



ATMOSPHERE™

USER MANUAL 1.0



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Conventions Used in this Guide

This User's Guide is NOT intended for use as a training manual, or in any way as a substitute for proper training through a legitimate training agency approved by Poseidon AB. It is only intended to provide basic information concerning the Atmosphere Full Face Mask (FFM).

Throughout this Guide, special alert boxes have been inserted to draw attention to critical information. Three levels of alerts are used in conjunction with color-coded trisymbols, as follows:



DANGER:

Alert boxes that are RED contain extremely critical information related to the safety and well-being of the diver. Failure to comply with information contained in these boxes could lead to serious injury or death.



WARNING:

Alert boxes that are YELLOW contain vital information that may impact a diver's safety and/or proper function of the Poseidon Atmosphere. Though generally not life-threatening, information contained in these boxes should not be ignored.



IMPORTANT:

Alert boxes that are BLUE contain important information about the proper care and maintenance of the Poseidon Atmosphere, and that may increase diver comfort or enhance enjoyment during dives.



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DANGER:



Do not attempt to use the Poseidon Atmosphere without proper training, or without a thorough working knowledge of the material contained in this manual. Careless can cause serious injury or death. It is the user's responsibility to attentively monitor the Poseidon Atmosphere and to have a working knowledge of the procedures if a problem should arise.



Your own Atmosphere

Welcome, to the world of Poseidon divers. Here at POSEIDON we are very pleased that you have chosen one of the world's foremost diving regulators.

POSEIDON has been developing regulators for divers since 1958. Professional divers, military divers, and techdivers choose POSEIDON equipment because of the high demands they place on our products - the same demands you have!

Your new regulator has been designed to provide you with a life time of pleasure as a POSEIDON diver. Our objective is that the equipment you use should not be noticeable, instead it should be at one with the experience and give you total freedom to achieve what every diver dreams about, the ultimate dive. To be at one with the water. To have full control and at the same time feel the weightlessness when, meter by meter you descent into a world of your own.

Nothing shall disturb your concentration. No wheels or knobs that need adjusting. No regulators that resist your breathing when you have reached your target depth. No suits that limit your freedom of movement or get damaged at the slightest encounter. This vision has accompanied Poseidon since the legendary diving enthusiast and engineer, Ingvar Elfström started the company in the late 50's. The same ideas motivate us now.

The name Poseidon represents constant development and improvement of diving equipment where everything is positioned correctly and everything functions, even in the most extreme situations.

Products developed in cold Scandinavian waters that are among the toughest you can dive in. If they work here, they will work anywhere. Poseidon's devoted followers are convincing proof of that. Thank you for your confidence.

Yours faithfully



Certification Information

The POSEIDON Atmosphere Full Face Mask is approved according to the EU Directive for Personal Protective Equipment, 89/686/EEC and meets or exceeds the requirements of EN 250:2014 for cold water diving.

Type approval certificate is issued by:
SGS United Kingdom Ltd,
Ellesmere Port,
CH65 3EN, UK.

Notified body number 0120.

Poseidon Diving Systems AB is certified according to ISO 9001

Production quality assessment according to article 11 B
of 89/ 686/EEC, assessed by:
SGS United Kingdom Ltd.,
Ellesmere Port,
CH65 3EN, UK.

Notified body number 0120.

Independent performance testing according to directive and standards,
conducted at accredited laboratory ANSTI Test Systems Ltd.





Premise

The POSEIDON Atmosphere Full Face Mask conforms to European Harmonized Standard EN-250 and is certified for underwater use of a maximum depth of 50 meters.

It is required that the POSEIDON Atmosphere Full Face Mask only be used by fully trained, certified Full Face Mask divers.



WARNING:

Never substitute, modify, add or omit parts.

Use only replacement parts in the configuration as specified and supplied by the manufacturer. Alteration of this mask will void all approvals and the warranty and may contribute to a reduction in protection for the user.



Important information

- Read this manual prior to using the Atmosphere Full Face mask.



WARNING:

Improper use, or misuse of this full face mask or any diving equipment, could result in serious injury or death.



WARNING:

Do not use this mask until you have carefully and completely read, understood and followed all instructions and safety precautions found in this manual, all inserts that accompanied this manual as well as all tags and markings found on the mask.



WARNING:

Diving is a strenuous physical activity. Its difficulty may be increased by conditions such as cold water, poor visibility, hard work and increased depth. Always try to exercise prudent judgement when determining weather or not to dive. Never dive when tired or in poor health.

- Retain this manual for reference.
- Review this manual periodically and prior to diving.

