

MANUALE D'ISTRUZIONI / INSTRUCTION'S MANUAL

IONO BASE PLUS



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MA342IGBa

WARNINGS

It is very important that this manual of instructions is preserved together the unit for any future consultation. If the unit must be sold or transferred to other consumer, make sure that the manual comes furnished together, so that the new consumer could be aware of the operation of the unit and of the relative instructions.

THESE WARNINGS HAVE BEEN WRITTEN FOR YOUR SAFETY AND FOR THE OTHERS ONE, SO PLEASE PAY ATTENTION READING THEM BEFORE YOU INSTALL AND USE THE UNIT.

- After have removed the packing we make sure of the equipment's integrity. If there is a doubt do not use it and turn to qualified staff.
- The electric security of the equipment is assured only when the same is correctly connected to an electric installation conformable to the standard norms. It is necessary to verify this fundamental requisite of security and, if there is a doubt, ask for a control by qualified personnel.
- Before connecting the equipment be sure that the rating (on the back panel) is in conformity to the electric system.
- If there is incompatibility between the wall socket and the supply cable of the equipment substitute it with another one. In general it is not advised the use of adapters, multiple wall sockets and/or extensions. If their use is essential it is necessary to use only simple adapters and extensions in conformity to the norms of safe.
- The use of any type of electric equipment requires the observance of some fundamental rules. In particular:
 - do not touch the equipment with wet hands or feet;
 - do not use the equipment with barefoot.
- Do not expose the equipment to atmospheric agents (rain, sun, etc.)
- Do not keep the equipment uselessly connected. Switch off the general interrupter when the equipment is not used.
- This equipment is destined only to the use for which it has been designed. Every other use is improper and so dangerous. The manufacturer cannot be considered responsible for possible damages caused by improper or unreasonable uses.
- It is dangerous to modify the characteristics of this equipment.
- ⚠ Before carrying out any type of cleaning or maintenance, disconnect the equipment through the plug or switching off the mains switch.
- If there is a damage or the equipment doesn't work well, switch it off. For the repairing turn only to a qualified center of Technical Assistance and ask for the original spare parts. The missed respect of these things can be dangerous for the safety of the equipment and for the user.

- It is recommended to carry out the treatments after medical consultation.
- A simultaneous connection of a patient to an high frequency surgical unit can produce burnings in correspondence of the electrodes and the unit can be damaged.
- This equipment was manufactured to satisfy the present electromagnetic compatibility. In case of the functioning of the unit is interfered or interfy with the normal functioning of other electrical and electronic equipments, it is recommended to feed the equipment by a different electrical plug and/or try to dispose the unit in a different way until to the interference ends.
- Do not use mobile phone near to the equipment to avoid possible interference with it.
- Many components used inside this equipment are sensible to the electrostatic charges. If you need to hand any electronic component, avoid the eventual static energy that you can carry, by touching a mass plane to charge at hearth. If it is possible, wear a bracelet connected to earth. If you do not observe these precautions you could cause permanent damages to the electronic components of the unit.
- Working near a short wave therapy or microwaves unit (for example: lower than 2 m) can produce instability in output.
- Before every use check the unit and cables condition to determine discovered conductor parts or other condition of electric risk.
- The unit does not fit explosive or gas environments.

GENERAL INFORMATION

IONO BASE PLUS is a unit producing galvanic current, so it is suitable for galvanization, galvanic bath and medicinal ionophoretic administration, designed and manufactured for outpatient and home applications.

Unit has two channels completely divided, able to supply the maximum current (or galvanic) of 20mA, with regulation and visualization by single step display.

The effect shown during the galvanic current passage is an heating localized at the treated zone. This effect is caused by the transformation of a part of electric energy in Joule effect and it is proportional to the current intensity delivered for the supply time.

To the Joule effect is associated a fast antalgic action that continues more than treatment time.

Galvanic current has also the property of extraction of water molecules from aedematous tissues through the electro-osmosis.

Classic use of galvanic current is called medicinal ionophoresis, for the local drugs administration.

Good results of the ionophoretic treatment depend:

- from drug purity and from absence of unwanted ions. It is recommended to use distilled water for water dilutions.
- from cleaning of treated surfaces.
- from correct polarity of electrodes: positive ions go to neagative polarity and vice versa.
- from the current intensity that it shall be so that the patient feels a little tingling sensation, but not a noise sensation.
- from the concentration of medicinal solution.

INTENDED USE

The **IONO BASE PLUS** unit is a therapeutic currents generator, for a short time use, destined to rehabilitative treatments of galvanization and ionophoresis for out patient and domiciliar environment by the final user, after medical or paramedical staff control specialized in physical therapy with the knowledge of the application's points and the currents' effects, that must be suitable to the type and state of the illness.

The application of the therapeutic currents would have to be prescribed after a careful diagnosis of the illness.

It is recommended the use of **IONO BASE PLUS** after medical or paramedical staff control specialized in physical therapy with the knowledge of the application's points and the currents' effects, that must be suitable to the type and state of the illness.

IONO BASE PLUS must be used with the supplied accessories or with replacing accessories recommended by the producer.

