

# GRAND DIVE PRO



Congratulations on choosing one of the most innovative and safe hyperbaric chambers.

In addition to this manual we have an easy to follow instructional video available

<https://www.summit-to-sea.com/instructions>

Click on “Grand Dive Pro”

Now that you have all the equipment to begin your treatments, it is extremely important to thoroughly read this manual before operating your chamber.

# SAFETY FIRST

---

Summit to Sea has made every effort for your hyperbaric experience to be safe, comfortable and beneficial.

We have implemented **3 safety features** that are unique to Summit to Sea chambers.

- **Two compressors**
- **Two air release valves and one safety back up valve**
- **Failed Circuit Alarm**

# SAFETY FIRST

---

## **Zipper stress relief system (buckles)**

It is very important that when operating the chamber both zippers are completely closed and all belts are buckled.

The belts reduce stress on the zipper extending the life of the zipper.

# SAFETY FIRST

---

## Two compressors

For safety Summit to Sea has multiple redundant systems and components.

One of these is the compressor system.

In the event if one of the compressors failed you would still receive fresh air into the chamber allowing you to deflate safely.

Summit to Sea uses two independent compressors which attach to the chamber independently offering safety and comfort.



**VERY IMPORTANT:** All compressors need to be running during treatment.

# SAFETY FIRST

---

## **Failed Circuit Alarm**

Summit to Sea is the only company in the hyperbaric industry whose chamber system will alert you to a power outage. In the event that there is a power outage which would prevent the compressors from supplying fresh air into the chamber the user would be alerted with a loud alarm.

# WHAT IS INCLUDED

---

- Chamber
- Silicone and Zipper cleaner
- Two Auxiliary Valves
- Thumb drive with set up instructions
- Round foam bolsters
- Platform
- Mat
- Frame
- 2 Compressors
- Failed Circuit Alarm



# CHAMBER PARTS

## FRONT



1. Extra bulkhead with plug
2. Relief valves (2)

## BACK



3. External Gauge
4. Safety relief valve
5. Dump valve - releases air
6. Internal gauge inside (not pictured)
7. Extra bulkhead with plug
8. Auxiliary Valve
9. Fill valves (2)

# INFLATING

---

# CAUTION

At first, follow these instructions to inflate and deflate the chamber without any person inside the chamber.

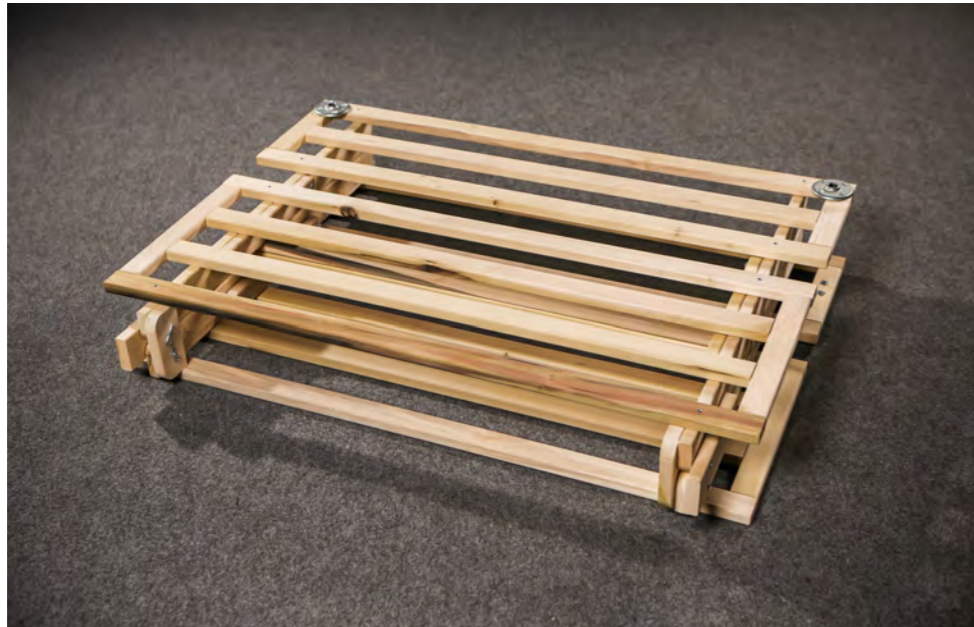
## **WARNING**

Never take a treatment alone.

Always have someone outside the chamber to assist you.

# SET UP

---



The first step is to place the platform on the floor



Open up the platform

# SET UP

---



Lay the deflated chamber on top of the platform with the open flap facing to the front as pictured above.

# SET UP

---

Next connect the compressors to the back of the chamber. You will notice that at the end of each compressor hose is a quick connect. Simply click it onto the white fill valve.



# SET UP

---

Check to make sure the red relief valve is shut by lining up the dots.

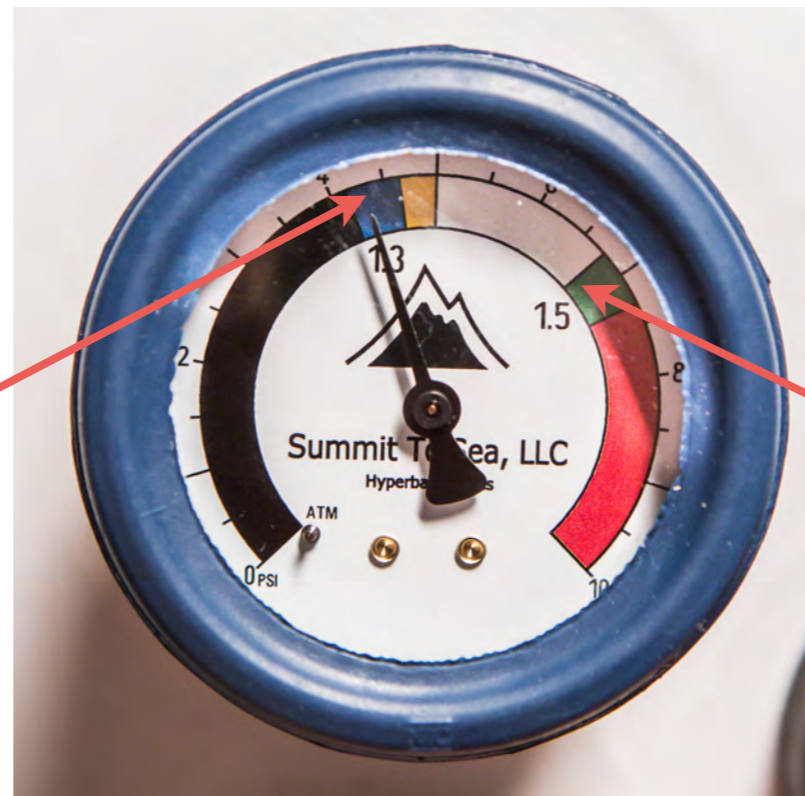


# SET UP

---

The gauge is color coordinated with the color of the relief valves.

