

# ***SC-3008-DL***



## **SEQUENTIAL CIRCULATOR**

### **Operating Instructions**



***U.S. BASED MANUFACTURER***



Quality Medical Products Since 1983

## *Table of Contents*

<i>Introduction</i> .....	3
<i>Device Description and Operating Principle</i> .....	3
<i>Package Contents</i> .....	3
<i>Intended Use</i> .....	4
<i>Contraindications</i> .....	4
<i>Important Safety Tips</i> .....	4
<i>Description of International Symbols</i> .....	5
<i>General Equipment Specifications</i> .....	6
<i>Environmental Conditions</i> .....	6
<i>Front Operating Panel</i> .....	7
<i>8-Chamber Garment</i> .....	8
<i>Operating Instructions</i> .....	8-11
<i>Guidelines for Treatment</i> .....	10
<i>Important Usage Information</i> .....	12
<i>Maintenance and Storage</i> .....	12
<i>Garment Cleaning/Disinfecting Instructions</i> .....	12
<i>Garment Specifications</i> .....	14
<i>Troubleshooting</i> .....	15
<i>Warranty Information</i> .....	16
<i>Repair Services Information</i> .....	16
<i>Disposal of Device</i> .....	16
<i>Classification</i> .....	17
<i>Electrical Specifications/Equipment Specifications</i> .....	17
<i>EMC Manufacturer's Declarations</i> .....	17-18

## **INTRODUCTION**

*Congratulations on the purchase of your BIO COMPRESSION SYSTEMS MODEL SC-3008-DL Sequential Circulator Device system and garments.*

### **DEVICE DESCRIPTION AND OPERATING PRINCIPLE:**

The Model SC-3008-DL Sequential Circulator provides gradient pneumatic compression for the treatment of lymphedema and associated venous disorders. Sequential gradient compression helps to increase blood flow and move excess lymph away from the affected area for clearance from the body. This device can provide sequential (distal to proximal) inflation/deflation cycles of compressed air at prescribed pressures.

### **PACKAGE CONTENTS:**

- 1 SC-3008-DL Sequential Circulator “pump”
- 1 Power Cord
- 1 Operating Instructions
- 2 Blocker Bars for use during single garment therapy

Garment(s) designed for your individual use are provided separately. Do not share garments with others.

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 please call:


Toll Free Phone                      1-800-888-0908

Phone/Outside US                    1-201-939-0716

Warranty repairs or adjustments will be performed in a timely manner with minimal inconvenience to you. For this reason, it is important that you obtain a “Return Authorization” (RA Number) when calling.

## INTENDED USE:

The Model SC-3008-DL Sequential Circulator is a pneumatic compression device intended for either primary or adjunctive treatment of primary or secondary lymphedema. The device is also intended for additional or alternate treatment of venous insufficiency and chronic venous stasis ulcers associated with venous insufficiency as well as general treatment for swelling of the extremities. The device is intended for both home and hospital use.


 Federal (USA) law restricts this device to sale by or on the order of a physician



## CONTRAINDICATIONS:


Compression IS NOT recommended in the following conditions:


- Infections in the limb, including cellulitis without appropriate antibiotic coverage
- The presence of lymphangiosarcoma
- Deep vein thrombosis (DVT)
- Inflammatory phlebitis or episodes of pulmonary embolism
- Congestive heart failure (CHF)


## CAUTIONS AND PRECAUTIONS:


 This device is not intended for use during **SLEEP**.


 Pressure settings should not be changed unless ordered by a physician.  
 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/around treatment sites.


 If skin develops blisters, redness, welts, discoloration or others noticeable changes, or if burning, itching or increased swelling should occur, discontinue use and consult with a physician.














 To prevent the potential for reverse pressure and retrograde flow, do not adjust the gradient pressures without a physician's supervision.

 Slip and fall hazard. To avoid the risk of tripping or falling, do not stand or walk while wearing garments.

 Tubing may present a STRANGULATION HAZARD or restrict blood flow if it becomes wrapped around a limb. Use caution and KEEP FROM CHILDREN.

 Use only the garments, tubing and accessories provided for use with this device.

