

GENERAL

Product Name Cheetah NICOM®
Technology BIOREACTANCE®
Method of Measurement Non invasive continuous cardiac output (CCO)
Dimensions 22cm x 26cm x 20cm
Weight 4.5 Kg
Cable 3.7 m, NICOM® Patient cable
Sensors One set of NICOM® sensors

SYSTEM

Ambient Temperature and Humidity
 Operation condition: 10-40°C/50-104°F, 50-75%RH
 Atmospheric pressure: 700 hPa to 1060 hPa
 Storage condition: 0-50°C/32-122°F, 50-75%RH
 Delivery condition: 0-50°C/32-122°F, 50-75%RH
 Atmospheric pressure: 700 hPa to 1060 hPa

Standards
 IEC/EN 60601-1 (class I type BF)
 IEC/EN 60601-1-2
 IEC 60068-2
 TUV Rheinland of North America
 ISO 13485 Standards

FEATURES SUMMARY

Display
 8" TFT 640 x 480 pixels

Control
 Touch screen, keypad

Connections
 NICOM® cable connector
 Noninvasive blood pressure (NIBP) connector
 1x Serial Port
 1x USB A
 1x USB B
 1x LAN
 Power cable inlet connector
 Plug connector for potential equalization
 NELL-1 sensor SPO2 connector or Nonin SPO2 connector

BATTERY

Type Chargeable Ni-MH
Charge Time 6 hrs
Operating Time Approximately 90 min when fully charged

POWER

AC Mains 100v-240v ~ 2A ; 50/60 Hz
Skin Voltage Tolerance ±300 mV
Frequency Response 8Hz
Time Constant 0.125 Sec
Filter 75KHz
Rated Voltage/Current Power Switch Supply
 100V to 240V
Rated Frequency 50/60 Hz
Fuses 2x T2AL250V
A/D converter at 12 bit (2.5 mV LSB)
Sample rate 500 per sec

MAIN FEATURES

Hemodynamic Dashboard display
 Raw waveform display

Multiple Trends Display
 Screen trending display options: 5 min, 20 min, 30 min, 1 hr, 4 hrs, 10 hrs
 Tabular display

Protocol Wizards
 Passive Leg Raise wizard
 BIOREACTANCE Orthostatic wizard
 Bolus wizard

Events Marker

Connectivity to External Electronic Medical Records (EMR) System via LAN or Serial Port
 Data Streaming Rate: 30 sec, 1 min, 3 min, 5 min, 7 min, 10 min
 Maximum Baud Rate (Serial): 115200 baud
 Minimum Baud Rate (Serial): 9600 baud
 LAN Rate: 10/100 bps
 Data Format: XML

Manual Data Entries
 MAP
 SpO2
 Hgb
 Data updates on screen every 30 sec or 1 min

NIBP FUNCTIONALITY

Suntech Medical Technology
Patient Range Neonate through adult
Method of Measurement Oscillometry with step deflation
Operating Voltage +5.3VDC to +14.5VDC
Sleep Mode Power 1.4mW @ 6V (typical)
Accuracy Meets ANSI/AAMI SP10-1992
Temperature/Humidity
 Operating: 0°C to 50°C, <95% RH, non-condensing
 Storage: -20°C to 65°C, <95% RH, non-condensing

Pressure Accuracy
 The static pressure measurement is within ±3 mmHg throughout the temperature range

Measurements
 Automatic: 1, 3, 5, 10, 15, 30, 60 and 90 min intervals
 Manual: Single measurement initiated by user

Measurement Ranges - Pressure
 Adult: 20 to 260 mmHg
 Pediatric: 20 to 160 mmHg
 Neonate: 20 to 130 mmHg

Measurement Ranges - Pulse Rate
 30 to 220 BPM (Beats Per Minute)

Inputs/Outputs
 System Power
 Bi-directional RS232 or TTL serial communication

Safety
 Independent safety microprocessor monitors cuff pressure, measurement time, as well as the operation of the main microprocessor

Standards
 Meets AAMI SP10-1992, EN60601-1, EN60601-2-30, EN1060-1, EN1060-3 standards

Specialized Clinical Applications
 Suntech customized NIBP module for Dialysis

NICOM ELECTRONIC MEDICAL RECORDS (EMR) INTERFACE

PDF reports
 Excel reports
 Data export in XML
 Password protection
 Hemodynamic status PC display with visit-to-visit date

DATA STORAGE CAPACITY

11520 readings
 1 min update rate - 192 hrs
 30 sec update rate - 96 hrs

NELL-1 SPO2 FUNCTIONALITY

Nellcor Inc
Patient Range Neonate through adult
Operating Temperature 0 °C to +60 °C
Relative Humidity 15% to 95% non-condensing
Altitude 1,000 feet below sea level to 10,000 feet above sea level
Mechanical Shock Per IEC 600068-2-27, 100G, 6 ms half sine
Sinusoidal Vibration Per IEC 600068-2-6, 10 Hz to 500 Hz, 1 G peak, 10 sweeps/axis
Random Vibration Per IEC 600068-2-34, 20 Hz to 500 Hz, 0.02 g2/Hz
Storage Temperature -40 °C to +70 °C
Relative Humidity 15% to 95% non-condensing
Storage Altitude 1,000 feet below sea level to 20,000 feet above sea level
Vibration Per NSTA Project 1A
Drop Per NSTA Project 1A
Saturation 1% to 100% SpO2
SpO2 Accuracy (*Arms) 70-100%

