SpecsLab Prodigy is the data acquisition and experiment control software package which sets a new standard in electron spectroscopy and related methods. The modular software concept allows multi-dimensional data handling, fully integrated with optional remote device controls and experiment automation.

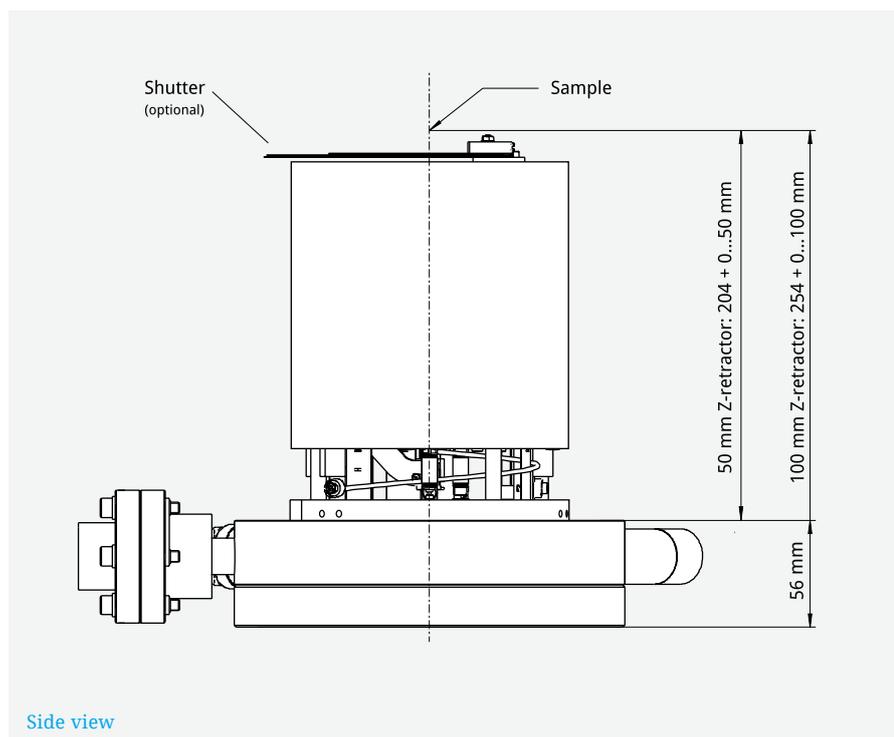
Prodigy experiments allow fully automated measurements in LEED and AES mode. For the specified kinetic energy range, image stacks are acquired in LEED mode, and spectra in AES mode. These acquisitions can be used as part of automation recipes supported by SPECS systems.



Technical Data

Specification	Value
Magnetic Shielding	Mu-metal
Bakeout temperature	250°C
Mounting flange	DN100CF/DN150CF
Grids	Gold coated tungsten
Grid transmission	81%
Number of grids	3 or 4
Viewing angle	100°/84°
Gun energy range	0–3000 eV
Spot size	<1 mm @ 1 µA & 100 eV
Beam current	> 15 µA @ 1 keV > 45 µA @ 3 keV (AES)

Dimensions



Side view



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- Sales and Service Partner

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