

OPERATING INSTRUCTIONS



SEQUENTIAL CIRCULATOR

MODEL 2008



BIO COMPRESSION SYSTEMS, INC.

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

Fax: 201-939-4503

E-mail: biosystems@biocompression.com

www.biocompression.com



**All Bio Compression Systems products are
U.S. BASED MANUFACTURER**

***Congratulations on the purchasing of your
BIO COMPRESSION SYSTEMS
MODEL # SC-2008***

Sequential 8 Circulator System

***The durable, high quality material used in the manufacturing of this product will ensure
you long lasting performance.***

***On rare incidences when problems occur, you can feel confident that your pump and
garment are backed by the best warranty and customer service in the industry!***

***By simply dialing our toll free number
for customer service***

800-888-0908

***warranty repairs or adjustments will be
performed in a timely manner with minimal
inconvenience to you***






***Should a warranty repair require an extended length of time, if available, a pump from
our "loaner inventory" will be made available to you, so as to prevent any interruption in
your treatment schedule.***

INTENDED USE

The Model # SC-2008 Sequential Circulator is a manual (not software driven) 8 chamber sequential, 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 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.

NOTE: FEDERAL LAW RESTRICTS THIS DEVICE TO SALE BY, OR ON THE ORDER OF A LICENSED PHYSICIAN!

CAUTIONS AND PRECAUTIONS

-  **CAUTION:** Federal law restricts this device to sale by, or on the order of, a licensed physician.
-  **CAUTION:** High pressure should be set with caution on patients with peripheral arterial occlusive disease.
-  **CAUTION:** If you experience pain or unusual symptoms during use, discontinue treatment and consult your physician immediately
-  **CAUTION:** In the event of a power failure, simply disconnect the garment from the pump to release any residual air and pressure in the garment.
-  **CAUTION:** The system is not intended for use during sleep.

SYMBOL DEFINITIONS



= "WARNING" Risk of Fire



= "DANGER" Risk of Explosion



= "CAUTION" Risk of Electrical Shock



= "REFER TO DOCUMENTATION BEFORE USING AND SERVICING"



= "TYPE B—APPLIED PART"



= "CLASS II PROTECTION"

CONTRAINDICATIONS

- Infections in the limb, including cellulitis without a minimum of 72 hours of appropriate antibiotic coverage
- The presence of lymphangiosarcoma
- Deep vein thrombosis
- Inflammatory phlebitis or episodes of pulmonary embolism
- Uncontrolled congestive heart failure

GENERAL EQUIPMENT SPECIFICATIONS

Model # SC-2008 - Sequential 8 is an 8 chamber, Gradient, Sequential Pneumatic Compression Device.

DIMENSIONS: H X W X D (in inches)
5.5 x 12 x 8

WEIGHT: 8 lbs

INFLATION: 44 Seconds

DEFLATION: 5.5 Seconds

CYCLE TIME : 5.5 Seconds/Chamber

("Electrical Specifications" under separate section)

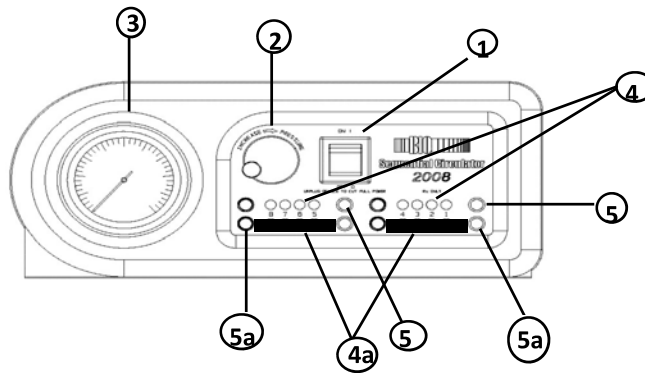
PACKAGING, SHIPPING & STORAGE

The Model # SC-2008 is shipped in a specially designed (275 test) corrugated re-usable carton with protective end-caps which 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 (which would ordinarily be sustained) when the carton is thrown or handled roughly by the carriers.

NOTE: The carton and end-caps should be saved for re-use each time the pump is either transported or shipped. When transporting, for added convenience, the carton is equipped with a fold-up "handle assembly"

The device should be stored in a secure area, ideally 60 to 80 degrees (F), however, short term storage or shipping with exposure to temperatures of -20°F to +110°F will not harm the unit. To maximize the unit's life, however, time should be allowed for temperature adjustment prior to use, when moving to areas of contrasting temperature. It is also advisable to avoid extreme heat (+110°F) or cold (-20°F) when long term storage is contemplated.

