Model IC-1545-DL
Multi-Flo DVT Combo

Intermittent Pneumatic Compression Device for DVT Prophylaxis

U.S. BASED MANUFACTURER

Quality Medical Products Since 1983
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INTRODUCTION

Congratulations on the purchase of your BIO COMPRESSION SYSTEMS MODEL IC-1545-DL Multi-Flo DVT Combo Intermittent Pneumatic Compression pump and garments.

The durable, high quality material used in the manufacturing of these products will ensure that you experience long-lasting and uninterrupted performance.

Should any problem occur, you can feel confident that your pump and garments are backed by the industry’s best warranty and customer service! For any questions or for Technical Support simply dial our toll free number:

800-888-0908

Warranty repairs or adjustments will be performed in a timely manner with minimal inconvenience to you.
WARNINGS:

- Do not use in the presence of flammable anesthetics.
- Federal law restricts this device to sale by, or on the order of a licensed physician.
- Unless otherwise ordered by the physician pressure should not be set any higher than 120 mmHg. High pressure should be set with caution on patients with peripheral arterial occlusive disease.
- Caution must be exercised for patients with insensitive, irritated, sunburned, bruised or broken skin, or with skin conditions such as skin cancer, dermatitis, eczema, or psoriasis in or around treatment sites. Should changes in skin appearance occur such as blisters, redness, discoloration, welts, or other noticeable changes in the skin), or if burning, itching, increased swelling should occur, discontinue use and consult with a physician.
- Slip and fall hazard. Do not stand or walk while wearing garments.
- Discontinue use immediately in the event of increased pain, numbness or tingling and contact a physician.
When using an electrical appliance, basic safety precautions should always be followed.

DANGER - This product contains electronic components.

WARNING - To reduce the risk of burns, fire, electric shock or injury to persons:

- In the event of a power failure, disconnect the garment from the pump to release any residual air and pressure in the garment.
- Use this product only for its intended use as described in this manual
- Do not use if damaged or defective - if device has a damaged electrical cord or plug, has been dropped or damaged in any manner, dropped into water, or if the product shows any signs of deterioration.
- Do not place near a heat source or water.
- Do not carry this device by the power cord or use the cord as a handle.
- Keep this device out of reach of children or pets.
- Do not take the pump, garment or tubing apart.
- Use only accessories that are recommended by Bio Compression Systems, Inc.
- Never use pins or other metallic fasteners with this product.
- Do not operate on a soft surface such as a pillow or mattress, or under a blanket or other covering.
- Do not use where aerosols (spray) are being used or where oxygen is being administered.
- Read the entire instruction manual before operating this device.

GENERAL EQUIPMENT SPECIFICATIONS

Model IC-1545-DL Multi-Flo DVT Combo Intermittent Pneumatic Compression Device

DIMENSIONS: H X W X D
6.25” x 8 x 8.25” inches

WEIGHT: 4.25 pounds

CYCLE TIMES

BILATERAL CALF (45—50 mmHg)
INFLATION / HOLD: 13 - 17 Seconds
DEFLATION / REST: 43 - 47 Seconds
CYCLE TIME: 60 Seconds / 60 cycles per hour

BILATERAL FOOT MODE (90—120 mmHg)
INFLATION / HOLD: 5 - 7 Seconds
DEFLATION / REST: 53 - 55 Seconds
INDICATIONS FOR USE

For Prescription Use Only

**Bilateral Calf Application** (GID-3045-K Calf garments):
- Intended for prophylaxis of deep vein thrombosis

**Bilateral Foot Application** (GI-3045-F Foot Garments):
- Intended for prophylaxis of deep vein thrombosis
- Enhancement of venous and arterial circulation
- Prevention of venous stasis ulcers
- Assists in healing of cutaneous ulcers
- Reduction of acute and chronic edema
- Reduction of compartmental pressures

**Cryo Cold Therapy Application** (GC1-3035-SH Cryo Shoulder/GC1-3045-K Cryo Knee/ GC1-3045-A Cryo Ankle)
- Our Cryo Cold Therapy garment for this device can be purchased separately and come in knee, ankle and shoulder sleeves
- All Cryo Inserts are removable for more efficient freezer storage
- Custom Cryo Cold Therapy garments are available upon request

