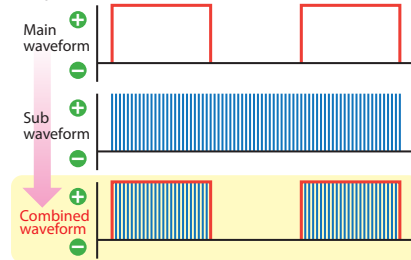


MF mode

Polar high- and medium-frequency group waveform

Use of carrier waves with frequency of 40, 60, or 80 Hz reduces the skin impedance (resistance) and enhances the effect of current flowing to deep muscles.

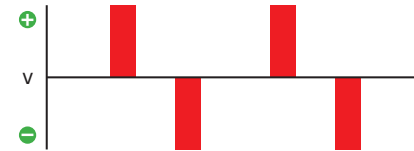


80kHz 200μs, 60kHz 300μs, 40kHz 400μs

PM mode

AC of biphasic rectangular waves.

The high-power alternating current of a rectangular waveform also stimulates paralyzing thick muscles.



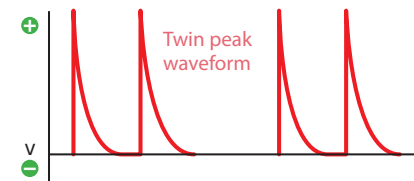
Features of alternating current having a biphasic rectangular waveform

This uses a new phase alternating waveform, and outputs positive and negative voltage alternately. A composite wave formed by reversing phase, shifted waveforms can supply electrical energy of twice the power as that supplied by a usual waveform current. Therefore, it can be suitably used for EMS

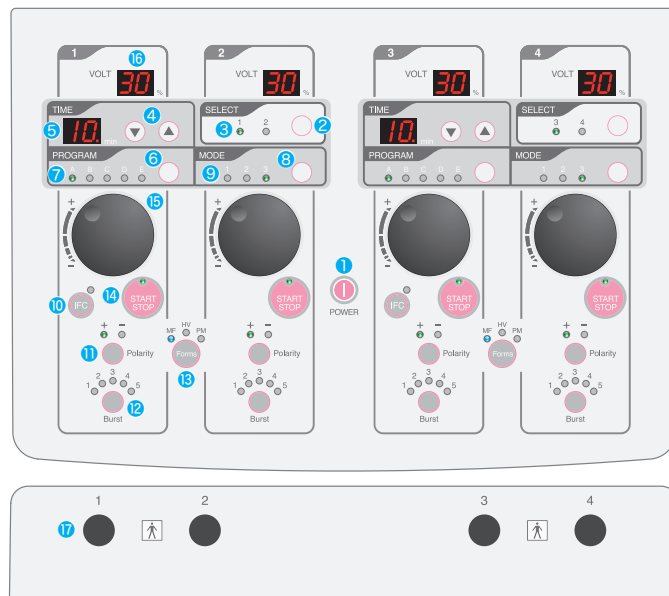
HV mode

Polar high voltage

The probe shot switch allows instantaneous flowing of current having a twin peak waveform of up to 200 V to the damaged part of the body. Since impedance of the skin is hardly affected, stimulation is effectively exerted to deep nerves and muscles.



Bio Fascia (control panel) settings, displays, and outputs / (standard electrodes, options) / (special wagon)



Displays

- 1 Power key
- 2 Channel setting
- 3 Channel display
- 4 Timer setting
- 5 Timer display
- 6 Program setting
- 7 Program display
- 8 Mode setting
- 9 Mode display
- 10 Interference setting
- 11 Polarity setting
- 12 Burst setting
- 13 Form setting
- 14 Start, stop
- 15 Output volume
- 16 Output display
- 17 Low frequency output



Special wagon (optional)

Standard accessories

- a power cord
- two sets of current-carrying cords (blue and pink)
- shot-type prpbe (disk-type tip or column-type tip)
- two sets of fixing bands (large and small)
- felt (for disk-type and column-type)
- eight current-flowing electrodes

Common options

- Y-type probe
- rectangular sponges
- gel electrodes
- rectangular low frequency electrodes

Specifications

- **Rated voltage:** AC voltage 100 V (50/60 Hz)
- **Power consumption:** Type A/40 VA, Type B/32 VA
- **External dimensions:** 440 mm (W) x 310 mm (D) x 230 mm (H)
- **Main body weight:** Type A/10 kg, Type B/9 kg
- **Fundamental frequency:** 500 Hz, 250 Hz, 125 Hz, 62 Hz, 31 Hz (five stages)
- **Carrier frequency:** 80 Hz, 60 Hz, 40 Hz (three stages)
* The carrier frequency is needed only in the MF mode (waveform of polar rectangular wave group.)
- **Number of channels:** four channels, two-stage timer switching
- **Medical device classification:** controlled medical device, medical device requiring specialist maintenance and management
- **Class Separation:** Class II
- **Type of protection against electrical shock:** Class I device
- **Degree of protection against electrical shock:** device with a Type BF mounting unit
- **Certification number:** 229AIBZX00006000
- **Manufacturing & selling business license number:** 27B2X00036
- **Manufacturer registration number:** 27BZ001000

* Please note that specifications, dimensions, etc. are subject to change without notice.

Distributor

OSHIMA INDUSTRIES Co., Ltd.

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TEL : +81-3-3654-7205

Mail : ooshima-kansai.co@nifty.com

Safety precautions

- Be sure to read the instruction manual carefully before using the device, and then use it correctly.
- Inspect the device periodically.