Only the Jetstream PP second stage regulator may be fitted and used with this mask. The Poseidon Atmosphere Full Face Mask is to be used only in combination with Poseidon Xstream first stages.



Product characteristics

The face seal (1) is of "cushion-type", with a convex reflex surface for excellent comfort and seal; a technology originally developed for RAF fighter pilots.

Visor clamps (2) are curved to give a sufficient squeeze over the entire visor ensuring leak tight fit.

Inhaled gas is directed to flush the visor (3) for effective demisting.

The mask has a large panoramic visor (3) giving an extremely wide field of view optically corrected for distortion free vision. All curved surfaces and sides (4) of the visor are frosted to avoid distortion and reflection.

The visor is covered with a white protection film used to protect the optical surface when the mask is not in use.

Head harness buckles (5) are made of sturdy plastics and installed into the mask withstand a pull load of >300 N.

The inner part (fig. 1) of the mask is equipped with a simple internal device to close the nasal passages for underwater equalization. Refer to the Usage and Diving chapters of this manual for correct usage of this device.



Fig. 1



Fig. 2



Usage

Atmosphere is only approved for use with breathing gas according to EN 12021 (air). If a drysuit or wetsuit hood is used at the same time as the mask, it must have a face seal with an outer surface similar to rubber to ensure a good seal. An outer layer of Nylon fabric, for example, will not seal the mask effectively.



WARNING:

Do not fold the hood over the mask seal as breathing gas can fill the hood creating buoyancy difficulties.

The contoured piece for equalization located inside the inner mask should be adjusted prior to first time use of the mask. The piece can easily be removed and reattached in three different positions to suit the needs of the user. Correct position is achieved when the nasal passages are blocked while upward pressure is applied to the lower part of the mask. Remove excessive material from the piece with a knife if a lower position is needed and place the piece back to its place.



Fig. 3

PREPARATION FOR USE

1. Carefully inspect the mask for any signs of deterioration or damage.
2. Check that the visor is clean and free from scratches or blemishes likely to cause distortion or other difficulties with vision.
3. Fully extend all the head harness straps.
4. First check that the dive mode switch on the second stage is in pre-dive mode (-) and then open the cylinder valve.



DONNING THE MASK



Fig. 4



Fig. 5

1. Place the neck strap around the neck if required. If the neck strap is not going to be used it should be removed from the mask and not left dangling during use.
2. Invert the head harness over the visor of the mask (fig 4) leaving the face seal area clear, place the chin firmly into the chin cup at the bottom of the mask and pivot the mask up to the forehead.
3. Pull the harness over the back of the head while grasping the lower edge of the center of the harness (fig 5).
4. Hold the front fitting of the mask in one hand so as to keep the chin in correct position, tighten the lower straps of the head harness one at a time and then the top strap.
5. Next, tighten the two center straps and finally check the two lower straps for tightness and adjust if necessary.
6. The straps should be tightened firmly so as to hold the mask securely onto the face. In addition to causing discomfort, over tightening the straps can distort the shape of the mask and reduce the ability to seal to the face.
7. Switch the dive mode switch to dive position, (+) (fig 2, #6).



DIVING



The Atmosphere Full Face Mask can easily be drained in case of water infiltration. To drain the mask, simply push the purge (fig 2, #8) button on the regulator while keeping your head in face-down position.

If inhalation resistance feels unusually high make sure the dive mode switch is in dive position, (+).

For underwater equalization, simply press the lower part of the mask upward, towards the chin. The contoured silicone piece will then be pressed towards the nose, blocking the nasal passages for equalization.

When out of water, switch the regulator to pre-dive mode, (-). Release the head harness straps by pushing forward on all the head harness buckles with the thumb until the head harness is extended. Pull the mask up and over the head.



Maintenance and Storage

After dive, rinse the mask and regulator in fresh water, keep the regulator pressurized during this operation. Do not use cleaning chemicals of any kind to clean the regulator. Neither may silicone or any other lubricant be poured or sprayed into the Full Face Mask.

Using the purge button of the regulator, blow out water from the regulator and mask. Shake the mask to remove excess water and hang up using the neck strap or head harness to dry at normal room temperature. The mask should not be left to dry in direct sunlight. Keep the mask stored in the packaging provided in a dark, cool, dry place at a temperature preferably between 10°C (50°F) and 29°C (85°F). Do not store the mask in direct sunlight or in places colder than -30°C (-22°F) or warmer than +70°C (158°F). During long-term storage, the dive mode switch should always be set to the + position.