The use of **IONO BASE PLUS** is indicated in case of:

- arthritis
- arthrosis
- bursitis
- myalgia
- tendinitis, to have an analgesic effect
- in the diseases where there is the necessity to deliver into the tissues drugs or solutions like not steroid antiphlogistic, hydrocortisonic local anaesthetic.

It is also recommended its use to reduce the hyperhydrosis by the effect of re-balance of the potential's difference between the derma and the surface skin, the unbalance of this potential allows a great perspiration, and the reduction of the output hole of the channel that allows to the glands to take out the perspiration.

GALVANIC THERAPY

The galvanic therapy is used to cure a lot of diseases of the organism, like arthritis, arthrosis, lumbar pains, lumbosciatalgia, cervicalgia, muscular tears, etc. It is used in aesthetic applications, above all for treatments against cellulitis, to harden and tonify the muscle.

This therapy is called “galvanic” because the galvanic current (continuous), known for its positive effects on the human body.

The passage of galvanic current causes an hyperaemia localized on the treated zone, due to the partial transformation of electric energy into Joule’s Effect and proportional to the current intensity supplied multiplied for the delivery time. To the Joule’s Effect is associated a very intense antalgic action lasting more than treatment time. Galvanic current is also used for its property to extract water molecules from oedematous tissues through the electro-osmosis. But the most used method by galvanic current is the medical ionophoresis, to the local delivery of drugs. The continuous current delivers active ions of a drug into water solution, by an antalgic action, against pain, eutrophic (increasing muscular volume).

GALVANIZATION

Galvanization is the moving of ions with increasing of the permeability of cellular membrane and changing capability. This method allows the taking in of nutritive substances and the taking off of waste substances (catabolites), with a consequent eutrophic effect. Three modalities of electrodes’ applications can be distinguished:

- longitudinal descendant galvanization: proximal positive electrode (trophic effect)
- ascendant longitudinal galvanization: distal positive electrode (antalgic effect)
- cross galvanization: opposed electrodes. Galvanic bath: body segments dipped into water basin containing the electrodes.

IONOPHORESIS

Ionophoresis is an electro-therapeutic technique using the continuous current (galvanic) to introduce drugs into the pain zone, of contracture or with un-aesthetics.

The used active principle could be negative or positive polarity and according to this it may be placed on the cathode or anode of the electromedical (the electrode is not in direct contact with the skin, but by interposing a sponge). Through the supplied current,

the active principle is delivered from a pole to the other, crossing the zone interested by pathology or un-aesthetism, delivering the specific active principle that will act by its physic-chemical characteristics

Thanks to this method there are two advantages:

- avoiding to take drugs by mouth that cause collateral effects on liver, stomach, kidneys, etc.;
- curing directly the interested zone against pains caused by arthritis, arthrosis, sciatica, muscular tears, etc. and pathologies like cellulitis and adiposis, obtaining a fast result.

By using the physical principle of ionic migration from a pole to the other, polarized drugs are prepared, containing positive, negative ions or both (bipolar), that will be applied on the electrodes according to their polarity. If the drug has positive polarity, it will be applied on the positive electrode, while if negative on the negative electrode, if bipolar in both way.

The current will deliver the active principle into the tissue, because the ions of the same active principle will move to the oppossed pole until to the complete absorption of the product.

Therapeutical effects of the ionophoresis are:

- antalgic effect
- anti-phlogistic
- anti-aedemigen
- miorelaxing
- recalcifying

But the good result of the ionophoretic treatment depends on some factors:

- pureness of the drug and absence of undesired ions. It's recommended to use, by water solutions, distilled water.
- cleaning of treated zone.
- correct polarity of the electrodes: positive ions move to negative polarity and vice versa. (To invert the polarity it needs to invert the cables on the equipment). invertire la polarità è sufficiente invertire i cavi sull'apparecchiatura).
- current intensity that may be so that the patient feels a little sensation of pins and needles, but not a wrong sensation.
- concentration of medicinal solution della soluzione medicamentosa.

CONTRAINDICATIONS AND COLLATERAL EFFECTS

ATTENTION: The present unit produces galvanic current.

Consider the electrolytic effects caused by the galvanic current. All treatments with electric currents must be made under medical control. the electric stimulation is contraindicated in patients:

- with implanted pace-maker or other electronic system, or near these patients;
- heart patient;
- with heavy unbalance of arterial pressure;
- with heavy diseases of the nervous system;
- with heavy renal insufficiency;
- with metal prosthesis and/or magnetizing means of synthesis;
- in pregnancy woman;
- haemorrhagic;
- epileptic;
- with metal prosthesis;
- with disease of thermo sensibility;
- not aware;
- asthenic.
- in infant-youthful age.

The application is contraindicated too:

- in tumoral focus;
- on the abdomen, in all case of calculosis or inflammation;
- near the heart for the risk of ventricular fibrillation or of syncope
- on skin parts with some discontinuity like cuts, punctures, eczemas, etc.. for the burnings' risk because there are points or parts with low resistance and for this concentration of the current in these points with consequent great thermal and istochemical effect.

