chattanooga®
Moving Rehabilitation Forward®

Vectra™ Neo

Simplified, Powerful Solutions ... Deliver the Results You Demand

Vectra™ Neo's intelligent design is clever in its features, usability and clinical technology. Delivering an exceptional patient and therapist experience. Every element of the Vectra™ Neo has been expertly crafted, empowering the clinician to provide patients with a comprehensive level of rehabilitation.

Vectra™ Neo offers multimodality with 5 plug-and-play modules. Each unit can be assembled specificity for your customized clinical needs as well as adapted to future needs by easily adding additional modules. The plug-and-play modules are easily installed.

Neo is also simple to use thanks to the Clinical Protocol Setup™ (CPS), which leads you through the functions of the device and each therapy.

Additionally, Neo offers a stunning anatomic library that illustrates an array of pathologies, making it easier for you to communicate with patients about their condition and educate them on further treatment options.

A completely modular setup allows you to choose among the components that best fit your practice. The unit has an integrated base with discreet, strong handles for carrying. The optional high-quality cart is stable, height-adjustable, moves with ease, and includes three roomy storage drawers with sturdy pull tracks.

Clinical excellence and increased productivity, Vectra™ Neo gives you the freedom to have both.



Electrotherapy Waveforms

Waveforms	Description	Output Intensity	Phase Duration	Frequency (Hz)
Interferential Current IFC (4-Pole) 	Interferential Current is distributed through two channels (four electrodes). The currents cross each other and interfere, resulting in a modulation of the intensity (the current intensity increases and decreases at a regular frequency).			2000-10000 (Carrier) 1 – 200 (Beat)
Premodulated IFC (2-Pole) 	Premodulated Current comes out of one channel (two electrodes). The current intensity is modulated: it increases and decreases at a regular frequency.			2000-10000 (Carrier) 1 – 200 (Beat)
VMS™ 	A symmetrical biphasic waveform with a 100 µsec interphase interval. The short pulse has a low skin load, ideal for high intensities applications, such as muscle strengthening.	0-114 mA / 0-56 V	20-400 µsec	1-200
VMS™ Burst 	A burst version of VMS™	0-65 mA / 0-32 V	20-400 µsec	1-200
VMS™ FR 	A version of VMS™ where physiologically based channel interaction in which one channel stimulates the agonist & the other the antagonist of the muscle that is being exercised.	0-100 mA / 0-100 V	20-400 µsec	20-80
Asymmetrical Biphasic TENS 	This waveform has a short pulse duration. It is capable of strong stimulation of the nerve fibers in the skin as well as of muscle tissue.	0-93 mA / 0-46 V	20-1,000 µsec	1-250
Symmetrical Biphasic TENS 	A waveform with a short pulse duration. It is capable of strong stimulation of the nerve fibers in the skin as well as of muscle tissue.	0-73 mA / 0-36 V	20 - 1,000 µsec	1-250
Microcurrent 	Microcurrent is a monophasic waveform of very low intensity. It is thought to stimulate tissue healing by stimulating the 'current of injury', a current which naturally occurs in healing tissue.	0-1000 µA		0.1-1000
Han Stimulation 	This waveform provides optimal parameters with a precisely controlled sequence of Dense-and-Disperse (DD) modes of stimulation.	0-100 mA		
High Voltage Pulsed Current 	This monophasic waveform has a very brief pulse duration with two distinct peaks. The short pulse duration and high voltage result in a decreased skin resistance and deep yet comfortable tissue penetration.	0-500 V		10-120
DC (Direct Current) 	A direct current following in one direction only.	0-72 mA		
Russian 	A sinusoidal waveform, delivered in bursts or series of pulses. Claimed to produce maximal muscle strengthening effects without significant discomfort to the patient.	0-100 mA / 0-90 V		