CONTROLS & INDICATORS



CONTROL DESCRIPTIONS

1.) Lighted On/Off Switch

2.) Pressure Adjustment Knob, Locking

To prevent against involuntary changes in the pressure setting due to inadvertent movement of the Pressure Adjustment Knob, a new “locking” Knob has been implemented on all model pumps to provide for safer, more effective therapy.

After the pressure has been set, simply by turning the smaller “inner locking knob” clockwise to tighten, the pressure adjustment knob will now remain secure in place. Turning the “inner knob” counter-clockwise will enable the “pressure adjustment knob” to again turn free without resistance.

Caution: Care must be taken not to “Over-Tighten” the inner locking knob as only minimal force is required to lock pressure setting in place.

Note: Changing the inner knob to a 1/2” x 8/32” Allen head set screw will upgrade this feature to tamper proof.

3.) Pressure Gauge (mmHg)

4.) Air Ports (Numbered)

- Ports #1-#4
- Ports #5-#8

4a) “Capped” Air Supply Ports for Latch Connector Bar Blocker

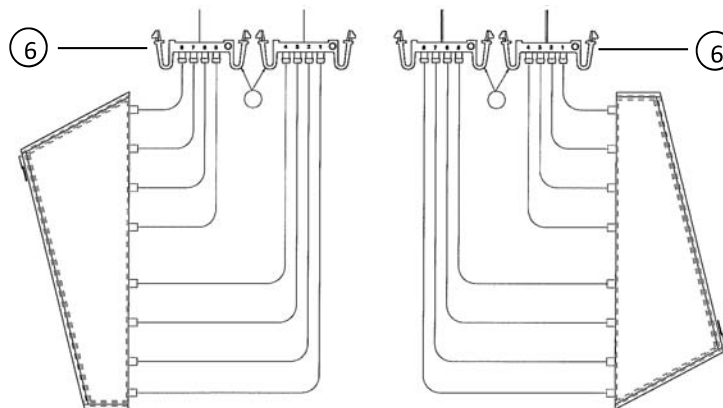
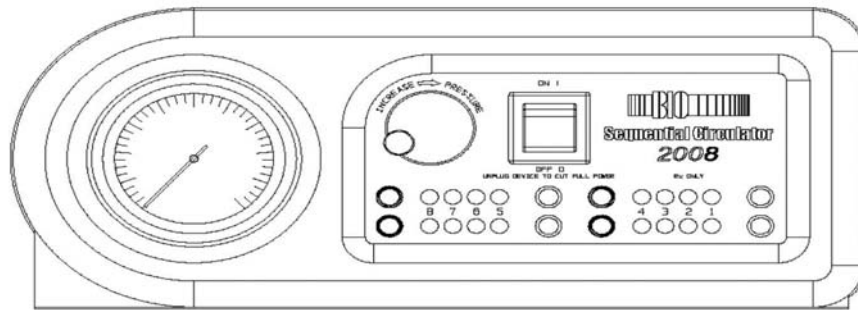
- Ports #1-#4
- Ports #5-#8

NOTE: Unless using Bilaterally, Ports should remain capped off and removed only when the addition of a second garment is required.

5.) Receptor Ports for Latch Connector Bar

5a.) Auxiliary Receptor Ports for additional Latch Connector Bar when bilateral treatment is employed

UPPER EXTREMITY GARMENT



6. Latch Connector Bar

To match up with air intake ports on face of pump.

ELECTRICAL SPECIFICATIONS

The Model # SC-2008, Sequential Circulator's electrical pump and components are "double insulated" and thus do not require a "protective ground." As a result, the Model #2008 is equipped with an 18 gauge, 2-wire, 10 ft. power cord, secured through the pump casing with a Heyco strain relief bushing.

Affixed to the rear exterior of the pump is a 3"x 3" Foil Label containing the "Electrical Specifications" printed in contrasting black type. These specifications are printed in both English and French and contain the following:

ELECTRICAL RATING: 120 VAC, 60Hz, 0.5 A

CARACTERISTIQUES ELECTRIQUES: 120 V c.a., 60 Hz, 0, 5 A

When servicing, use only identical replacement parts. Do not remove cover. Refer to qualified service personnel.

Lors des reparations, utilisez, exclusivement des pieces de rechange identiques. No retirez pas le couvercle. Consultez un technicien qualifie.

