Scuba Diving Guide for Beginners

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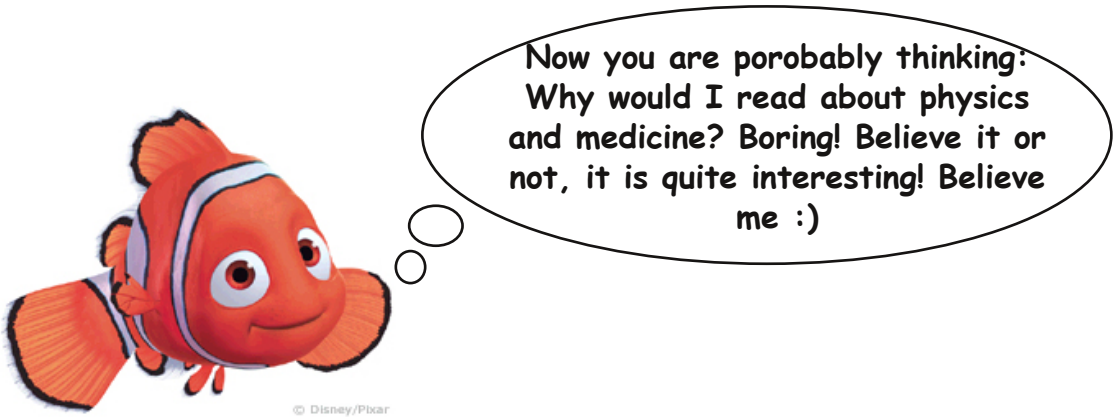
Introduction

Scuba diving is an amazing sport because it enables you to explore the fascinating and mysterious underwater world. SCUBA refers to self-contained underwater breathing apparatus. The development of modern scuba diving began in the 1943. It was incited by Jacques Cousteau and Emile Gagnan. In its beginnings scuba diving was used in the navy and commercial operations like pearl diving. As a recreational sport it developed over the last 20-30 years. Even though it is a recreational sport, scuba diving is not all fun and games. It is a serious and high-risk sport because our body is exposed to unnatural environment. However, you should not be discouraged by that fact. If you are familiar with, and follow all the procedures, you should not have any problems during your dives. In order to understand and apply basic scuba diving principles you must learn about basic physics, chemistry and medicine concerned with diving, diving equipment and some simple diving exercises. When you learn this and pass the theoretical and practical test by some diving association you become a licensed diver. Divers are divided into categories according to their level of knowledge and experience. I learned scuba diving basics, took the test by CMAS (World Underwater Federation) and got the CMAS certificate, level P1. Divers with this level are allowed to go up to 20 meters deep with a giving group. Diving on Mljet, a beautiful island in Croatia, was my dream for many years, so as soon as I became a licensed diver I went to Mljet on scuba diving with my scuba diving club "Bosna". In this guide I will share the knowledge I have acquired through the process of learning, and the final reaching of my goal- diving on Mljet.

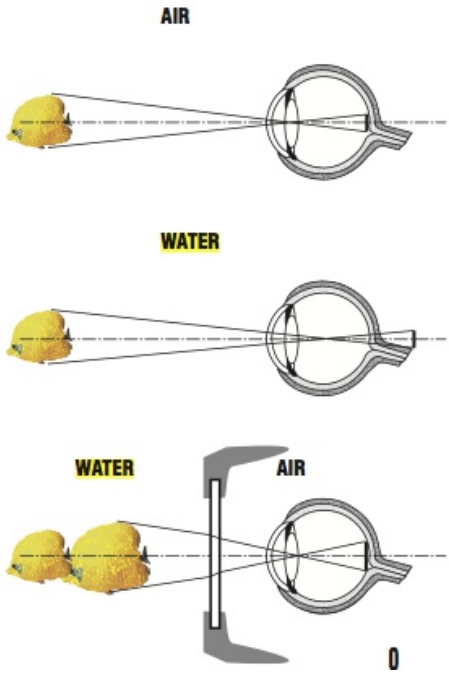


Chapter 1

Diving Equipment

Scuba mask

A scuba mask is a part of diving equipment which makes your dives comfortable by creating an air space in front of the eyes. Without a scuba diving mask our diopter in the water is +32. However, because of the reflection of light through the mask glass, objects are still unrealistic and seem 33% bigger and 25% closer.



Scuba Mask Types

Snorkeling Mask

This is a mask mostly used in recreational diving

Purge Mask

It mostly used by underwater photographers and commercial divers because the water is eliminated by simply blowing air out of the nose. This means your hands are free and you can hold a camera or some tools

Full Face Mask

This type of a diving mask protects the entire diver's face from the water and contains a mouthpiece and a demand valve which enable the diver to breath. It is the best type of masks for protection from infections. It is usually not used in recreational diving.

Mask with prescription lenses

If you are farsighted or nearsighted, then you need a mask with prescription lenses in order to see properly underwater

What can I do to defog my mask?

It is a very common problem that a mask fogs from the inside causing sight problems during a dive. You can solve that problem in several ways:

Commercially Prepared Solution.

You can buy a commercial mask defogger solution at a very low price. It is long lasting and effective.

Saliva

Sounds disgusting, but it really does work! Spit in the mask, rub on the glass and rinse.

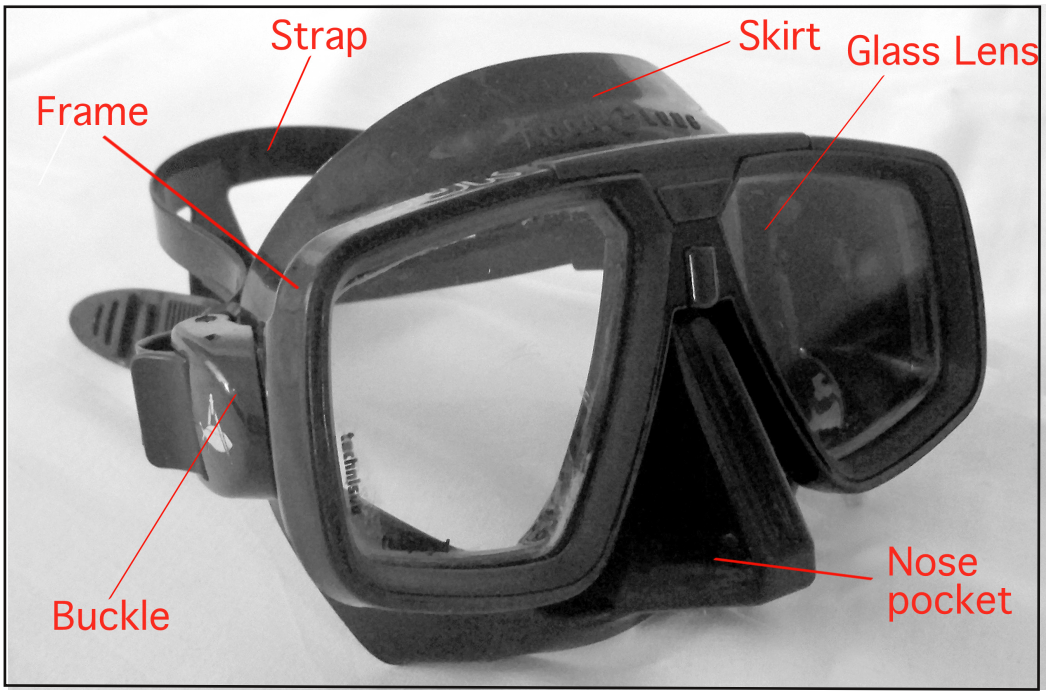
Toothpaste

Clean your mask with a toothpaste (non-gel). Works like a charm! However, do not forget to spit into your mask before every dive!

Seaweed

Rub the greasiest and the most disgusting seaweed you can find in the sea and rinse the mask out. This should keep it from fogging!

Construction of a Diving (Snorkeling) Mask



Skirt is made of silicon and can be in a variety of colors. It has to fit the diver's face and have a nose pocket to enable the equalizing of pressure in the ears and sinuses (see page 88)

The glass has to be tempered so in case of breaking it falls apart into small, regular pieces. The glass can be made from one or two parts. The shape of the frame must secure a wide sight field

The strap is usually made of the same material as the skirt and is placed above the ear line on the top of the head. It is attached to the frame of the mask by adjustment buckles.

