3 keV AUGER ELECTRON GUN (OFF AXIS) WITH SUPPLY

- 2.75" O.D. MOUNTING
- BEAM ENERGY 0 to 3.000 V
- SPOT SIZE 1mm
- INSERTION LENGTH 9.58"
- SAMPLE DISTANCE 1.5"
- OFF-AXIS FILAMENT
- NO LINE OF SIGHT BETWEEN FILAMENT AND SAMPLE

INCL:
981-2125 GUN
981-2145/2147 POWER SUPPLY
CABLE KIT & MANUAL

OPTION:
981-2745 POWER SUPPLY

ACCESSORIES & SPARE PARTS:

981-2712 R	W-Re FILAMENT
981-2612	TUNGSTEN FILAMENT
981-2712 TR	THORIATED Re FILAMENT
981-2125	GUN
981-2745	CONTROLLER 115 / 230 V
87-400-319	MANUAL GUN
87-400-320	MANUAL CONTROLLER
660.300	CONNECTION CABLE
RMA #...	CONTROLLER REPAIR
RMA #...	GUN REPAIR

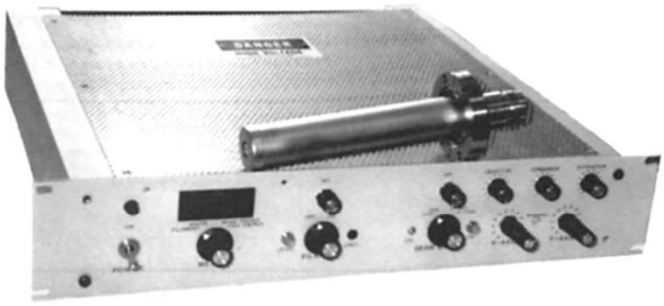
The LEED/Auger electron gun produces a finely controlled primary beam over the energy range from 200 eV to 3 keV at beam currents from 1.0 µA to 30 uA in the Auger mode. In the LEED mode, beam energy ranges from 3 eV to 1.5 keV. (Current level is typically 1 uA at 100 eV.) Electrical isolation and shielding ensure that no beam current is lost through leakage paths. This makes it possible to take direct beam current measurements with the gun power supply. This feature is particularly important because a critical relationship exists between the electron beam parameters and the interpretation of the data obtained. Further, for LEED mode operation, an accelerating voltage is applied to the first anode; this design provides maximum beam current while operating within the lower beam energy range of the LEED technique.

Another key design feature of the gun lens system permits the electron beam to remain in focus over the entire energy range with a single setting of the focus control. This is made possible by programming the focus electrode by the electron beam potential. The beam diameter is less than 1 mm above 50 eV; between 5 eV and 50 eV, beam diameter is less than 2 mm.

The gun design includes a filament assembly which is mounted at an angle 13° off the main gun axis so that there is no line of sight between filament and sample. This minimizes the possibility of sample contamination from the filament and also reduces the light reflection from the sample onto the screen. (A deflector assembly brings the electron trajectory onto the gun main axis.)

3 keV AUGER ELECTRON GUN WITH SUPPLY

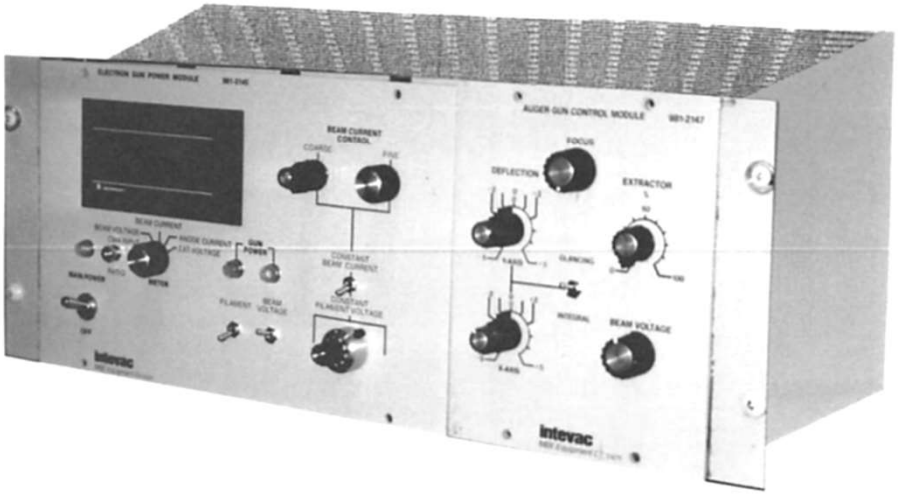
- SUPPLY DISPLAYS BEAM CURRENT, BEAM VOLTAGE, ANODE CURRENT
- GLASSED ELECTRON OPTICS ELIMINATES MISSALIGNMENT
- THREE ANODES w/ EINZEL LENS TO COLLIMATE THE BEAM
- SNAP-IN TUNGSTEN FILAMENT w/ PREALIGNED EXTRACTOR ASSY.
- μ - METAL SHIELD TO MINIMIZE AC AND DC FIELDS
- 2.75" O.D. MOUNTING
- GUN LENGTH 6.5"
- TYPICAL SAMPLE DISTANCE 3.5"
- BEAM VOLTAGE 0 TO 3,000 V
- BEAM SIZE 0.5 mm



INCL:
981-2454.....GUN
981-2745..... CONTROLLER
CABLE KIT, MANUAL

The glancing incidence electron gun delivers up to 100 μA of beam current and thus provides higher sensitivity than the Model 981-2125 electron gun. The angle of incidence tends to reduce surface charging effects and therefore simplifies the analysis of poorly conducting surfaces. X and Y beam deflection plates are provided to give the sensitive beam adjustment necessary for operation at maximum resolution and to scan the beam over small areas. The gun is mounted on a 2 ¾" O.D. ConFlat Flange for easy removal and filament assembly replacement. A wraparound magnetic shield minimizes the effects of stray fields.

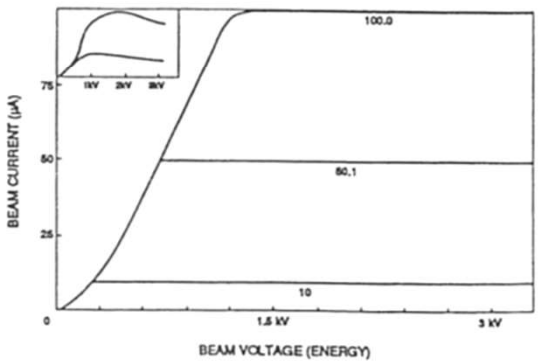
OPTIONS:
5 keV MODULE FOR SUPPLY 981-2745
3 keV GUN POWER SUPPLY 981-2145 / 2147



The curves illustrate constant current performance of the power supply while operating the Glancing Incidence Gun. The main curves show how a constant current is maintained for settings of 100, 50 and 10 μA in the constant current mode as beam energy is varied from 3 keV down to zero. Beam current was measured in a Faraday cup. The inset shows the variations in beam current that occur with the conventional scheme of maintaining constant emission current.

ACCESSORIES & SPARE PARTS

981-2612	FILAMENT
981-2454	GUN
981-2745	CONTROLLER 115 / 230 V...
981-2145/2147	CONTROLLER 115 / 230 V
660.300	CONNECTION CABLE
87-400-233	MANUAL GUN
87-400.234	MANUAL POWER SUPPLY
981-2745-5	5 keV OPTION MODULE
RMA #.....	REPAIR OF GUN
RMA #.....	REPAIR OF CONTROLLER



GLANCING INCIDENCE GUN