Local reactions are possible like urticaria that not often overcomes the surface of the electrode. These reactions disappear after some hour. The *headache* can associate to local urticaria. If it happens decrease the current's level used and/or the treatment time. If the headache does not disappear, interrupt the treatments.

The *burnings* are often caused by an excessive current's level or by a wrong position of the electrodes (ex. discovered electrode in contact with the skin) or wrong concentration of used drugs.

NOTE: The current's intensity that it is normally necessary is 0,02 – 0,05 mA for cm² of used electrodes' surface, in any case it can exceed 0,1 mA for cm².

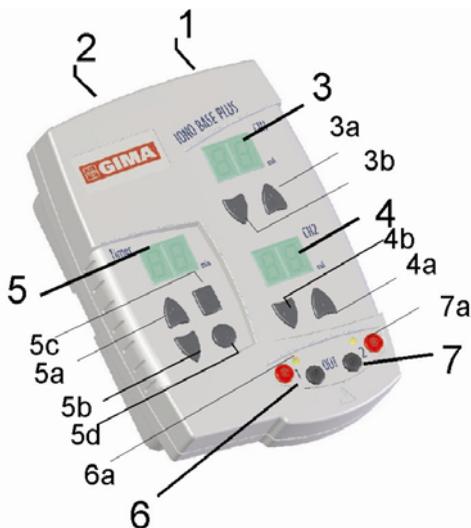
REF 00600.01 **SIZE** 80 x 120 mm

SURFACE 96 cm²

REF 00600.02 **SIZE** 50 x 50 mm

SURFACE 25 cm²

DESCRIPTION OF THE UNIT



1	Main socket
2	Main mechanical switch
3	Display Channel CH1
3a	+ key to increase
3b	- key to decrease
4	Display Channel CH2
4a	+ key to increase
4b	- key to decrease
5	Display time
5a	+ key to increase
5b	- key to decrease
5c	Output start key
5d	Output stop key
6	Connectors OUT 1
6a	Warning light output 1
7	Connectors OUT 2
7a	Warning light output 2

	Output start key
	Output stop key

CONTROLS

MAIN SOCKET (1)

On the back panel of the unit there is the main socket. Put in this socket the supplied main cable. The cable must be connected to a main socket with characteristics compatible with the unit (see the plate's data on the bottom part of the unit).

MAIN SWITCH (2)

At the left of the unit there is the main switch. Putting the switch on I position, the unit switches on. The switching on of the unit is shown by the lighting of the alphanumeric display.

DISPLAY CHANNEL CH1 (3)

On top at the right of the unit there is a display to the visualization of the intensity, in mA. At the switching on of the unit the intensity is at 0 mA and can be changed (from 0 to 20, by single step) by the suitable keys, when the unit does not supply. The + key is used to increase the intensity value, while the – key to decrease it.

DISPLAY CHANNEL CH2 (4)

In the central part of the unit, at the right, there is a display to the visualization of the intensity, in mA. At the switching on of the unit the intensity is at 0 mA and can be changed (from 0 to 20, by single step) by the suitable keys, when the unit does not supply. The + key is used to increase the intensity value, while the – key to decrease it.

DISPLAY TIME TIMER (5)

At the left of the unit, there is a display to visualize the time values, in minutes. Switching on the unit, the time is at 30 minutes and can be changed (from 0 to 60 min) by the suitable keys, when the apparatus does not supply. The + key is used to increase the frequency value, while the – to decrease it. By the start key (5c) it is possible to start the time count and start the output too. The output start condition is indicated by the lighting of a light point at right of minutes' display. By the stop key (5d), it is possible to stop the time count and stop the output too. The stop condition is indicated by the switching off of the point at the right of the minutes' display. The end of the treatment time is indicated by an acoustic signal of 10 seconds. By setting the 00 time it's possible to realize an infinite treatment time, without programmed interruption.

CONNECTORS OUT 1 (6)

Points of connections for the electrodes' cables. The red connectors must be associated to the positive polarity and the black to the negative one. The warning light near the output 1 connectors indicates the current supply and it is lighted when the circuit is closed (connected patient).

CONNECTORS OUT 2 (7)

Points of connections for the electrodes' cables. The red connectors must be associated to the positive polarity and the black to the negative one. The warning light near the output 2 connectors indicates the current supply and it is lighted when the circuit is closed (connected patient).

CONNECTION OF THE OUTPUT CABLES AND ELECTRODES

The unit has two output channels.

Each channel is made by a positive cable (red) and a negative one (black).

The type of the supplied current is polarized, so the outputs have a defined polarity.

Connect the four cables into the respective outputs, respecting the colours.

Connect the cable to the rubber electrode and so cover the electrode with the envelope that must be wet with distilled water or with the solution to deliver.