 Do not attempt to modify this device in any way

Symbol	Explanation
	Refer to Documentation before using and servicing
	<b>CAUTION</b>
	<b>Type B - applied part.</b>
	<b>Electrical shock hazard.</b> Disconnect LINE CORD before servicing; refer servicing to qualified service personnel.
	Federal (USA) law restricts this device to sale by or on the order of a physician.
<b>IP20</b>	Protection against entry of 12.5 mm solids; Without protection against ingress of water
	Class II Protection
	Serial Number
	Waste Electrical Goods Recycled
	Authorized Representative in the European Community
	Conforms with the Medical Device Directive (93/42/EEC) and has been subject to the conformity procedures laid down in the council directive
	Manufacturer
	Catalog / Model Number
	Keep Dry

**GENERAL EQUIPMENT SPECIFICATIONS:**

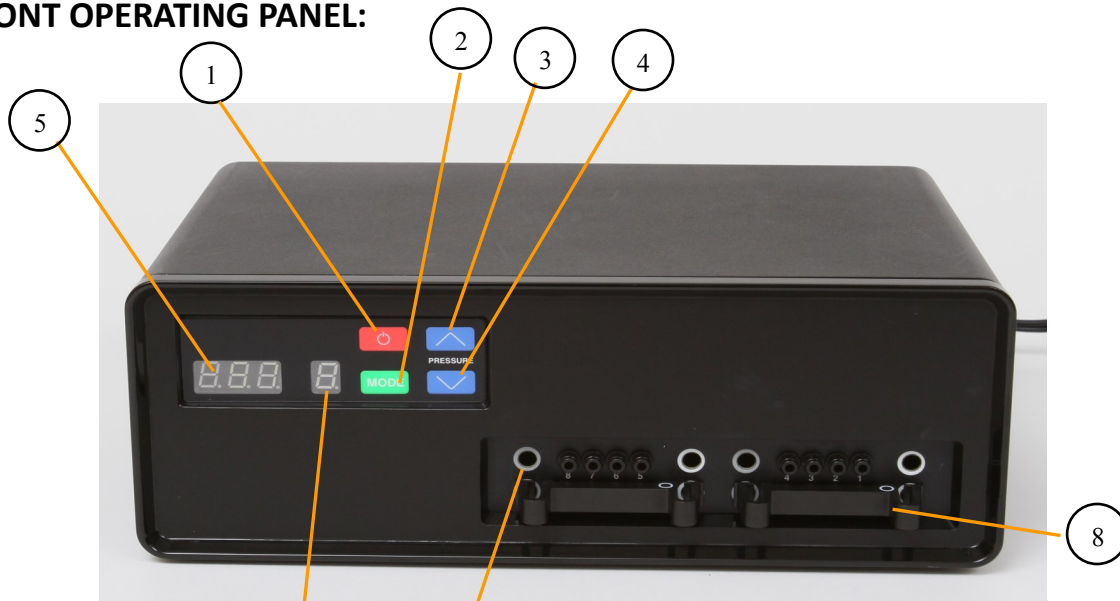
DIMENSIONS:	4.5" H x 11.75 W x 7.75" D
WEIGHT:	5.5 lbs
INFLATION:	44 Seconds
DEFLATION:	5.5 Seconds
CYCLE TIME:	5.5 Seconds / Chambers
ELECTRICAL:	120 VAC, 60 Hz, 0.5 A
APPLIED PART:	TYPE B
PROTECTION AGAINST ELECTRICAL SHOCK	CLASS II
OPERATION MODE:	CONTINUOUS OPERATION
PROTECTION MODE AGAINST WATER:	IP20

**ENVIRONMENTAL CONDITIONS:**

<b>FOR OPERATION:</b>	
AMBIENT TEMPERATURE:	+50°F - +100°F (+10°C -+37.8°C)
RELATIVE HUMIDITY:	30% - 75%
ATMOSPHERIC PRESSURE:	700hPa to 1060hPa

<b>FOR TRANSPORT AND STORAGE:</b>	
ATMOSPHERIC PRESSURE:	-20°F - + 100°F (-29°C- +37.8°C)
RELATIVE HUMIDITY:	30% - 75%
ATMOSPHERIC PRESSURE:	700hPa - 1060hPa