If you have a blue relief valve (on the door flap) and yellow relief valve (on the back end of the chamber) the gauge needle will read in the blue.



If you have a green relief valve (on the door flap) and red relief valve (on the back end of the chamber) the gauge needle will read in the green.



# SET UP

---

You will now need to close both zippers to inflate the chamber.

This is a one time process that you will need to close both zippers without the alignment ring and without the chamber attached to the frame.

Take care to align each side of the zippers together as you zip them closed.



# SET UP

---



There are two zippers that circle the entire end of the chamber. These zippers are dual-triggered and can be opened and closed from inside or outside the chamber.

# SET UP

---



Closing from the outside, pull the black T connected to the inside zipper

# INFLATING

---



It is important that the inside zipper is totally closed into the dock.

# SET UP

---



Pictured is the right and wrong way to close the inside zipper.

# SET UP

---

After you have completely closed the internal zipper it is time to close the external zipper.



# SET UP

---



Start by pulling the external zipper pull tab.

# SET UP

---



Be sure that the zipper pull is tucked under the red arrow and pulled closed all the way.

# SET UP

---



It is best to inflate the chamber before you build the frame. Lay the deflated chamber on the platform.

You should have the motors connect to the chamber and both zippers closed.

Plug the compressor cords into the wall outlet.

The chamber should be to shape. It does not need to be pressurized.

Make sure the chamber does not roll off the platform.



# BUILDING THE FRAME

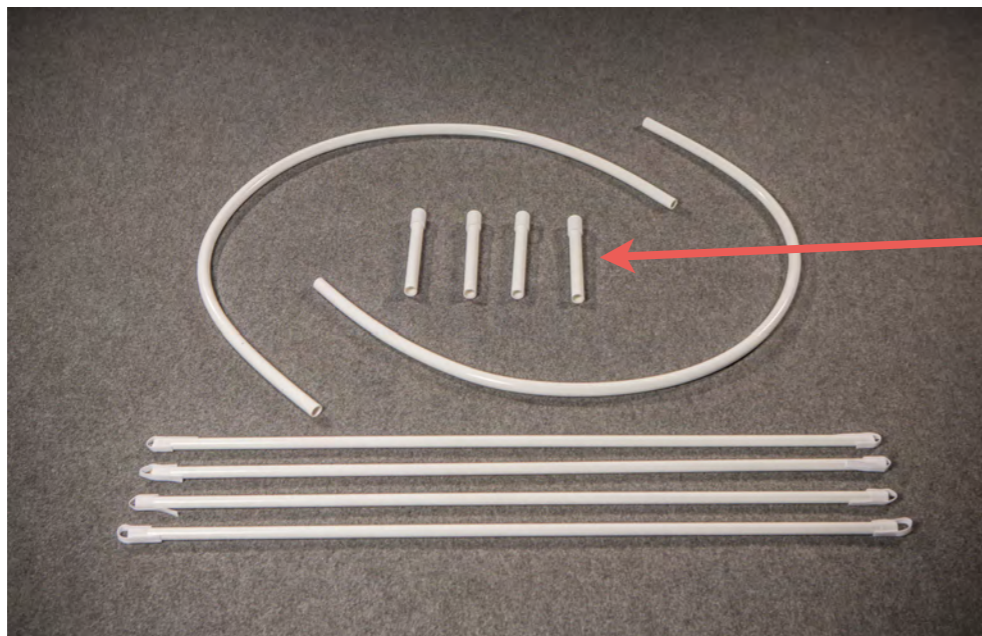
---



Take the four short metal rods and screw them into the round metal circles in each corner of the platform.

# BUILDING THE FRAME

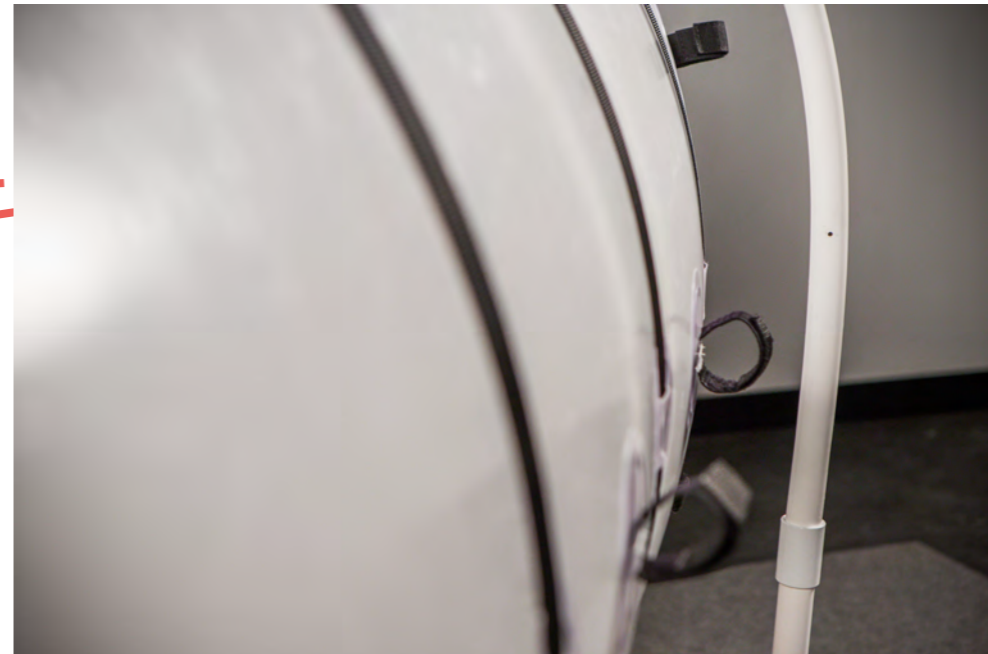
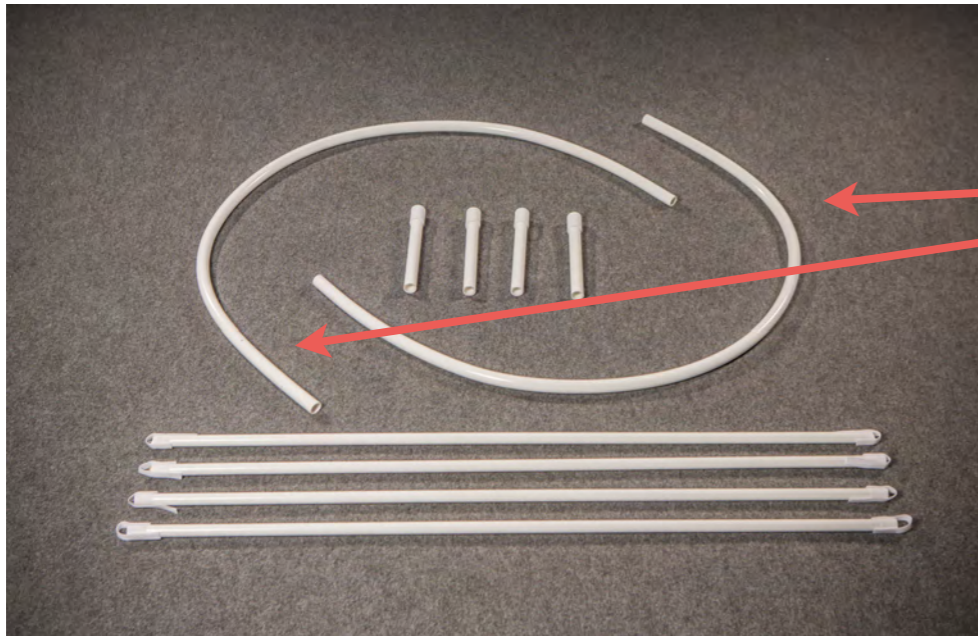
---