	Adults/Pediatrics	Neonates
Reusable		
D-YS (Infant to Adult):	± 3 digits	± 4 digits
D-YS with D-YSE Ear Clip:	± 3.5 digits	N/A
D-YS with D-YSPD SpotClip:	± 3.5 digits	N/A
DS-100A:	± 3 digits	N/A
OXI-A/N:	± 3 digits	± 4 digits
OXI-P/I:	± 3 digits	N/A
Disposable		
OxiCliq A:	± 2.5 digits	N/A
OxiCliq P:	± 2.5 digits	N/A
OxiCliq N (adult):	± 2.5 digits	± 3.5 digits
OxiCliq I:	± 2.5 digits	N/A

XPOD SPO2 FUNCTIONALITY

Nonin Inc
Oxygen Saturation Range (SpO2) 0 to 100%
Displayed Pulse Rate Range 18 to 321 beats per minute (BPM)
Measurement Wavelengths and Output Power
 Red: 660 nanometers at 0.8 mW maximum average
 Infrared (using NONIN PureLight® Sensor): 910 nanometers at 1.2 mW maximum average
SpO2 Accuracy (Arms*) 70-100%

	Adults/Pediatrics	Neonates
No Motion		
Reusable		
Finger Clip:	± 2 digits	± 3 digits
Flex:	± 3 digits	± 3 digits
Soft Sensor:	± 2 digits	N/A
8000R:	± 3 digits	N/A
8000Q:	± 4 digits	N/A
Disposable		
6000 Series:	± 2 digits	± 3 digits
7000 Series:	± 3 digits	± 4 digits

Motion

	Adults/Pediatrics	Neonates
Reusable		
Finger Clip:	± 2 digits	± 3 digits
Flex:	± 3 digits	± 4 digits
Soft Sensor:	± 3 digits	± 4 digits

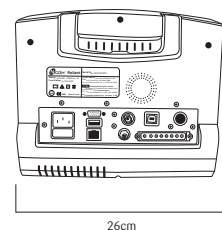
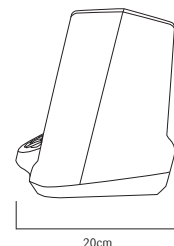
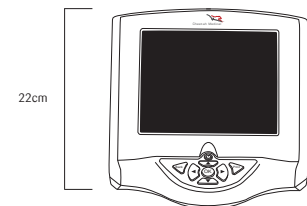
Low Perfusion

All Sensors:	± 2 digits	3 digits
--------------	------------	----------

Notes

Reusable Group
 Finger Clip Sensors: 8000AA-1, 8000AA-3, 8000AP-1, 8000AP-3
 Flex Sensors: 8000J-1, 8000J-3, 8008J, 8001J
 Soft Sensors: 8000SS, 8000SM, 8000SL

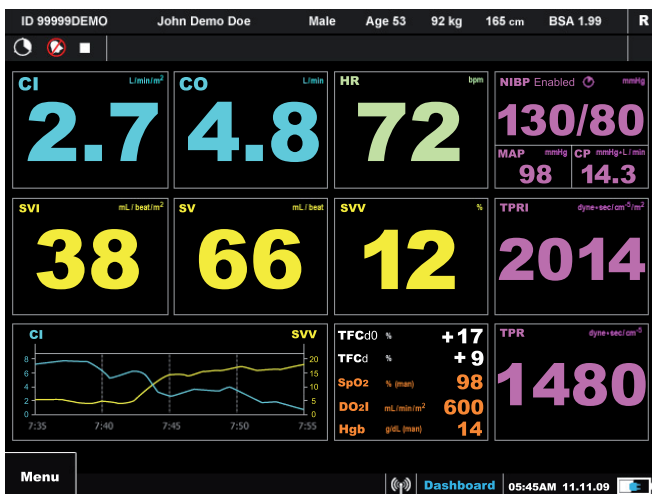
Disposable Group
 Flexi-Form® II (7000 Series) Sensors: 7000A, 7000P, 7000I, 7000N
 6000 Series Sensors: 6000A, 6000P, 6000I, 6000N
 * ±1 Arms represents approximately 68% of measurements



CLINICAL PARAMETERS

Parameter	Short For	Units
CO	Cardiac Output	L/min
CI	Cardiac Index	L/min/m ²
SV	Stroke Volume	mL/beat
SVI	Stroke Volume Index	mL/beat/m ²
SVV	Stroke Volume Variation	%
HR	Heart Rate	BPM
NIBP	Blood Pressure: Systolic, Diastolic, MAP	mmHg
TPR	Total Peripheral Resistance	dyne x sec/cm ⁵
TPRI	Total Peripheral Resistance Index	dyne x sec/cm ⁵ /m ²
CP	Cardiac Power	mmHg x L/min
CPI	Cardiac Power Index	mmHg x L/min/m ²
TFC	Thoracic Fluid Content	1000/Ohm
TFCd	TFC Change From Preset Time	%
TFCd0	TFC Change From Baseline	%
Zo	Thoracic Impedance	Ohms
VET	Ventricular Ejection Time	msec
dX/dt	NICOM First Derivative	
SpO2	Arterial Hemoglobin Oxygen Saturation	%
DO2I	Oxygen Delivery Index	mL/min/m ²
Hgb (manually entered)	Hemoglobin	g/dL
Height		inches/cm
Weight		lb/kg
BSA	Body Surface Area	
1 NICOM oscilogram		
2 ECG/Time Marker Oscilogram		

DISPLAY SCREENS



Cheetah NICOM® Hemodynamic Dashboard



Cheetah NICOM® Trend Display