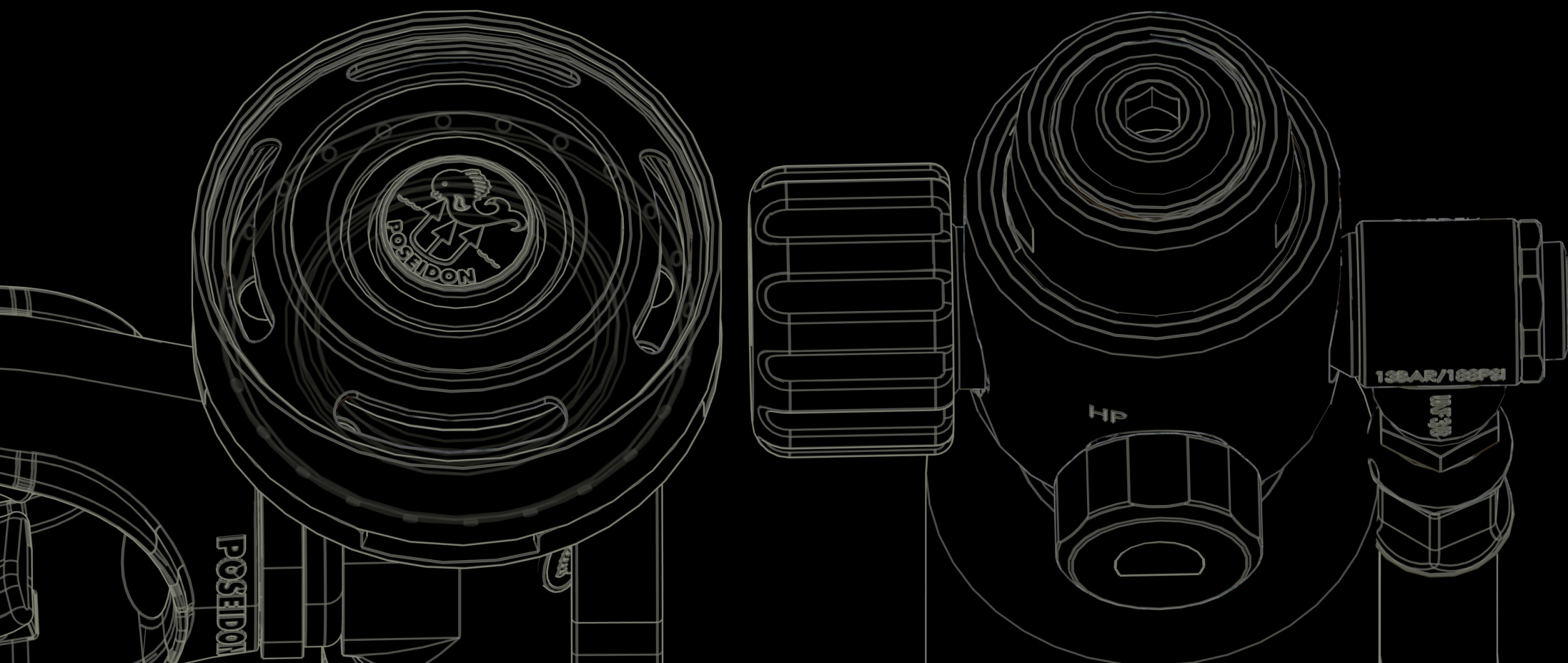




# POSEIDON EBS MKII

## USER MANUAL

VERSION 2.0





## The Poseidon EBS MkII

This **Poseidon EBS MkII** is an EN 4856 underwater escape device.

Before use always check **position 10-12** on page **6 and 7** in this manual.

**Complete** service of the Poseidon EBS should be made every **24th month** or if the EBS is used in training purpose the complete service should be made every **6th month** by **Poseidon Diving System AB** or approved service station/person. For spare parts and maintenance related questions please contact an authorized Poseidon EBS MkII service center.

The Poseidon EBS is intended for use as a generic underwater escape device but can be used as a helicopter escape device to assist aircrew members or passengers in making an emergency egress from a submerged aircraft. Due to its limited air volume, it is not intended egressing from depths greater than 10 meters.