Buckles are a part of the frame and are constructed so that adjusting the strap size is easily done even underwater

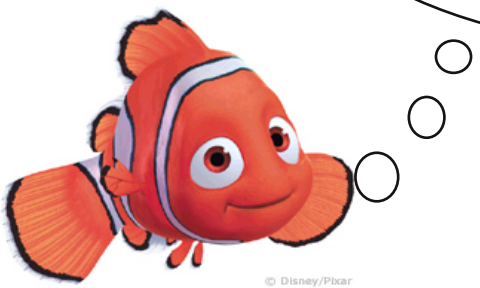
Putting on a diving mask

Place the mask on your face. There should be no hair between the mask skirt and your face

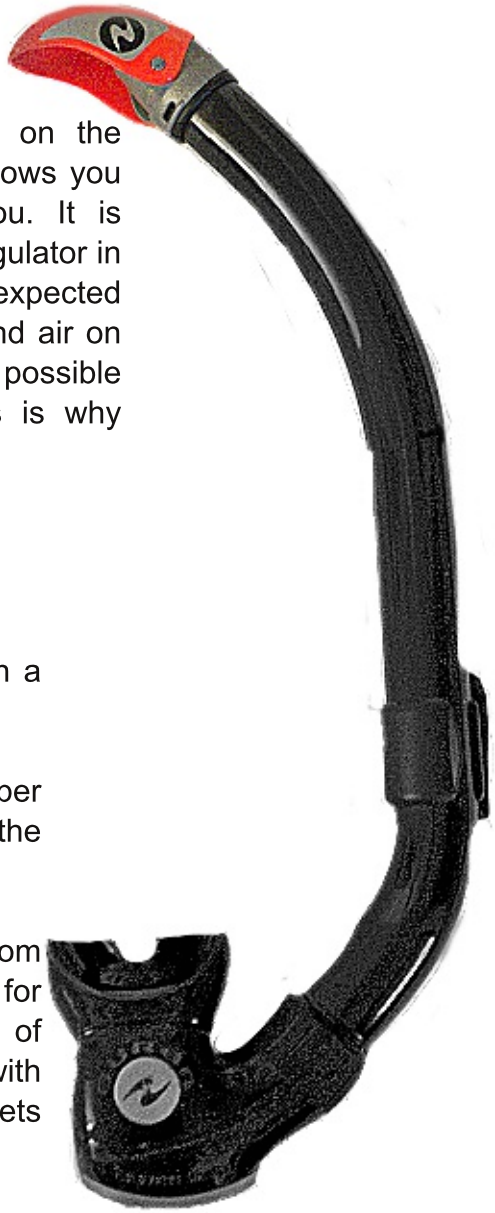
Pull the strap on the occiput

How will I know that a diving mask fits my face?

Place the mask on your face without using a head strap. There should be no hair between the mask skirt and your face. Inhale with your nose and hold. The mask should pull back towards your face. If the mask fits you, there will be no air leakage and the mask will stay in the same position as long as you suck in with your nose.



Scuba Snorkels



A scuba snorkel is used for breathing on the surface without lifting your head. This allows you to observe the marine life beneath you. It is desirable to always have a snorkel or a regulator in your mouth on the surface because an unexpected waive can hit you. You don't want to spend air on the surface, but have as much as possible available when you go on a dive. This is why snorkels are used in scuba diving.

- A snorkel is basically a curved tube with a mouthpiece.

- It is usually made form plastic or rubber which follows the anatomic shape of the head.

- The mouthpiece is usually made from silicon rubber because it is comfortable for holding in the mouth. Many kinds of mouthpieces are made in combination with valves for easier exhaling. If the snorkel gets filled with water blowing will clear it up.

Fins

Diving fins enable propulsion through the water.

Basic styles of scuba fins are:

- Full foot fins

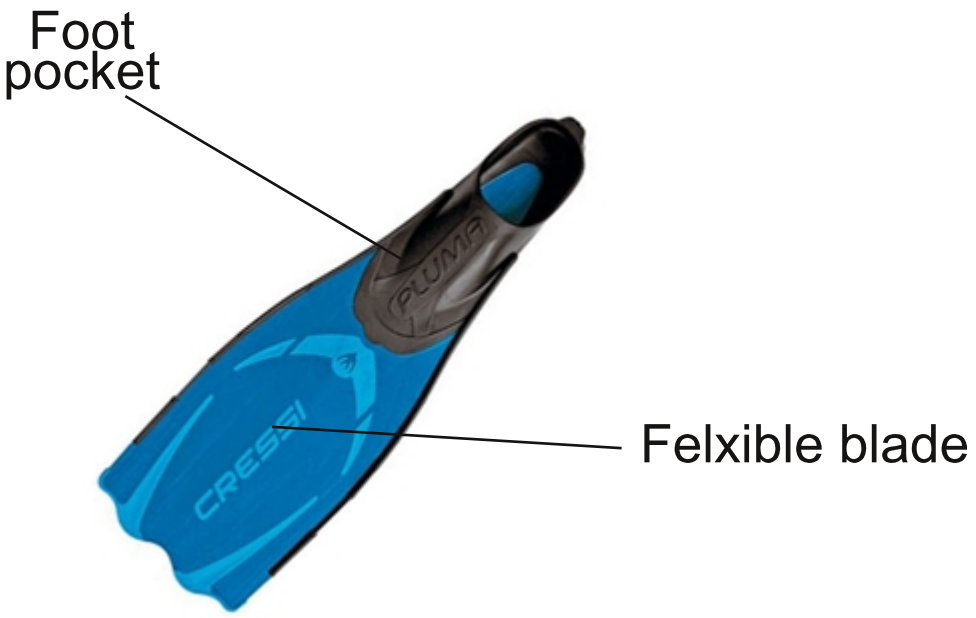
- Open heel adjustable fins

- Long Blade fins

- Force fins and

- Monofins

All of them have pretty much the same construction: flexible blade for propulsion and a foot pocket. The blade is made of rubber, plastic, carbon materials or the combination of all of these.



Full Foot Fins

Full foot fins are light and compact. Their use is wide spread among divers. They are worn on bare feet, but if you want to wear neoprene socks (see page 27) you need bigger sized fins than on bare feet. How much bigger depends on the thickness of your neoprene socks. These fins are usually used in warmer waters.

How to put on full foot fins?

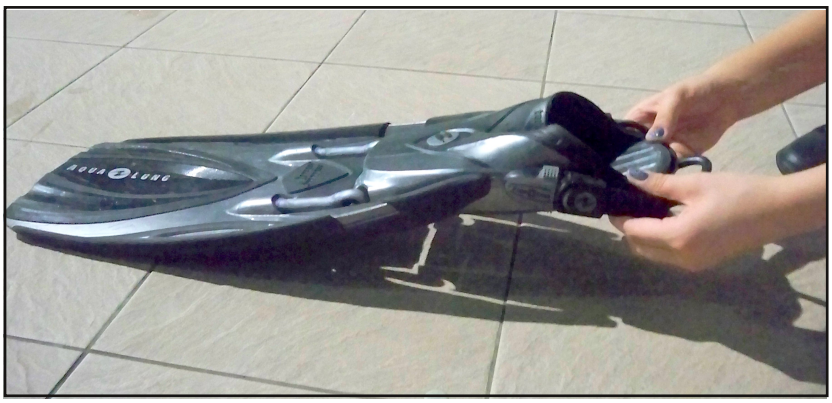
1) Place your foot in the foot pocket and roll the heel, so it's inside out

2) Flipp the heel up and that is basically it!

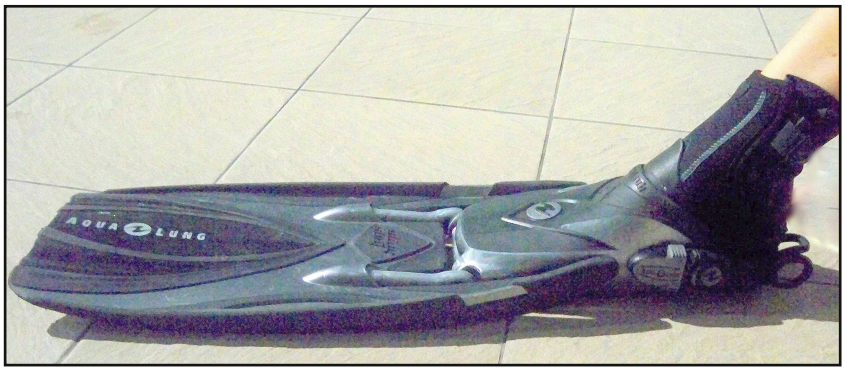
Open Heel Adjustable Fins

These fins are the most used for scuba diving. They have enough power to propel you and your gear. You need to wear boots (see page 27) when wearing these fins. They have adjustable straps and buckles which are attached to the fin in a similar way like in a diving mask.

Putting on Open Heel Fins



Place the strap under the foot pocket



Put the bootie in the foot pocket

Pull the strap over the bootie in the lower part of Achilles tendon and tighten the strap

Long Blade Free Diving Fins

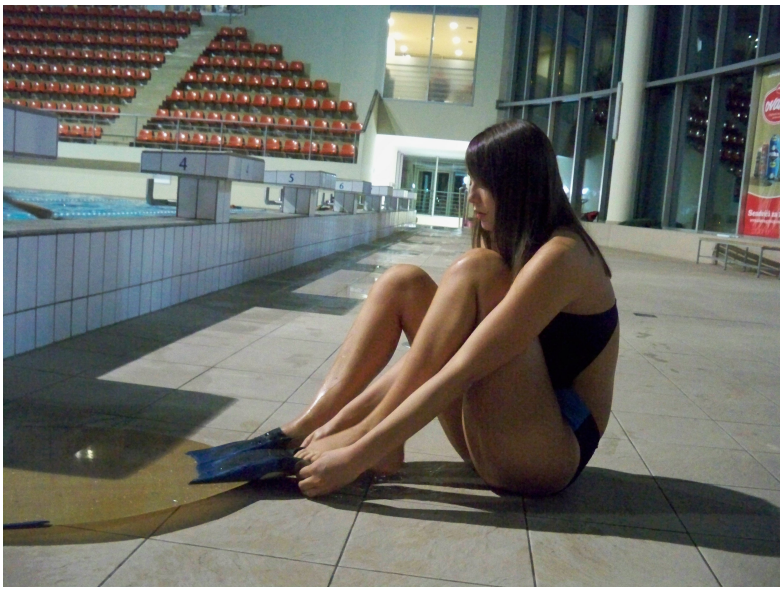
Long blade free diving fins are much longer than standard open heel fins. The long blade provides bigger propulsion, speed and power. Free divers prefer these fins on water hunts and competitions.