Replacing

THE VISOR

If the visor is scratched or contaminated so as to impair the vision then it should be replaced. Unscrew and remove the two visor clamp (1) screws using a small Phillips head screwdriver. Remove the two halves of the visor clamp from the outer facemask and take out the visor (2) from its groove (3). Clean the visor groove in the mask making sure that no loose debris is left in the groove. Even the tiniest particle or hair may cause an unacceptable leak.

Insert the new replacement visor (2) into the rubber groove (3) on the outer facemask, ensuring that it is positioned centrally by using the alignment marks at the top and bottom of the visor to coincide with those on the underside of the rubber groove on the outer facemask. Replace the upper and lower halves of the visor clamp (1), ensuring that they slide smoothly over the rubber outer face mask and also align centrally with the marks on the underside of the rubber groove on the outer facemask. Replace the two screws and tighten each side one to two turns alternately until the two visor clamps touch and then tighten to secure the visor. Do not over tighten the screws.



HEAD HARNESS

The head harness should be replaced if it shows any sign of aging or deterioration. Each strap of the head harness is easily removed from the mask by prying the rectangular buckle loop from its groove in the buckle. Fit a new rectangular loop to each strap of the new harness and refit by snapping the loops into each buckle. It should be noticed that the loops have one side thinner than the other. It is the thin side which snaps into the buckle. When refitted correctly the molded date indicator on the center of the harness is positioned towards the bottom of the mask and facing outward away from the mask.



Accessories

No other parts, except the accessories listed below, are allowed to be integrated with the POSEIDON Atmosphere Full Face Mask.



WARNING:

Any modification to the mask in order to attach such parts can damage the equipment or cause serious injuries.

COMMUNICATION

The mask is designed to permit integration and compatibility with all standard existing underwater communication systems. Contact your nearest POSEIDON dealer for purchase recommendations.

For correct use of the underwater communication system refer to its user manual.

WEIGHTS

The mask can be fitted with external buoyancy compensating weights which also can be used for mounting torches, video cameras etc.

The weights are designed for a standard lamp/camera fitting system with a M8 threaded screw. Do not use any lamp/camera which is not suited for underwater head-mounting application.



Service

The POSEIDON Atmosphere Full Face Mask should be serviced bi-annually / once every 100 dive as a minimum. It's recommended that it's serviced more frequently, if the mask is used more often.



IMPORTANT:

Service should only be done by a certified Poseidon service technician and original Poseidon parts and service kits should only be used.



Technical Specifications

General	
Approvals	EN 250:2014 Cold Water EN 136:1998 (Mask excl. Demand Valve) NIOSH 84.205 Fit test (Mask excl. Demand Valve)
Min water temp	Unlimited
Gas	According to EN 12021 (air)
Demist system	Flow-through, film
Inhalation resistance at 50 msw	(166 fsw, EN 250) 0,05 J/l
Total work of breathing at 50 msw	(166 fsw, EN 250) 1,54 J/l
Face Piece	
Mask material	Black silicone
Visor material	Polycarbonate
Neck Strap material	Black silicone
Compatible 1st stage regulator	
All POSEIDON Xstream 1st stages	
2nd stage regulator	
POSEIDON Jetstream PP	
Flow rate	1800/63 l/cuft per min
Safety valve opening pressure	18 +/- 1 bar (261 +/- 14 psi)
Technique	Upstream servo valve
Hose	
Material	Reinforced SBR/NR/CR
Burst pressure	>100 bar (1450 psi)
Pull strength	>1000 Newton (225 lbft)
Safety inspection holes	Both ends
Wear protecting crimps	Both ends



Atmosphere Troubleshooting

Symptom	Check	Cause	Action
2nd stage hose valve is opening	Does it occur only when regulator hose is pulled firmly?	YES: this is a normal function	None
	Does it open spontaneously?	YES: it may be a 1st stage error	Terminate dive & service regulator.
Gas vents from 2nd stage when opening cylinder valve	Does it stop within 1-2 seconds?	YES: this is a normal flow to activate the servo mechanism	None
		NO: the cracking pressure is too low, which increases the risk for free-flow	Terminate dive and have regulator adjusted by authorized dealer
Mask is leaking from face seal when immersed	Is suit hood face seal made of nylon or other rough material?	YES: the hood prevents waterproof seal	Terminate dive and replace hood, see page 8 for info
	Are the neckstraps tightened firmly?	NO: tighten the straps according to instructions on page 9	Note: use the purge button only to temporarily drain mask. If problem persists, terminate dive.
Gas is entering the hood	Is any part of the mask placed under the hood seal?	YES: breathing gas is leaking into the hood.	Adjust the mask so it clears the hood.

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