CONTRAINDICATIONS

Use of this device is contraindicated for patients with any of the following conditions:
- Any local condition of the extremity that would interfere with its application, including, but not limited to:
  - Dermatitis
  - Immediately following vein ligature
  - Gangrene
  - Skin grafts
  - Casts or splints
- Severe arteriosclerosis or other ischemic vascular disease
- Pulmonary edema
- Congestive heart failure
- Suspicion or confirmation of the presence of existing Deep Vein Thrombosis
- Infections of the limb, including cellulitis without appropriate antibiotic coverage for at least 72 hours prior to treatment
- Presence of lymphangiosarcoma
- Inflammatory phlebitis or episodes of pulmonary embolism
DVT prophylaxis should be applied continuously, around the clock at the factory pre-set pressures, dependent upon the application site, unless otherwise ordered by the attending physician. A less aggressive treatment schedule is more commonly prescribed by the physician post discharge in the home setting.

The Model IC 1545-DL Multi-Flo DVT Combo device is designed to provide three (3) distinctive modes of bilateral therapy:

**Calf**
This model is designed to provide intermittent pneumatic compression for maximum prophylaxis against deep vein thrombosis (DVT) with garments applied bilaterally over the calves (GID-3045-K).

**Foot**
As an alternative mode of DVT prophylaxis, intermittent pneumatic compression is applied instead through bi-lateral foot garments (GI-3045-F) at an increased flow rate, higher pressure and faster cycle.

The IC-1545-DL comes complete with a center port for post operation cryo cold therapy. Sleeves for this port can be purchased separately and come in knee, ankle and shoulder garments. To use the cryo garment, simply plug your garment into the center port of the device and it will immediately become active. If a cryo garment is not connected to the center port, the device will automatically shut off any airflow from this port.

*Please note that when using any of the cryo cold therapy garments, they should only be applied for 20 minutes at a time, once every two hours. For anything other than this, please consult with your personal physician.*

**Controls & Display**
OPERATING INSTRUCTIONS

UNPACKING EQUIPMENT

IC 1545-DL Multi-Flo DVT Combo
By laying carton on its side, slide pump out with protective end caps still attached. After removing pump from carton, end caps may be detached by gently pulling off each side.

NOTE: The carton and end-caps should be saved for re-use. The carton has a fold-up “handle assembly”.

Sleeve/Garment
Remove sleeves from package avoiding the use of sharp objects that could puncture or tear the garment.

GENERAL INSTRUCTIONS
1. Plug the pump into an outlet in close proximity to the area where treatment is to be received.
2. Apply the garments to the patient, and use the Velcro-type fasteners to accomplish a snug but comfortable fit.
3. Connect the tubing to the pump and garment as follows:
   - Attach the tubing to the outlet valve on the garment by turning the fitting clockwise until securely fastened
   - To remove the tubing from the garment, simply turn the fitting counter-clockwise and gently pull to disconnect.
   - Attach the Quick-Connect end of the tubing to the pump face by pushing firmly inwards until it snaps in place.
   - To remove the tubing from the pump, press the thumb tab on the connector and gently pull.
   NOTE: Quick-Connect sizes and styles prevent mismatch of garments and pumps.
4. Turn on the pump by pressing the ON/OFF button.
5. To Set the Calf
   Press the ON/OFF button and DOWN button. Release ON/OFF button. While holding DOWN button, elapsed time will appear, then CALF - release down button and pressure will show (50mmHg) and cycle will start).
6. To Set the Foot
   Press the ON/OFF button and UP button while holding UP button. Release ON/OFF button while holding UP button. Elapsed time will appear then FOO release UP button and pressure will show (120 mmHg) and cycle will start.
TO CHANGE PRESSURE

Consult your physician prior to adjusting pressure! To change pressure, during cycle when “0” appears in the digital pressure display, press and hold UP button until the pressure appears, then use the UP button to increase pressure or the DOWN to decrease pressure.