Force fins

Force fins have an innovative design. They differentiate from other fins by their propulsion principles. Force fins are similar to a fishes' tail. They are very efficient and give the diver great speed.

Monofins

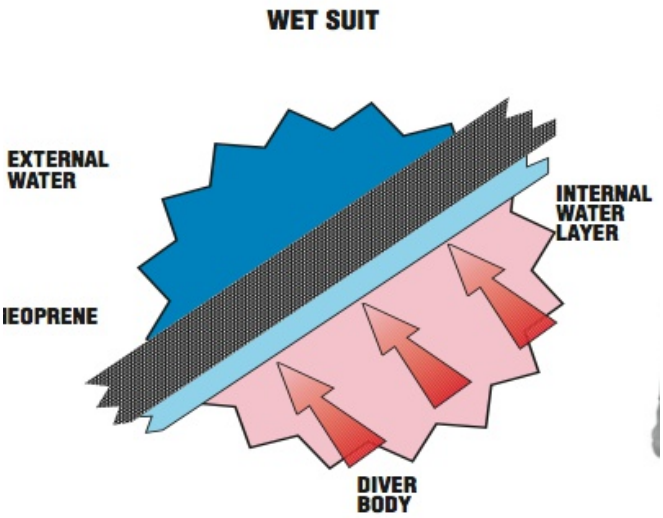
This kind of fins are mostly used on competitions. Their shape resembles the fins of marine mammals like dolphins and whales. The blade is wide and in one piece. The foot pocket is made from rubber or silicon for both feet of the swimmer. The blade is made of layers of fiberglass or carbon which gives it firmness.



Putting on mono fins

Wet suits

A wet suit is an essential piece of equipment. It's used for keeping a diver warm. When entering water a diver's body temperature gradually starts to drop because water conducts heat 25 times faster than the air. Wet suits also protect divers from cuts, abrasions, and stings which occasionally happen during dives.



Wetsuits are made from foam neoprene, a synthetic rubber that contains small bubbles of nitrogen gas. Nitrogen gas has a very low thermal conductivity and prevents losing body heat. Because of the bubbles it contains, a wet suit is buoyant and when a diver wears a wetsuit he/she floats on the water surface (see pages 57, 58 and 59). This buoyancy is canceled by adding weight belts (see page 46). Wetsuits trap a layer of water between the suit and the body. This water gets warmed by body heat and represents an insulator. A diver without a wet suit can easily get hypothermia (see page 61).

If it takes a longer period of time to get to a diving location we should not put on the suit on the beginning of the trip because our body can get excessively heated up and that is called hyperthermia. If we jump in the water heated up we can get hydrocution. That is sudden narrowing of tissues and blood vessels because of jump into a cold environment. That leads to sudden forcing of the blood into the bloodstream from the legs to the central part of the body where heart is located. This sudden burden overloads the heart and can cause a heart attack.

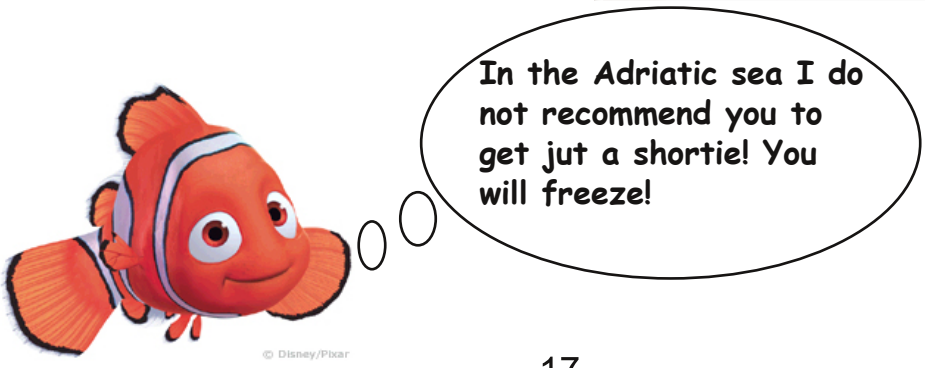
Choosing a wet suit

The colder the environment you dive in the more insulation you will need. The body mass and construction of a diver also affect how much insulation is needed. A larger diver needs less insulation than a smaller diver. A muscular diver needs less insulation than a larger or obese diver. The more active you are underwater the more heat your body generates, and you need less insulation. You should think about all these factors when choosing a diving suit.

Types of wet suits

SHORTIES

They are used in warm waters where insulation is not necessary. They provide protection from small injuries such as scratches and stings. They are sometimes worn under or over a full lenght wet suit for additional insulation in colder waters.



FULL-LENGTH WETSUITS

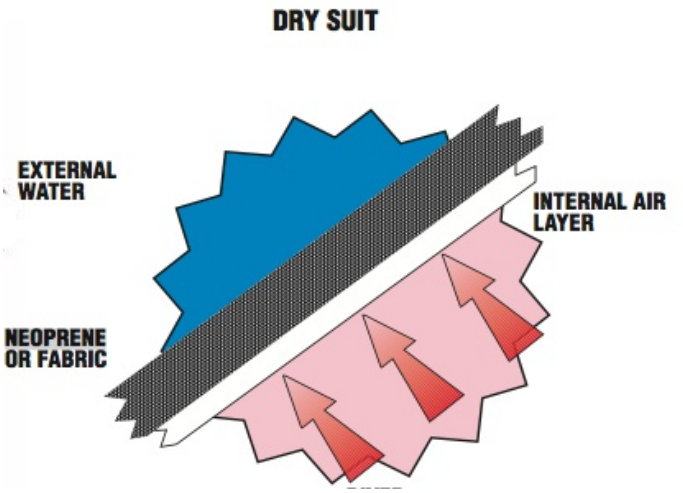
Full-length wetsuit is mostly used in scuba diving. It covers the entire body except the face, fists and feet. This kind of wet suits come in thicknesses usually ranging from 2-9 mm. You choose the thickness by the temperature of the locations you plan to dive in. These suits provide protection from scratches and scars which often occur during dives.

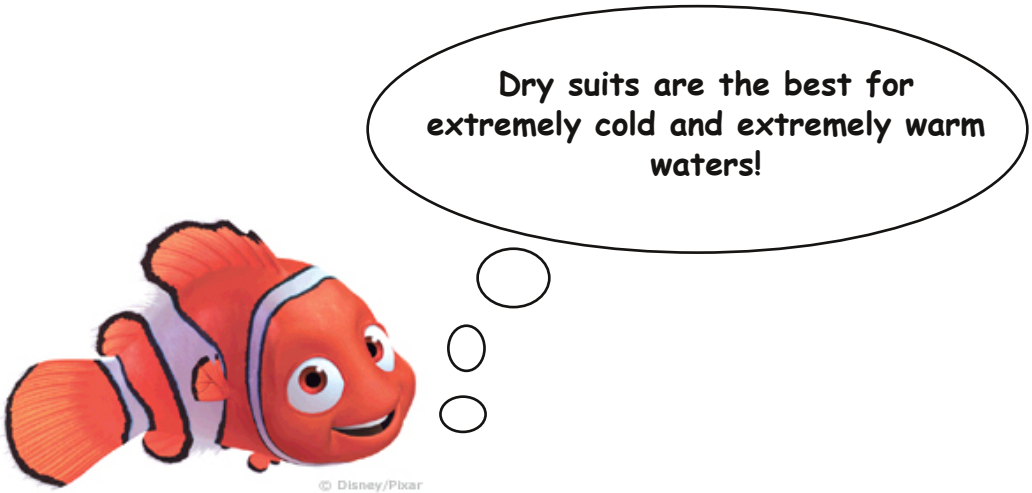
SEMI-DRY SUITS

Semi-dry suits are designed for colder waters, but they are used in warmer waters as well. They are the same as normal neoprene wet suits, but they have better seals at the wrists, ankles and neck. This means that the water which gets trapped under the suit does not come out.

SCUBA DRYSUITS

Scuba dry suits do not let any water into the suit. Instead of water, trapped air is an insulator. They provide the best thermal protection, but of course they are the most expensive ones. Dry suits have changeable internal volume which is regulated by a valve on the chest. Using this kind of suits requires special education.





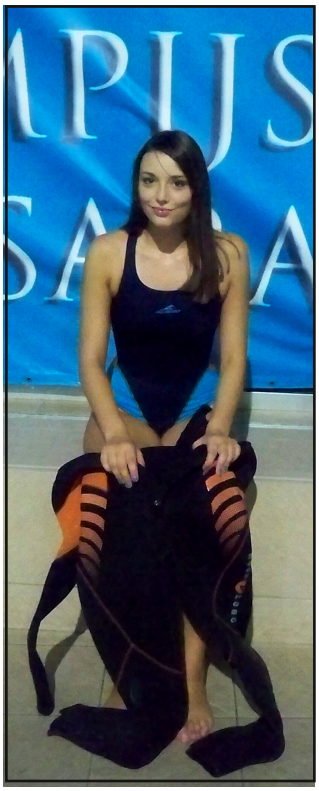
How to choose a wetsuit?

