

VQ™ Vector

Neuromuscular/Interferential Stimulator

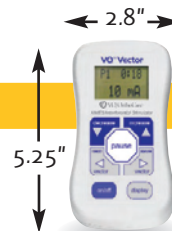
Features and Benefits

- Digital, programmable, portable
- Custom or standard presets
- Microprocessor controlled
- LCD with compliance meter
- Ability to link presets for ease of use
- Battery pack or AC adapter



Neuromuscular/Interferential Stimulator

The VQ™ Vector targets electrical stimulation to provide maximum patient benefit.



Product Profile

Specifications

Power Source: Four (4) alkaline AA batteries, or AC adapter

Size: 5.25" x 2.8" x 1.75"
(including belt clip)

Weight: 10.8 oz with batteries

Tolerances: All electrical specifications are \pm 10 percent into a 500 ohm load for each channel and using the AC adapter, unless stated otherwise

Treatment Timer: 1 min - 8 hr, or continuous

Compliance Timer: 0-999 hr, 59 min (41.66 days) in 1 min intervals

- Can be locked out from patient
- Can be reset by clinician

Preset Programs:

- Preprogrammed presets: 5
- Available presets: 75

User Interface:

- Custom LCD display
- LED backlighting for use in low light
- Indicators for "Low Battery" and "Pause"
- Flashing indicator to show current flow

Electrodes: Use only electrodes with an electrically conductive gel recommended for use with muscle stimulators that are currently available in the marketplace

Output Type: (IF) Interferential, constant; (NM) Neuromuscular, uses a 6 sec ON, 6 sec OFF duty cycle.

The ON cycle includes a 2 sec ramp-up period

Output Current: 0-50 mA in 0.5 mA increments

Base Carrier Frequency: 4000 Hz, fixed medium frequency

Interference Frequency: 1-150 Hz in 1 Hz increments

Waveform:

- Standard (4 electrode): 2 channels each having square wave outputs
- Premodulated (2 electrode): 1 channel with rectangular waves
- Output is only in black leads

Pulse Duration:

- Standard: Fixed at 125 μ s for each phase
- PREMODULATED: 5-125 μ s

Pulse Coordination Modes

- C Continuous
- 1/1 Oscillating 60% of set frequency for 1 sec, then 160% for 1 sec
Cycle repeats every 1 sec

- 6/6 Oscillating 60% of set frequency for 6 sec, then 160% for 6 sec
Cycle repeats every 6 sec
- 6/6 60% of set frequency then ramps to 160% of set frequency over 6 sec; the next 6 sec it ramps from 160% to 60%;
Cycle repeats every 12 sec

Vectoring: Increases one channel's amplitude while simultaneously decreasing (by the same percentage) the other channel's amplitude with a single key press. The range of adjustment will be 25% of the user setting. At the maximum level of change, one channel will be at 75% of original setting and the other channel will be at 125% of original setting.

Vector Sweep: Continuously changes the amplitudes of the 2 channels through the vectoring range (75% of original setting to 125% of original setting) over 60 sec

Automatic Switching to Next Preset: 1-75, or OFF
The VQ™ Vector is covered by a three (3) year limited warranty from the date of shipment from the factory for the device and a one (1) year limited warranty for parts and accessories.

Warnings

- The long term effects of chronic electrical stimulation are unknown
- Stimulation should not be applied over the carotid sinus nerves, particularly in patients with a known sensitivity to the carotid sinus reflex
- Stimulation should not be applied over the neck or mouth. Severe spasm of the laryngeal and pharyngeal muscles may occur and the contractions may be strong enough to close the airway or cause difficulty in breathing
- Stimulation should not be applied transthoracically in that the introduction of electrical current into the heart may cause cardiac arrhythmias
- Stimulation should not be applied transcerebrally
- Stimulation should not be applied over swollen, infected, or inflamed areas or skin eruptions, e.g. phlebitis, thrombophlebitis, varicose veins, etc.
- Stimulation should not be applied over, or in proximity to, cancerous lesions

Precautions

- Safety of stimulators for use during pregnancy has not been established
- Caution should be used for patients with suspected or diagnosed heart problems
- Caution should be used for patients with suspected or diagnosed epilepsy
- Caution should be used in the presence of the following:
 - When there is a tendency to hemorrhage following acute trauma or fracture;
 - Following recent surgical procedures when muscle contraction may disrupt the healing process;
 - Over the menstruating or pregnant uterus; and
 - Over areas of the skin which lack normal sensation
- Some patients may experience skin irritation or hypersensitivity due to the electrical stimulation or electrical conductive medium. The irritation can usually be reduced by using an alternative conductive medium or alternate electrode placement.
- Electrode placement and stimulation setting should be based on the guidance of the prescribing practitioner
- Keep out of reach of children
- Use only with the leads and electrodes recommended for use by the manufacturer
- Portable stimulators should not be used while driving, operating machinery, or during any activity in which involuntary muscle contractions may put the user at undue risk of injury

Indications

- Symptomatic relief of chronic intractable pain and as an adjunctive treatment in the management of post-traumatic and post-surgical pain
- Relaxation of muscle spasms
- Prevention or retardation of disuse atrophy
- Increasing local blood circulation
- Muscle re-education
- Immediate post-surgical stimulation of calf muscles to prevent venous thrombosis
- Maintaining or increasing range of motion

Contraindication

Stimulators should not be used on patients with cardiac demand pacemakers

Adverse Reactions

Skin irritation and burns beneath the electrodes have occasionally been reported with the use of stimulators.

CAUTION

Federal law restricts this device to sale by or on the order of a practitioner licensed by the law of the State in which he/she practices to use or order the use of the device.

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