An alarm will sound if pressure is less than 20 mmHg

Should the alarm sound during treatment, check for crimped or disconnected tubing. Stop treatment until the low pressure or cycling problem is corrected before resuming treatment.

Be sure that the tubing is connected properly and has a clear unobstructed path between pump and garment to prevent any snagging or crimping from bed rails or other objects. Turning the pump OFF, then ON again, will reset the alarm.

NOTE: Tubing and garments have been designed to withstand three times the normal operating pressure without any adverse performance characteristics occurring under normal temperatures.

If the alarm continues to sound, discontinue treatment and call Technical Support at: 201-939-0716
MAINTENANCE AND STORAGE

Exterior Pump Case Cleaning Instructions:
1. Clean the exterior case and tubing with a damp (not wet) cloth using mild soap and water solution once per month or as needed.

WARNING!
- Only an authorized technician may open the pump
- Before cleaning, unplug power cord from electrical outlet

GARMENT CLEANING/DISINFECTING INSTRUCTIONS:
Disconnect garment from device.
2. Open garment to expose all sides either by separating Velcro type hook and loop or by unzipping (depending on type of garment).

WARNING!
- Do not allow liquids to enter the pump, as this can present an electrical hazard
- Always allow the pump to dry before using
- Do not use bleach on the pump

3. Cleaning solution should consist of 1/3 cup of laundry detergent per 1 gallon of warm tap water. Use either a large sink or plastic tub able to hold enough solution (depending on size and quantity of garments) to completely submerge the garment leaving the latch connector bars out of the water.
4. Garment should be soaked for 30 minutes with mild agitation every 5 to 10 minutes while keeping it below water surface.
5. Thoroughly rinse garment with warm tap water and allow to air dry.

WARNING! Never allow the Latch Connectors to be submerged into the water. If water enters the inside of the garment, damage may occur to the device.

6. Harder to remove soil on surface of garment may require additional washing by hand with a clean towel while submerged. Avoid using any abrasive materials such as scrubbing pads or chemicals that could cause damage to the exterior surface of garment.
7. Re-Submerge garment for 30 minutes (with exception of tubing connectors) in solution consisting of 1 cup of bleach per 1 gallon of warm tap water, again agitating garment every 5 to 10 minutes while keeping garment below water surface. Rinse garment thoroughly with warm tap water and allow to air dry. This completes the disinfecting step.

WARNING! DO NOT place garment in washing machine.

WARNING! DO NOT use the tubing or valves as “handles” for carrying, handing or storing garment.
PACKAGING, SHIPPING & STORAGE

The Model IC-1545-DL Multi-Flo DVT Combo is shipped in a specially designed corrugated, re-usable carton with protective end-caps that envelope each end of the pump, thereby suspending the pump on all four sides within the carton. This packaging design prevents damage to the pump when the carton is thrown or handled roughly by the carriers.

The device should be stored in a clean, dry area between 60 to 80 °F. However, short term exposure to temperatures –20°F to +110°F will not harm the unit. To maximize the pump’s life, time should be allowed for the pump to adjust to room temperature when it has been exposed to extreme temperatures.

PUMP ENCLOSURE

The pump enclosure is constructed of “Cycolac” which is a trademark of General Electric.

UL FLAME RATING: Under file #E47016, the UL Test method of UL 94 @ 23°C resulted in a Flammability Rating of (2.3 VO).

ENVIRONMENTAL SPECIFICATIONS

For transport and storage:
Ambient temperature: -20°F- +110°F (-29°C- +44°C)
Relative humidity: 30% - 75%
Atmospheric pressure: 700hPa to 1060hPa

For operation:
Ambient temperature: +50°F- +100°F (+10°C - +40°C)
Relative humidity: 30% - 75%
Atmospheric pressure: 700hPa to 1060hPa
### TROUBLESHOOTING