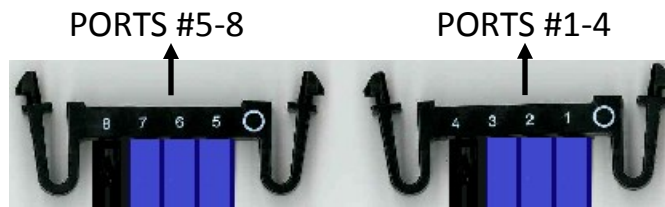
**FRONT OPERATING PANEL:**



**Figure 1, Front of Pump**

Key Function

1. POWER ON/OFF BUTTON
2. MODE BUTTON
3. INCREASE BUTTON
4. DECREASE BUTTON
5. LED DISPLAY
6. CHAMBER NUMBER LED
7. RECEPTOR PORTS FOR TUBING LATCH CONNECTORS



**Figure 2, Latch Connectors on the ends of the garment tubing**

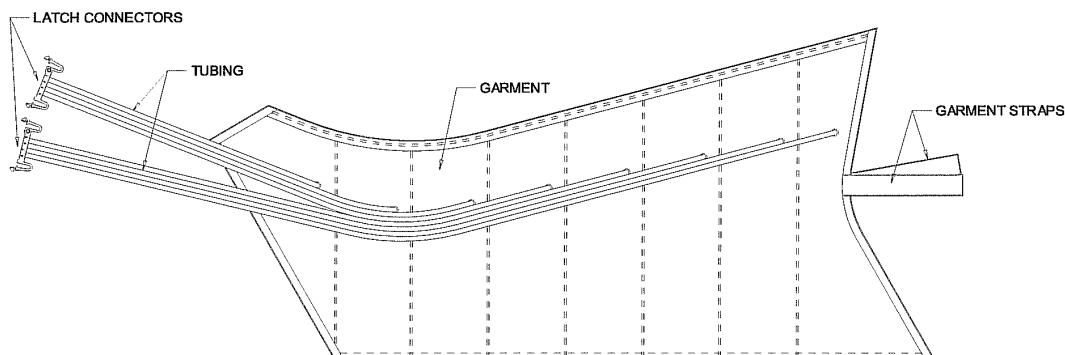
8. AUXILIARY AIR SUPPLY PORT FOR BILATERAL USE (WITH BLOCKER BARS INSTALLED)



**Figure 3, Blocker Bars placed on auxiliary ports for single garment use**

## 8 Chamber Garment:

Garments are available in the size and configuration to ensure both an effective treatment and maximum comfort. Please refer to section (2.5 Putting the garment on) in the operating manual for instructions on how to apply your garment.



**LATCH CONNECTORS:** Attach and detach the garment to the pump. They attach to the Receptor Ports (7) on the front of the device. A second garment can attach to the auxiliary receptor ports (8) for bilateral use. (Keep the blocker bars installed for single garment use).

**TUBING:** Brings air from the pump to the garment.

**GARMENT:** Applied part for treatment, with eight segregated pneumatic chambers.

### OPERATING INSTRUCTIONS:

1. Unpacking Equipment
  - 1.1 Open the shipping box and lift the device up and out of the box.  
***(Please be sure to SAVE your shipping box for future transporting or shipping. When transporting, the shipping box is equipped with a special “fold-up” handle for easy carrying)***
  - 1.2 Remove the protective end caps from the side of the device.
  - 1.3 Remove the garment from the plastic bag and unroll both tubing sections. Unfold the garment and spread it flat.



## 2. PREPARE FOR TREATMENT

- 2.1 Place the device on a flat and sturdy surface in close proximity to where the patient will be resting.
- 2.2 Attach the power cord to the back of the pump and then plug it into a safe 120 VAC, 60 Hz outlet. A grounded outlet is not required.
- 2.3 Note the LATCH CONNECTORS, numbered 1—4 and 5—8, located at the end of the tubing on your garment (See Figure 2). With one hand squeeze the LATCH CONNECTOR with numbers facing up and push into the Receptor Ports (7) with matching numbers located on the front panel of the device. You should hear a click when fully engaged.
- 2.4 If two garments are used, remove the Blocker Bars (see Figure 3) and attach the LATCH CONNECTORS from the second garment to the auxiliary ports (8).
- 2.5 **Putting the garment on**  
LEG GARMENTS, unzip the garment gently all the way down to the bottom and stop (zipper does not separate). Place the foot at the bottom end of the garment and pull on garments straps to help guide the garment up and onto your leg. Once garment is in place pull up the zipper while supporting the garment to wrap around the leg.  
ARM GARMENTS, slide the arm through the internal cavity of the garment.

