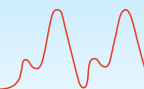


# EECP® Therapy Systems



A noninvasive, outpatient treatment option for your angina and heart failure patients

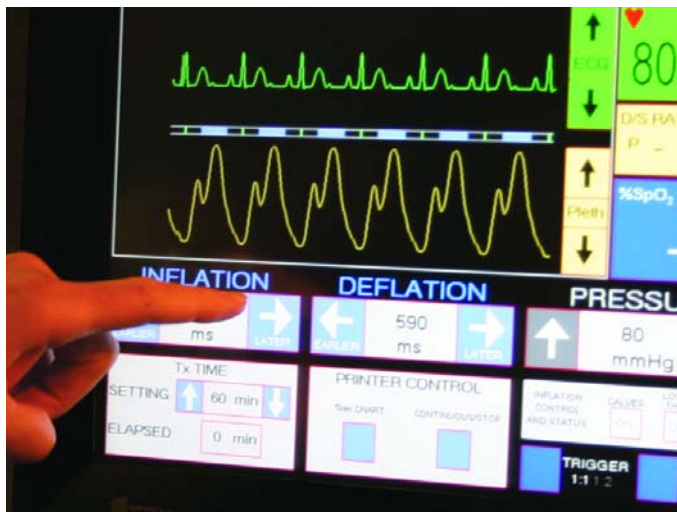


*The latest development in EECP® technology—  
Vasomedical EECP® Therapy System Model TS4*

## EECP® Therapy: Distinctly Different, Uniquely Vasomedical

EECP® therapy is offered exclusively by Vasomedical, the pioneer and world leader in the design and development of external counterpulsation systems. Vasomedical EECP® therapy systems are the ONLY external counterpulsation devices that have been proven effective in clinical studies published in leading cardiovascular peer-reviewed journals to provide benefits to patients suffering from angina and heart failure. With several hundred EECP® treatment centers around the world, the therapy has been clinically tested and used in many of the leading heart institutions.

### The TS4 Offers the Latest in EECP® Treatment Technology and Patient Comfort



All operation is clearly displayed with integrated, touch-screen control of all therapy functions.



The fully articulating LCD display arm enables optimum viewing adjustment.



Cuff area can significantly alter the delivery of pressure to the patient depending upon the patient's size. Vasomedical EECP® therapy systems utilize five different cuff sizes to ensure proper fit for all patients.



Vasomedical provides everything needed to expedite the implementation of EECP® therapy in a practice, from pants to cuffs and other required items for treatment, to materials that help educate and enroll patients.

## Features

Features	Benefits
Independently verified, published clinical performance	Confidence in the therapeutic delivery that is designed for optimum patient outcomes
Patient cuffs in 5 sizes (XS through XL)	Fits a wide spectrum of patients for optimized compression, hemodynamic benefit and patient comfort
High-resolution color touch-screen monitor	Easy-to-view operating parameters constantly provide a visual representation of treatment
Wide treatment table with conforming foam	Greater patient comfort, reduction in vibration and more space to prepare the patient for therapy
Integrated lead ECG cable	Greater durability, reliability and reduced ECG noise interference during therapy
Built-in SpO <sub>2</sub>	Provides spot-check of oxygen saturation during patient therapy per current IEPR guidelines for heart failure patients
Adjustable LCD display	Permits optimum viewing by the therapist; less neck & eye strain
High efficiency compressor	Less noise during therapy than prior models while improving pneumatic delivery
Solid-state storage system for patient data	More reliable than a standard hard drive
Onsite technical training programs and technician certification	Ensures that your staff is administering the therapy following best practices
Patient Recruitment Manual that outlines effective patient awareness and physician referral programs (includes marketing materials)	Supports the business needs of your practice
Reimbursement information and guidelines for effective billing	Supports the business needs of your practice
Initial start up pack	Includes all necessary materials needed to treat your first several patients to get the program started

## User Interface and Controls

Triple trace display	ECG/timing marker, timing marker, plethysmograph
ECG and plethysmograph amplitude adjustment	Adjustable from touch-screen
Digital display	Heart rate in beats per minute Oxygen saturation in % System pressure in mmHg Treatment time in minutes Inflation/deflation timing in milliseconds
Display trace freeze	Enable/disable from touch-screen
Accumulated usage timer	Indicates compressor operating time
Monitor	15-inch color active matrix LCD flat panel monitor with touch-screen control
Display resolution	800 x 600
Monitor swivel range	360 degree horizontal, 60 degrees vertical
Computer	IBM-PC compatible
Keyboard	Alphanumeric keyboard
Print width	100 mm
Trace printed	ECG, timing marker, plethysmograph
Other information printed	Date, time, patient name/ID, site name, treatment time, heart rate, %SpO <sub>2</sub> and set pressure
Printer running mode	Dual, 5-second and continuous

