

Task Force® Monitor

> the non-invasive diagnosis system

The Task Force® Monitor is a high-tech device, designed for the non-invasive real-time evaluation of all medical conditions which are characterized by **rapid and short-term changes in hemodynamics and autonomic CV-control parameters**.

With its all-in-one design the system provides a unique combination of:

- > CNAP™ – continuous non-invasive arterial pressure
- > synchronized, fully functional ECG
- > CNCO – continuous non-invasive cardiac output
- > real time evaluation of autonomic CV-control

The Task Force® Monitor is a specialist's tool when it simply comes to collecting and interfacing data for studies. Its easy to use software packages are tailored to the specific diagnostic work flow and documentation needs of **tilt table testing** and **AV-optimization** of CRT-pacemakers in order to increase the physician's diagnostic productivity.

FEATURES

- > CNAP™ – continuous non-invasive arterial pressure
 - > high-fidelity blood pressure waveform
 - > real time systolic, diastolic and mean blood pressure
 - > absolute accuracy and autozero using NBP
- > ECG – high resolution 3-channel
 - > 6-channel display synchronized with patient signals (e.g. BP)
- > CNCO – continuous non-invasive cardiac output
 - > real time beat-to-beat cardiac output and stroke volume
 - > complete hemodynamic profile including total peripheral resistance
- > ANS – Autonomic Nervous System
 - > autoregulation of blood pressure
 - > heart rate and blood pressure variability
 - > baroreflex sensitivity
- > easy to use software packages: syncope, pacemaker

FACTBOX

Syncope

- > accounts for 1-6% of hospital admissions and 3% of emergency room visits each year.
- > occurs frequently with 500.000 new cases each year in the US, costing up to \$2 billion per year for hospitalized patients alone.
- > With 40% neurally-mediated causes are most common.

The Task Force® Monitor is currently the only device on the market fulfilling the guidelines*, providing CNAP™ and synchronized 3-channel ECG. (*ACC, ESC)

CRT-pacemakers

- > After implantation around 30% of patients are considered non-responding to CRT-therapy.
- > High clinical need for optimization for a) Non-responders to CRT and through b) Remodelling.
- > With its combination of impedance cardiography based cardiac output and additional beat-to-beat blood pressure, the Task Force® Monitor offers an accurate, fast, easy to use and cost-effective alternative to echocardiography.



PRIMARY CLINICAL APPLICATIONS

- > Neurocardiogenic Syncope – HUT
- > CRT – pacemakers: AV-optimization

ADDITIONAL APPLICATIONS

- > Optimization of hypertension therapy
- > Evaluation of drugs
- > Training condition of athletes (ANS)
- > Research and teaching

KEY BENEFITS

- > Patient safety through risk-free, non-invasive, continuous monitoring in contrast to arterial cannula, NBP
- > Synchronized patient signals (e.g. ECG and blood pressure)
- > Savings of time and costs through easy-to-use software customized to applications
- > Superior quality, absolute accuracy



CNSystems
The Brain & Heart Company



RECORDING CHANNELS		TFM 3040i	TFM 3030i
ECG: 3-channel (6-channel display)	accuracy: +/- 5µV sampling frequency: 1000Hz	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CNAP™ (beat-to-beat BP)	measuring range: 30-250 mmHg accuracy: +/- 1 mmHg (absolute values: +/- 5 mmHg)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
NBP – oscillometric BP	measuring range: 50-250 mmHg accuracy: +/- 5 mmHg	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CNCO (beat-to-beat stroke volume & cardiac output)	dZ/dt: +/-10Ω/s patient measuring current: < 400µA eff., 40kHz	<input checked="" type="checkbox"/>	<input type="checkbox"/>

2 external channels (optional) ±5V, maximum sampling frequency: 1000 Hz; pulse oximetry (optional)

DATA FORMATS

FEF (file exchange format)
ASCII (text format)
CSV (comma separated value)
MS-Excel® format
MATLAB®
XML

TECHNICAL SPECIFICATIONS

Dimension:
402/104/290 mm (158/41/114 in w*h*d)
Weight:
6.1kg (13.4 lb) excl. PC
Trolley:
50 kg (110.2 lb)
Computer:
High Quality PC + Flatscreen or Laptop
Nominal voltage:
100-230 VAC, 50/60 Hz
Power consumption, typ.:
120mA @ 230 VAC/ 240mA @ 110 VAC, 25W
Ambient temperature:
+10° up to +40°C (50°-104°F)
Relative humidity:
30% up to 85% (non-condensing)

SAFETY STANDARDS

Safety class I according to IEC 60601, class IIa according to MDD, type CF (ECG, CNCO), type BF (blood pressure)
CE-Certificate (ID-No. 0408, TÜV – Vienna, Austria)
FDA 510 (k): K014063
NRTL tested according to UL 60601-1: 2003 and CAN/CSA C22.2 No. 601.1-M90
EN 60601-1, EN 60601-1-2
EN 60601-1-4, EN 60601-2-25
EN 60601-2-30, EN 60601-2-49
EN 1060-1, EN 1060-3

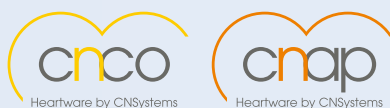
HEMODYNAMIC PARAMETERS

PARAMETER	UNIT	SIGNAL
Systolic blood pressure	mmHg	NBP, CNAP™
Diastolic blood pressure	mmHg	NBP, CNAP™
Mean blood pressure	mmHg	NBP, CNAP™
Stroke volume	ml	CNCO
Cardiac output	l/min	ECG, CNCO
Heart rate	bpm	ECG
RR-interval	ms	ECG
Total peripheral resistance	dyne*s/cm ⁵	ECG, CNCO, CNAP™
Heart rate variability	ms ² /Hz	ECG
Blood pressure variability	mmHg ² /Hz	CNAP™
Baroreflex sensitivity	ms/mmHg	ECG, CNAP™
Left ventricular work index	mmHg*(l/(min*m ²))	CNAP™, ECG, CNCO
Left ventricular ejection time	ms	CNCO
Index of contractility	1000/s	CNCO
Acceleration index	100/s ²	CNCO
Thoracic fluid content	l/Ohm	CNCO
Heather index*	1/s ²	ECG, CNCO
Pulse pressure	mmHg	NBP, CNAP™
Pre ejection period*	ms	ECG, CNCO
Systolic time ratio*	%	ECG, CNCO
Ejection rate*	%	ECG, CNCO
Mean systolic ejection rate*	ml/s	CNCO
Rapid ejection period*	ms	CNCO
R-dZmax time*	ms	ECG, CNCO
Total arterial compliance*	ml/mmHg	CNAP™, CNCO

*optional

CNAP™ refers to CNSystems' contBP

CNCO refers to CNSystems' ICG (Impedance Cardiography)



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