Custom made suits are made by your body measures and are a diver's best fit. Of course these cost more than a regular wetsuits. If your body shape is different than average and you have a hard time finding clothes you should consider this option.

Do not order suits online if you have never tried that model because it might not fit you body shape.

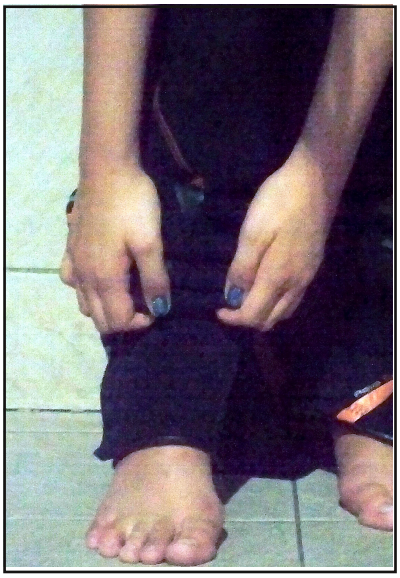
Try on suits in the store. Take your time. You will probably spend hours finding your size. The wetsuit should not not too tight, so that you can not breath or move, but it should not be loose either. A loose suit lets water flow through the suit and you would feel like you do not have a suit at all. Do not rush, and do not compromise. Find the model which fits you just right, or do not buy one at all.

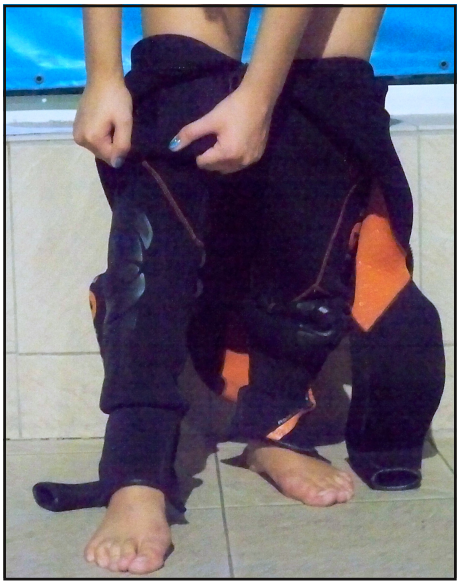
Putting on a Wetsuit



If you are putting a full length wetsuit (long legs) it is easier to begin sitting down.

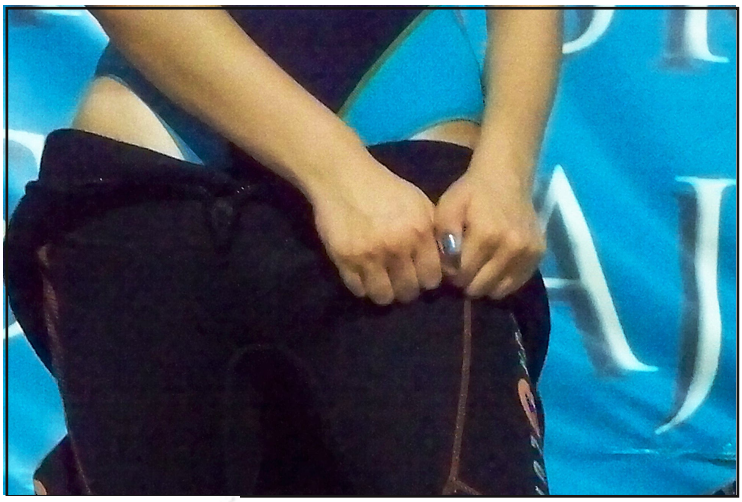
1) Put each leg (one at a time) through the ankles and work the suit up to you knees. If you suit has skin seals, carefully stretch the openings. Be careful that you do not damage the seals with your nails.

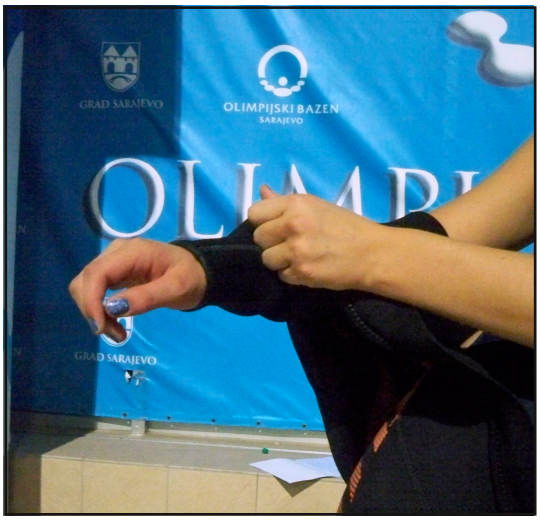




2) If your suit has knee pads, work them into the right position before proceeding to the next step.

3) Stand up and pull the suit over your hips. Make sure that the crotch is in the right position.





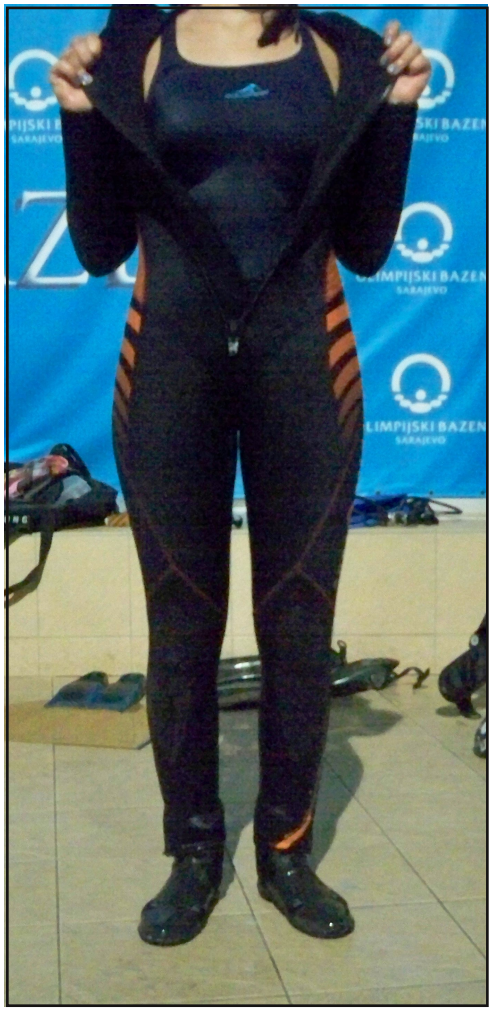
4) Dress the arms just like you did with the legs (one at a time). Work the suit up to the elbow before putting in on the rest of the upper body.

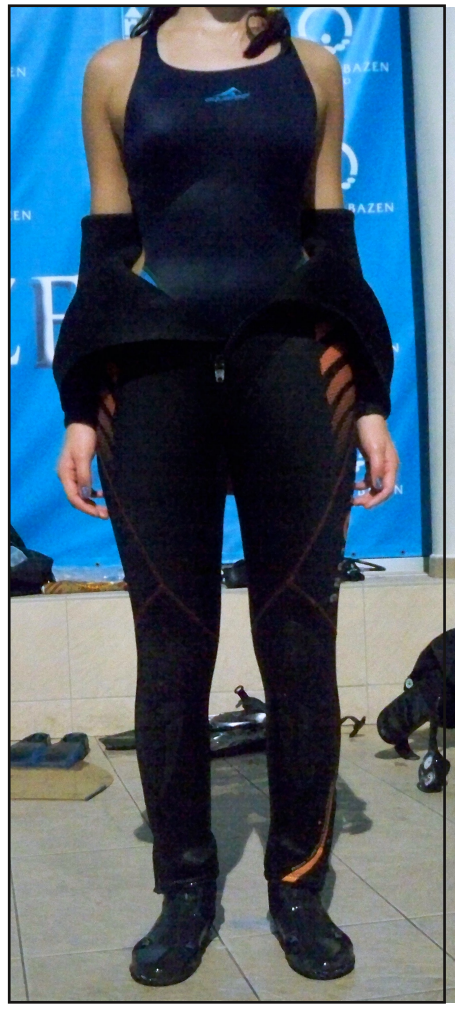
Once you put on the whole suit zipp it up and done!

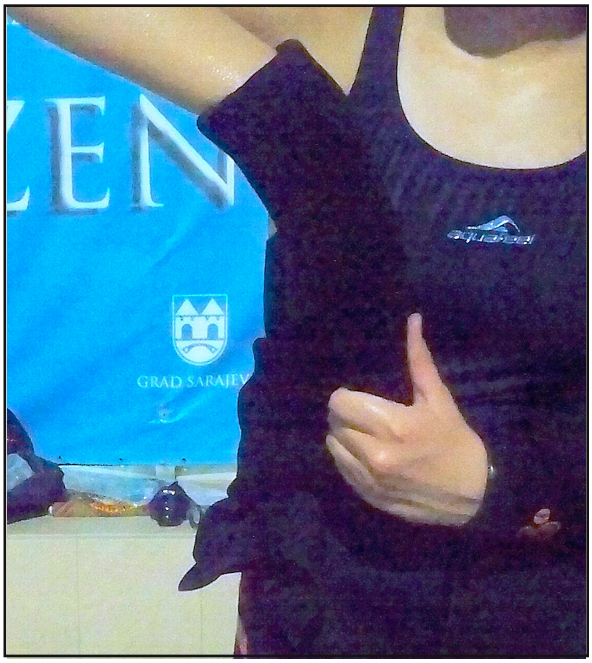
Taking off a Wetsuit

To take off your wetsuit, peel it off inside out. Open the Zipper and work your shoulders free and then peel each arm out (turning the suit inside out as you go) one at a time. Roll the suit down doing the same for each leg. The trick is to peel the suit off, turning it inside out as you go.