Next take the four short PVC frame pieces and place them on the metal rods that are screwed into the platform.

# BUILDING THE FRAME

---



Next take the two PVC frame arches and connect them to the short PVC poles.

# BUILDING THE FRAME

---



Notice there are small holes in one side of the arch. These should face inward so that poles can connect the two arches.



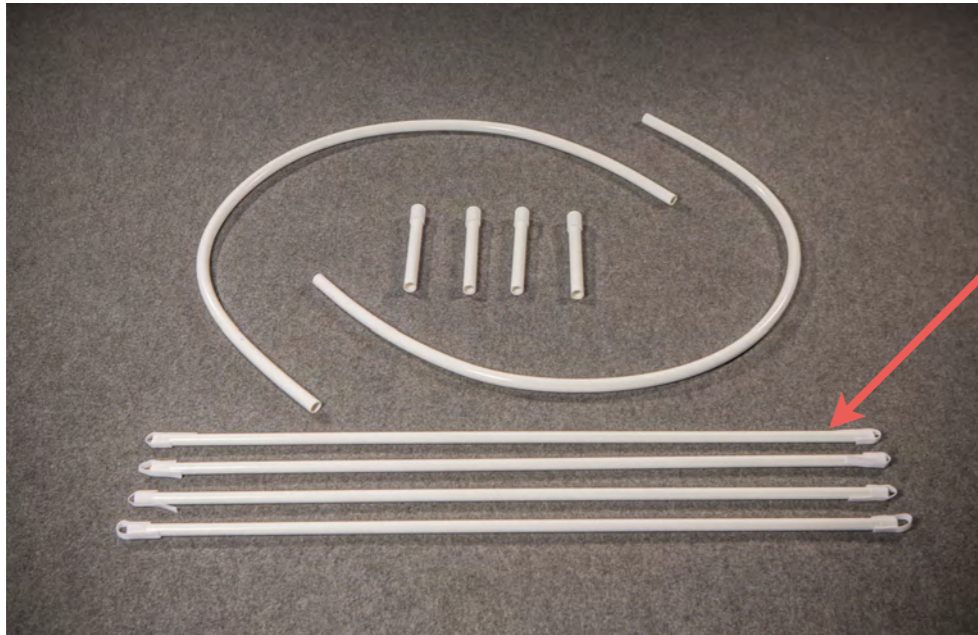
Secure the arches over the top of the chamber with the velcro loops that are attached to the chamber. Connect four velcro loops to each arch.



Each arch should look like this picture

# BUILDING THE FRAME

---



The next step is to connect the poles to the arches. You will notice that the four poles have a wooden dowel inside each pole with a pin on each end.

Insert the pin into small holes on the arch.



# BUILDING THE FRAME

---



Next you will attach the poles to the chamber. You will notice that there are velcro attachments along each side of the chamber and along the top of the chamber. Wrap each velcro attachment around the pole.

# BUILDING THE FRAME

---



Side view



Top view

# BUILDING THE FRAME

---





# DEFLATING

---



Turn the dump valve so that the air is released.



Once the gauge reads zero you can unzip the zippers.

# DEFLATING

---



Pull the outer zipper pull tab



Pull the inner zipper pull tab



Place the door flap up on top of the chamber.

# ZIPPER SUPPORT

---



To make the zipper easier to zip you will place the alignment ring between the two zippers using the velcro straps to hold it in place.

Start on the right side of the open zipper. You will notice a small pocket is created between the two zipper. Slide the alignment ring 2 inches/5 Call me into the pocket.

Connect each velcro strap as you align the ring between the zippers.

# ZIPPER SUPPORT

---



The opening should look like this with the alignment ring securely fastened.

# INSERTING THE MAT

---

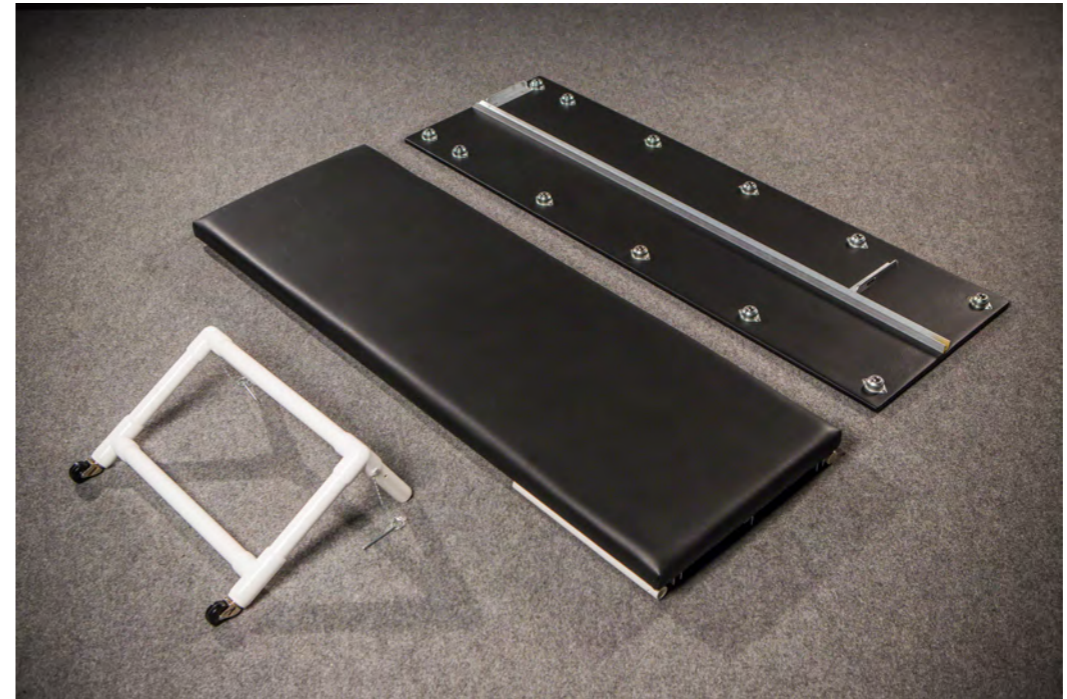


The next thing you will want to do is place the mat inside the chamber.