Technical Specifications

ULTRASOUND

Frequency: 1 MHz, ± 5%; 3.3 MHz, ±5%
Duty Cycles: 10%, 20%, 50%, Continuous
Pulse Repetition Rate: 100 Hz ±20%
Pulse Duration: 1 mSec, ±20%; 2 mSec, ±20%; 5 mSec, ±20%
Output Power: 10 cm^2 Crystal: 0-15 W @ 1 MHz,
0-10 W @ 3.3 MHz
5 cm^2 Crystal: 0-6W @ 1 and 3.3 MHz
2 cm^2 Crystal: 0-3 W @ 1 and 3.3 MHz
1 cm^2 Crystal: 0-1.5 W @ 3.3 MHz
Amplitude: 0 to 2.5 W/cm^2 in continuous and pulsed modes
Output accuracy: ± 20%, 10% of maximum
Temporal Peak to Average Ratio: 2:1, ± 20%, at 50% Duty Cycle
5:1, ± 20%, at 20% Duty Cycle
9:1, ± 20%, at 10% Duty Cycle
Beam Nonuniformity Ratio (BNR): 5:1 maximum Beam Type, Collimating
IPXX Rating for Unit: IPX0
IPXX Rating for Applicator: IPX7
Effective Radiating Areas (ERA):

Effective Readiating Areas					
		ERA High		ERA Low	
Description	ERA (cm^2)	cm^2	%	cm^2	%
10 cm^2 Crystal	8.5	10	+ 18%	7	- 18%
5 cm^2 Crystal	4	5	+ 25%	3	- 25%
2 cm^2 Crystal	1.8	2	+ 11%	1.4	- 22%
1 cm^2 Crystal	0.9	1	+ 11%	0.4	- 55%

Treatment Time: 1 to 30 min

Head Warming Feature
The Head Warming feature of a Vectra® Neo Clinical Therapy System utilizes Ultrasound output, resulting in warming of the Applicator to increase patient comfort. With Head Warming enabled, ultrasound is emitted without pressing the Start button while an ultrasound treatment is being setup. The Applicator LED will not illuminate during the Head Warming period. US Channel will indicate "Head Warming".

Output: 0 - 50% Cycling of maximum power
Frequency: 3.3 MHz
Applicator Temperature: 29.4 °C - 43.3 °C (85 °F - 110 °F)

LASER

Output Type: Infrared Lamp (Laser)
Laser Class: 3B

Laser Technical Specifications
Pulse Frequencies: 8 Hz - 10000 Hz and continuous
Wavelengths: 670-950 nm (dependent on applicator)
Output: 100-1440 mW (dependent on applicator)
Output accuracy: +/- 20% of nominal

Description of Device Markings
The markings on the unit are assurance of its conformity to the highest applicable standards of medical equipment safety and electromagnetic compatibility. One or more of the following markings may appear on the device:

	Refer to Instructional Manual Booklet		Stim
	Equipment capable of delivering output values in excess of 10 mA r.m.s. or 10V r.m.s. averaged over any period of 5s		Start
	Testing Agency		Stop
	Dangerous Voltage		Pause
	Electrical Type B		Intensity
	Electrical Type BF		Lock/Unlock
	Laser		ON/OFF
	Ultrasound		Laser Stop Switch
	This unit is considered to be a Class 3B laser product and thus emits visible and invisible laser radiation (IR). Avoid direct eye exposure to the Laser beam. The symbol to the left is located on the back of the applicator and indicates the active radiant surface (the area on the applicator that emits infrared laser energy and the direction of the beam of light)		
	MRI Unsafe (device, its components and accessories are not to be present in an MRI or CT environment)		

Laser Applicator Technical Specifications
For all single diode and cluster laser and LED applicators, the expected increase in the measured quantities after manufacture added to the values measured at the time of manufacture is ± 20%. The software incorporates a cooling function that forces the user to cool the laser cluster prior to the next treatment. The software will calculate the cooling time needed when treatment times exceed 3 minutes per application.

- For a 3 minute treatment, it will force a 15 second cool down period
- For a 4 minute treatment, it will force a 2 minute cool down period
- The software extrapolates for times between 3 and 4 minutes

A message will display for 5 seconds on the screen informing the user that the probe is cooling down and the time period required. If the user attempts to use the probe before the cool down period is completed, the message re-displays.
When cool down is complete, a message displays the unit is ready for use.

