

Appendix IX: SQA-Vb System Specifications

Dimensions: 40 x 30 x 15 cm

Weight: 4 kg

AC power supply: 100 to 250 VAC, 50/60 Hz, 10 VA

Measurement Compartment

- **Sources of radiant energy** - two 880 nm LEDs for motility and spectrophotometry channels
- **Detector system** – 2 photo detectors - Motility and Optical Density

Visualization Compartment

- Green LED illumination system
- CCD, 350 TV lines
- Objective lens: Standard, x20
- Signal Output: PAL standard
- Zoom system for smooth magnification transition from x300 to x500
- Focus regulator

Display(s)

- Operational backlight LCD (16 lines x 40 characters)
- Video backlight LCD (8 x 10 cm)

Printer

- Built-in, Dot Matrix
- Non-thermostatic narrow paper with 20 characters per line (Citizen)
- Ribbon cassette (Citizen)

Keypad

- **Operational keys:** ON/OFF, TEST, PRINT, SERVICE, ARCHIVE, DELETE, ENTER, four cursor buttons, ESC, numeric buttons (0-9)
- **Video control keys:** ZOOM IN/OUT, ILLUMINATION HIGH/LOW, and MONITOR ON/OFF

Front Panel

- Built-in printer
- Visualization compartment
- LCD video display and controls
- Focus knob
- LCD operational display
- Measurement compartment
- Multi-button keypad

Rear/Side Panel

- Power connector with fuse-holder (fuse 250V, 1A)
- Video connector
- RS232 cable outlet
- I-Button port (side panel)

Specimen Testing Supplies

- **Measurement capillary:** Disposable, multi use plastic, positive displacement testing capillary (purchase from manufacturer).
- **Standard lab slide:** 76 X 25.6 mm with 22 x 22 mm cover-slip.
- **I-Button:** Required to run tests (purchase from manufacturer)

Archive Capacity

- 500 test records in each archive (Test and Controls)

Operating System

- **Control:** Keypad
- **Analysis Time:** Normal Test – 50 seconds
- **Software:** Resides on flash memory and drives all man-machine interface functions, runs algorithms for test measurements and operational screens. System can be upgraded from a PC CD-ROM.
- **Sample Testing Temperature:** Calibrated for room temperature only. Motility results will be impacted by heating the specimen.
- **Motility channel input signal:** Analog, up to 5V.
- **Spectrophotometer channel input signal:** Modulated (1 kHz) analog, up to 5V.

Quality Control

- **Internal:** Electronic Self-Test and Auto-Calibration.
- **External:** Latex beads control material (QwikCheck™ beads)

PC Compatibility

Minimum requirements for B-Sperm™ software

- **PC:** 1 GHz processor, Pentium 3
- **RAM:** 256 MB
- **AGP-video display card** with at least 16 MB of RAM memory
- **Video color:** At least 16 bit (65,535)
- **CD ROM drive**
- **40 GB free hard disk space** for image capturing/storage
- **Video resolution:** Minimum 640 x 480

Operating system compatibility

- **Windows** XP or VISTA or WIN7
- **Ports:** One serial; two USB ports
- **Monitor:** 15" color

Additional Software (supplied with system)

- **B-Sperm software:** Real time visualization interface between PC and SQA-Vb visualization system, data transfer, video/picture capture and archive.

Operational Temperature and Humidity

- System is operational at 15-38°C.
- **NOTE:** SQA-Vb operates in a wide range of ambient temperatures however the system is calibrated to measure semen samples at room temperature: 22-26°C (68-79°F). Semen samples can be pre-heated to 37°C / 98.6°F prior to testing if required (refer to the SQA-Vb User Guide Appendix I: Semen Sample Preparation).
- **NOTE:** Variations in ambient temperature may impact the accuracy of test results because of the effect of temperature on semen.
- System is fully operational at up to 80% humidity and 31°C.

Maintenance Schedule

- Cleaning daily or after every 25 tests (refer to the SQA-Vb User Guide Appendix III: SQA-Vb Cleaning Instructions).

Manufacturer Recommendations

- Operate the SQA-Vb away from devices that may cause electronic noise (cell phones) or other devices causing vibrations such as centrifuges.
- Turn system **OFF** at the rear-panel when not in use for extended period of time.
- Variations in ambient temperature can affect semen samples. The SQA-Vb is calibrated to conduct tests at room temperature: 22-26°C (68-79°F). Nevertheless semen samples can be run by the system after pre-heating to 37°C / 98.6°F.
- Semen is considered a biologically hazardous material and is subject to individual laboratory protocols for handling such materials.

Factory Default Settings

Date format: **DD/MM/YY**

Date/Time: Manufacturer's local date/time

Sample Type: **FRESH**

Fresh: **DOSING**

Frozen Type: **STRAW**

Freezing Media Default Settings: **SEMI CLEAR**

CONC STANDARD: **1 (Neubauer)**

Operational Default Settings:

- Automatically Print: **YES**
- Display Test Results: **YES**
- Automatically Send to PC: **YES**
- Barcode Data Transfer: **NO**
- QwikClick Counter: **NO**