Poseidon **article number 5000-015**  
Manufactured by Poseidon Diving Systems AB.

The EBS system is certified vs applicable parts of the **EN4856:2023**.

Poseidon Diving Systems AB  
Åkeredsvägen 1, SE-421 63 Västra Frölunda, Sweden  
Phone: +46 31 734 29 00



### WARNING:

Retain this manual for your reference. Review this manual periodically. Improper use, or misuse, of this device could result in serious injury or even death.



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**Manual Version 2.0 - February 2024.** Valid from production date 2024.

Pictures in this manual may show parts that are different in size and shape than actual product.



## Approvals/Certifications

The Poseidon EBS MkII Manuals refer to EN 4856:2023.  
(see Technical Data for full detail).

Manuals show that conformance for CE certification is provided by;

EU TYPE-EXAMINATION  
CERTIFICATE No. 0598/PPE/23/2209  
issue 2:

SGS Fimko OY,  
Takomotie 8,  
FI-00380 Helsinki,  
Finland  
Notified body number 0598

Production quality assessment  
according to regulation (EU) 2016/425  
Module D is assessed by:

SGS Fimko OY,  
Takomotie 8,  
FI-00380 Helsinki,  
Finland  
Notified body number 0598  
Certificate FI21/968950

UKCA TYPE-EXAMINATION CERTIFICATE  
0120/PPE/230083 issue 2

SGS United Kingdom Limited,  
Rossmore Business Park,  
Ellesmere Port,  
Cheshire CH65 3EN, UK  
Approved body number 0120

Production quality assessment  
according to regulation (EU) 2016/425  
as brought into UK law and amended  
Module D is assessed by:

SGS United Kingdom Limited,  
Rossmore Business Park,  
Ellesmere Port,  
Cheshire CH65 3EN, UK  
Approved body number 0120  
Certificate: GB21/968950

This PPE protects the user from the following risks:

- Drowning
- Various nuisance factors
- Usage of materials that can affect the human body
- Design defects
- Incorrect use

Use link below to access Declarations of Conformity.

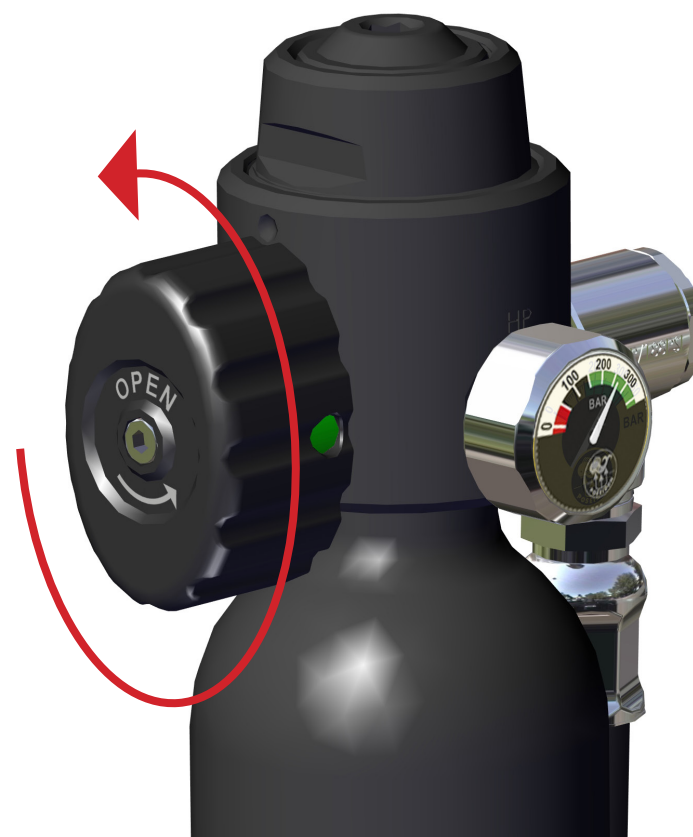
EC/UKCA - <https://www.poseidon.com/en-se/support/docs/>