**TECHNICAL CHARACTERISTICS**

Power supply	230V- / 50Hz
Max input power	10VA
Inside fuses	1 x T500mA(delayed) (5x20)
Max output intensity	20 mA
Max output voltage	50 V
Safety class	II BF
Protection	IP20

ENVIRONMENTAL CONDITIONS

	<i>STORING</i>	<i>WORKING</i>
Environmental temp.	between -10 and 50 °C	between 10 and 40 °C
Relative damp	between 10 and 85%	between 30 and 75%
Atm. pressure	between 50 and 106 kPa	between 60kPa and 106kPa

DIMENSIONS

Max height	68mm	Width	138mm
Depth	193mm	Weight	0.937 kg

STANDARD COMPOSITION

1 REF	GMA80200.302	IONO BASE PLUS unit
1 REF	00100.02	Supplying cable 2 mt
2 REF	80100.311	Output cable (black)
2 REF	80100.321	Output cable (red)
2 REF	00600.02	Conductive silicon electrodes 50x50 mm
2 REF	00601.01	Envelope-sponge 50x50mm
2 REF	00600.01	Conductive silicon electrodes 80x120 mm
2 REF	00601.00	Envelope-sponge 80x120 mm
1 REF	00602.100	Velcro elastic band 8x100 cm
1 REF	00602.60	Velcro elastic band 8x60 cm
1 REF	MA342	Instruction's manual

MEANING OF GRAPHIC SYMBOLS ON THE UNIT

Conforming to the European
Directive 93/42/CEE



Protection against direct and not
direct contacts: Type BF (symbol
IEC 878-02-03) (CEI EN 60601-1)



Serial Number (symbol 4.4 UNI EN
980)



Read carefully the Instruction's
manual before to use the equipment
(symbol IEC-ISO 348) (CEI EN
60601-1)



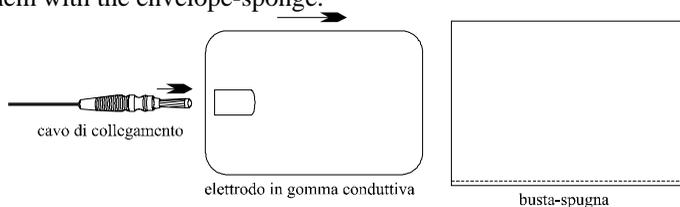
II Class device (symbol IEC-ISO 417-
5172)



Manufacturing Date (symbol 4.5 UNI
EN 980)

INSTALLATION AND TREATMENT STARTING

- Unpack the equipment and accessories, check that them do not have damages caused by the transport. If there are damages (of you have doubts), do not use the unit and / or the accessories and refer to a qualified staff.
- Put the main switch on O (switched off). Insert the supplied main cable into the socket.
- Connect the unit to a socket at 220-240V / 50-60 Hz.
- Switch on the equipment by the main switch on I (switched on), on the frontal panel the displays switch on
- Insert into OUT the output cable.
- Connect the conductive rubber electrodes on the banana contacts and cover them with the envelope-sponge.



- Wet the sponges with the ionic solution (for the medicinal ionophoretic treatments) or with distilled water. It suggests to wet with hot water so to avoid a bad sensation to the patient.
- Connect on the part to treat, keeping attention that all surface of the electrodes is in contact with the skin. Hold the electrodes with the supplied bands and be careful they do not hold too much to avoid any impediment to blood circulation..
- Put the unit in the stop condition, by the output's stop key.
- Set the treatment time by the timer keys.
- Press the output start key to start the treatment and the set time count.
- Increase the intensity level by the keys relative to the desired output channel, to feel a little current's passage without bad sensation.
- When the treatment time ends there is a long acoustic signal the current output ends. To start again the treatment put the unit in the stop condition and start again following the indications said above.
- To end the treatment is sufficient to put the unit in the stop condition, by the pressure of the corresponding key.
- **IMPORTANT:** Do not switch off the unit during the treatment.

APPLICATIONS

The supplied information in this chapter must not consider as a therapeutic guide because the applicative procedures must be under the physician's responsibility. The modalities of treatment have to be indicated by medical staff legally authorized. No responsibility is assumed by the supplier of this equipment, for consequences due to treatments, without the pass check by medical staff.

Initial daily applications are recommended, to pass to alternate days application, increasing the pause days between the application until to have the desired result. It is recommended to make any cycles of repeated sessions at least two times in one year.

THERAPEUTICAL AND AESTHETIC IONOPHORESIS

The ionophoresis is a procedure that consists in the use of unidirectional electric current to allow the penetration into the tissues, without break the skin covering, the active ions of a chemical or medicinal product. The electrolytic power of the current is only one of its physiochemical properties, there is a replacement of Cl and Na ions with others with pharmacologic properties useful in therapy. The penetration of ions, that go in direction of the electrodes opposite to them, happens following the way of the excretory channels of sudoriferous and sebaceous glands, developing in the derma where they accumulate not overcoming the capillary bed. In the same time the ions are drained by the local circle and dispersed by the blood flow in a better way if the used current has the inside property to produce hyper-vascularization of sub-cutaneous tissue. For this it is very important to use electrodes with great surface and sprinkle the product on the sponge of all electrodes.

When the passage into the skin is happened, the electromotory forces are sufficient to allow the penetration of the ions in depth. Now a sort of mechanical propulsion by muscular fibrillation caused by the current's passage and felt like a swarming.