This is how it looks in practice:



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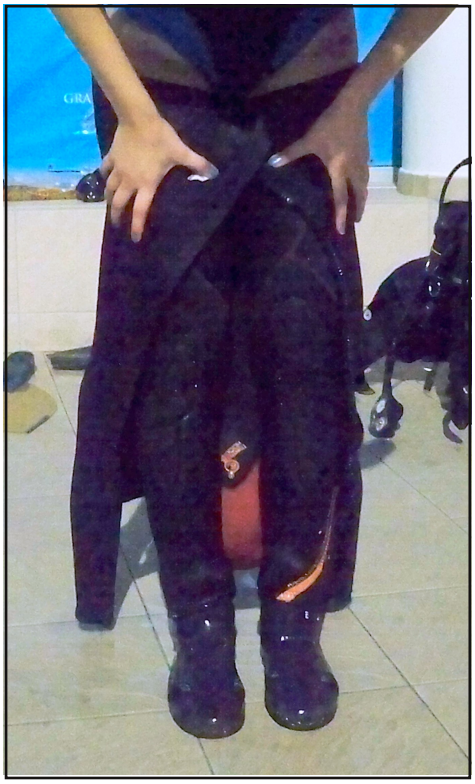

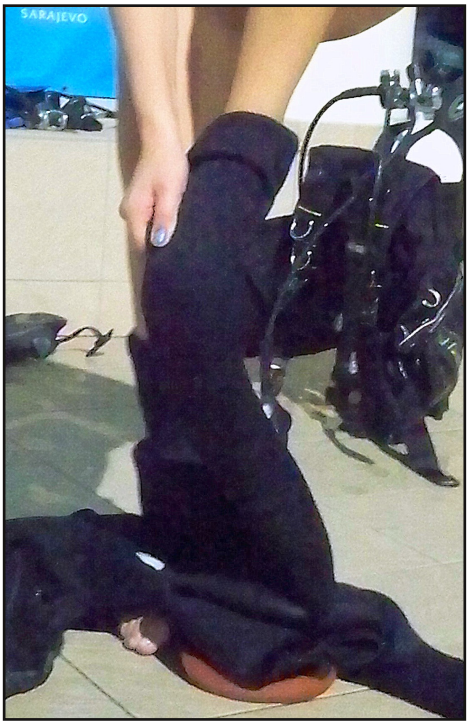
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Maintaining Your Wetsuit

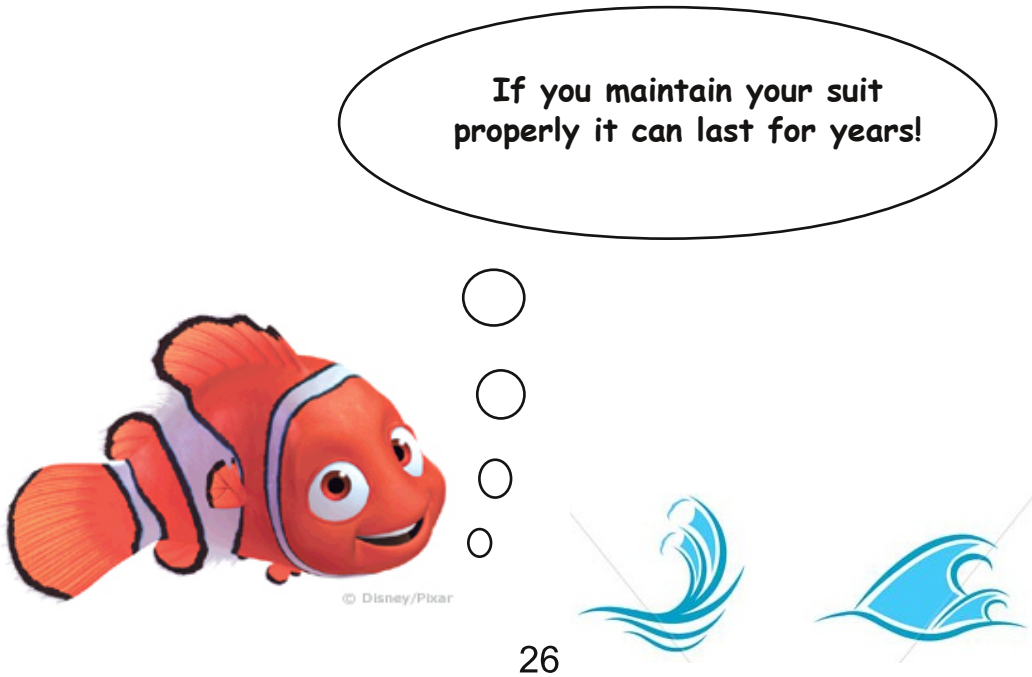
Rinse it out in fresh, clean water after each dive. This will remove salt and filth, which can cause it to rot.

Let your suit dry in the open air, out of the direct sun light because it damages the neoprene.

When your suit dries put it on a wide wooden hanger in a cool dry place.

Wash your suit once in a while with a special wetsuit shampoo.

Occasionally lubricate zippers to prevent degradation of metal or plastic.



Scuba Gloves and Footware

It is recommended to wear gloves and footwear along with a suit because limbs are very sensitive to cold

Neoprene gloves provide a good protection from cold, scratches and stings. Gloves come in different thickness. Even though the thicker gloves provide better insulation it is hard to move your fingers in them, and you might have a problem with manipulating your equipment.

Footwear depends on the fins you use. If you use full foot fins you should use neoprene socks which provide protection from the cold. Remember to buy bigger fin size if you plan on wearing neoprene socks.

If you have open heel fins you should wear booties, which look like shoes, have a plastic sole and are made of neoprene. They protect you from injuries on a boat and scratches. They are not easily torn unlike the neoprene socks because they have a rigid sole.

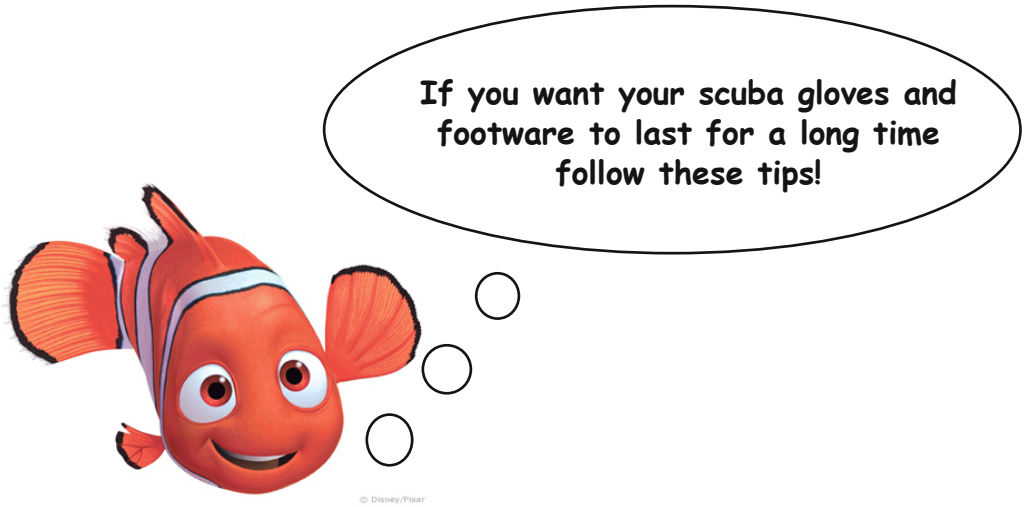
Maintaining your scuba gloves and footware

Rinse - Rinse your scuba gloves and footware in fresh water after each dive

Soak - Soak your gloves and footwear for about 15 minutes when you come home from diving. Use a special wet suit shampoo or baby shampoo.

Inspect for Damage - Check for any rips or tears. They are much easier to fix when they are small

Do not store or dry your scuba gloves and footware in direct sunlight or in the dryer!



Scuba Cylinders

A diving cylinder is a container which enables the diver to carry breathable gas underwater.

The cylinder is made from a steel or aluminium bottle and a mechanism which regulates the gas-flow. The bottle is a cylindrical container.

It has one closed end, and one which has a neck with a threaded hole on it. The hole enables a tank valve to be placed for regulating the gas-flow. The tank valve can be made for one or two regulators (see page 32).

Valve group predicted for one regulator

Valve group predicted for two regulators

Tank valve with O- ring which is used to assemble the yoke fitting to the tank valve (see page 34)

Tank valve

Information about the bottle like: its volume, weight, number, maximum pressure, test pressure, date of manufacture, name of the manufacturer, when was it last tested, serial number, for which medium (air, oxygen, other gasses or gas mixtures) is it made for and the material it is made from, are marked on the top of the tank.