If the corrective action does not solve the problem, then call Bio Compression Systems, Inc., at 201-939-0716.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>The pump is will not turn on.</td>
<td>No electricity.</td>
<td>Check the electrical wall outlet to be sure that the pump is plugged into the outlet correctly. Check the circuit breaker to be sure there is power to the outlet.</td>
</tr>
<tr>
<td></td>
<td>Damaged power cord.</td>
<td>Unplug the power cord and look for any damage or defects.</td>
</tr>
<tr>
<td>One garment inflates but the second one does not.</td>
<td>Tubing not connected or blocked</td>
<td>Check the garment tubing to be sure they are connected to the pump and to the garment properly. Check the tubing for kinks, punctures, twists and/or folds.</td>
</tr>
<tr>
<td></td>
<td>Damaged garment</td>
<td>Check the garment for damage and leaks.</td>
</tr>
<tr>
<td>Regardless of the pressure setting the garments are applying a very low pressure.</td>
<td>Defective Garment.</td>
<td>Check the garment for adequate connection to the device, leaks, kinks, punctures, twists and/or folds.</td>
</tr>
<tr>
<td></td>
<td>An internal problem</td>
<td>Contact Bio Compression Systems, Inc. for repair.</td>
</tr>
<tr>
<td>The device is making strange and/or loud noises.</td>
<td>Device is on a uneven or unstable surface.</td>
<td>Move to a more stable and even surface.</td>
</tr>
<tr>
<td></td>
<td>An internal problem</td>
<td>Contact Bio Compression Systems, Inc. for repair.</td>
</tr>
</tbody>
</table>

**NOTE:** In addition to possessing proper tools and testing equipment, authorized service personnel have access to all electrical schematics, calibration instrumentation and criteria and an inventory of authorized replacement parts.

When servicing, use only identical replacement parts. Do not remove cover. Refer to qualified service personnel.
ELECTRICAL SPECIFICATIONS/EQUIPMENT CLASSIFICATION

The Model IC-1545-DL Multi-Flo DVT Combo interior components are “double insulated” and do not require a “protective ground.” The device is equipped with an 18 gauge, 2-wire, 10ft. Power cord, secured through the pump casing with a Heyco strain relief brushing as well as an additional “hold-down” clamp for added safety.

1. Class of protection against electrical shock: CLASS II EQUIPMENT
2. The degree of protection against electric shock: APPLIED PART-TYPE B
3. Mode: CONTINUOUS OPERATION WITH INTERMITTENT LOADING
4. According degree of protection against ingress of water: IXP0

EMC Manufacturer’s Declaration

<table>
<thead>
<tr>
<th>Emissions test</th>
<th>Compliance</th>
<th>Electromagnetic environment—guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF emissions</td>
<td>Group 1</td>
<td>The model IC-1545-DL uses RF energy only for its internal functions. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.</td>
</tr>
<tr>
<td>Harmonic emissions</td>
<td>Class B</td>
<td>The model IC-1545-DL is suitable for use in all establishments, including domestic establishments and those directly connected to the public low voltage power supply network that supplies buildings used for domestic purposes.</td>
</tr>
</tbody>
</table>

Guidance and manufacturer’s declaration—electromagnetic immunity

<table>
<thead>
<tr>
<th>Immunity test</th>
<th>IEC 60601 test level</th>
<th>Compliance level</th>
<th>Electromagnetic environment—guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrostatic discharge (ESD)</td>
<td>± 2, 4, 6 kV contact</td>
<td>± 2, 4, and 6 kV contact</td>
<td>Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.</td>
</tr>
<tr>
<td>IEC 61000-4-2</td>
<td>± 2, 4 and 8 kV</td>
<td>± 2, 4 and 8 kV</td>
<td></td>
</tr>
<tr>
<td>Electrostatic fast transient / burst</td>
<td>± 2 kV for power supply lines</td>
<td>± 2 kV</td>
<td>Mains power quality should be that of a typical home use location.</td>
</tr>
<tr>
<td>IEC 61000-4-4</td>
<td>± 1 kV for input / output lines</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Surge</td>
<td>± 0.5 and 1 kV line(s) to line(s)</td>
<td>± 0.5 and 1 kV differential mode</td>
<td>Mains power quality should be that of a typical home use location.</td>
</tr>
<tr>
<td>IEC 61000-4-5</td>
<td>± 2 kV line(s) to earth</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td>Voltage dips, short interruptions and voltage variations on power supply input lines</td>
<td>&lt;5 % U1 (&gt;95% dip in U1) for 0.5 cycles</td>
<td>&lt;5 % U1 (&gt;95% dip in U1) for 0.5 cycles</td>
<td>Mains power quality should be that of a typical home use location.</td>
</tr>
<tr>
<td>IEC 61000-4-11</td>
<td>40 % U1 (60% dip in U1) for 6 cycles</td>
<td>40 % U1 (60% dip in U1) for 6 cycles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>70 % U1 (30% dip in U1) for 30 cycles</td>
<td>70 % U1 (30% dip in U1) for 30 cycles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;5 % U1 (&gt;95% dip in U1) for 5 s</td>
<td>&lt;5 % U1 (&gt;95% dip in U1) for 5 s</td>
<td></td>
</tr>
<tr>
<td>Power frequency (50/60 Hz) magnetic field</td>
<td>3 A/m</td>
<td>3 A/m</td>
<td>The power frequency magnetic fields should be at the levels found in a typical home use location.</td>
</tr>
</tbody>
</table>