***Note: Do not wear the garments directly over skin. Always wear light clothing underneath garments for hygienic reasons and to avoid irritation. It is recommended that light bandages, clean hosiery or stockinettes be worn under garments. Clothing should be free of zippers, buttons or other items that could rub and chafe the skin or damage the garment.***

## 3. Turning Pump On

- 3.1 Seat yourself comfortably in a reclined position, within easy reach of the pump. Legs should be elevated (see photo on front page).
- 3.2 Powering on your device - Press the “Power On/Off” (1) button to turn your pump on and off.
- 3.3 When first turned on, the LED Display (5) will show the total hours the pump has been used. After 5 seconds, the LED display shows which mode your pump is set to, after which the pump will start to blow air. The air pressure will be the same as the previous treatment. Factory default pressure is 50 mmHg in the chamber #1, decreasing to 43 mmHg in chamber #8. To change the pressure, see Section 5.
- 3.4 As the pump starts to run through its cycle, the number that shows in the LED Display (5) is the 60 minute countdown timer. The SC-3008-DL includes a one hour automatic shutoff timer. To run the pump in continuous (untimed) mode, see Section 7.

#### 4. END OF TREATMENT

The pump powers down one of two ways:

- 1) After your 60 minute treatment is complete
- 2) You press the “Power On/Off” (1) button while the pump is running.

4.1 When your treatment is over, wait one minute before taking off the garment.

4.2 Squeeze the LATCH CONNECTOR and pull outward to remove garment from pump.

4.3 Continue to assist in the evacuation of air from garment, working from top to bottom.

4.4 Once the garment feels loose enough, you can unzip the garment all the way to bottom and remove.

***Repeat steps 4.2 through 4.4 if two garments are used!***

**NOTE: In case of a power failure your device will automatically shut-down. The device does not have a battery backup and does not have timer memory. Once your power is restored you will have to turn your device back on and resume your treatment. A new 60 minute treatment will start. You can then end the treatment manually by turning the power off.**

#### GUIDELINES FOR TREATMENT

A physician is required to prescribe these settings, but general guidelines are listed below:

- All compression settings should be discussed with the physician. It is ultimately his / her responsibility to prescribe the setting and it should be written on the prescription upon referral. Every patient is unique and communication with the physician is important when setting pressures.
- 60mmHg works well for most patients. However, a different pressure might be prescribed for your personal needs.
- Presence of fibrotic tissue may require as much as 80mmHg in order to soften the fibrotic tissue and achieve reduction. Once the tissue is soft, the compression can be re-adjusted to 60mmHg.
- Patients with a history of Congestive Heart Failure (CHF), which is controlled with medication, should never be in a flat position while pumping. They should be in a reclined position with elevated legs during treatment. Their treatment regimen duration may be divided into twice a day 30 minutes per treatment.
- Patients with a history of Deep Vein Thrombosis with or without a filter may require less compression. These patients will generally tolerate 40mmHG. These patients with a filter may need to divide their treatment into twice a day, 30 minutes per treatment. It is suggested that the provider obtain a Negative Doppler study from the physician for their records.

To change the pressures in the individual garment chambers, See Section 5.

## 5. TO SET THE PRESSURE OF EACH CHAMBER IN YOUR GARMENT

- 5.1 With the pump off, press the “Power” On/Off button.
- 5.2 The pump will display the hours of usage for 5 seconds. While the hour meter is being displayed (first 5 seconds) Press and hold the “Up” and “Down” button at the same time and hold them down for 5 more seconds.
- 5.3 The next set of numbers will show the current pressure setting in the “LED Readout” and the chamber associated with that pressure in the “Chamber Number LED”.
- 5.4 Change the pressure setting using the “Up” or “Down” button until you get to your desired pressure.
- 5.5 Press the “Mode” button to move to the next chamber and repeat the steps above.
- 5.6 After you have set the pressure in all 8 chambers, press the “Power On/Off” button and your pump will start to operate.