Tanks need to be tested. The test consists of checking inside and outside for corrosion and pressure resistance test using pressure of 50% higher than in normal use. Usually the first test is carried out 4 years after the date of construction and then after every two years.

We need to maintain our diving cylinders in order to avoid accidents with unpredicted consequences. When the tanks are transported they need to be stabilized so they would not move. We should put a protective net over the tank in order to prevent mechanical damages of the surface. Unless on flat ground, we should always place the tanks in a lying position on the ground to prevent any kind of tank damaging. After diving the cylinder must be washed and stored in a dry place.

Cylinder with a protective net

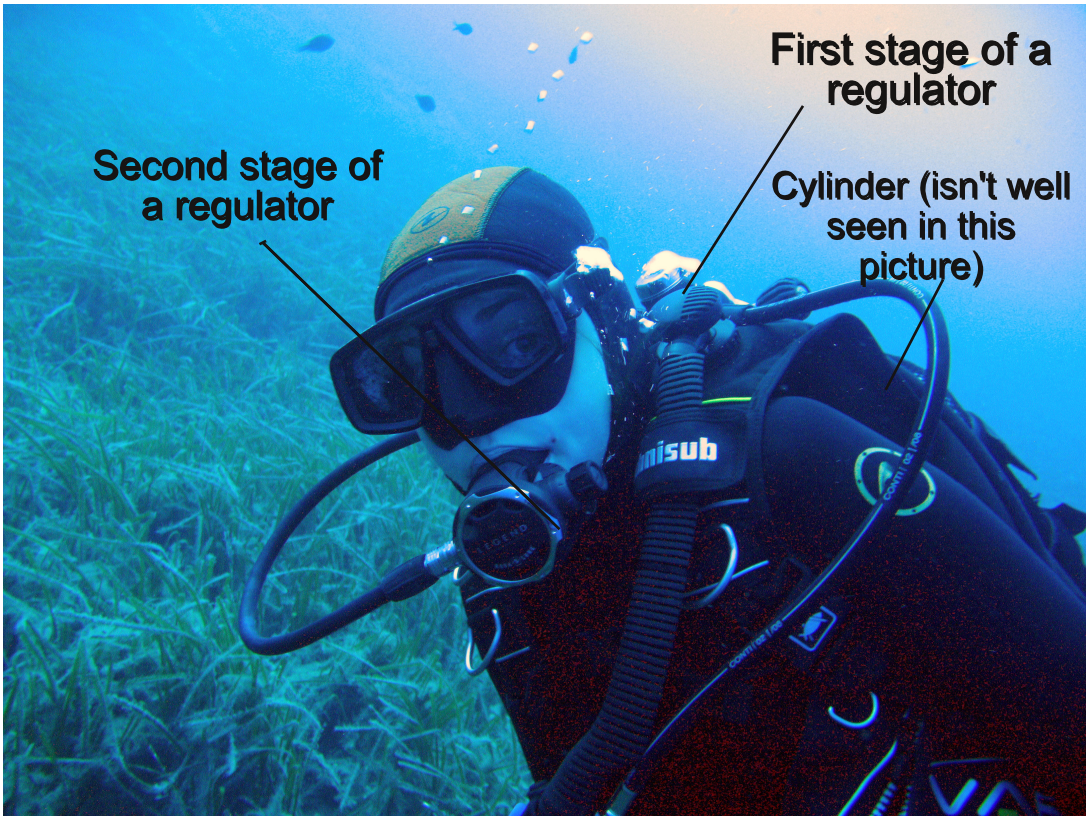
The tanks are filled with gas compressors. If the compressor is not working properly and there is a presence of oil fumes or higher amounts of CO or CO2 it can contaminate the breathing mixture and lead to a tragical outcome. Cylinders are filled by licensed people!

Regulators

A scuba regulator is one of the most important parts of the equipment. It enables us to breath underwater. Without it, scuba diving as we know it would not be possible. Breathing on a certain depth is possible only if the air we breath is at the same pressure as the surroundings. If the pressure is not the same, the lungs will not be able to inflate properly. The task of the regulator is to provide air at the same pressure as is the pressure of the surroundings, and pressure around the divers lungs, regardless of the depth. In conclusion, the regulator reduces the high pressure from the diving cylinder onto the surrounding pressure.

A scuba regulator is made of two different parts: the first stage, which is connected to the top of the diving cylinder and the second stage, which is connected to the first stage by a rubber hose. In the past regulators had only one stage, but now days such regulators are extremely rare.

A regulator conected to the cylinder used by a diver



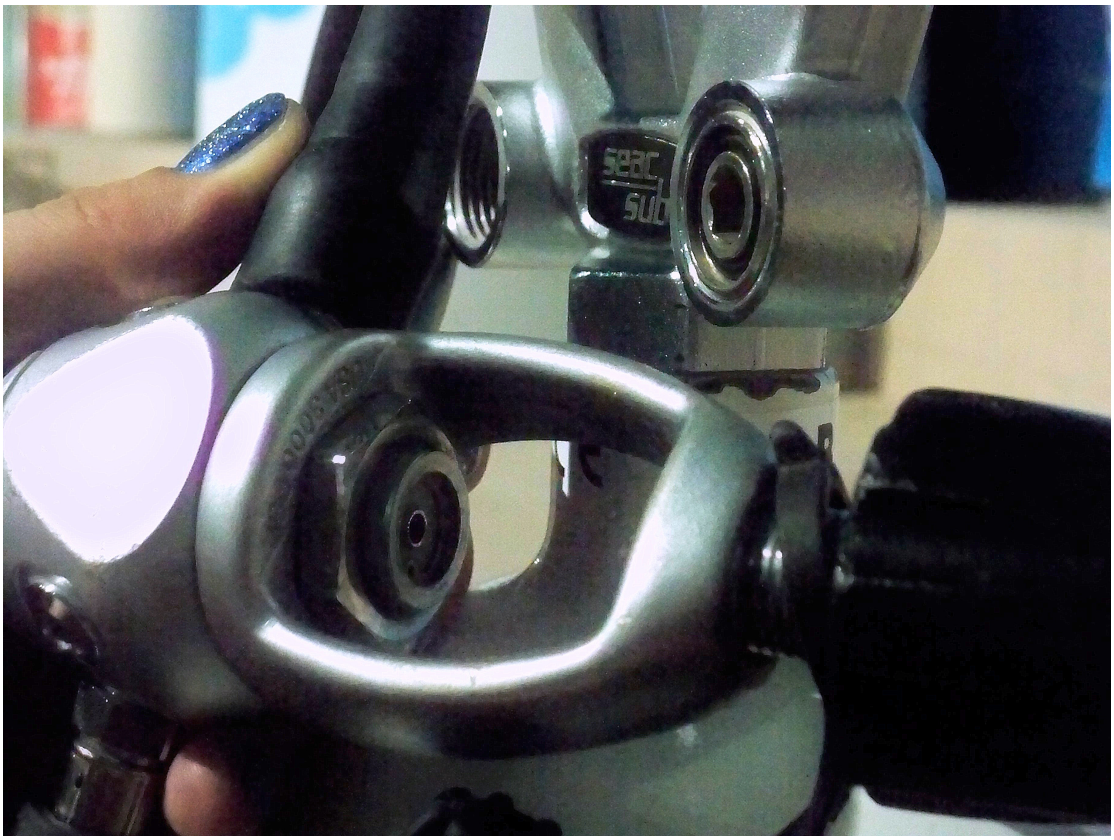
It is probably hard for you to understand what is a regulator, how it looks like and how it is used. Well, here is a diver in action. She has a cylinder on her back and a regulator assembled with it. As you can see, The 2nd stage is in the diver's mouth!

