

User manual

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Compressive Limbs Therapy System

DVT-7700

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MDD 93/42/EEC Compliance



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Deep Vein Thrombosis

Deep vein thrombosis (DVT) is a disease that causes the formation of a blood clot (thrombus) in one or more of the deep veins of the body, usually in the lower limbs (legs).

DVT is a disease that should not be underestimated, because thrombi that form in the veins can break free and get to the lungs, with the consequent risk of pulmonary embolism. Also among the complications of DVT are the postphlebitic and post-thrombotic syndromes.

In many cases, thrombosis does not show obvious symptoms. In the case of event among the most common symptoms we can mention: swelling of the affected leg, ankle and foot and redness or increase in temperature of the affected area.

Thrombi can be caused by several factors, namely everything which prevents proper blood circulation. Among these factors we can mention:

- immobility for extended periods: because the calf's muscles normally help the blood flowing along the leg, so a long period of inactivity can cause a thrombosis.
- hereditary diseases affecting blood circulation;
- injury or surgery;
- pregnancy;
- heart failure : when the heart is damaged and doesn't pump in the blood in the same way of a normal heart so it increases the possibility of a blood clot;
- overweight or obesity;
- previous history of deep vein thrombosis or pulmonary embolism.

Machine body









- (1) : Power on\off button
- (2) : LCD display
- (3) : Adjustment button
- (4) : Power output
- (5) : Air discharge output

LCD display

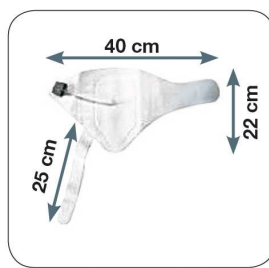
- (1) **MENU** : Menu selector (Mode, Interval, Pressure time, Time, Pressure).
- (2) **MOVE** : Programs menu selector (Mode, Interval, Pressure time, Time, Pressure).
- (3) **SET** : Programs values selector

- (4) START/STOP:** Start/stop button
- (5) SAVE :** It saves the current state (press down on the button for ten seconds)
- (6) RESET :** It brings you back to the initial state (press down on R button for ten seconds)
- (7) LCD WINDOW:** it shows the current operation and setting state
- (8) MODE:** Mode selection A=automatic (A1, A2, A3), B (B1, B2, B3, B4), C , D (D1, D2))
- (9) INTERVAL :** interval level section(18, 24, 30, 36, 42, 48, 54, 60 sec)
- (10)PRESSURE TIME :** air flow speed (4,5,6,7,8,9 sec).
- (11)PRESSURE (mmHg):** indicates the pressure which is set
 - Mode B: manual selection (leg) 30,40,50,60 mmHg
 - Mode C: manual selection (foot) 120, 130, 140 mmHg
 - Mode D: manual selection (leg+foot) 30~60 mmHg, 120~140 mmHg
- (12) TIME (min) :** operation time is displayed
- (13)LEG PICTURE:** Icon that shows the operation state

Accessories

		
Legging	Calf legging	Foot sock
		
Connection tube (CH1)	Connection tube (CH2)	Power supply cord

Accessories size



Configuration

DVT-7700 is supplied with the following kit:

- *Main machine DVT-7700*
- *2 air tubes*
- *Power cable*

The following accessories are available on request:

- *Leg cuff with three air chambers (DVT-LEG1-M)*
- *Calf cuff whit three air chambers (DVT-CALF1-M)*
- *Foot cuff (DVT-FOOT1).*

Single accessories are available as optional to complete DVT-7700 content and potentiality.

Specifications

DVT-7700 has the following specifications:

- *Class IIa equipment (Directive 93/42/CEE, annexed IX, rule 9);*
- *Class II, applied part type BF (CEI EN 60601-1);*
- *CE 1023 certificate;*
- *Equipment not protected against liquids penetration;*
- *Equipment and accessories not subjected to sterilization;*
- *Use of the equipment is prohibited close to flammable substances or in environments with high concentrations of oxygen;*
- *Continuous operating mode equipment;*
- *Equipment not suited to be used in external.*

Technical Specifications

Power supply	85-264 VAC, 50-60 Hz	Therapy time	Up to 99 hours
Max consumption	18W	Weight	2,5 Kg
Max pressure	30~60 mmHg ; 110~140 mm Hg ($\pm 20\%$)		