You will notice that the bottom of the mat is curved so that it fits the chamber when fully inflated.

# THE STRETCHER

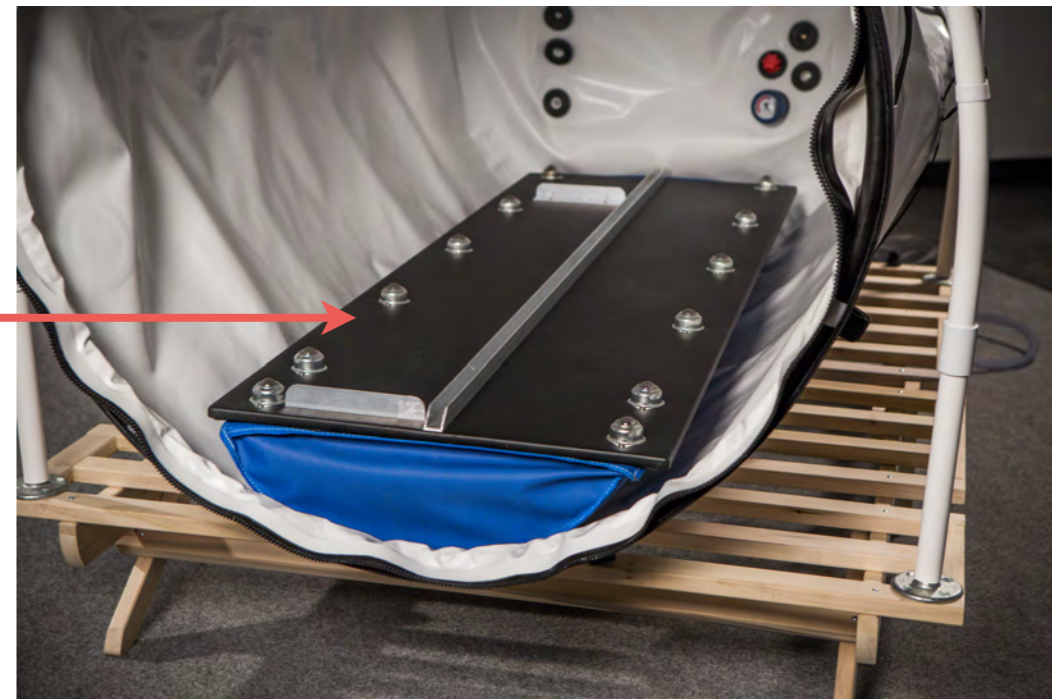
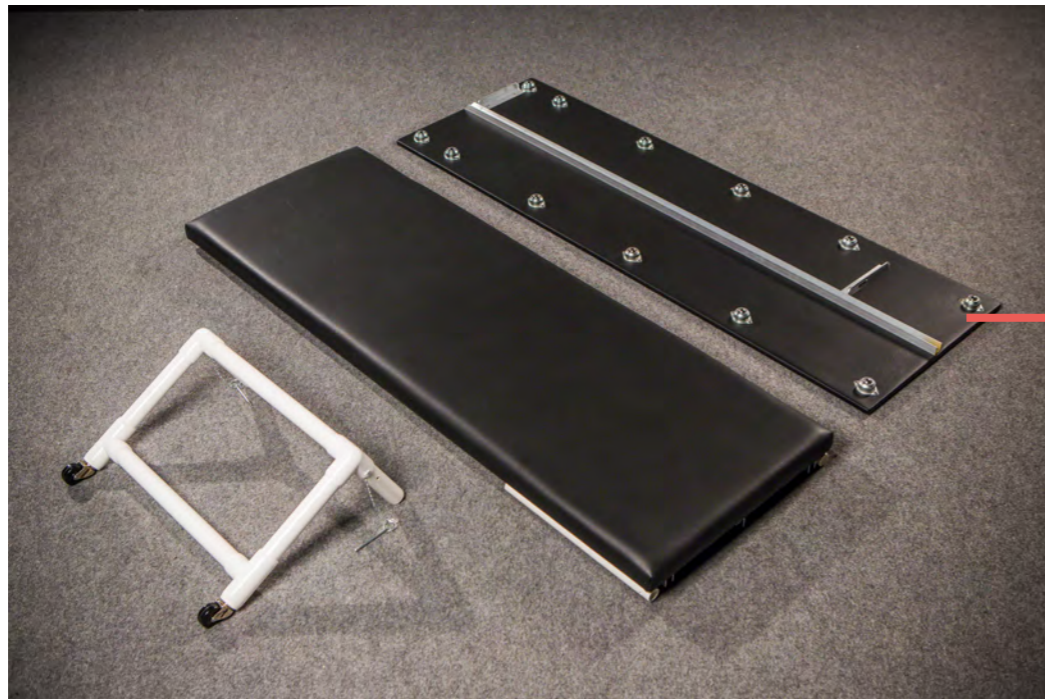
---



The stretcher is an additional option that will make for an easy entry and exit.  
The stretcher sits on top of the blue mat.

