RAT MOTILITY - TOXICOLOGY

TOX IVOS II (Analog Camera) – Version 14 Software

Sperm Analysis System Specifications

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Dimensions	**Height** in. (mm)	**Width** in. (mm)	**Depth** in. (mm)	**Weight** lb. (kg)
TOX IVOS II	11.1 (282)	20.3 (515)	19.3 (490	53 (24.1)
Monitor with stand	20.2 (513.5)	21.9 (556)	7.1 (180.3)	10.1 (4.6)

Electrical	TOX I**VOS**II	**Monitor**
Input Voltage:	110-240 VAC	110-240 VAC
Power:	350 watt (max)	200 watt (max)
Line Frequency:	50/60 Hz	50/60 Hz

Heated Stage

Temperature Control:	Room Temperature to 45°C
	Optional: 10°C to 45°C
Temperature stepsize:	0.1°C
Temperature stability:	0.5°C
Stage Position:	Programmable

Specimen Chambers

Cannula:	100 micron, >30 fields
Slide:	20, 50, 80 micron, 30 fields
User Defined:	Programmable

Internal Optical System

Imaging Device:	High Resolution CCD array (non-IDENT)
IDENT Option:	High Resolution Integrating CCD array for low intensity fluorescent sample imaging
Objective:	Standard: 10x, 10x UV, 4x
	Optional: 20x, 40x, 60x, 100x
Image Type:	Dark field, Bright field
	Phase Contrast, negative and positive
Signal Output:	NTSC, RS-170 60 Hz, *Optional*: PAL, CCIR 50 Hz

Video Capability

Analyze both 50 Hz (PAL) and 60 Hz (NTSC)

Illumination System

Stroboscopic light source

Photometer:	Scale on screen
Exposure:	Source on only during acquisition and focus
Pulse:	1 - 16 millisecond (4 ms typical)
Intensity:	Computer controlled

IDENT Fluorescent light source

Illumination:	Epifluorescent, Strobed Xenon
Pulse:	5 – 8 microseond
Intensity:	Computer controlled
Filter:	Double bandpass, 450 nm and 660 nm

Digital Image Acquisition

Frame Rate:	60, 30, 15, 7.5 Hz
Frames:	Min. 5, Max. 100
Fields:	1 – 20
Designation:	Automatic or Manually Selected

Analyzing System

Input Signal:	NTSC, RS-170
Image Resolution:	640 x 480
Control:	Mouse, Keyboard [optional: Touchscreen]
Analysis Time:	<5 seconds for 200 cells
On Hard Disk:	Updates on CD-ROM
Quality Control:	4 Levels: Video Playback, QC by Size, Intensity, Elongation
Analysis Sets:	7 User-defined

Standard Toxicology Software

Counts:	Total, Motile, Progressive
	% Motile, % Progressively Motile
	Rapid, Medium, Slow and Static Cells
Concentrations:	Total, Motile, Progressive (millions/ml)
	Rapid, Medium, Slow and Static Cells
	Sperm/gram tissue (IDENT mode)
Mean Values:	VAP, VCL, VSL, ALH, BCF, LIN, STR, Elongation (head shape) and Area (head size). Includes standard deviations.
Distributions :	VAP, VCL, VSL, Elongation, ALH, BCF, LIN, STR
Graphics:	Distribution Bar Charts
	Color coded tracks, Plots

Security

Password Security:	3 Levels Analysis Setup access
	99 unique User IDs and passwords
	Electronic signatures
Audit Trail:	Log file of user actions
Timer:	Automatic log-off after system is idle for designated number of minutes

Included Special Applications

IDENT: Automated sperm concentration analysis of homogenized cauda samples using DNA-specific, fluorescent stain and integrated fluorescent illumination.

Sort Function: Determines fraction of cells within user-specified limits on: VCL, VSL, VAP, LIN, STR, ALH, BCF, Head Size, and Elongation.

Track Editing: View and store detailed data for individual sperm tracks. Used for validation procedures.

HDATA ASCII Export: Transfer of summary data and/or individual track to ASCII compatible spreadsheet or database programs.

Clinical Filing: Provides ability to design three one-page reports and to store analysis reports to file.

Digital Image Storage: Allows storage and retrieval of exact fields analyzed. Includes HT Video Converter to convert saved video files to industry standard avi or wmv formats.

Optional Special Applications

Rat Metrix Morphology: Interactive, user-defined rat sperm morphology program which combines analysis under standard and fluorescent illumination

Viadent: Sperm viability assessment software option. Stain sperm with non-membrane permeable DNA stain and calculate viable sperm numbers under fluorescence (requires IDENT option)

Data Output

Printer, Clinical Filing, ASCII Export, Digital Images

TOX IVOS II Computer System (specifications subject to change)

Operating System:	Windows 7 Pro (32-bit)
Standard CPU:	3.0 GHz Intel i5 Dual (i7 Quad optional)
RAM:	8 GB SDRAM
Ports:	4 Serial
	2 USB 3.0
	8 USB 2.0 (4 on front)
	2 DVI
	1 Parallel
	1 DisplayPort
	1 Line-in (stereo/microphone)
	1 Line-out (headphone/speaker)
Network:	10/100/1000 LAN - Ethernet NIC,
	2 RJ45 ports
Hard Drive:	1 Terabyte 6.0 GB/sec 7200 RPM hard drive
Monitor:	24" flat panel, UXGA
CD/DVD Drive:	CD/DVD ± RW DL, BD-R

Specifications subject to change without notice.