Purpose

Clinical Purpose:

Therapeutic

Use:

Clinic and domestic

Working instructions

How to use the accessories

a) How to use the legs cuffs

- i) *Wear the legs cuffs and close the zip up to the end, then close the retaining Velcro straps*



- ii) *Plug the tubes to the hose on the legs cuffs;*
iii) *After you have plugged the tubes to the legs cuffs, plug the tubes to the air output that is located on the right side of the main machine*

This process is the same even if you will use just one leg cuff

b) How to use the feet cuffs

- i) *Wear the feet cuffs and close the retaining Velcro straps. Now plug the tubes to the feet cuffs;*
- ii) *After you have plugged the tubes to the feet cuffs, plug the tubes to the air output that is located on the right side of the main machine*

This process is the same even if you will use just one foot cuff




How to use it

Operation with power plug: Plug the power supply cable into the power hose that is located on the left side of the machine (4). Connect the power plug in to the wall socket (220-240 VAC) and then press the power button



Operation whit power source: Press the power button.

Check the battery supply. If the battery charge is too low the display will show this icon  .


Connect the power plug (4) in the power hose that is located on the left side of the machine (4). After that connect the power plug in to the wall socket (220-240 VAC) and then press the power button again.

Instructions for automatic programs A(1,2,3)

MODE A(1,2,3): wear the leg cuff (or the calf cuff) and the foot cuff as is specified in the paragraph “How to use the accessories”.

Warning: connect the foot hose in the channel CHA (you can found it on the right side of the main machine, lower socket) and the leg cuff connector to the CHB socket (the upper one).

The programs A(1,2,3) work only with one leg. It is not possible to make the treatment on both legs at the same time (for simultaneous treatments check the user manual on the next paragraph, page 14).

1. Press MENU button to start the program selection.
2. Select the programs by pressing  buttons.
3. Press **START/STOP** button to start the treatment. It is possible to interrupt or stop the treatment in any moment pressing again the **START/STOP** button.

Warning: *The machine will run an inflate check before starting the selected program.*

Program A1

The machine will blow air in the first chamber (lowest one) of the leg cuff and then the other two air chambers(from the lower to the upper). When the leg cuff inflate will be ended the machine will stop for 15 seconds and then it will inflate the foot cuff.

When even this inflate process will be ended the machine will stop for 25 seconds and then will start the cycle again.

Program A2

The machine will blow air in the first chamber (lowest one) of the leg cuff and then the other two air chambers(from the lower to the upper) keeping under pressure the previous air chamber. When the leg cuff inflate will be ended the machine will stop for 15 seconds and then it will inflate the foot cuff. When even this inflate process will be ended the machine will stop for 25 seconds and then will start the cycle again.




Program A3

The machine will run the A1 and A2 programs in sequence.



Instructions for manual programs B(1,2,3,4)

MODE B(1,2,3,4): wear the leg cuffs (or the calf cuffs) as is specified on the paragraph "How to use the accessories".

With program B(1,2,3,4) it is possible to treat both legs at same time.

1. Press MENU button to select the program.
2. Press SET button  to scroll the menu (MODE, PRESSURE TIME, INTERVAL, TIME (min), PRESSURE (mmHg)).
3. MODE: select the programs B1, B2, B3 B4 by pressing SET  buttons. For each program you can set pressure level (PRESSURE), time of interval between a compression sequence and the next, (INTERVAL) and the speed of inflating (PRESSURE TIME).
4. PRESSURE: with SET  buttons you can adjust the pressure for each air chamber from 30 to 60 mmHg (stepping 10).

Warning: Start the treatment with a middle pressure and increase it progressively according to your needs.

5. PRESSURE TIME: with SET  buttons you can adjust the air speed. It is possible to choose among six different level of speed: 4, 5, 6, 7, 8, 9 seconds.
6. INTERVAL: with SET  buttons you can adjust the time interval (seconds) between a compression sequence and the next. You can choose between eight different levels: 18,24,30,36,42,48,54,60 seconds.
7. Press **START/STOP** to start the treatment. It is possible to stop or interrupt in any moment pressing again the **START/STOP** button.