The elimination of the ions happens with the excretions and increases in the first days with the excretions, overtakes a level that is constant until to the day after the last session and then decreases in more days. The biological effects of the ionophoresis correspond to the amount of the following elementary effects: physical, physical-chemical, biological intrinsic to the used current, pharmacological effects, directly associated to the nature and quantity of the penetrated ions by the trans-cutaneous into the tissues.

The help effect of the ionophoresis is made by this type of action:

- slower but more lasting than the which one assigned to the classic pharmacology by the use of the usual ways of giving;
- it is not proportional to the lower quantity of the given product thanks ionophoresis;

- it is a better action if the same substance is given by oral, rectal or parenteral way too, always associating the same product.

The particularity of the active action of the ions is explained admitting that the polarized current acts by two modalities and in two successive times:

- In the first time the active ions overtake the tissue level, by the passage in the transcutaneous way produced by the application of an unidirectional current.
- Then the ions have physical-chemical, electrolytic effects of the polarized current.

These ions, dipped in an electric field, from the blood vessels, go easy in the interstitial holes of the connective tissue and proceeding their walk meet cellular membranes, and they change the polarization of these walls losing electric charges. In fact, they are now in neutral state. This change of membranes' polarization allows the better action of the therapeutic activity of the used product, the duration of the help effects of the medical or aesthetical treatment. Only the unidirectional currents have the ionophoretic property.

A bidirectional current do not cause ions migration because they are solicited to go alternatively and for a shortest time to an electrode and to an opposite one.

The electrolytic power of the ionophoresis of an unidirectional current is proportional to the supplied current's quantity. The ions quantity that crosses the skin wall thanks the electrolysis can be calculated by the Faraday's formula, so during a session of T time and for a same value of maximal current intensity, the ionophoretic power is maximum if a continuous current is used; it is lower if a low frequency and long time current is used; minimum if pulsating or faradic current is used. usually the ionophoretic current is applied transversely, with the electrodes in opposition, or longitudinally, with an electrode applied to the end of a limb and the other one in its origin, as shown in the following.

ELECTRODES' POSITION FOR GALVANIZATION AND IONOPHORESIS

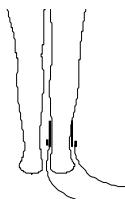


FIG. A



FIG. B

If it is desired to expose a ion to ionophoresis in a solution with known polarity, it is sufficient wet the sponge with the solution and connect the electrode to the clamp of the same polarity. It is important to remember that if we want to pilot some enzymes, a high current intensity could not active the product for thermal effect. It needs to use

substances too diluted (see “table of delivering products”) so the electrons molecules are perfectly ionized.

INDICATIVE TABLE OF THE APPLICATIONS

TREATMENT	CURRENT	POLARITY	TIME (minutes)
ACNE	GALVANIC	POSITIVE	20
INTENSE DISTORTION	GALVANIC	POSITIVE	20
ANKLE ARTHROSIS	GALVANIC	NEGATIVE	30
ANKLE DISEASES	GALVANIC	POSITIVE	30
ARTHRITIS	GALVANIC	POSITIVE	30
ARTHROSIS	GALVANIC	POSITIVE	20
BRACHYALGIA	GALVANIC	POSITIVE	30
BURSITIS	GALVANIC	NEGATIVE	30
CAPSULITIS	GALVANIC	NEGATIVE	30
CARPAL TUNNEL	GALVANIC	NEGATIVE	30
CELLULITIS	GALVANIC	NEGATIVE	30
CHRONIC ECZEMA	GALVANIC	POSITIVE	20
COLL LIGAMENT DISEASES	GALVANIC	POSITIVE	30
ELBOW ARTHRITIS	GALVANIC	NEGATIVE	20
ELBOW ARTHROSIS	GALVANIC	POSITIVE	20
ESOPHAGEAL SPASM	GALVANIC	POSITIVE	20
FEMORAL-TIBIAL ARTHROSIS	GALVANIC	POSITIVE	30
FEMURAL-ROTULA CONDRYPATHY	GALVANIC	POSITIVE	30
HALLUX VALGUS	GALVANIC	POSITIVE	30
HERPES ZOSTER	GALVANIC	POSITIVE	15
HYGROM TENDINOUS SHEATH	GALVANIC	POSITIVE	20
HYPERHYDROSIS	GALVANIC	NEGATIVE	30
LIMBS ARTHRITIS	GALVANIC	NEGATIVE	30
METATARSALGIA	GALVANIC	POSITIVE	30
MUSCULAR DISTRACTION	GALVANIC	POSITIVE	20
MYALGIE	GALVANIC	POSITIVE	20
MYOTENDINOUS DISEASES	GALVANIC	POSITIVE	30
PERICAPSULITIS	GALVANIC	NEGATIVE	40
PERITENDINITIS CREPITANT	GALVANIC	NEGATIVE	40
PLANTAR FASCITIS	GALVANIC	POSITIVE	30
RETROACHILLES BURSITIS	GALVANIC	POSITIVE	30
RHEUMATOID ARTHRITIS	GALVANIC	POSITIVE	30
SCIATALGIA	GALVANIC	POSITIVE	30
SHOULDER ARTHROSIS	GALVANIC	NEGATIVE	20
SPORT BURSITIS	GALVANIC	POSITIVE	20
STILOIDITEIS	GALVANIC	POSITIVE	30
TENDINIS BREAK	GALVANIC	POSITIVE	20
TENDINITIS	GALVANIC	POSITIVE	30
TENDINOUS SYNOVITIS	GALVANIC	NEGATIVE	30
TENDINOUS VAGINITIS	GALVANIC	NEGATIVE	30
TIBIAL APOPHYSITIS	GALVANIC	POSITIVE	30
TRAPEZIOMETACARP ARTHROSIS	GALVANIC	POSITIVE	30
TRICIPITAL DISEASES	GALVANIC	POSITIVE	30
VERTEBRAL COLUMN ARTHROSIS	GALVANIC	NEGATIVA	40
WRIST ARTHROSIS	GALVANIC	NEGATIVE	30