## Visual Status Indicators

Alarm (auditory and visual)	Patient stop (PATIENT STOP), end of treatment (END OF TREATMENT), tank air temperature too high (OVER TEMPERATURE), tank pressure is too high (PRESSURE TOO HIGH) All visual indicators are text messages with red background; re-settable by touching alarm message Alarm tone turns off when reset by touching alarm message
Alert (visual only)	Arrhythmia/artifact (ABNORMAL ECG), lead disconnection (NO ECG SIGNAL), heart rate too fast (HEART RATE HIGH), heart rate too slow (HEART RATE LOW), tank pressure below 80% of set point (PRESSURE LOW) and tank pressure above 120% of set point (PRESSURE HIGH) All indicators are text messages with yellow background

## Safety Features

System self test result	Displayed on screen: SELF TEST PASSED or SELF TEST FAILED
Heart rate synchronization	Automatic
Deflation condition	Automatic deflation upon power interruption Automatic deflation upon losing ECG
Reservoir pressure dump condition	Automatic upon power interruption Automatic upon losing ECG
Inflation/deflation timing limits	Earliest inflation: 150 ms after R-wave Latest deflation: 30 ms before next expected R-wave
Aberrant trigger signals	No inflation activation on aberrant trigger signals
Patient activated stop treatment	Patient stop button
Over temperature	Tank air temperature limit: 150°F
Simulation mode compressor state	Compressor is inactive in SIMULATION mode

## Patient File Management

Patient database file	Two individual files: PATIENT INFORMATION and SITE INFORMATION
Patient information	Name, address, phone number, ID, sex, date of birth, comments (50 characters), accumulated treatment time (in minutes); 250 patients maximum
Site information	Name, address, phone number, fax number, physician in charge
Database file format	CSV (comma-separated values) text format
Patient treatment time	Automatically accumulates in selected patient file
Database information display	Patient ID, patient name, accumulated treatment time (in hours)

## Electrical Performance, Safety & Electromagnetic Compatibility

Power requirements	110±10% Vac, 50/60 Hz, 2 KVA max. (20A outlet compatible) 230±10% Vac, 50/60 Hz, 2 KVA max. (15A outlet compatible)
Front panel main indicator	Amber light indicates the presence of AC power in console
Front panel ON/OFF switch	Push ON/Push OFF type, illuminated when System is placed in operation
ECG circuit defibrillator protection	Up to 5kV, 400 Joules
ECG leakage current	Conformity to EN 60601-1 Standard
Isolation voltage	Conformity to EN 60601-1 Standard
EMC standard	Conformity to EN 60601-1-2
Electrical safety standards	Conformity to EN 60601-1, UL60601, NFPA99 9-2.1.13 for leakage current, chassis and lead to ground

## Electrocardiogram (ECG)

ECG electrode	Disposable Stress Test type electrodes are used to acquire ECG. Lead configuration is RA – LA – RL nominal.
ECG common mode rejection ratio	≥ 90 dB
ECG frequency response	1 to 20 Hz within -3dB
ECG digital filter	Line frequency rejection, 50/60 Hz
Accuracy of normal R-wave detection	False-negative events < 0.1%; False-positive events < one per 5 minutes
Accuracy of abnormal R-wave detection	≥ 95%
ECG trigger range	35 to 125 bpm
Heart rate range and accuracy	30 to 180 bpm, ±1 bpm

## Plethysmograph

Plethysmograph frequency response	0.3 to 4 Hz, -3dB
Plethysmograph digital filter	Line frequency rejection, 50/60 Hz
Finger probe	Signal is acquired through photo reflective, reusable sensor
D/S ratio measurement	Augmented Diastolic/Systolic ratio is provided, manual trigger of area and peak ratio measurements are shown on screen in FREEZE mode

## Oxygen Saturation (%SpO<sub>2</sub>)

Sensor signal acquisition	Sensor signal is used for oxygen saturation computation only
Saturation range	0 to 100%
Accuracy (±1 Standard Deviation)	70 – 100% + 2 digits using an adult Finger Clip Sensor 70 – 100% + 3 digits using an adult Flex or Reflectance Sensors 70 – 100% + 4 digits using an adult Ear Clip Sensor Below 70% is not specified for all sensors

## Systems Dimensions & Weights

Component	L x W x H	Weight
Control console includes compressor	42 x 25 x 57 (in) 107 x 64 x 145 (cm)	504 lbs 229 kg
Treatment table	76 x 34 x 31 (in) 193 x 85 x 78 (cm)	270 lbs 123 kg

For more information contact: 800•455•EECP® (3327) • 516•997•4600

Vasomedical, Inc. • 180 Linden Avenue, Westbury, NY 11590  
www.vasomedical.com

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