1st stage

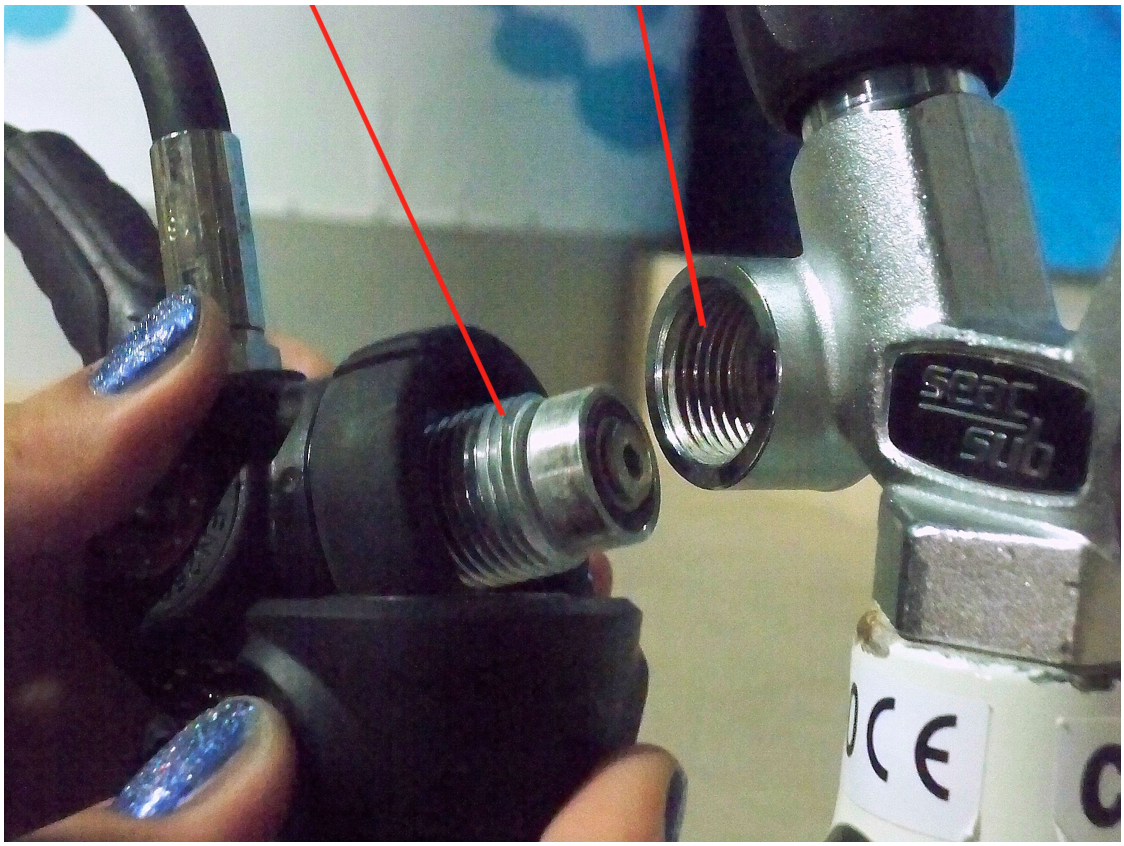
The first stage attaches to the scuba tank, either with a knob/screw type mechanism called a yoke fitting or a fitting with a thread called DIN fitting. DIN fitting screws directly into the tank valve, and Yoke fitting screws onto an O ring. Both DIN and Yoke have an O ring, but on different places. DIN O ring is located on the 1st stage, and Yoke O ring is located on the tank valve.

yoke fitting

Tank valve with O-ring



DIN fitting *Tank Valve*

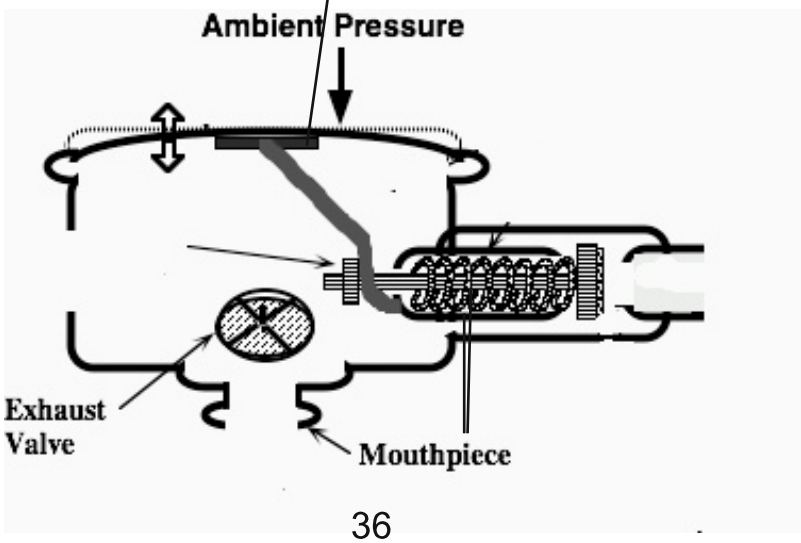


The first stage reduces the high pressured air from the tank to a lower pressure of around 8-10 bars above the ambient pressure. A valve opens in the 1st stage and allows some of the low-pressure air to flow into the hose which connects the 1st stage and the 2nd stage, and then it closes again. When the diver inhales that air, the 1st stage detects a decrease in the pressure of the hose. Then it allows more air to flow into the hose to replace the air that was inhaled by the diver. 1st stage can be balanced or unbalanced. A balanced first stage delivers pressure at a constant rate in the whole dive. It is not affected by the amount of pressure in the tank (it decreases as the air is used). We also classify the first stage as sealed or unsealed, meaning can water enter the first stage. If you dive only in warm waters an unsealed should be just fine, but if you plan on doing any cold water diving you should buy a sealed one so the first stage does not freeze.

2nd stage

The second stage goes in your mouth and delivers air on demand. It reduces the pressure in the hose, which coms from the first stage, to the pressure of the surrounding water making it possible to breathe. The second stage consists of the mouthpiece, an exhaust valve and an emergency purge valve/button. The exhaust valve lets the air escape into the water when you exhale. It does not let water in. When the emergency purge button is pushed, air is continuousy released into the chamber of the 2nd stage.

Mouthpiece *Emergency purge valve*



Scuba Regulator Maintenance

1) Regular service is very important.

2) You can keep your scuba regulator in great shape by simply cleaning it after use. Secure the dust cap and rinse the rest in clean fresh water. After diving in salt water you should soak your regulator in warm tap water

3) Wipe hoses down with a light spray of silicone to keep them supple

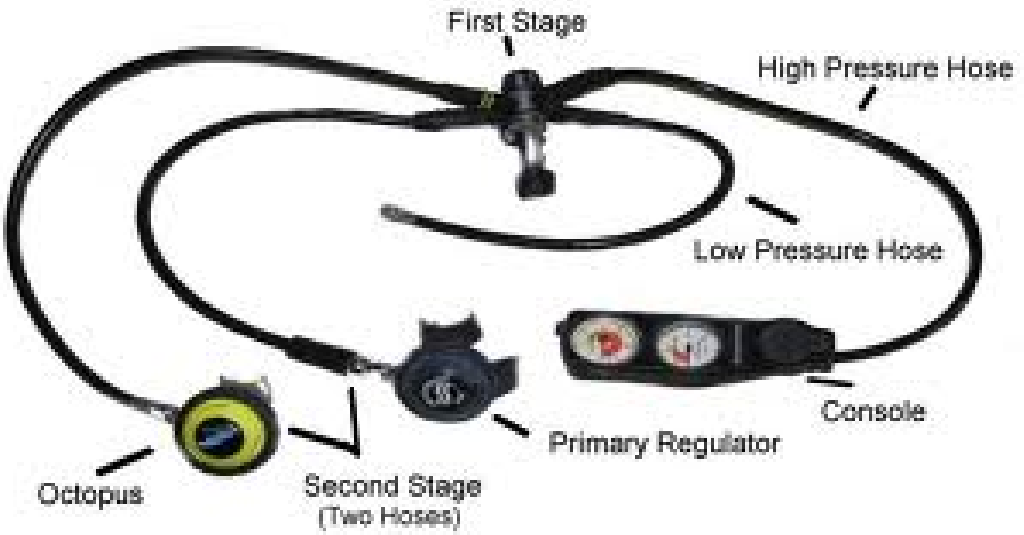
4) Don't store the regulator with sharp objects, and if possible let the hoses hang down from the first stage, or coil everything loosely

5) If you're not diving for a while, store your regulator in a closed bag to prevent degrading of the synthetic parts

A regulator with a dust cap on

Regulator Connections (Accessories)

Regulator accessories are connected either to low pressure or high pressure hoses. Low pressure hoses are on the same pressure as the breathing gas and the high pressure hoses are on the pressure which is in the diving tank. The hoses are marked with LP (low pressure) and HP (high pressure). Besides that they do not differentiate in looks.



Regulator with some connections

Octopus

It is advisable to have an alternative source of air for safety. It is a safety measure in case the regulator stops working or if somebody in the diving group runs out of air. It is connected to a low pressure hose and it is usually yellow

Pressure Gauge

The pressure gauge is linked through a hose to the high pressure of the first stage and shows the pressure in the cylinder, so a diver can tell how much air he has left in the tank.

Depth Gauge

Depth gauge measures the depth during a dive. It has a pointer that shows the maximum depth reached during the dive and the current depth on the dive.

Buoyancy Compensator and Dry Suit Inflation Hoses

They are connected to the low pressure port of the first stage

Every diver needs to have a manometer, depth gauge, and a diver watch (a water proof watch which can hold the pressure of dives you plan on doing) in order to plan and monitor a dive. As already said there are instruments which have multiple functions like a console. The most advanced and now days widely used instrument is a diving computer.

Dive Computers

All gasses disolve in liquids under pressure. Since nitrogen is not used in metabolic process it acummulates in the blood under pressure, and if enough time is not given for the accumulated nitrogen to return to gas in the lungs, then it can cause Decompresion sickness (see page 100). Safety stops are made during ascent to reduce the amounts of nitrogen in our body. Safety stops are time which a diver must spend at a constant depth to breath out the excess nitrogen . Calculating these safety stops has always been one of the main problems in diving. In the past it was done with deco tables but now days it is mostly done by diving computers. There are diving computers which have options even to connect to your tank and calculate the amount of air left, but all dive computers tell the basic info:

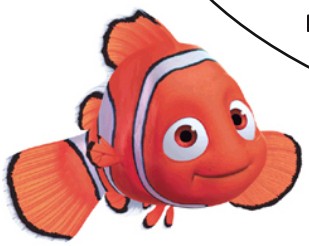
1. Amount of time underwater
2. Current depth
3. Safe time remaining at that depth
4. No decompression time limits by depth for your next dive
5. Alarm or signal - Most computers will alert you if you are ascending too fast or need a decompression stop.