WARNING: REPLACE FUSE WHERE MARKED

AVERTISSEMENT: REMETTRE LE FUSIBLE A L'ENDROIT INDIQUE

Fuse rated 3 Amps Time Delay, 250 VAC

Fusible de 3 A a retardement, 250 V c.a.

Continuous Operation with Intermittent Loading

TYPE B—APPLIED PART CLASS II

Pie'ce Applique'e—Type B CLASSE II

ETL 9801681

CONFORMS TO

CONFROM A

Authorized service personnel, in addition to possessing proper tools and testing equipment have access to electrical schematics, calibration criteria and an inventory of identical 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
4. According degree of protection against ingress of water..
IPXO

FUSE REPLACEMENT

Occasionally power surges, etc. or normal age can result in a blown outer safety fuse located in the rear of pump, adjacent to the power cord.

The safety fuse may be replaced by the user or caregiver, provided it is replaced with an identical type (T3AL 250V).

Prior to removal of fuse, disconnect power cord from socket. While pushing inward on fuse cap, turn counter clockwise to release cap and remove fuse. After placing new fuse in cap slot, push cap and fuse inward and turn clockwise to lock in place.

NOTE: The outer safety fuse is the only item serviceable by some one other than a Bio Compression Systems technician at the factory. Bio Compression Systems technicians have been trained specifically for the manufacturing and repair of all Bio Compression Systems products.

NOTE: *Having no “electromagnetic” or “radio frequency” signal sensitive type components, this device neither generates, nor is it affected by any of this type of interference. Further, its accuracy remains consistent in the presence of such devices emitting this normal type of interference*

PUMP ENCLOSURE

The pump enclosure is constructed of “Cyclac” 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)

UNPACKING EQUIPMENT

SEQUENTIAL CIRCULATOR

By laying carton on its side, slide pump out with protective end caps still attached. After removing pump from carton, protective end caps may be detached by gently pulling off each side.

NOTE: Be sure to SAVE carton and end caps for future transporting or shipping. When transporting, the carton is equipped with “fold-up” handles for easy carrying.

SLEEVE/GARMENT

Remove sleeve from package and unroll both tubing sections which are permanently attached to garment with tubing plugs attached to the end of each tubing section.

TUBING:

The garment tubing is produced in pleural form consisting of two groups of 4 tubes bonded together and color coded with 3 tubes in blue and 1 tube in black. This color coding prevents attachment of both tubing bundles to the pump in reverse order. The tubing is 80A durometer PVC with each tube measuring .281 x .187 with a Tolerance of $\pm .005$.”

OPERATING INSTRUCTIONS

Having familiarized yourself with controls and features of this equipment, you are now ready to begin your treatment according to your physician’s prescribed course of therapy.

1. Make sure that your circulator is plugged into a safe, properly secured, 110 V, AC outlet.
2. Place unit on a sturdy table or other type of surface closed to where you will be sitting. The unit has non-slip rubberized feet on the bottom, however placing paper or other items underneath may defeat that purpose, causing the unit to slide off of surface.

3. Setting /Adjusting Pressure

Each of the 8 chambers has a fill time of only 5.5 seconds per cycle. Setting the pressure is accomplished by adjusting the pressure “only” during the filling of chamber #1 which only allows you 5.5 seconds and may require repeating the procedure below until the desired pressure is attained. Once the pressure in chamber #1 is set, the pump automatically proportionally adjusts lower gradient pressures in the remaining chambers (#2 through #8).

- Loosen the inner locking knob by turning a few turns counter clock-wise enabling the pressure adjustment knob (the larger knob) to turn freely.
- If the pump is running, shut pump off and wait for the switch light to go out. Remember, often when shutting pump off, the switch light will remain on until the cycle is completed, making it ready to start on chamber #1 when beginning your next treatment.
- Once switch light goes out, you are ready to start your pressure adjustment.
- Press switch to on position and immediately turn knob clock-wise to increase the pressure setting or counter clock-wise to decrease pressure setting as reflected on the gauge needle. Remember, you can only adjust the pressure while chamber #1 is in the filling cycle. Once the needle on the gauge dips momentarily and air is no longer coming out of port #1, you must shut pump off (if setting is not completed) and wait for switch light to go out before repeating procedure to finish setting/adjusting pressure.
- Once the desired pressure has been attained, tighten the smaller locking knob by turning it clock-wise. Take care not to over-tighten knob as it only takes slight pressure to lock the pressure adjustment knob in place.