Poseidon Diving Systems AB is certified according to ISO 9001





## Functional overview



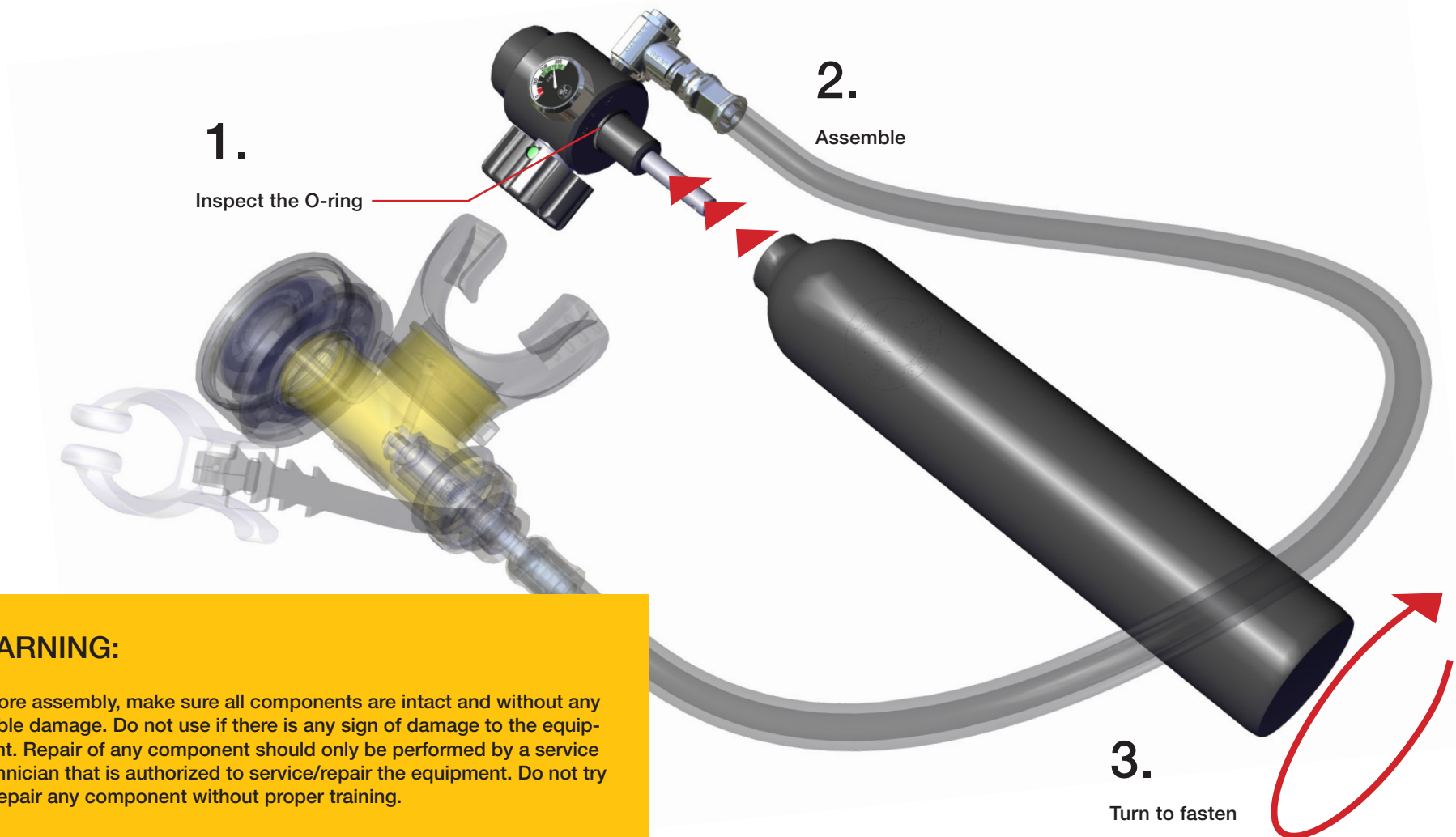
Cylinder valve in position OPEN  
Turning the valve handle counter clockwise  
until the Green color in the hole indicate OPEN position.



## Assembly

**Inspect** the **o-ring** on the 1st stage tank thread and make sure that sealing surfaces are **clean and** that the o-ring is **lubricated** with approved Poseidon product (art no 8516).