# THE STRETCHER

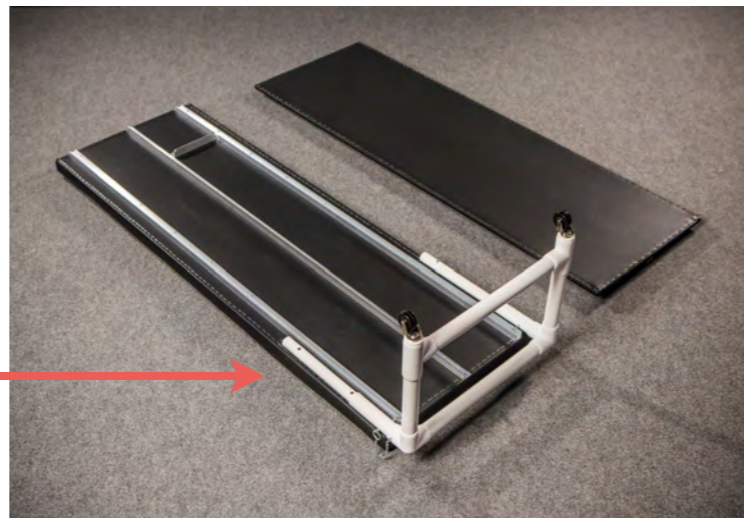
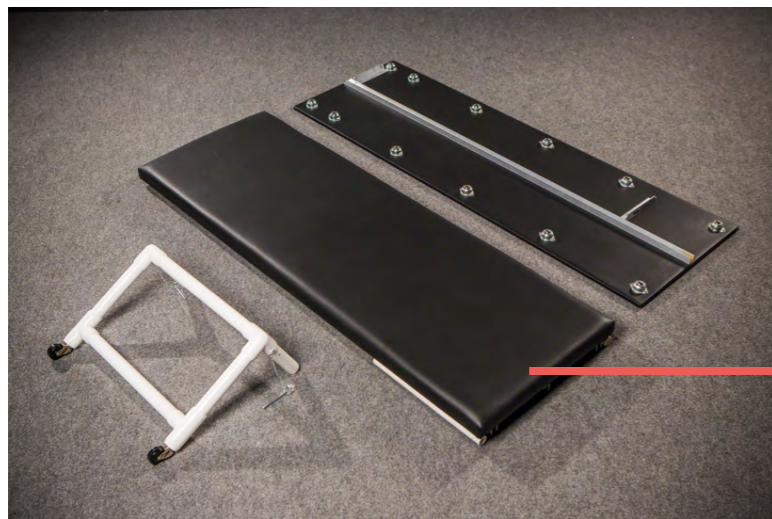
---



Place the non padded stretcher piece on top of the mat with the hardware facing up.

# THE STRETCHER

---



Next place the removable stretcher trolley onto the padded piece of the stretcher



# THE STRETCHER

---



To secure the trolley to the stretcher you will need to insert the pin.

Be sure that the trolley is pushed all the way on to the stretcher until it stops.

There are pins on both sides of the trolley.

# THE STRETCHER

---



Align the bearings on the bottom piece of the stretcher with the rails on the top padded piece of the stretcher.

Rolls the stretcher all the way into the chamber to make sure it moves freely.

# THE STRETCHER

---



The stretcher alignment should look like this.

# THE STRETCHER

---



After the person is rolled inside the chamber all the way you can disconnect the trolley by pulling the pins out and removing the trolley.

Store the trolley beneath the platform.

When the treatment is over and the person is ready to exit reconnect the trolley to the stretcher and gently pull the stretcher out.

# THE STRETCHER

---



The stretcher inside the inflated chamber.

# INFLATING

---

# CAUTION

Make sure both the inside and the outside zippers are **completely closed** each time the chamber is in use. Failure to do this may result in damage to the chamber.

# INFLATING

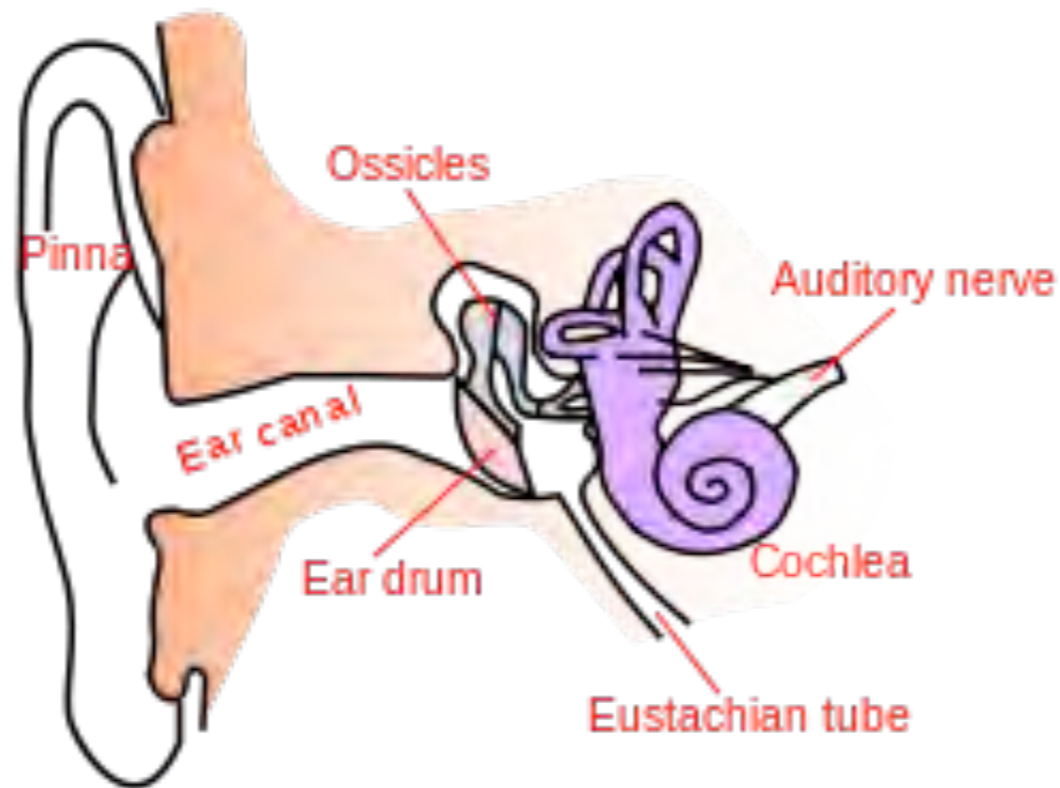
---

# CAUTION

If the relief valve **does not release** air when it is at full pressure, stop your treatment and call your distributor.

The compressor must **remain on for the entire treatment** period to ensure the circulation and exchange of fresh air, which provides a safe and comfortable treatment.

# DURING TREATMENT



As the chamber begins to inflate, you may notice added pressure on the ears. This feeling indicates the need to equalize the pressure. The pressure feeling is similar to that of landing in an airplane. This pressure is relieved through the Eustachian tube.

There are several methods for relieving this pressure.



# DURING TREATMENT

---

The first, is the Valsalva maneuver. Pinch your nose, close your mouth and try gently blowing out your nose. Repeat every time you begin to feel that pressure



Yawning or opening your mouth wide will also help.



Lastly, chewing gum may help relieve this pressure.



If the above suggestions do not resolve the ear pressure, open the red relief knob until the feeling of pressure is gone. Then close the red knob to continue to pressurize the chamber. The red relief knob will allow you to control the speed of pressurization to aid in equalizing the pressure on your ears.

# DURING TREATMENT

---

## WHAT TO WEAR

You may wear any type of clothing in the chamber; however, comfortable and soft clothing is typically used.  
Do not wear shoes inside the chamber.

# DURING TREATMENT

---

## WHAT TO BRING INTO THE CHAMBER

Feel free to bring food, drinks, books and personal computers, DVD players or any other form of entertainment into the chamber.

It may also be helpful to have your cell phone with you.

We ask that you refrain from bringing in sharp objects such as forks or knives.