NOTE: U1 is the AC mains voltage prior to application of the test level.
**Guidance and manufacturer’s declaration — electromagnetic immunity**

The model IC-1545-DL is intended for use in the electromagnetic environment specified below. The customer or the user of the model IC-1545-DL should assure that it is used in such an environment.

<table>
<thead>
<tr>
<th>Immunity test</th>
<th>IEC 60601 test level</th>
<th>Compliance level</th>
<th>Electromagnetic environment—guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducted RF</td>
<td>3 Vrms 15 kHz to 80 MHz</td>
<td>3 Vrms</td>
<td>Portable and mobile RF communications equipment should be used no closer to any part of the model IC-1545-DVT-DL, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</td>
</tr>
<tr>
<td>Radiated RF</td>
<td>3 V/m 80 MHz to 2.5 GHz</td>
<td>3 V/m</td>
<td>Recommended separation distance</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$d = 1.2\sqrt{P}$ 80 MHz to 800 MHz</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz</td>
</tr>
</tbody>
</table>

where $P$ is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and $d$ is the recommended separation distance in meters (m).

Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range.

Note 1: At 80 MHz and 800 MHz, the higher frequency range applies.

Note 2: These guidelines may not apply to all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Recommended separation distances between portable and mobile RF communications equipment and the Model IC-1545-DL

The model IC-1545-DL is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer of user of the model IC-1545-DL can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the IC-1545-DL as recommended below, according to the maximum output power of the communications equipment.

<table>
<thead>
<tr>
<th>Rated maximum output power of transmitter W</th>
<th>Separation distance according to frequency of transmitter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$d = 1.2\sqrt{P}$</td>
</tr>
<tr>
<td></td>
<td>150 kHz to 80 MHz</td>
</tr>
<tr>
<td>0.01</td>
<td>0.12</td>
</tr>
<tr>
<td>0.1</td>
<td>0.38</td>
</tr>
<tr>
<td>1</td>
<td>1.2</td>
</tr>
<tr>
<td>10</td>
<td>3.8</td>
</tr>
<tr>
<td>100</td>
<td>12</td>
</tr>
</tbody>
</table>

For transmitters rated at a maximum output power not listed above, the recommended separation distance $d$ in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where $p$ is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

Note 1: At 80 MHz, the separation distance for the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.
WARRANTY INFORMATION
You can feel confident that your product is backed by the best warranty in the industry covering any and all malfunctions (including parts and labor) resulting from component and/or manufacturing defects.

The Model IC-1545-DL Mutli-Flo DVT Combo Model is covered for 1 years from date of purchase/invoice.

Serial Number: ____________________________________

Date Purchased: ________________________________

Local Representative/Dealer: _______________________

Phone Number: ________________________________

FOR ALL REPAIR SERVICES PLEASE CALL TECHNICAL SUPPORT AT
1-800-888-0908
PLEASE HAVE YOUR MODEL AND SERIAL NUMBER AVAILABLE

Note: Tampering with or dismantling with this device in any way will void the warranty.