**Mount** the 1st stage on the bottle **tight and firmly** (rec. 60 Nm).



### WARNING:



Before assembly, make sure all components are intact and without any visible damage. Do not use if there is any sign of damage to the equipment. Repair of any component should only be performed by a service technician that is authorized to service/repair the equipment. Do not try to repair any component without proper training.





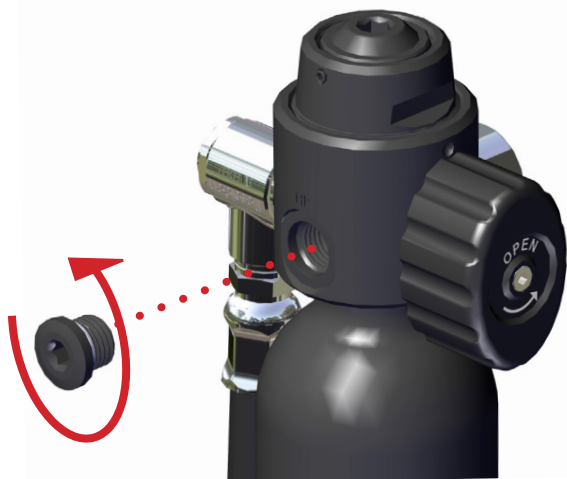
## Filling instructions

For filling pressures, please refer to the cylinder max rated pressure.

Use Poseidon filling adapter 232 bar art no 0800-015 or filling adapter 300 bar art no 0800-012



1. Close the cylinder valve. Press the purge-button on the 2nd stage to ensure that the breathing apparatus is depressurized before the filling process begins.



2. Remove the blanking plug from the 1st stage. Inspect the O-ring and attach the filling adapter to the 7/16" HP port where the blanking plug was mounted. Make sure the filling adapter is firmly attached. Attach the filling hose to the the filling adapter that corresponds to the max filling pressure stated on the cylinder neck.



3. When the filling hose is firmly attached to the filling adapter, slowly open the valve on the 1st stage by turning the valve handle counter clockwise.
4. Slowly open the filling source valve and make sure there are no leakage. Fill the Poseidon EBS to maximum filling pressure stated on the cylinder.
5. When the Poseidon EBS if filled, close the valve on the filling source.

### WARNING:

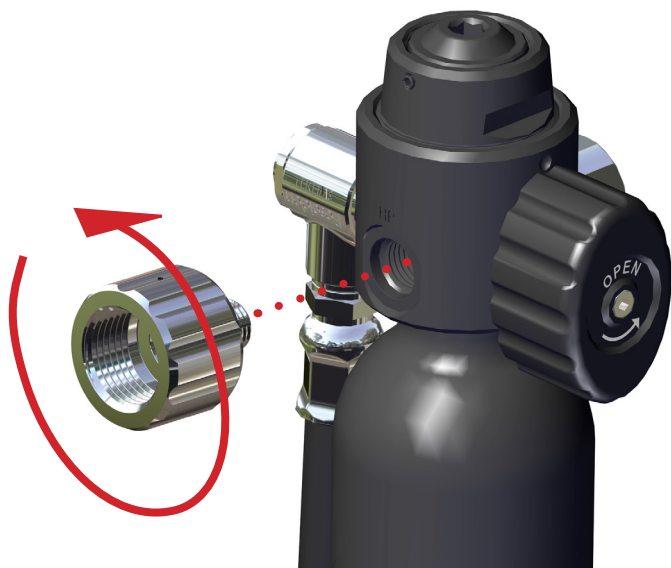


Before you start filling the bottle, make sure you are well familiarized with these instructions. Do not fill the EBS with a higher pressure than whats stated on the cylinder. Failure to follow these instructions may lead to injury or death.