# REMINDERS

---

## CAUTION

### REMEMBER THESE IMPORTANT STEPS

Be sure both zippers are **completely closed**.

**Do not open the zipper** until the gauge reads zero.

The **compressors must be running** during the whole time of treatment.

The relief valve must be **releasing air** when the chamber is at full pressure.

# CONGRATULATIONS

---

Congratulations on completing your set up.

Summit to Sea believes that you have purchased one of the best chambers on the market and will be totally pleased with the ease of use and the quality of craftsmanship.

Summit to Sea also believes that we have the best customer service of any hyperbaric chamber company on the market. We will always try our best to be available and give you prompt service.

If you have any questions regarding your chamber please contact your distributor first.

If you have additional questions please call us at

1-877-PSI-DIVE  
(1-877-774-3483)

# CHAMBER CARE

---

## ZIPPERS

The outside zipper requires very little maintenance. A bottle of zipper cleaner lubricant has been included in your packet to use on a monthly basis. Periodically, wipe the outside open zipper with a damp cloth.

# CHAMBER CARE

---

## Filters

It is recommended that the compressor filters are changed approximately every 6 months.

To learn how to change these filters go to [www.summit-to-sea.com/filters](http://www.summit-to-sea.com/filters)

To order these replacement filters go to [www.summit-to-sea.com/accessories](http://www.summit-to-sea.com/accessories)

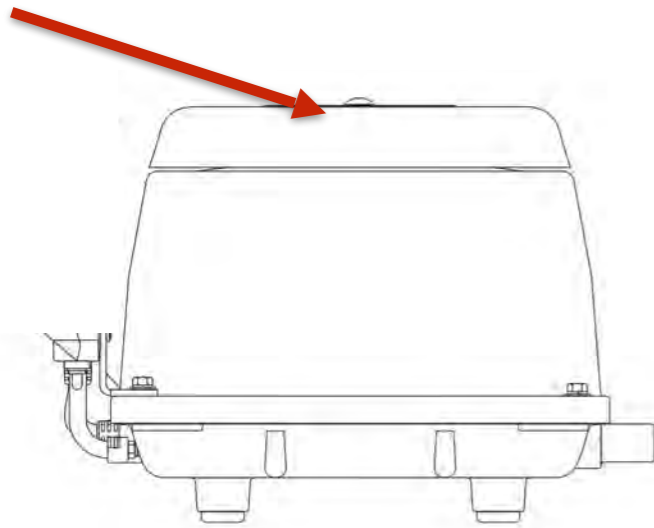
# CHAMBER CARE

---

## White Compressor Filter

To see a video on how to change the filters go to  
[www.summit-to-sea.com/filters](http://www.summit-to-sea.com/filters)

There is a filter right under the top plate of the compressor.  
It is recommended that you replace the filter every 6 months.





# CHAMBER CARE

---

## The .003 Micron Filter

To see a video on how to change the filters go to  
[www.summit-to-sea.com/filters](http://www.summit-to-sea.com/filters)

Follow these instructions to replace this filter  
It is recommended that you replace the filter every 6 months.



Lay the compressor on its side



Push the black bulb up and give it a quarter turn to unlatch then pull down



Unscrew the silver filter element. Screw on the new silver filter



Put the black bulb back on pushing up and giving it a quarter turn to make sure it is securely connected.

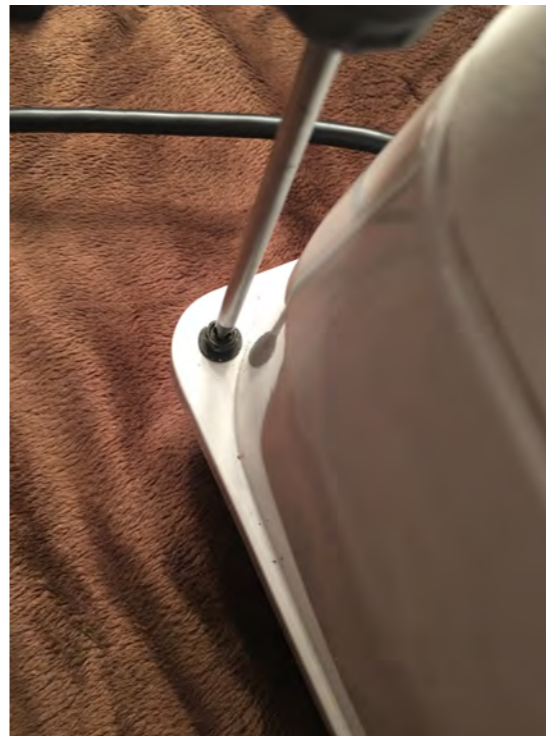
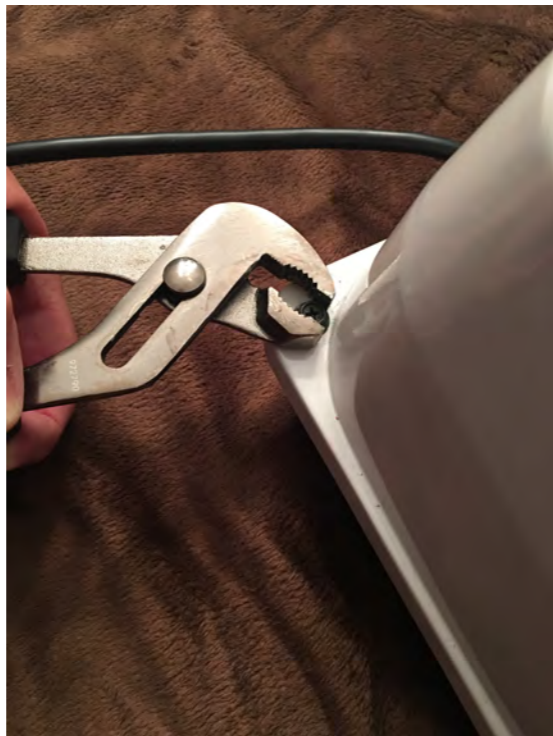
# CHAMBER CARE

---

## Resetting the Safety Switch

To see a video of how to reset the safety switch go to [www.summit-to-sea.com/safetyswitch](http://www.summit-to-sea.com/safetyswitch)

First you will need to remove the compressor cover by loosening the 4 screws with a pair of pliers and then using a Philips screwdriver to remove the screws.