Technical Specifications

POWER (Combination and Electrotherapy Units)

Mains:	Input 100 - 240 V AC, 2.5A TO 1.25A, 50/60 HZ
Electrical Class:	CLASS I
Mode of Operation:	Continuous

Electrical Type (Degree of Protection):

Ultrasound:	TYPE B
Laser:	TYPE B
Electrotherapy:	TYPE BF
Electrotherapy & sEMG:	TYPE BF
Ultrasound & Electrotherapy:	TYPE B

Note:
All waveforms except High Voltage Pulsed Current (HVPC) have been designed with a 200 mA current limit. VMS™, VMS™ Burst and all TENS waveform output intensities are measured, specified, and listed to peak, not peak to peak.

GENERAL SYSTEM OPERATING & STORAGE TEMPERATURE

Operating conditions:
- Temperature: 10° C to 45° C
- Relative Humidity: 0% to 90%
- Atmospheric Pressure: 700hPa to 1060hPa

Transport and storage conditions:
- Temperature: Above 0° C freezing to +60°C
- Relative Humidity: max 95%
- Atmospheric Pressure: 700hPa to 1060hPa

DIMENSIONS & WEIGHTS

	Width	Depth	Height	Weight
Module	11.12" (28.2448 cm)	6.34" (16.1036 cm)	1.43" (3.6322 cm)	1LB (0.453592 kg)
Head @ 45 degree with Base (Tabletop)	15.89" (40.3606 cm)	15.89" (40.3606 cm)	22.05" (56.007 cm)	20.7LB (9.389362 kg)
Cart Lowered (with casters)	23.94" (60.8076 cm)	26.19" (66.5226 cm)	27.41" (69.6214 cm)	29.4LB (13.33562 kg)
Cart Raised (with casters)	23.94" (60.8076 cm)	26.19" (66.5226 cm)	30.15" (76.581 cm)	
Head and raised cart with screen @ 90deg	23.94" (60.8076 cm)	26.19" (66.5226 cm)	52.85" (134.239 cm)	48.9LB (22.18067 kg)

Custom-Made Modality

Build the precise combination for your needs with five slide-in, plug-and-play module options; Channel 1/2 stim, Channel 1/2 stim/ EMG, Channel 3/4 stim, Laser and Ultrasound. Each unit is assembled and shipped specifically according to your customized clinical needs.



*Applicator(s) must be ordered separately

Examples of different available configurations. Contact Patterson Medical Customer Service: 800-323-5547 if you don't see your preferred configuration listed here.

2 channel tabletop stim with sEMG	2 channel tabletop combo with sEMG *	2 channel combo with cart *	2 channel combo with sEMG and cart *	2 channel combo with sEMG, laser and cart *	4 channel combo with cart *	4 channel combo with sEMG and cart *	4 channel combo with sEMG, laser and cart *
Required Part Numbers							
6000 70004	6000 70002 70004	6000 70000 70001 70002	6000 70002 70001 70004	6000 70002 70001 70004 70005	6000 70000 70001 70002 70003	6000 70001 70002 70003 70004	6000 70001 70002 70003 70004 70005

Ordering information

Vectra™ Neo Base Unit + Optional Cart

Part Number	Description
Vectra™ Neo	
6000	Vectra™ Neo Base Unit
Standard Accessories	
13-7646	Vectra™ Neo User Manual
13-7647	Vectra™ Neo User Manual on CD
Optional Accessories	
70001	Vectra™ Neo Therapy System Cart

Vectra™ Neo Ultrasound Module

Part Number	Description
Vectra™ Neo Ultrasound Module	
70002	Vectra™ Neo Ultrasound Module
Standard Accessories	
13-8911	Ultrasound User Manual
13-7718	Modules User Manual on CD
Optional Accessories	
70001	Vectra™ Neo Therapy System Cart
70008	Vectra™ Neo Operator Remote
27333	1 cm^2 Sound Head Applicator
27334	2 cm^2 Sound Head Applicator
27335	5 cm^2 Sound Head Applicator
27336	10 cm^2 Sound Head Applicator