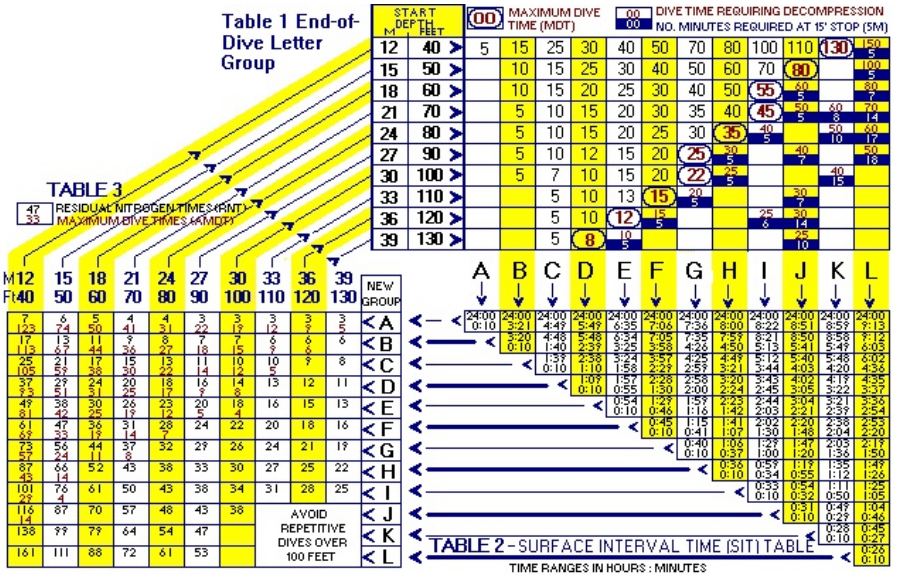
Many basic computers will also tell you

6. Surface interval time
7. Time to fly - how long you need to wait before flying
8. Water temperature
9. Maximum depth

The great thing about dive computers is that you can keep a record of you dives, because the information about them stays in the computer. The info erases after certain amount of dives (all depends on the model of the dive computer), but you can transfer the data to your computer and have a full overview of your dives. Dive computers are still developing and gaining new features which make our dives easier, but we should not rely just on our computer. I will not talk about the features of dive computes or how they work because each model is unique and differentiates from the others. Do not be scared, using dive computers is not hard and you do not need any special training. You just need to carefully read the instruction manual from the manufacturer and get used to your new diving instrument.

We need to keep in mind that it just a machine and that it can brake or shut down because it has no more power. We need to plan the dive the old fashion way before the dive using deco tables in order to be safe and have a well planned and safe dive.By the way deco tables are simply tables which ılate stops using the information how long and deep is a dive!





Deco table

Buoyancy Compensator Device

A buoyancy compensator device or a BCD is a very important piece of equipment which allows the diver to have neutral buoyancy (see pages 57 and 58) during the whole dive. When a diver descends he is being exposed to bigger and bigger surrounding pressure. At a higher pressure gasses compress to smaller volumes. Thus, when a diver descends he is pulled to the bottom, that is he has negative buoyancy. It is vice versa when he is ascends. A diver wishes to archive neutral buoyancy so he would not be pulled up or down. That state is similar to a complete weightless state of astronauts. Achieving neutral buoyancy with a BCD is done by regulating the amount of air in it. Generally we should inflate it when descending and blow the air out of it when ascending. The BCD is inflated directly from a low pressure hose in the first stage. Therefore, we use the air from the tank for inflating of the BCD, except in emergency cases when the BCD can be inflated with the air from our lungs over the manual inflator (or oral inflator).

The BCD consists of:

1) Chambers of air

2) A system of belts and straps for fixing it to the tank

3) Inflator hose with a valve which regulates the amount of air in the BCD

4) Deflator which does the opposite of inflator

5) Pockets on the side.

Most BCDs also have rings on the front for attaching additional gear and backplate for comfort. There are also other additions depending on the price of the BCD

Buoyancy Compensator Maintenance

1. Wash your BCD in fresh water after every dive

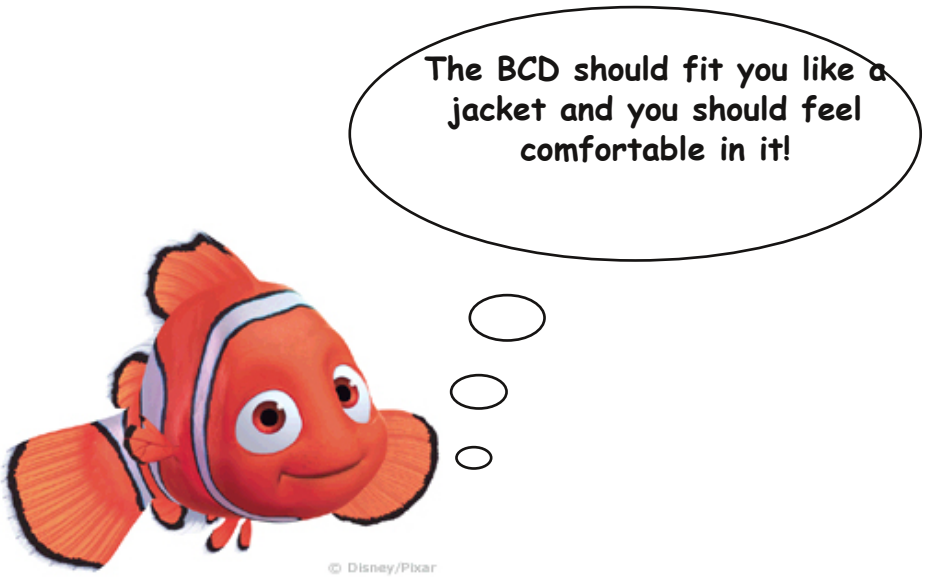
2. Rinse the inside of your BCD by filling it with fresh water through the manual inflator

3. Empty the jacket by tuning it upside down and draining the water through deflator on the bottom side of the BCD

4. Inflate the jacket slightly to see if any water remains

5. Store the jacket in a cool dry place on a hanger. The jacket should be slightly inflated.

6. If the jacket has not been used for more than 6 months, have it serviced at a dive shop.



Weight belts

Weights are essential for achieving neutral buoyancy (see page 58)

Weight are made of lead and they are fixed to the weight belt which has a release buckle. You can also buy belts which have pockets to hold weights. Some BCDs have pockets for putting weights, but the bad side is that weights can fall out of the pockets if they are not sealed. Now days belts with pockets in which lead shots are put are used a lot. They are much more comfortable, but more expensive as well. The amount of weights which should be carried depends on the thickness of the suit (the suit is made out of gas bubbles and thus has positive buoyancy), equipment, type of water and the type of dive.

Traditional weight belt

Belt with pockets for lead shots

There is a test you can do in order to see how much weights do you need to cancel the buoyancy of a wet suit. Put the wet suit on the water and place weights on it. When it starts to sink its buoyancy is canceled.

Signal Equipment

Communication in diving can be visual (sign language and surface markers), light and sound communication.

For sound communication we use <u>shakers,</u> <u>diving</u> <u>horn,</u> <u>whistle</u> and we can also bang metal objects against the diving tank and produce sound. Long sound signals on the surface always mean calling for help or warning!

Shakers are basically metal tubes with two metal beads in it. They produce sound when shaken.

Diving horns usually connect between the low pressure hose and the BCD. They use the air from the diving cylinder to make noise.

A regular plastic whistle usually comes with the BCD. It is useful on the surface when we signalize our position to a passing boat.

Light signals are made with flashlights. A flashlight is necessary in night dives, and it is usually used in daily dives when you are going through tunnels, looking under ledges, diving on a wreck etc.

Read the instructions from the manufacturer very carefully and remember the maximum pressure your lamp can be exposed to and how long do its batteries last.

A dive light can be easily lost while diving. Most lights come with a wrist strap, but it is safer to attach your light to your BC with a flexible leash.

In order for your lamp to last long, rinse it in fresh water after every dive. For ensuring your light will work when you go on a dive, check the seals and the batteries before you get in the water.

Diving knife

A diving knife is not used for killing fish or attacking sharks as many people think after they first hear about this piece of equipment. It is used for releasing a diver when caught in a fishing net and for hitting the blade on the tank as a signal sound. A diving knife must be strong, have a comfortable handle and be well sharpened. Knifes are mainly worn on the inside of the calf, or on the upper arm. After use should be rinsed with fresh water, dried and then coated with oil.

Diving Bag

Bags are used for storing your equipment. There are different types of bags on the market. You should choose the one that best fits you. In choosing your bag you should consider: how much equipment do you want to carry in it, how big is that equipment, do you travel and how strong does your bag need to be. Remember a bag can never be too big!

Surface marker buoy

A floating buoy is a piece of safety equipment that marks the place where diving is taking place. In some countries dive law requires flags. On the top of the buoy is a blue and white flag known as an "A" FLAG. This flag has an international definition of "I HAVE DIVERS DOWN, KEEP WELL CLEAR AT SLOW SPEED". Instead of this flag you might see a red flag and a white diagonal stripe on it. During night dives the buoy has to have a flash light on it, so it would be visible.

When you decide to

buy diving equipment talk to experienced divers and trainers

COMMUNICATE

and COLLABORATE

in order to find the best solution for you! Buying equipment is very important for your safety and comfort!