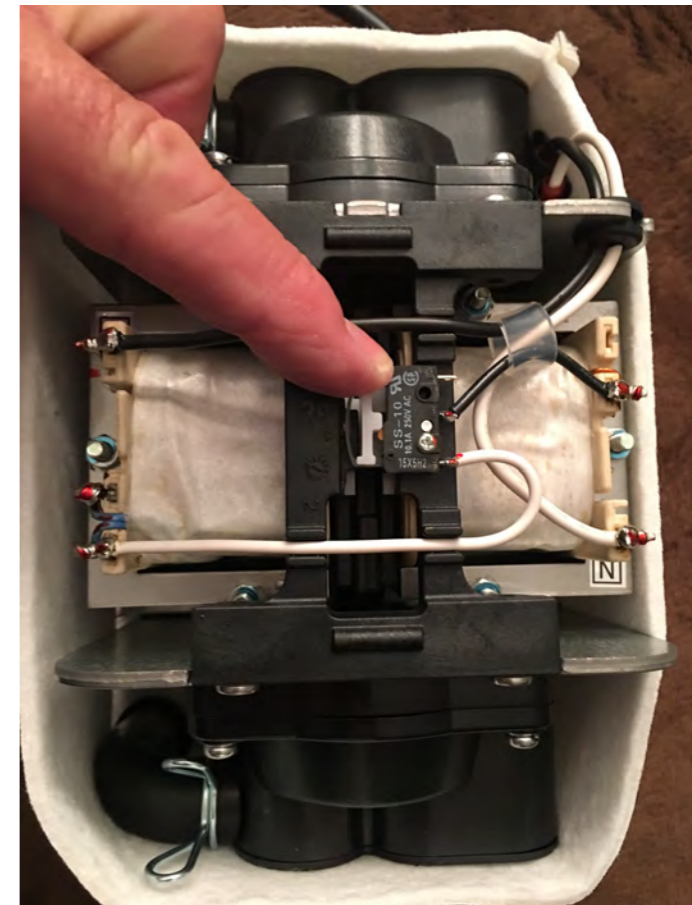
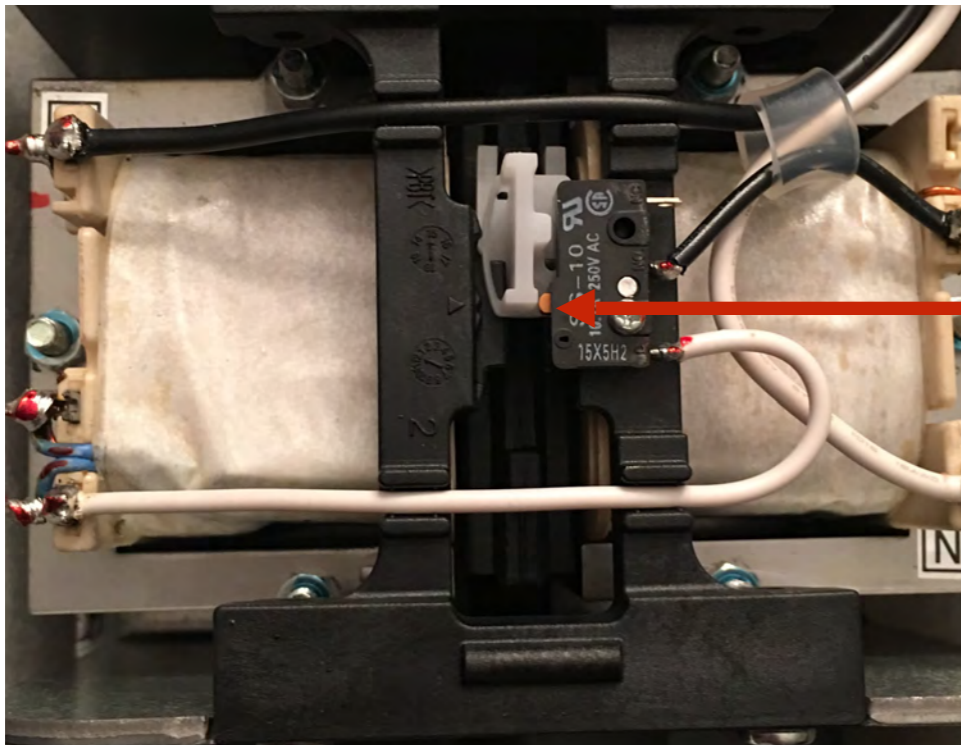
# CHAMBER CARE

---

## Resetting the Safety Switch

If the safety switch has been tripped you will see this little red button.

Move the white switch to the center of the compartment.



# CHAMBER CARE

---



On occasion the inside airtight zipper requires Tzip silicone lubricant. The chamber comes with this Tzip silicone to lubricate the docks where the zipper triggers are secured. It is necessary to keep this dock lubricated. Squeeze a small amount of the silicone onto your finger and spread it out on the dock. You will need to do this when it becomes difficult to seat the zipper into the dock. It is not necessary to put this silicone on the zipper itself. Periodically, wipe the open inside zipper with a damp cloth.

# CHAMBER CARE

---

## **CLEANING THE CHAMBER**

There is no maintenance needed other than cleaning with a non-petroleum based household cleaner.

## **FITTINGS & HOSES**

Regularly check the fittings and hoses for cracks or damage. If you see any damage, call your distributor for a replacement part.

# CHAMBER CARE

---

## COMPRESSOR & FILTER

There is an intake fabric filter on the compressor that has the curved plastic cover.

Instructions for cleaning the filter are on the cover.

The recommendation on the compressor cover is to replace the filter once per year based on 24 hour per day usage. Since average usage will be much less, the filter life is expected to be five years.

The output filter (black) requires no maintenance. There is a green ball visible from the top of the filter. When this ball turns red, it is time to change the filter.

Contact your distributor to reorder.

# CHAMBER CARE

---

## STORAGE

Prior to storing the chamber, ensure that it has been cleaned inside and out by using a non-petroleum based household cleaner.

Carefully fold the chamber ensuring all gauges and fittings are protected with bubble wrap or a similar material.

Place the chamber in the carry case and store in a dry area between 40 and 80 degrees.

Upon first reuse, run the chamber for several hours to purge the chamber from any odors that may have collected during storage.

# WARRANTY

---

Summit to Sea warrants our products and accessories against defect for two years from purchase. The warranty covers parts and labor to repair the Summit to Sea system. Summit to Sea, at our option and sole discretion, will repair or replace the warranty item. The warranty does not cover damage as a result of misuse or modification.

**Shipping to and from Summit to Sea is the customer's responsibility.**

Summit to Sea has always and will continue to cover all components on our chambers — including zipper, windows, seams, valves, hoses... in other words, if it came from Summit to Sea we will stand behind our product.



# EXTENDED WARRANTY

---

Extended warranties are available for purchase anytime within the two year warranty period. The extended warranties also cover all components on the chamber — including zipper, windows, seams, valves, hoses, etc. Contact your distributor.

1 Year Extended warranty \$950

2 Year Extended warranty \$1,200

3 Year Extended warranty \$1,450

# IMPORTANT TO READ

---

## Important Safety Considerations

You should NOT use this chamber without guidance and instruction from your health care provider.