## 6. PROGRAMMING YOUR PUMP TO OPERATE IN DIFFERENT MODES

The SC-3008-DL can run in a number of different modes, all of which are set in the following manner:

- 6.1 With the Pump off, press the “Power” On/Off button.
- 6.2 The pump will display the hours of usage for 5 seconds. While the hour meter is being displayed (first 5 seconds) Press and hold the “Mode” button 5 more seconds.
- 6.3 After 5 seconds, you will see “1Hr.” in the “LED Readout”. This indicates that you are in the 1 Hour shutoff mode. In this mode, the pump will operate for one hour and then automatically turn off. The pump comes preset to this mode so there is no reason to go through these steps if you wish to run your pump in the 1 Hour Mode. If you are setting the mode, and want to proceed with this setting, simply press the “Power” On/Off button and your pump will begin its cycle.
- 6.4 If you want to operate in a different mode, after “1Hr.” shows press the “Mode” button again and you will see “COOn” which indicates you are in continuous mode. In this mode, the pump will not shut off until you manually turn it off by pressing the “Power” On/Off button. Once you see “COOn”, if you want to proceed with this setting, press the “Power” On/Off button and your pump will begin its cycle.
- 6.5 Your pump comes with a “Pre-Therapy” treatment option. In this mode, the pump will run for 10 minutes hitting only chambers 6,7,8 over and over again. After 10 minutes, the pump will automatically go into either the 1 Hour mode or the Continuous mode depending on how you set up your pump. The SC-3008-DL comes preset with the Pre-Therapy mode turned off. To turn it on, during the Mode setup, press the “Mode” button again after 6.4 and you will see “PrE” in the LED Readout. While this is displayed, press the “Up” button to change the number in the “Chamber Number LED” from 0 to 1. The “1” indicates that the “Pre-Therapy” treatment has been activated, a “0” indicates that it is off. To move from 1 to 0, simply press the “Down” arrow. Once this is set, hit the “MODE” button again which will return you to the 1 Hour Mode. Hit the “Power” button to start your pump in this mode, or the “MODE” button again to move to the Continuous Mode. A Pre-Therapy treatment can be used in either mode.

**Please Note: The Pre-Therapy feature should not be turned on until the pump has run for at least 10 minutes on a patient. This will give the pump time to learn the proper pressure settings for each chamber.**

## 7. HOUR METER

7.1 The hour meter is displayed for 5 seconds each time you turn on your pump. The numbers in the “LED Readout” show the 1-999 hours, the letter in the “Chamber Number LED” indicates the following:

- A. Less than 1000 hours
- B.= 1000 - 2000 hours
- C.= 2000 - 3000 hours
- D.= 3000 - 4000 hours
- E.= 4000 - 5000 hours
- F.= 5000 - 6000 hours

7.2 To **RESET** the internal hour meter and return the pump to factory settings, with the pump turned off, press and hold the “Mode”, “Up” and “Down” buttons all at the same time for 5 seconds. The LED will then Light up.

7.3 After 5 seconds, release the three buttons and press the “MODE” button. This will reset the internal hour meter and return the pump to the original factory settings.

### **IMPORTANT USAGE INFORMATION:**

This pump has a customized software that remembers the pressure requirements of each and every patient. It is very important to reset the pump back to the original factory settings prior to placing the pump on a new patient.