IMPORTANT All information is only supplied for informative scope, because it is not thought to replace the treatment’s modality that must be indicated by medical staff authorized legally. No responsibility is by the supplier of the unit, for the consequences of the treatments, without pass check of medical staff.

TABLE OF DELIVERING PRODUCTS

Product	Concentration	Polarity	Therapeutic effects	Main indication
Local anaesthetics (novocain, etc.)	1% alcoholic solution 60%	Positive	Anaesthetic	Local anaesthetic. Trigeminal neuralgia.
Not steroid antiphlogistic	Fenilbutazone (1 phial/session) ketoprefene (1 phial 100mg in a session)	Negative	Antiphlogistic	Degenerative and extra-articular rehumatisms. Gout.
Istamina Bichlorhydrate	1:5000	Positive	Revlusive vasodilator	Degenerative and extra articular: Muscular spasm.
Calcium chloride	1% solution	Positive (Ca++)	Sedative re-calcifing analgesic	Post traumatic algia. Distortions. Algo-neuro-dystrophic syndrome. Nervous peripheral. Osteoporosis. Spasm-phyilia.
Magnesium chloride	10% solution	Positive (Mg++)	Sedative fibrolityc analgesic	Replacing the calcium chloride if there is contraindication (ex. arteriosclerosis).
Synthesis curarizing	2% solution	Amphoteric	De-contracturing	Muscular contracturs. Parkinson's morb.
Enzimi diffusori	Thiomucase ® (2 fiale/seduta)	Negative	Antiedematous. Scleritic.	Post traumatic and surgical edema. Vertebral cell-algia. Cellulitis. Lymphodema. Hematoma.
	jaluronidasi (60 U/litro) Alpha-chimiotripsina (sol. 1:1000)	Positive		
Emisuccinato Prednisolone Hydrocortisone	1% solution	Negative	Antiphlogistic	Degenerative and extra articular rehumatisms. Gout.
Potassium iodide	1% solution	Negative (I-)	Sclerotic vascular effect	Cicatrix or adhesions Cheloid. Dupuytren and Ledderhoseis illness. No pain articular rigidity.
Aconitina nitrate	0.25% solution	Positive	Analgesic +++	Trigeminal neuralgia. Zone.
Sodium Salicylato	1% solution	Negative (salicylic- ion)	analgesic	Periflebitis. Intense articular arthrosis. Extra-articular rehumatism.

IMPORTANT *Ther treatments delivering drugs have to be made under the medical control. For watery dilutions use distilled water.*

NOTE Apply the product on the electrode that has the same polarity. (example: product with positive + ion, applied on the positive electrode). The other electrode must be wet by distilled water.

IMPORTANT To determine correctly the polarity it is important that the output cables are connected according to the output colour.

HYPERHYDROSIS

The therapy is made graduating a low intensity current generator connected to two water containers (for the hands and feet's hyperhydrosis), can be used some suitable sizes containers, it is better in insulation material (plastic container for foods). If you use conductive material container (aluminium), the two containers must not be in contact and keep attention to not touch, with wrist or ankle, the container, during the treatment.

