QA-ES Series II analyzes electrosurgical units quickly and accurately.

A wide load-resistance range provides 128 user-selectable loads, including very low loads for testing many of today’s ESUs.

An accuracy of ± 2 % of reading down to 20 mA guarantees reliable high-frequency leakage results. With capability to run an automatic-power-distribution test in as little as 1 minute, the QA-ES works fast so technicians save time.

An Ansur QA-ES software plug-in allows users to create and automatically run tests, capture data, and produce easy-to-read reports with a PC.

Key features

- Automatic power distribution measurement, including power, current, peak-to-peak voltage (closed load only), and crest factor
- Oscilloscope output
- High-frequency leakage measurements with accuracy of ± 2 % of reading
- 128 internal user-selectable test loads from 10 Ω to 5200 Ω
- Foot-switch output for triggering the ESU under test
- Ansur QA-ES software plug-in for automated test protocols
- Large display
- RS-232 and Centronic-Printer interface
Technical specifications

Generator output
Continuous operation
Continuous measurement of power, current, peak-to-peak voltage (closed load only), and crest factor

Single operation
Single measurement after the set delay time of the ESU output of power, current, peak-to-peak voltage (closed load only), and crest factor

Power distribution
Automatic measurement of power, current, peak-to-peak voltage (closed load only), and crest factor through a user-selectable load range

RF leakage current
Provides connections and load configurations to measure HF leakage from both grounded and isolated equipment

REQM
Test the “return electrode control quality monitoring” using the QA-ES internal loads

Modes of operation
Manual or remote controlled (via Ansur)

Measurement
True-rms value of applied waveform

RMS bandwidth
30 Hz to 10 MHz (-3 dB) for instrumentation only
30 Hz to 2.5 MHz (-3 dB) with loads

Low frequency filter
100 Hz filter to avoid low-frequency disturbance or interference

Current
20 mA to 2200 mA

Current accuracy
20 mA to 2200 mA ± 2 % of reading

Load resistance
10 Ω to 2500 Ω in step of 25 Ω (@ dc)
2500 Ω to 5200 Ω in step of 100 Ω (@ dc)

Additional fixed load
200 Ω 400 W for 30 s; max 15 % duty cycle

Crest factor
The higher of the two peak voltage measurements is used for computation

Range
1.4 to 16 (V peak/V rms)

Foot-switch output
The foot switch output can be used to trigger the electrosurgical unit

Peak-to-peak voltage
0 kV to 10 kV (closed load only)
accuracy: ± 10 %

Note: Measurement is taken between the active and dispersive electrodes with closed load only.

Oscilloscope output
5 V/A uncalibrated, 100 mA RF current minimum input

Ansur QA-ES Plug-In
Remote control
All functions and tests in QA-ES may be performed from the PC

User-programmable test sequences
Allows unlimited numbers of test sequences with user-programmable templates and test limits. These tests include power distribution test, output test, HF leakage, and RECQM verification

Storage and recall
Protocol formats and data may be stored, recalled, printed out, or transferred

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**Temperature**

*Operating*  
15 °C to 35 °C (59 °F to 95 °F)

*Storage*  
0 °C to 50 °C (32 °F to 122 °F)

**Display**  
LCD graphic display

**Alphanumeric format**  
8 lines x 40 characters

**Graphic mode**  
240 x 64 pixel matrix

**Display control**  
5 F-keys, enter, cancel, control knob, and an encoder

**Data input/outputs**  
Parallel printer port and bidirectional RS-232

**Power**  
115/230 V ac; 48 Hz to 66 Hz, 35 VA

**Housing**  
Metal case

**Dimensions (WxDxH)**  
39.5 cm x 34.2 cm x 13.2 cm  
(15.6 in x 13.5 in x 5.2 in)

**Weight**  
9.8 kg (21.6 lb)

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**Ordering Information**

**Models**

- 2649769 QA-ES Series II 115 V Electrosurgery Analyzer (US)
- 2651725 QA-ES Series II 230 V Electrosurgery Analyzer (Schuko)
- 2770445 QA-ES Series II 230 V Electrosurgery Analyzer (UK)
- 2770450 QA-ES Series II 230 V Electrosurgery Analyzer (Australia)
- 3096390 QA-ES Series II 100 V Electrosurgery Analyzer (Japan)

**Standard accessories**

- 2716044 Manual on CD
- 2716032 Manual Hard Copy
- 2772171 ESU-Dispersive Safety Lead
- 2772180 ESU-CQM Safety Lead
- 2772209 ESU-Jumper Safety Lead
- Power Cord (country specific)
- 2826194 Test Lead with stackable plugs
- 1903307 Test Lead Set with retractable sheaths
- 1610159 Sure-Grip Large Alligator Clip Set

**Optional accessories**

- 2461794 Carrying Case
- 2461802 Ansur Test Software, QA-ES Plug-in License
- 2461993 Data Transfer Cable, RS-232
- 2716059 Calibration Manual
- 2523266 Clamp, crocodile style, grip C, black
- 2523275 Clamp, crocodile style, grip C, red
About Fluke Biomedical
Fluke Biomedical is the world’s leading manufacturer of quality biomedical test and simulation products. In addition, Fluke Biomedical provides the latest medical imaging and oncology quality-assurance solutions for regulatory compliance.

Today, biomedical personnel must meet the increasing regulatory pressures, higher quality standards, and rapid technological growth, while performing their work faster and more efficiently than ever. Fluke Biomedical provides a diverse range of software and hardware tools to meet today’s challenges.

Fluke Biomedical Regulatory Commitment
As a medical test device manufacturer, we recognize and follow certain quality standards and certifications when developing our products. We are ISO 9001 certified and our products are:
• CE Certified, where required
• NIST Traceable and Calibrated
• UL, CSA, ETL Certified, where required
• NRC Compliant, where required