### **MAINTENANCE AND STORAGE:**

#### **EXTERIOR PUMP CASING 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.**

## 8 CHAMBER GARMENT SPECIFICATIONS:

PRODUCT	APPLICATION	SIZE	SIDE
G8-3035-S	Arm	Small	
G8-3035-M	Arm	Medium	
G8-3035-L	Arm	Large	
G8-3035-SH/S	Arm & Shoulder	Small	
G8-3035-SH/M	Arm & Shoulder	Medium	
G8-3035-SH/L	Arm & Shoulder	Large	
GV-3010-S-R	Arm Elite Bio	Small	Right
GV-3010-S-L	Arm Elite Bio	Small	Left
GV-3010-M-R	Arm Elite Bio	Medium	Right
GV-3010-M-L	Arm Elite Bio	Medium	Left
GV-3010-L-R	Arm Elite Bio	Large	Right
GV-3010-L-L	Arm Elite Bio	Large	Left
GV-3000-S-1	Vest & Arm	Small	Left or Right
GV-3000-M-1	Vest & Arm	Medium	Left or Right
GV-3000-L-1	Vest & Arm	Large	Left or Right
GV-3000-S-2	Vest & Arms	Small (2)	Left or Right
GV-3000-M-2	Vest & Arms	Medium (2)	Left or Right
GV-3000-L-2	Vest & Arms	Large (2)	Left or Right
G8-3045-S	Full Leg	Small	
G8-3045-M	Full Leg	Medium	
G8-3045-L	Full Leg	Large	
GW8-3045-S	Full Leg	Small Wide	
GW8-3045-M	Full Leg	Medium Wide	
GW8-3045-L	Full Leg	Large Wide	
GXW8-3045	Full Leg	Extra Wide	
A8-3045-S	Full Leg	Small Adjustable	
A8-3045-M	Full Leg	Medium Adjustable	
A8-3045-L	Full Leg	Large Adjustable	
GWA8-3045-S	Full Leg	Small Wide Adjustable	
GWA8-3045-M	Full Leg	Medium Wide Adjustable	
GWA8-3045-L	Full Leg	Large Wide Adjustable	
GXWA8-3045	Full Leg	Extra Wide Adjustable	
GN8-3045-S	Full Leg	Small Narrow	
GN8-3045-M	Full Leg	Medium Narrow	
GN8-3045-L	Full Leg	Large Narrow	
C8-3035-C	Arm	Custom Arm	
C8-3045-C	Full Leg	Custom Leg	
GBA-3045-S-2	Pants	Small	
GBA-3045-M-2	Pants	Medium	
GBA-3045-L-2	Pants	Large	

## **TROUBLESHOOTING**

If the corrective action does not solve the problem, then call Bio Compression Systems, Inc., at 1-800-888-0908. Be sure to have serial number available when calling for service.

Symptom	Possible Cause	Corrective Action
The device is not working.	No electricity	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.
	Power cord	Unplug the power cord and look for any damage or defects.
One garment inflates but the second one does not.	The second garment is not receiving air.	Check the garment hoses for adequate connection to the device, kinks, punctures, twists and / or folds.
The device is making strange and/or loud noises.	Device is on a uneven or unstable surface	Move to a more stable surface.
	An internal problem	Contact Bio Compression Systems, Inc., for repair.
Regardless of the pressure setting the garments are applying a very low pressure.	Defective Garment	Check the garment for adequate connection to the device, leaks, kinks, punctures, twists and / or folds.
	An internal problem	Contact Bio Compression Systems, Inc., for repair.

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.

### **CLASSIFICATION:**

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 or one hour timed
4. According degree of protection against ingress of water: IP20  
(without protection against ingress of water)

**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.

Compression Pump = 3 years from date of purchase / invoice  
Sleeves/Garments = 1 year from date of purchase / invoice

Serial Number: \_\_\_\_\_

Date Purchased: \_\_\_\_\_

Local Representative/Dealer: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**REPAIR SERVICE INFORMATION:**

FOR ALL REPAIR SERVICES PLEASE CALL TECHNICAL SUPPORT AT  
Toll Free                      1-800-888-0908.  
Phone/Outside US      1-201-939-0716

PLEASE HAVE YOUR MODEL AND SERIAL NUMBER AVAILABLE.

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

**DISPOSAL OF DEVICE**



Medical equipment and devices should be disposed of in proper containers that meet Environmental Protection Agency standards. Check with your local, regional and national laws and regulations to see what is required.



## ELECTRICAL SPECIFICATIONS/EQUIPMENT CLASSIFICATION

The Model SC-3008-DL interior components are “double insulated” and do not require a “protective ground.” The system 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: IP20