The machine will run an inflate check before starting the selected program.

Program B1

Air flows in the first chamber (lowest one) of both cuffs and sequentially in the other chambers in a distal-proximal way.

Program B2

Air flows in the first chamber of both cuffs and sequentially in the other chambers in a proximal-distal way.

Program B3

Air flows in the first chamber (lowest one) of both cuffs and sequentially in the other chambers in a distal-proximal way by keeping pressed the previous chamber.




Program B4

Air flows in all the chambers of both cuffs at same time.

Instructions for program C


MODE C: wear the feet cuffs as indicated on the paragraph “How to use the accessories”.

With program C, is possible to treat both feet at same time.

1. Press MENU button to select program for starting the program.
2. With SET buttons  you can scroll the menu (MODE, PRESSURE TIME, INTERVAL, TIME (min), PRESSURE (mmHg)).
3. MODE: Press SET  buttons to select program C. You can adjust pressure (PRESSURE), time interval (seconds) between a compression sequence and the next (INTERVAL) and the air speed (PRESSURE TIME).
4. PRESSURE: Press SET  buttons to select pressure of each air chamber from 110 to 140 mmHg (ten stepping).

Warning: Start the treatment with a middle pressure and increase it progressively according to your needs.

5. PRESSURE TIME: press SET  buttons to select air speed. It is possible to choose among six different level of speed: 4, 5, 6, 7, 8, 9 seconds.

6. INTERVAL: with SET  buttons you can adjust the time interval (seconds) between a compression sequence and the next. You can choose between eight different levels: 18,24,30,36,42,48,54,60 seconds.

7. Press **START/STOP** button to start the treatment. It is possible to stop or interrupt in any moment pressing again the **START/STOP** button.

Program C




Air flows in both cuffs according to the adjusted parameters.

Instructions for manual programs D(1,2)



MODE D(1,2): wear the leg cuff (or the calf cuff) and the foot cuff as is specified in the paragraph "How to use the accessories".

Warning: connect the foot hose in the channel CHA (you can find it on the right side of the main machine, Lower socket) and the leg cuff connector to the CHB socket (the upper one).

The programs D(1,2) work only with one leg. It is not possible to make the treatment on both legs at the same time (for simultaneous treatments please check the user manual on the paragraph, page 14).

1. Press MENU button to start program selection.
2. With SET buttons  you can scroll the menu (MODE, PRESSURE TIME, INTERVAL, TIME (min), PRESSURE (mmHg)).
3. MODE: press SET  buttons to select the program D1,D2. For each program you can adjust pressure level (PRESSURE), time interval (seconds) between a compression sequence and the next (INTERVAL) and the air speed (PRESSURE TIME).
4. PRESSURE: press SET  buttons to adjust pressure level from 30 to 60 mmHg (ten stepping) and from 110 to 140 mmHg (ten stepping).

Warning: Start the treatment with a middle pressure and increase it progressively according to your needs.

5. PRESSURE TIME: press SET  buttons to select air speed. It is possible to choose among six different level of speed: 4, 5, 6, 7, 8, 9 seconds.
6. INTERVAL: with SET  buttons you can adjust the time interval (seconds) between a compression sequence and the next. You can choose between eight different levels: 18,24,30,36,42,48,54,60 seconds.

7. Press **START/STOP** button to start the treatment. You can stop or interrupt in any moment pressing again the **START/STOP** button.

The machine will run an inflate check before starting the selected program.

Program D1

The air flows in the first chamber (lowest one) of the leg cuff and sequentially in the other chambers in a distal-proximal way. When the inflate leg cuff will be ended the machine will start to inflating the foot cuff.

Program D2

The air flows in all the chambers of the leg cuff at the same time. When the inflate of the leg cuff will be ended the machine will start to inflating the foot cuff.