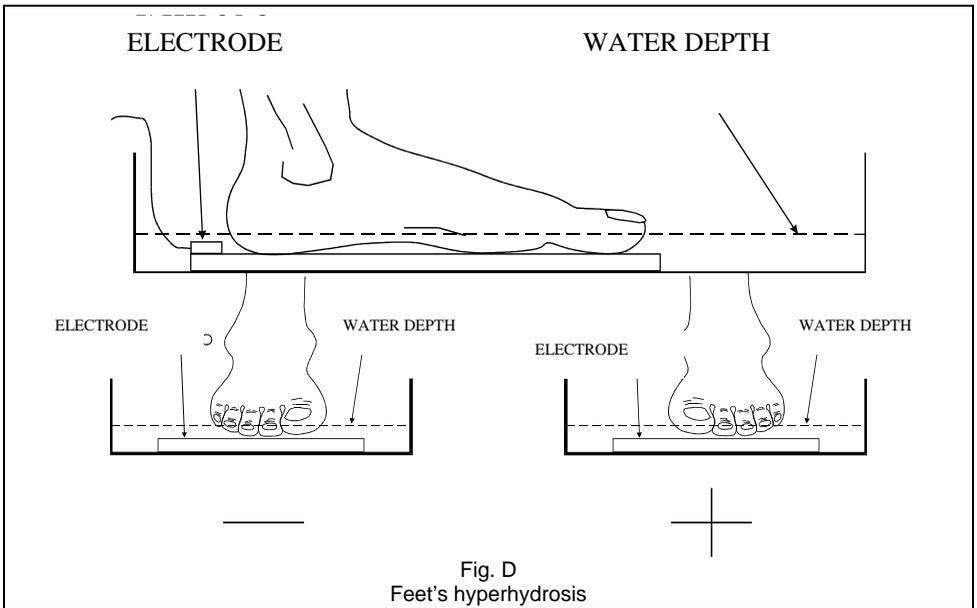
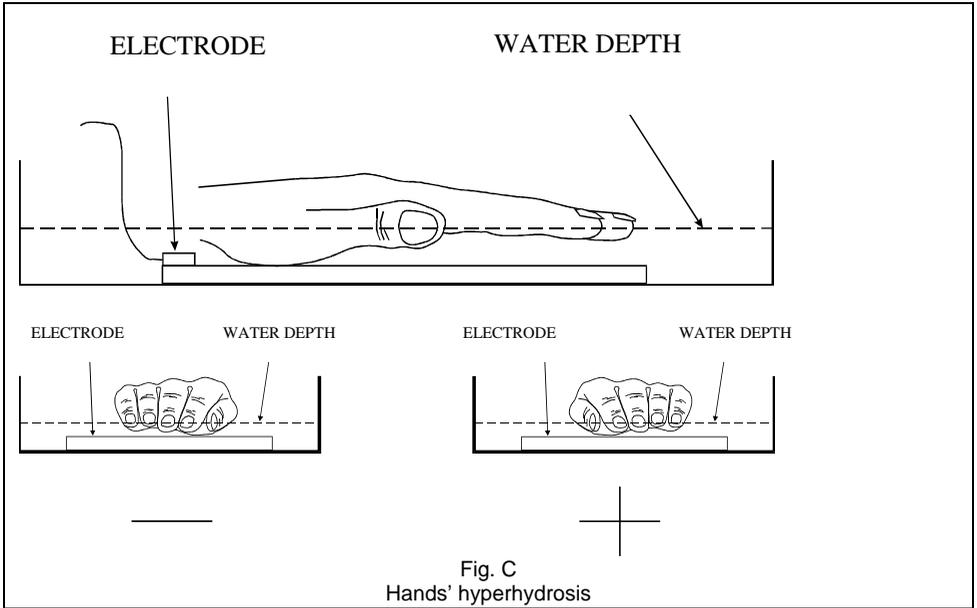
Connect to the output cables the electrodes covering them with the sponge-envelope (see fig.8 or chapter "Installation and treatment start").

Dip the two electrodes recovered by the sponge-envelopes, positive and negative of the same channel in two different containers, one for the positive and another one for the negative one. Add water so that when the hands or feet are dipped, the level do not higher than the which one shown in the figures C e D of the next paragraph. The output level must be so that the patient feels a little current passage without any troubles.

In the hands treatment it needs to be assisted by a trained person that controls the unit during the treatment.

Before start the treatment, it is recommended to check that the position is comfortable so that you do not move the limbs. If it is necessary, before move again the hands or feet from the containers, interrupt the treatment on the unit (key stop to stop the output's current). At least ten sessions are necessary (20 minutes for every one). After the first four-five sessions there is an improvement that proceeds by the successive sessions until to the normal-hydrosis. The cure usually allows a garrison of a duration between 30 and 60 days. Then it needs to subject to a keeping therapy with short cycles of sessions.

ELECTRODES' POSITION FOR HYPERHYDROSIS TREATMENT



MAINTENANCE

PREVENTIVE MAINTENANCE

DETACH THE ELECTRIC CONNECTIONS BEFORE PERFORMING ANY OPERATION OF MAINTENANCE.

The preventive maintenance consists mainly:

- in before every use control of the state of the unit and of the accessories to examine the integrity of all the cables, the isolations, the wraps etc. projected to avoid the access to powered parts.
- in the periodic cleaning of the units regularly effect for maintaining of the unit at the best of functionality conditions and appearance.
- in the periodic cleaning of the accessories.

CLEANING OF THE UNIT

Clean the external cabinet and the control panels with a damp cloth: no use of abrasive or solvent products it is recommended. The use of ethyl alcohol or of detergents containing high percentage of ethyl alcohol is not allowed on the control panels.

Don't dip the unit in liquids. In case of penetration of liquids do not use the unit and address to professionally qualified personnel.

CLEANING OF THE CONDUCTIVE RUBBER ELECTRODES

Clean the conductive rubber electrodes with a damp cloth: no use of abrasive or solvent products it is recommended. Don't use detergents. In case of use of detergents thoroughly rinse with cold water to eliminate its least trace.

