

CLINICAL (HUMAN) MOTILITY

Version 12 HTM-CEROS

Sperm Analysis System Specifications



HAMILTON THORNE BIOSCIENCES

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The standard CEROS system includes the CEROS analyzer, CCD camera, negative phase contrast microscope, monitor, keyboard, mouse and standard Clinical analysis software.

Dimensions	H	W	D	
	in. (mm)	in. (mm)	in. (mm)	lb. (kg)
CEROS	16 (406)	9.25 (235)	18.5 (470)	25 (11.4)
Monitor	16.3 (414)	15.3 (387)	15.3 (387)	37 (16.8)

Electrical	CEROS	Monitor
Input Voltage:	110-240 VAC	110-240 VAC
Power:	250 watt	95 watt
Line Frequency:	50/60 Hz	50/60 Hz

Specimen Chambers

Cannula:	100, 200 micron
Slide:	20, 50 micron
User Defined	Programmable

Optical System

Imaging Device:	High Resolution B&W CCD array 120 or 240 VAC
Microscope:	Olympus CH-30 Negative Phase Contrast C-Mount Adapter Objective: 10x Negative High Phase Contrast MiniTherm Stage Warmer
Image Type:	Phase Contrast, negative and positive Dark field, Bright field
Signal Output:	NTSC, RS-170 60 Hz <i>optional: PAL, CCIR 50 Hz</i>
Magnification:	Set by User
Illumination:	Set by User
Photometer:	Scale on Screen

Data Acquisition

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

Analyzing System

Input Signal:	NTSC, RS-170 <i>[optional: PAL, CCIR]</i>
Image Resolution:	640 x 480
Control:	Mouse, Keyboard <i>[optional: Touchscreen]</i>
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>Metric:</i>	Interactive, user-defined morphology program applicable to human and other species.
<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.

Data Output

Printer, Clinical Filing, ASCII Export, Digital Images

CEROS Computer System (minimum specifications)

Operating System:	Windows 2000 Professional
Standard CPU:	2.0 GHz Pentium 4
RAM:	512 MB
Ports:	1 serial, 1 parallel, 2 USB
Floppy Drive:	1.44 MB 3.5" High Density
Hard Drive:	80 Gigabytes <i>(back up hard drives optional)</i>
Display:	17" LCD Monitor
CD-ROM	40x12x48 IDE CDRW

Specifications subject to change without notice.

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