Applicator(s) must be specified when ordering Module

Vectra™ Neo sEMG + Stim Module

Part Number	Description
Vectra™ Neo sEMG and Channel 1/2 Stimulation Module	
70004	Vectra™ Neo sEMG and Channel 1/2 Stimulation Module
Standard Accessories	
13-8905	Stim 1/2 Module User Manual
13-7718	Modules User Manual on CD
42182	Dura-Stick® Plus 2 inch round electrodes (2 packs of 4)
70010	Stim Ch 1/2 Leadwire Kit
70014	Stim Ch 1/2 + EMG Leadwire Kit
Optional Accessories	
70001	Vectra™ Neo Therapy System Cart
70008	Patient Remote/Laser Interrupt Switch
79977	HiVolt Probe
70012	XL Leadwire Kit

Vectra™ Neo Channel 1/2 Stim Module

Part Number	Description
Vectra™ Neo Channel 1/2 Stimulation Module	
70000	Vectra™ Neo Channel 1/2 Stimulation Module
Standard Accessories	
13-8905	Stim 1/2 Module User Manual
13-7718	Modules User Manual on CD
42182	Dura-Stick® Plus 2 inch round electrodes (2 packs of 4)
70010	Stim Ch 1/2 Leadwire Kit
Optional Accessories	
70001	Vectra™ Neo Therapy System Cart
70008	Patient Remote/Laser Interrupt Switch
79977	HiVolt Probe
70012	XL Leadwire Kit



Vectra™ Neo Channel 3/4 Stim Module

Part Number	Description
Vectra™ Neo Channel 3/4 Stimulation Module	
70003	Vectra™ Neo Channel 3/4 Stimulation Module
Standard Accessories	
13-8893	Stim 3/4 Module User Manual
13-7718	Modules User Manual on CD
42182	Dura-Stick® Plus 2 inch round electrodes (2 packs of 4)
70011	Stim Ch 3/4 Leadwire Kit
Optional Accessories	
70001	Vectra™ Neo Therapy System Cart
70008	Patient Remote/Laser Interrupt Switch
79977	HiVolt Probe
70013	XL Leadwire Kit



Vectra™ Neo Laser Therapy Module

Part Number	Description
Vectra™ Neo Laser Therapy Module	
70005	Vectra™ Neo Laser Therapy Module
Standard Accessories	
13-8907	Laser Module User Manual
13-7718	Modules User Manual on CD
70008	Patient Remote/Laser Interrupt Switch
27525	Laser Protection Glasses
Optional Accessories	
70001	Vectra™ Neo Therapy System Cart
Laser Applicators	
Singles	
27799	LED Diode 10mW
27803	Laser Diode 40mW
27840	Laser Diode 100mW
27804	Laser Diode 150mW
27841	Laser Diode 200mW
27805	Laser Diode 300mW
9 Diode Cluster	
27810	290mW Total: 5x50mW Lasers, 4x10mW LED
27811	540mW Total: 5x100mW Lasers, 4x10mW LED
27812	1040mW Total: 5x200mW Lasers, 4x10mW LED
13 Diode Cluster	
27813	265mW Total: 3x50mW Lasers, 7x10mW LED, 3x15mW LED
27814	415mW Total: 3x100mW Lasers, 7x10mW LED, 3x15mW LED
27816	715mW Total: 3x200mW Lasers, 7x10mW LED, 3x15mW LED
19 Diode Cluster	
27815	325mW Total: 6x10mW LED, 7x25mW LED, 6x15mW LED
33 Diode Cluster	
27809	565mW Total: 12x10mW LED, 13x25mW LED, 8x15mW LED
27802	690mW Total: 5x50mW Lasers, 12x10mW LED, 8x25mW LED, 8x15mW LED
27807	940mW Total: 5x100mW Lasers, 12x10mW LED, 8x25mW LED, 8x15mW LED
27808	1440mW Total: 5x200mW Lasers, 12x10mW LED, 8x25mW LED, 8x15mW LED

NOTE: Applicator(s) must be specified when ordering Laser Module.

For more information on Vectra™ Neo, visit
DJOglobal.com/chattanooga/vectraneo

Individual results may vary.
Neither DJO Global, Inc. nor any of its subsidiaries dispense medical advice. The contents of this brochure do not constitute medical, legal, or any other type of professional advice. Rather, please consult your healthcare professional for information on the courses of treatment, if any, which may be appropriate for you.

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