

# NICOM®

## Non-invasive Cardiac Output Monitoring

### In the Dialysis Unit

#### Key Features of the Cheetah NICOM® Monitor

- Totally Non-Invasive Bioreactance® Technology
- Validated against the gold standard Swan-Ganz Pulmonary Artery Catheter
- Once calibrated no further adjustment needed
- Real Time Readings (30sec/1min)
- Quick & Easy Application
- Flexible front or back placement of four sensors
- Compact & Portable



#### Benefits for your department

- The NICOM System has been used in patients undergoing haemodialysis due to acute or chronic renal failure to provide real-time, continuous monitoring of CO, TPR, SV and Thoracic Fluid Content.
- Information provided by the NICOM System can provide early warning of impending haemodynamic decompensation
- Optimise dry patient weight management

# Specifications

## 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** 3.7m, 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 60601-1-2IEC 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  
SpO2 connector (future use)

## 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

### 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 (non US)

Hgb (non US)

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 ±3mmHg throughout the temperature range

### Measurements

Automatic: 1, 3, 5, 10, 15, 30, 60, 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)

PDF reports

Excel reports

Data export to XML

Password protection

Hemodynamic status PC display with visit-to-visit date

## Data Storage Capacity

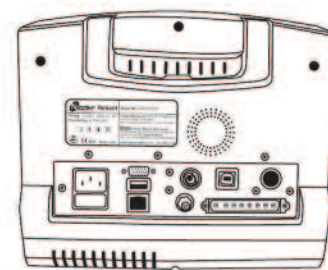
### 11520 readings

1 min update rate - 192 hrs

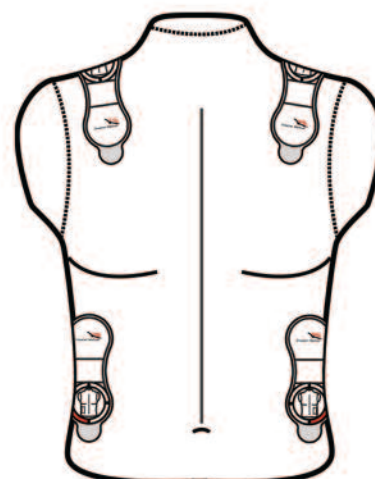
30 sec update rate - 96hrs



Front View



Reverse View



Sensor Placement