Do NOT use the chamber if you have the following conditions:

- Common colds or flu-like symptoms
- Recent alcohol consumption
- Blocked ear canals
- Blocked sinuses
- Otic barotraumas
- Excessive CO<sub>2</sub> exposure

# IMPORTANT TO READ

---

## CAUTIONS

**CAUTION:** Federal law requires this device for sale by or on the order of a physician.

**CAUTION:** Do not inflate the chamber with only pure oxygen; use the compressor provided. It is designed to work safely with the chamber.

**CAUTION:** Inspect all seams and fittings prior to use to ensure they are secure. Failure to do so could cause leaks reducing the performance of the chamber.

**CAUTION:** If any unusual noise or odor is detected, immediately discontinue use and contact the manufacturer. This may be an indication of a problem with the normal operation of the unit that needs to be addressed. In most situations, a simple call can resolve the issue.

# IMPORTANT TO READ

---

**WARNING:** In the unlikely event that there is a rapid decompression, the individual inside the chamber must EXHALE. Please make sure that each individual receiving treatment understands this precaution.

**WARNING:** Do not replace the compressor with any other model. The chamber is designed to work specifically with the compressor provided. For added safety, the compressor will not exceed the test pressure for the chamber.

**WARNING:** Do not tamper with the pressure regulation valves. These are factory set and there are no user adjustments. Any sign of tampering with these valves will void the warranty.

**WARNING:** Do not use the chamber in a manner where the chamber could roll off the surface causing a fall. Always use on a surface large enough to prevent rolling off and causing a fall.

**WARNING:** Never take a treatment alone. Always have someone outside the chamber to assist you.

**WARNING:** Do not use the electric compressor in the rain or around running water as this could cause electric shock.

**WARNING:** Wear comfortable clothing and lay on a mat, towel or blanket while in the chamber to limit contact with the chamber surface and to improve comfort and safety.

# IMPORTANT TO READ

---

## Pressure Regulation Valves (Relief Valves)

Summit to Sea Chambers utilizes redundant pressure regulation valves. These are factory programmed to ensure a steady, constant pressure. During treatment, there will be a steady flow of fresh air through the chamber. For proper operation, the air compressor is to be running throughout the entire treatment. This is important to ensure that CO<sub>2</sub> build up does not occur.

These valves exhaust the old air while maintaining the factory operating pressure. This pressure is set to 1.3 ATA (4.4 PSI) or 1.5 ATA (7.2 PSI)

**WARNING:** Do not tamper with the pressure regulation valves. These are factory programmed and have no user adjustments. Any sign of tampering with these valves will void the warranty.

# IMPORTANT TO READ

---

**Compressor-** Ultra quiet compressors provide patented sound suppression which permits a restful and relaxing dive experience. These highly compact compressors are designed for continuous operation providing you with a longlasting solution to hyperbaric pressurization needs. This compressor is small and compact making it easy to transport. With its small carbon footprint, this compressor will easily integrate into your environment.

**Oil-less** 120 with a flow rate of 120 liters per minute. See compressor manual included in the compressor box.

**CAUTION:** Using any other compressor with the Hyperbaric Dive units will void the warranty and may cause injury to the occupant and/or the attendant.

**Frame-** We have designed this lightweight, highly durable frame. It is easily assembled and disassembled.

**Mat-**Our foldable, compact mat is made with an easy-to-clean surface. It is both comfortable and versatile.

# IMPORTANT TO READ

---

**Valves**-The Grand Dive has three pressure release valves to ensure a safe and comfortable operation. This redundancy assures your safety. The Shallow and the Dive have two release valves.

**Windows**-The window has a five layer, one firm acrylic layer between four vinyl layers to ensure a long lasting, permanent seal.

**Zipper**- An airtight zipper securely seals the air pressure inside the chamber without the need to massage or manipulate the seal, along with a heavyduty zipper to ensure the integrity of the chamber.

With over thirty years of manufacturing experience of hyperbaric chambers, our group of experts have gained the experience and knowledge of hyperbaric chambers and have produced a high quality product that will meet your needs today, tomorrow, and additional products for your future.

# IMPORTANT TO READ

---

**USE CARE** to avoid the use of any sharp objects that may penetrate the walls of the chamber.

**WARNING:** Never take a treatment alone. Always have someone outside the chamber to assist you.

**CLEAN** the inside of the chamber with a soft, damp microfiber cloth provided after each use.

**INSPECT** all hoses for leaks.

**HUMIDITY** - In humid climates, the chamber will create condensation. Simply dry with a soft towel.

**EARS** - Be sure to chew gum or swallow often during the pressurization.

**ENJOY** a beverage, read a book, or enjoy any other form of entertainment.

**UNZIP** the chamber and inspect for foreign objects.

**ENSURE** that all connections are tightly secured.

**ENSURE** the chamber is on a stable platform or on the floor.

**ATTACH** the compressor hose and any accessory hoses.

**DURING TREATMENT** - After entering the chamber, lie on the mat and get comfortable with your book, computer, etc.

**INDIVIDUAL HELPER** zips up the chamber.

**AIR** - Once the chamber is zipped tight, you will hear the air entering the chamber and see it start to inflate.



# IMPORTANT TO READ

---

Be sure to swallow often during the pressurization process. If you cannot clear your ears, have the individual helping you temporarily stop the compressor until the pressure in your ears releases.

Once the chamber is at full pressure, you will hear the “hissing” of the exhaust valves. This is important as it will prevent CO2 build up.

It is important to relax. Sit back and let the chamber operate. Hyperbaric treatments usually last from 30-60 minutes or longer. Check with your medical provider for recommended duration.

Allow 5-10 minutes for the chamber to return to normal pressure.

As air is released, check with the occupant to ensure they are equalizing the pressure at the same speed it is being reduced. Once the sides are soft, unzip the chamber.

**CAUTION: Do NOT inflate the chamber with only pure oxygen.** Use the compressor provided. It is designed to work safely with the chamber.

**WARNING:** If, in the highly unlikely event that there is a rapid decompression, the person inside must EXHALE.

Please make sure that each person receiving a hyperbaric treatment understands this precaution.

# IMPORTANT TO READ

---

## **FDA 510K CLEARANCE**

Portable Mild Hyperbaric Chambers are Class II Medical Devices.

They meet the FDA 510(k) Specifications.

The chamber has been cleared by the FDA for the treatment of Acute High Altitude Sickness.

### **FDA WARNING**

Increasing the percentages of oxygen content in the air delivery is considered the same as administering a drug under FDA regulations.

This device is intended for use with ambient air and is not to be inflated with enriched oxygen.

# SUMMIT TO SEA

---



PO Box 339  
Mound, MN 55364  
Phone 1.877.PSI.DIVE  
(1.877.774.3483)  
Fax 1.877.420.7622

[www.summittosea.com](http://www.summittosea.com)

© 2011 Summit to Sea, LLC