Web site <https://www.ooshima.me/global/>

QR code



NEW series

High-frequency electrical stimulation device

Bio Fascia

Bio Fascia
High-frequency electrical stimulation device

HF
Max. 80,000Hz
High-Frequency

LF
Low-Frequency

Bio Fascia
NMES + EMS + MFR

OSHIMA INDUSTRIES

<https://www.ooshima.me/global/>

Bio Fascia

High-frequency electrical stimulation device

NMES + EMS + MFR

New Waveforms for Stimulating Deep Muscles

The Bio Fascia stimulates muscles with electrical signals having a waveform of the DC high frequency rectangular wave group. It has the capability of reaching deep muscles and electrode flowing, enabling the effects of stimulating deep nerves and muscles, as well as deep fascia.

Four significant features of Bio Fascia

1 Analgesic and sedative effects

Unpleasant electrical stimulation does not occur because of fixed polarity (negative electrode) and high frequency synthesis.
Cathode flowing effect: Analgesic and sedative effects of reducing acute and chronic pains and effects of deep muscle stimulation with a special high frequency waveform provide a long-term effect of reducing pain, inflammation, and swelling.

2 Electrical Neuromuscular Facilitation (ePNF)

Besides pain control and blood circulation facilitation by means of usual low frequency stimulation and muscle contraction using interference current, the combination of stimulation with a special high frequency waveform and manual PNF could quickly activate the neuromuscular mechanism.

Unpleasant electrical stimulation does not occur, by virtue of fixed polarity (positive electrode) and high frequency synthesis.
Anode flowing effect: In rehabilitation training for cerebrovascular disorder, it should be used together with exercise therapy to provide muscle contraction by means of deep neuromuscular stimulation using high frequency composite waves.

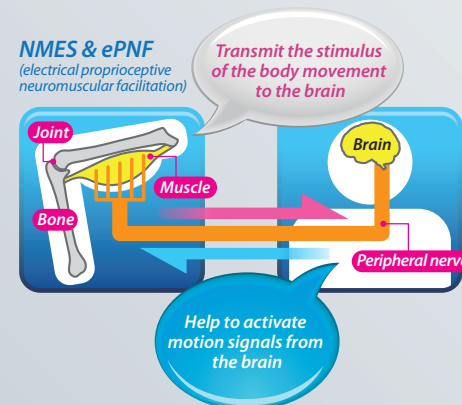
3 Neuromuscular Electrical Stimulation (NMES)

This is a therapy to give electrical stimulation to nerves and muscles aiming at objectives of stimulating various reactions. It is expected that NMES with a special high frequency waveform of up to 80,000 Hz could transitively move deep muscles to facilitate neuromuscular reeducation, strengthen muscles, and recover muscle functions.

3 Myofascial Release

Stimulation with a special high frequency waveform having high frequency components (up to 80,000 Hz) is exerted on deep fascia and extracellular matrix (ECM) covering the fascia to facilitate recovery of damaged and stressed fascia and ECM.

*extracellular matrix (ECM): Fibrous or mesh structure existing outside the somatic cells that constitute a living body



Anatomy Train



HF
Max. 80,000Hz
High-Frequency

LF
Low-Frequency

Using a composite wave superposing low-frequency waveforms with high-frequency waveforms (up to 80,000 Hz), the deep reaching effect of high-frequency current and the neuromuscular stimulation effect of low low-frequency current are combined.

If a parallel circuit made up of a resistor and a capacitor is substituted for the electrical resistance (Impedance) of the living body (Cole equivalent circuit), the equations below are obtained. As the frequency increases, the skin resistance lowers

$$\frac{1}{Z} = \frac{1}{R} + \frac{1}{X_c}$$
$$X_c = \frac{1}{2\pi f C}$$

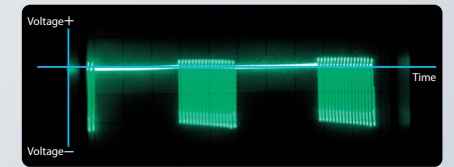
Z: skin impedance (skin resistance), R: resistance value (Ω)
Xc: capacitive reactance
 π : constant, f: frequency (Hz), C: capacitance

Since the polarity of this waveform is fixed, application of current for several minutes causes the electrode flowing effect, and the following effects are maintained for a long time:

1 An "cathode flowing effect" appears directly below the negative electrode

This is used for the therapy of neuromuscular disorders, in which the sedative effect of relieving pain, convulsions, and inflammation is expected.

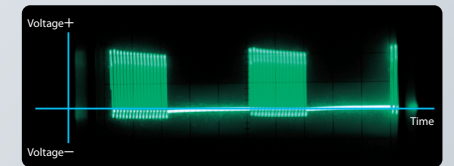
Physiological phenomena	In an early stage of current application	After the elapse of a certain period of time
Ion permeability	Decreasing	Increasing
Polarizability	Increasing	Decreasing
Threshold	Decreasing	Rising
Excitability	Increasing	Decreasing



2 The "anode flowing effect" appears directly below the positive electrode

A combination of muscular paralysis treatment, EMS, and exercise therapy can facilitate the effect of stimulating muscles for effective rehabilitation.

Physiological phenomena	In an early stage of current application	After the elapse of a certain period of time
Ion permeability	Increasing	Decreasing
Polarizability	Decreasing	Increasing
Threshold	Rising	Decreasing
Excitability	Decreasing	Increasing



*See pages 15 to 25 of "Principles of Physical Therapy."

- HV mode** Realization of intermediate to high frequency stimulation which hardly affects the skin impedance (skin resistance)
- PM mode** Nearly doubled electrical energy supply using phase alternating biphasic rectangular waves
- MF mode** Locally concentrated high voltage stimulation with a probe shot switch



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