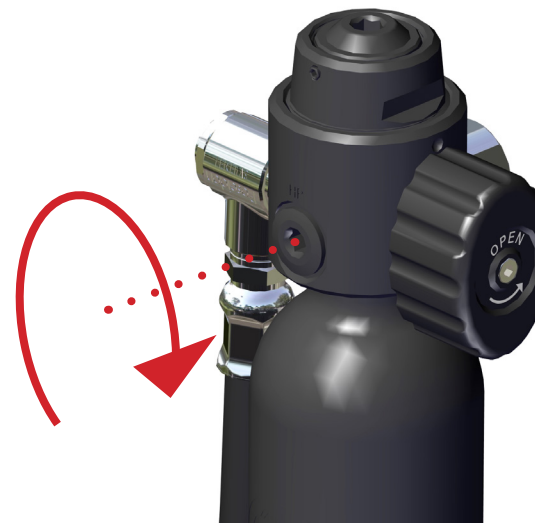


6. Close the valve on the Poseidon EBS

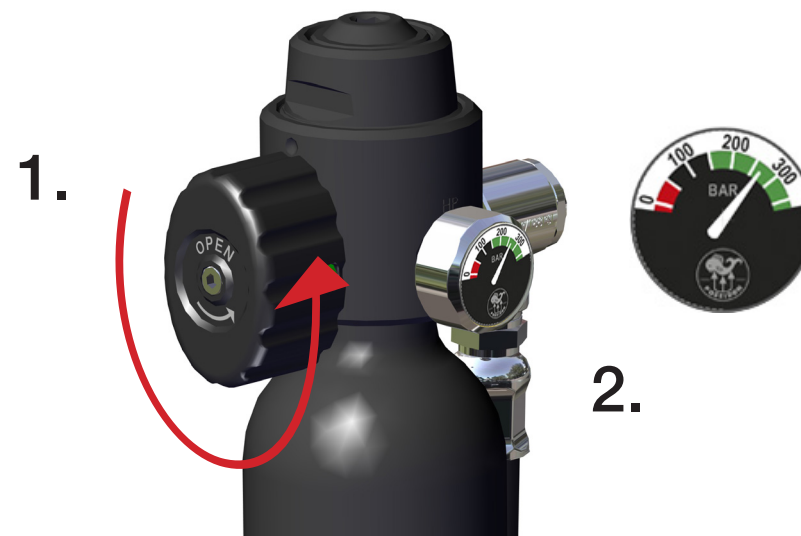
7. Release the pressure by using the purge button on the 2nd stage.



8. Unscrew the filling adapter/hose from the Poseidon EBS.



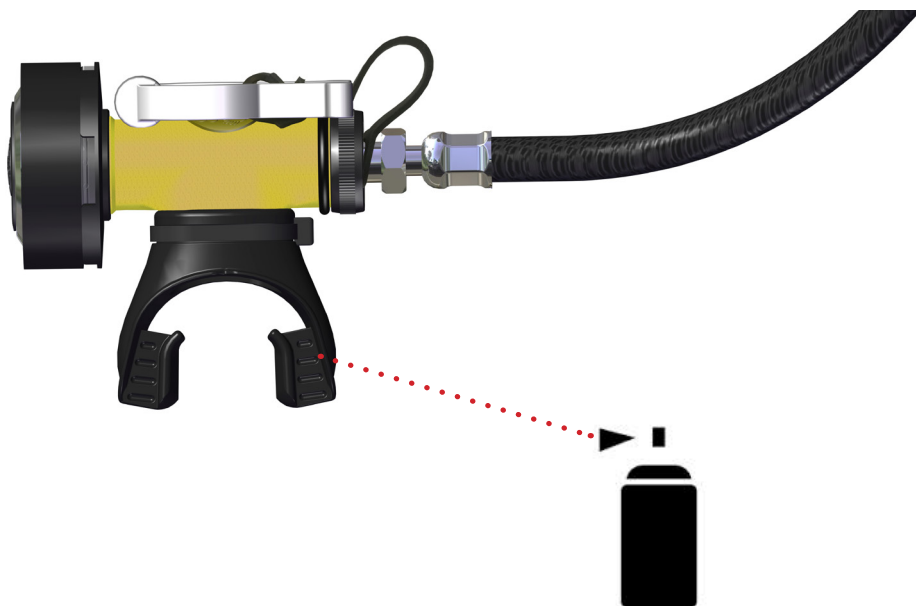
9. Mount the blanking plug in to the 7/16" HP port of the 1st stage and make sure it's firmly attached. Before mounting the blanking plug, inspect the o-ring to make sure it's without any flaws, make sure the o-ring is lubricated and that all sealing surfaces are clean and undamaged.