CLEANING OF THE ENVELOPE SPONGES

To avoid transmission of bacterial contamination or virus, envelope-sponges must be used for only one patient. For the cleaning the use of just cold water is recommended. In case of cleaning with detergents, rinse carefully before the use to eliminate its least trace. Don't use automatic washer for the cleaning.

CLEANING OF THE BANDS

For the cleaning of the bands do not use warm water; in case of use of detergents rinse with carefully.

NOTE: The unit has to be periodically controlled (at least once a year) by qualified personnel to ascertain the electrical safety by making at least measurement of the leakage current

CORRECTIVE MAINTENANCE

If a malfunction of the equipment is found it is suggested to check first of all the control setting of the unit.

The unit and its accessories should have checked by professionally qualified personnel in case that they are exposed:

to external mechanical solicitations, for instance after a serious fall,
to liquid dripping, to strong overheating (for instance direct light of the sun, fire), or if their functionality seems to have altered or if some part of the unit's cabinet it has broken, lacking, or displaced.

or if some connector or cable show signs of deterioration.

PROBLEMS' SOLUTION

These are some easy solutions to the problems with **IONO BASE PLUS**.



Problem



Solution

The mains switch is switched on but the unit doesn't work.	Inspect if the main cable is correctly inserted.
Lights are not illuminated.	Check the mains cable connection. Verify the wall socket functioning.
The unit correctly switches on but no current has delivered.	Check the lights' colour. Check the patient's cable connection.
Light are coloured, the patient cable has connected correctly, but the unit doesn't deliver current.	Check the envelope sponges to be certain they are moist sufficiently. Check and replace if need the conductive rubber electrodes.

If the problems are not overcome, please refer to the qualified staff. Do not open the unit for any reasons, this is dangerous and it will lose every kind of warranty too.

F.A.Q.

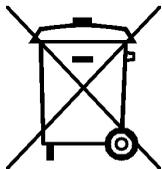
We report the Frequently Asked Questions about the Galvanic Therapy.

	
What is the galvanic therapy?	It is a therapy that uses the galvanic current (continuous), known since a long time for its positive effects on the human body.
Do the treatment by galvanic current have to be carried out by a physician?	The treatments by galvanic current may be carried out without the medical presence, but it is recommended to consult a physician or a specialist before the treatment.
When you can define as safe an equipment for galvanic therapy?	To be effective and safe, a device for galvanic therapy have to respect the Standards in force. LED SpA is an Italian Company, that plans and produces safe electro-medical devices respecting the Standards in force.
Does the galvanic therapy have any contraindications?	The galvanic therapy has the typical contraindications of the electrotherapy. So the galvanic therapy must not be applied on particular patients (by pacemaker, pregnant, etc..). It is recommended to read carefully the contraindications and collateral effects, before using a device for galvanic therapy.
Where you can apply the galvanic therapy?	It is most used to cure several disorders, arthritis, arthrosis, lumbar pains, lumbosciatalgie, cervicalgie, muscular tears, etc. It is also used in aesthetic to against cellulitis, to harden and tonify the muscles.
What is the galvanization?	It is the ions movement that allows the increasing of muscular volume.

What is ionophoresis ?	It is an electrotherapeutic technique that uses the uninterrupted current to deliver drugs into the painful zone, of contracture or by un-aesthetisms.
Which are the advantages due to the galvanic therapy?	The direct cure of the zone interested by pain, due to arthritis, arthrosis, sciatica, lumbalgia, headache, etc. and pathologies like cellulitis and adiposis, obtaining a fast result.
How do you verify if you can be treated by treatments of galvanic current?	It is recommended to consult a physician before starting treatments by galvanic current.
Are the treatments by galvanic current painful?	They are un-painful. It may be little pins and needles during the applications.
How long does a session of galvanic therapy?	It depends from the persons, the disease and the age.

The information given in this chapter are explicative and they do not replace the medical opinion.

Information about elimination of this product (Applicable in the European Union and other European countries with separate collection systems)



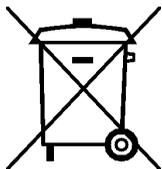
On the end of the life, the present product mustn't be eliminated as urban refusal, but it must be eliminated in a separated collection.

If the product is eliminated in unsuitable way, it is possible that some parts of the product (for example some accumulators) could be negative for the environment and for the human health.

The symbol on the side (barred dustbin on wheel) denotes that the products mustn't throw into urban refuses container but it must be eliminated with separate collection.

In case of abusive elimination of this product, could be foreseen sanctions.

Information about elimination of this product (Applicable in the European Union and other European countries with separate collection systems)



A fine vita il presente prodotto non deve essere smaltito come rifiuto urbano, lo stesso deve essere oggetto di una raccolta separata.

Se il rifiuto viene smaltito in modo non idoneo è possibile che alcune parti del prodotto (ad esempio eventuali accumulatori) possono avere effetti potenzialmente negativi per l'ambiente e sulla salute umana.

Il simbolo a lato (contenitore di spazzatura su ruote barrato) indica che il prodotto non deve essere gettato nei contenitori per i rifiuti urbani ma deve essere smaltito con una raccolta separata.

In caso di smaltimento abusivo di questo prodotto sono previste delle sanzioni.