NOTE: You may have to repeat this procedure several times, given the short cycle time for each chamber and since you can only set the pressure on port number one, the highest pressure of the eight chambers. After you have set the desired pressure, shut the pump off until you are ready to use it and have your garment securely fastened.

Remember upon shutting the pump off, the switch may stay lighted until the timer completes its cycle! Upon completion of the cycle, the switch light will automatically shut off.

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

- 60mmHG is the general rule of thumb for most patients. However, other circumstances may require adjustments to the compression used.
- Presence of fibrotic tissue may require as much as 80mmHG in order to break up the fibrotic tissue and achieve reduction. Once the tissue is soft, the compression can be readjusted to 60mmHG.
- Patients with a history of Congestive Heart Failure, which is controlled with medication should never be in a supine 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.
 - 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.
4. Take the LATCH CONNECTOR BAR which is located at the end of the tubing on your garment. Holding in one hand with the numbers facing up, squeeze ends together to line up (1 to 1) & (4 & 4) to Air Supply Ports (#4) then push onto AIR SUPPLY PORTS (#4). You should hear a click when fully engaged.
 5. Repeat the previous steps to attach the LATCH CONNECTOR BAR (#6) to the remaining AIR SUPPLY PORTS (#4) if using more than one garment
 6. Unzip sleeve/garment gently down to bottom stop (zipper does not separate). Place garment onto arm or leg and zip up to top of garment
 7. Press PUMP SWITCH (#1) up to PUMP ON" position. Allow two to three complete inflation/ resting cycles before the garment reaches its pre-set therapeutic pressure. At this point, you may start timing treatment duration.
 8. As each chamber of the garment inflates, the PRESSURE GAUGE (#3) will dip down momentarily then return to reflect the actual pressure in the chamber. This will continue as each chamber becomes pressurized during every cycle.

BILATERAL TREATMENT APPLICATION

When bilateral treatment is required, remove Latch Connector Bar Blocker from Auxiliary Air Supply Ports (#4a) under controls & indicators) and attach the garment's in the same manner as previously described.

END OF TREATMENT

When your treatment time is completed, press the Lighted Pump Switch (#1) down to the "PUMP OFF" position. As noted earlier, although the pump shuts off, the switch may remain lighted until the timer completes its cycle, at which time it will automatically shut off.

Once the light has shut off, if desired you may remove plug to cut total power from device. It is now safe should you wish to disconnect garment from your arm or leg as well as from pump.

1. Squeeze LATCH CONNECTOR BAR (#6) and pull outward to remove garment from pump.
2. Grasp four tubes in hand near LATCH CONNECTOR BAR (#6) and pull plug outward away from pump to remove.
3. First gently bend your arm or leg (depending where garment is located) to release partial air from chambers.
4. Continue to assist in the evacuation of air from garment, working from top to bottom.
5. Once the garment feels loose enough, you can unzip the garment all the way to bottom and remove.

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

NOTES: _____

Serial Number: _____

Date Purchased: _____

Local Representative/Dealer: _____

Phone Number: _____

REPAIR SERVICE

1-800-888-0908

BIO COMPRESSION SYSTEMS, INC.

120 West Commercial Ave., Moonachie, NJ 07074


www.biocompression.com

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.**

OTHER BIO COMPRESSION SYSTEMS' PRODUCTS
ALSO AVAILABLE:

SEQUENTIAL CIRCULATOR MODEL 2004

SEQUENTIAL CIRCULATOR MODEL 2004-FC (FAST CYCLE)

SEQUENTIAL CIRCULATOR MODEL 3004

SEQUENTIAL CIRCULATOR MODEL 3004-FC (FAST CYCLE)

SEQUENTIAL CIRCULATOR MODEL 3008

THE BIOCRYO SYSTEM

MULTI-FLO DVT COMBO PROPHYLASIX SYSTEM

BIOARTERIAL PLUS
(ARTERIAL BLOOD FLOW ENHANCEMENT SYSTEM)

COMPRESSION THERAPY GARMENTS
INCLUDING OUR
CUSTOM GARMENTS

BIO COMPRESSION SYSTEMS
120 West Commercial Avenue, Moonachie, New Jersey 07074
Toll- Free Phone: 800-888-0908 / Phone: 201-939-0716
Fax: 201-939-4503
E-mail: biosystems@biocompression.com
Website: www.biocompression.com