Troubleshooting

Problem	Solution
The air doesn't flow in the compression chambers.	<ul style="list-style-type: none"> • Check the ON/OFF button • Check the power supply status (no sign of damages) • Check the battery status if it is not connected to the domestic plug.
DVT-7700 emits a strange sound like air leakage	<ul style="list-style-type: none"> • Check if there are any damages and/or holes in the tubes and connectors • Check the applicators right connection to the main body • Check if the tubes are pressed or bent
There is no pressure or the air doesn't go into the applicators	<ul style="list-style-type: none"> • Check the applicator right connection to the main body • Check if the tubes are pressed or bent
Air goes into the compression chambers and/or an air leakage is present in the applicators	<ul style="list-style-type: none"> • Check if there are any holes or damages in the compression chambers. If there are not any air leakages, switch off the device then switch on it and recheck the right working

Warning

The following warnings guarantee user safety and prevention against damages and/or lesions.

Please read it carefully before using DVT-7700.



Warning

It may cause serious physical damage if you don't follow the instructions



Warning

It may cause physical or electronic damage if you don't follow the following instructions

Info



Prohibition indication



Pay attention



This is an indication for not disassembling



Unplug the power cable



Danger

Do not use the device in presence of acute inflammations or injuries. Infections risk.



Please consult the doctor in case of cancer, intestinal problems, fractures, acute thrombosis and other invalidating pathologies.



Do not connect or disconnect the device from domestic plug with wet hands. Electric shock risk.



Use the device only with 220V power supply. Electric shock risk. Disconnect the device from domestic plug when not in use.



Do not press, bend or damage the electric cable. Electric shock risk.



Attention do not spill liquids or any substances on the device. Liquid penetration could damage the device.



Avoid device hits or drops.



Use only in consenting adults



We suggest to don't wear the legs cuff directly in contact with the skin.



We suggest don't use the machine if you feel pain or any other bad sensation. We advise to stop the treatment and consult the doctor.



In case of malfunctioning of the device please don't open the machine or try to fix the device. Contact directly the producer or the distributor



Do not move when the machine is working.



During the first period of treatment we advise to don't use the machine more than 20 minutes. We suggest to start with a treatment of 5\10 minutes



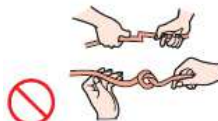
After a long period of inactivity, the machine may not work correctly: we advise to use it 3\4 times (without wearing the leg cuff) for warm the machine up, increasing constantly the pressure.



Pay attention when you wear the leg cuff



Please avoid to bend or tie the tubes.



It's suggested to not leave the machine or any other accessories close to fire, cigarettes and other free flames. Don't leave the machine or any other accessories close to stings, scissor and any object that may damage the accessories or the machine



Do not use the device in environments with



Cleaning

Clean the device and its accessories using a soft cloth.
Resistant stains can be removed using a sponge soaked in solution of water and mild soap. Wait for the complete drying before using the device and its accessories.

Do not wash any accessories with a washing machine.

Do not use chemical substances, solvents or cleaners to avoid device and accessories damage.

Maintenance, carriage and storage

If it is used in accordance with the instructions of the user manual, the device does not need a particular regular maintenance.

Carriage precautions

It doesn't need any particular carriage precautions: however we recommend to put away DVT-7700 and its accessories in their own box after every treatment.

Storage precautions

DVT-7700 is protected till following environmental conditions:

Outside of the packaging

temperature	from +5 to + 40 °C
humidity	from 30 to 80%
pressure	from 500 to 1060 hPa

Inside of the packaging

temperature	from –10 to +55 °C
humidity	from 10 to 90%
pressure	from 500 to 1060 hPa

Warranty

Make reference to the national laws for any warranty conditions by contacting the national distributor (or directly the manufacturer IACER).

Disposal

The equipment is subjected to WEEE regulations (see the symbol on the label) concerning separate waste collection: when disposing this product, please use the designed areas for disposing electronic waste or contact the manufacturer.

Assistance

Every intervention on device must be performed by manufacturer. For any assistance intervention contact the national distributor or:

I.A.C.E.R. S.r.l.

Via S. Pertini, 24/a • 30030 Martellago (VE) -ITALY

Tel. 041.5401356 • Fax 041.5402684

You can get any technical documentation on spare parts but only prior business authorization.

Spare parts

Contact the distributor or the fabricant for original spare parts at following address:

I.A.C.E.R. S.r.l.

Via S. Pertini, 24/a • 30030 Martellago (VE)

Tel. 041.5401356 • Fax 041.5402684

To preserve product warranty, functionality and product safety we recommend to use only original spare parts.

DVT-7700 is produced by:



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