

CLINICAL (HUMAN) MOTILITY

Version 12 HTM-IVOS Sperm Analysis System Specifications



HAMILTON THORNE BIOSCIENCES

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Dimensions	H	W	D	
	in. (mm)	in. (mm)	in. (mm)	lb. (kg)
IVOS	11.1 (282)	20.3 (515)	19.3 (490)	53 (24.1)
Monitor	13.8 (350)	14 (356)	8 (203)	12 (5.45)

Electrical	IVOS	Monitor
Input Voltage:	110-240 VAC	110-240 VAC
Power:	160 watt	200 watt
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 micron, 30 fields
User Defined	Programmable

Internal Optical System

Imaging Device:	High Resolution CCD array
Objective:	Standard: 10x Optional: 4x, 10x UV, 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

<i>Stroboscopic light source</i>	
Photometer:	Scale on screen
Exposure:	Source on only during acquisition and focus
Pulse:	1 - 3 millisecond
Intensity:	Computer controlled

Data Acquisition

Frame Rate:	60, 30, 15, 7.5 Hz [optional: 50, 25, 12.5, 6.25 Hz]
Frames:	Min. 5, Max. 100
Fields:	1 - 20
Designation:	Automatic or Manually Selected

Analyzing System

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

Standard Clinical 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
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

Optional Special Applications

<i>Sort Function:</i>	Determines fraction of cells within user-specified limits on: VCL, VSL, VAP, LIN, STR, ALH, BCF, Head Size, and Elongation.
<i>Track Editing:</i>	View and store detailed data for individual sperm tracks. Used for validation procedures.
<i>Dimensions:</i>	Strict Criteria morphological analysis for human sperm.
<i>Metrix:</i>	Interactive, user-defined morphology program applicable to human and other species.
<i>IDENT:</i>	Automated motility analysis of high-detritus samples using DNA-specific, fluorescent stain and integrated fluorescent illumination.
<i>HDATA ASCII Export:</i>	Transfer of summary data and/or individual track to ASCII compatible spreadsheet or database programs.
<i>Clinical Filing:</i>	Provides ability to design three one-page reports and to store analysis reports to file.
<i>Digital Image Storage:</i>	Allows storage and retrieval of exact fields analyzed to external disk drive.
<i>Morph-Merge:</i>	Provides capability for users to analyze motility in the morning and morphology in the afternoon, and then combine results into one report. Users visualize and manually classify sperm based on gross morphology of head, droplets and tail.
<i>Via-Dent:</i>	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

IVOS Computer System (minimum specifications)

Operating System:	Windows 2000 Professional
Standard CPU:	2.4 GHz Pentium IV
RAM:	1 GB SDRAM
Ports:	2 serial, 1 parallel, 2 USB (V2.0 compliant)
Network:	10/100 LAN - Ethernet NIC
Floppy Drive:	1.44 MB 3.5" High Density
Hard Drive:	120 Gigabytes (<i>back up hard drives optional</i>)
Monitor:	17" Flat Panel SVGA Color
DVD Drive:	DVD ± RW DL