10. Open the valve <sup>[1]</sup> on the Poseidon EBS and check the pressure. If pressure is 300 bar/ 4351 psi <sup>[2]</sup> it's OK to use. If the pressure is below the max rated pressure, start the filling procedure from pos 1 on page 4.



11. Attach the Nose Clip in correct position on Nose Clip Holder.



12. Spray the mouthpiece with GUARDIAN SUPERIOR™ disinfection, Art.no 0050-127 (or other Poseidon approved product). Use 2-3 sprays and wipe with a cloth or piece of paper.



13. The Poseidon EBS MkII is now ready for use.

### WARNING:



Before use, make sure all components are intact and without any visible damage. Do not use if there is any sign of damage to the equipment. Repair of any component should only be performed by a service technician that is authorized to service/repair the equipment. Do not try to repair any component without proper training.





## Preparations before use

1. Open the cylinder valve by turning the valve counter clock wise until the green indicator is visible.
2. Check gauge for cylinder pressure in the green marked area.

## Deploying the EBS

### In the event of an emergency, deploy the EBS in the following way:

1. Grab the 2nd stage regulator with a free hand and insert it into your mouth.
2. If submerged the 2nd stage regulator needs to be purged by pressing the purge button smoothly.
3. Start to breath normally while you put the nose clip onto your nose using your thumb and index finger.
4. Continue to breath from the EBS until are you are in a safe location (surface).
5. Please remember that the gas supply is limited and try to breath normally.

## After Use

The regulator should always be rinsed while it is still mounted on the tank. The regulator should be under pressure, otherwise water can enter either the first or the second stage and cause the build up during next usage. If water enters your first stage, corrosion could form inside the first stage leading to loss in performance and/or failure. If you suspect water has entered the first stage we recommend that you let a service technician, certified to service/repair Poseidon equipment, disassemble your first stage to dry and clean it.

- The regulator should be rinsed in fresh water after every dive so as to avoid salt crystal formation around the functional parts. Purge the second stage while you rinse it, to allow fresh water to access all parts of the second stage.
- Blow the equipment dry by using air pressure.
- After rinsing, close the cylinder valve and purge the regulator.
- Pack and store your regulator in a protected area/case/bag. This protects the regulator from damage. It is especially important to protect the connection areas. The regulator should not be stored in direct sunlight and/or at high temperatures.

### WARNING:



**The EBS shall be serviced and maintained on a regular basis by trained and authorized technicians. The cylinder must be inspected and serviced in accordance with all local governing agencies. The regulator components must be serviced according to service manual. Failure to do so creates an unsafe condition that could lead to serious injury or death.**

## Transport

Before transportation make sure that the EBS is properly padded in a dry bag/box that prevents the equipment from being damaged. Its especially important to protect the 2nd stage regulator.



## Technical data

General	
Maximum Operational depth	Certified to 10 m (33 ft)
Approved gas	Air according to EN12021
Maximum working pressure	300 Bar (4351 psi)
Cold water performance	>4deg C
Cleaned to hydrocarbon levels <50mg/m2	No
O-ring materials	Nitrile, EPDM
Lubricants	Poseidon Regulator grease 8516 & silicone oil.
Warranty	12 months
Total weight	914 g / 32,3 Oz

2and stage	
Flow Rate	1250 l/min / 44 cuft min
Technique	Downstream
Safety valve opening pressure	15 +/- 1 bar (217 +/- 14 psi)
Swivelling	Around axis, can be used either side
Material	ASA, Brass, TPU, Silicone, PU
Venturi assist	Automatic
Inhalation control	Automatic
Anatomic mouthpiece	4532 Poseidon AIR

