

CLINICAL (HUMAN) MOTILITY



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Version 14 HTM-IVOS Sperm Analysis System Specifications

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	16.9 (429)	16.7 (424)	7.9 (200)	17.0 (7.7)

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 (non-IDENT)
IDENT Option: Integrated High Resolution CCD array for low intensity fluorescent sample imaging
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

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

Digital Image 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 CD-ROM
Quality Control: 4 Levels: Video Playback, QC by Size, Intensity, Elongation
Analysis Sets: 7 User-defined

IVOS Computer System (specifications subject to change)

Operating System: Windows 7
Standard CPU: 2.8 GHz Pentium IV
RAM: 2 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: 320 Gigabytes *(back up hard drives optional)*
Monitor: 20" Flat Panel UXGA
CD/DVD Drive: CD/DVD ± RW DL

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
WHO Data Output: Data output according to WHO laboratory manual for the examination of human semen and sperm-cervical mucus interaction, 5th Edition
Production Screen: Simple, single-screen user interface for data entry, analysis initiation and results display.

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

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.
Dimensions: Strict Criteria morphological analysis for human sperm.
Matrix: Interactive, user-defined morphology program applicable to human and other species.
IDENT: Automated motility analysis of high-detritus samples using DNA-specific, fluorescent stain and integrated fluorescent illumination.
InScribe: Report designer and manager to create unlimited professional reports from sperm analysis results. Ability to include all data (calculated and user input), images, and logo. Drag and drop design feature. Automatically pulls data from the saved HDATA ASCII file.
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.
Morph-Merge: 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.
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, HT InScribe, Clinical Filing, ASCII Export, Digital Images