### EMC Manufacturer’s Declaration

Model SC-3008-DL electromagnetic emissions—manufacturer’s declaration			
The model SC-3008-DL is intended for use in the electromagnetic environment specified below. The customer or the user of the model SC-3008-DL should assure that it is used in such an environment.			
Emissions test	Compliance	Electromagnetic environment— guidance	
RF emissions CISPR 11	Group 1	The model SC-3008-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.	
RF emissions CISPR 11	Class B	The model SC-3008-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 building used for domestic purposes.	
Harmonic emissions IEC 61000-3-2	Not applicable		
Voltage fluctuations / flicker emissions IEC 61000-3-3	Not applicable		
Guidance and manufacturer’s declaration—electromagnetic immunity			
The model SC-3008-DL is intended for use in the electromagnetic environment specified below. The customer or the user of the model SC-3008-DL should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment—guidance
Electrostatic discharge (ESD)  IEC 61000-4-2	± 2, 4, and6 kV contact  ± 2, 4 and 8 kV air	± 2, 4, and6 kV contact  ± 2, 4 and 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrostatic fast transient / burst  IEC 61000-4-4	± 2 kV for power supply lines  ± 1 kV for input / output lines	± 2 kV  Not applicable	Mains power quality should be that of a typical home use location.
Surge  IEC 61000-4-5	± 0.5 and 1 kV line(s) to line(s)  ± 2 kV line(s) to earth	± 0.5 and 1 kV differential mode  Not applicable, no ground wire	Mains power quality should be that of a typical home use location.
Voltage dips, short interruptions and voltage variations on power supply input lines  IEC 61000-4-11	<5 % $U_T$ (>95% dip in $U_T$ ) for 0.5 cycles 40 % $U_T$ (60% dip in $U_T$ ) for 6 cycles 70 % $U_T$ (30% dip in $U_T$ ) for 30 cycles  <5 % $U_T$ (>95% dip in $U_T$ ) for 5 s	<5 % $U_T$ (>95% dip in $U_T$ ) for 0.5 cycles 40 % $U_T$ (60% dip in $U_T$ ) for 6 cycles 70 % $U_T$ (30% dip in $U_T$ ) for 30 cycles  <5 % $U_T$ (>95% dip in $U_T$ ) for 5 s	Mains power quality should be that of a typical home use location. If the user of the model SC-3008-DL requires continued operation during mains power interruptions, it is recommended that the model SC-3008-DL be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field  IEC 61000-4-8	3 A/m	3 A/m	The power frequency magnetic fields should be at the levels found in a typical home use location.
NOTE: $U_T$ is the AC mains voltage prior to application of the test level.			

## Guidance and manufacturer's declaration — electromagnetic immunity

The model SC-3008-DL is intended for use in the electromagnetic environment specified below. The customer or the user of the model SC-3008-DL should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment—guidance
Conducted RF IEC 61000-4-6	3 Vrms 15 kHz to 80 MHz	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the model SC-3008-DL, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.  <b>Recommended separation distance</b>  $d = 1.2\sqrt{P}$  $d = 1.2\sqrt{P}$ 80 MHz to 800 MHz  $d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz  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, <sup>a</sup> should be less than the compliance level in each frequency range. <sup>b</sup>  Interference may occur in the vicinity of equipment marked with the following symbol:  <div style="text-align: center;">  </div>
Radiated RF IEC 1000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	

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 reflections from structures, objects and people.

<sup>a</sup> Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the model SC-3008-DL is used exceeds the applicable RF compliance level above, the model SC-3008-DL should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the model SC-3008-DL.

<sup>b</sup> Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

### Recommended separation distances between portable and mobile RF communications equipment and the model SC-3008-DL

The model SC-3008-DL is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or user of the model SC-3008-DL can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the model SC-3008-DL as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	$d = 1.2\sqrt{P}$	$d = 1.2\sqrt{P}$	$d = 2.3\sqrt{P}$
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

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.

---

---

**OTHER BIO COMPRESSION SYSTEMS' PRODUCTS  
ALSO AVAILABLE:**

**SEQUENTIAL CIRCULATOR MODEL 2004 & 2004-FC**

**SEQUENTIAL CIRCULATOR MODEL 3004 & 3004-FC**

**SEQUENTIAL CIRCULATOR MODEL 2008**

**THE BIOCRYO SYSTEM**

**MULTI-FLO DVT COMBO PROPHYLAXIS SYSTEM**

**BIO ARTERIAL PLUS  
(ARTERIAL BLOOD FLOW ENHANCEMENT SYSTEM)**

**COMPRESSION THERAPY GARMENTS  
INCLUDING OUR  
CUSTOM GARMENTS  
*with the fastest turn around in the industry!***

---

---



Bio Compression Systems, Inc.



---

120 West Commercial Avenue  
Moonachie, NJ 07074

Toll-Free Phone: 800-888-0908 / Phone: 201-939-0716

Fax: 201-939-4503

E-mail: [biosystems@biocompression.com](mailto:biosystems@biocompression.com)

Website: [www.biocompression.com](http://www.biocompression.com)



Emergo Europe  
Molenstraat 14  
2513 BH, The Hague  
The Netherlands