1st stage Poseidon Cyklon	
Flowrate (l/min)	>1700 l/min / 180 cuft/min
Nominal inter-stage pressure	11.5 bar (167 psi)
Technique	Diaphragm
Valve technique	Piston Valve
Seat material	Polyetereterketon
Test pressure	450 bar (6526 psi)
Ports	1 LP (UNF 3/8") / 2 HP (UNF 7/16")
Cylinder connection	UNF 5/8"-18
Built in OPV	In 2:nd Stage
Material	Brass, plastics, stainless steel and aluminium

Hose	
Standard lengths hose	24 inch / 61 cm
Burst pressure	>100 bar (1450 psi)
Pull strength	>1000 Newton (225 lbf)

Cylinder	
Cylinder Volume	0,21 - 0,6 l
Cylinder Material	Composite
Rated Cylinder Pressure	According to composite cylinder specification
Cylinder Approval	PED Directive



## Performance during testing

### Equipment Performance

**Ansti** **Swedish Navy** **Ansti**  
 Certificate Reference LSTF-0917\_20230328\_134624  
 Date : 2023-03-28 Time : 13:46:24

#### Equipment

Regulator Type EBS  
 Serial Number  
 Interstage Pressure Static 0.00 barg

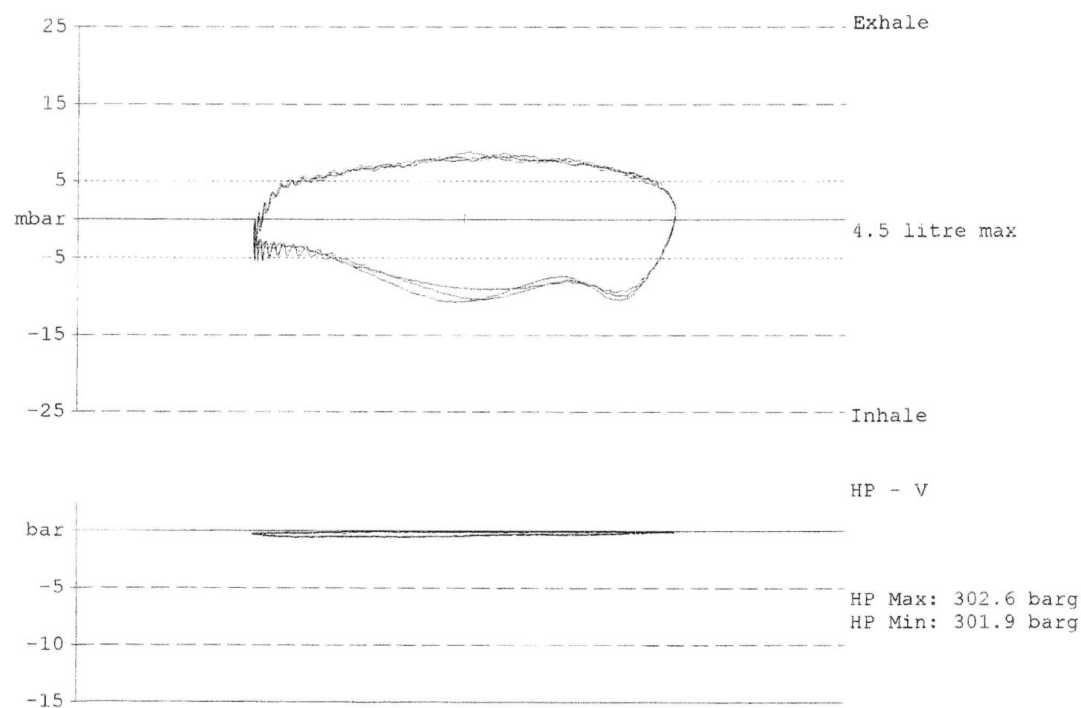
#### Conditions of Test

	Mean	Min	Max
Room Temperature (C)	21.0		
Exhale Temp (C)	12.7	12.4	12.9
Water Temp (C)	3.7	3.7	3.8
Humidity (% RH)	0.1	0.0	0.1
HP Supply Pressure (barg)	302.4	301.9	302.6
Tidal Volume (litre)	2.50	2.50	2.50
Breath Rate (bpm)	25.02	24.70	25.35
Ventilation Rate (lpm)	62.55	61.77	63.38

#### Results (3 Loops)

	Mean	Min	Max
Inhale Pressure (mbar)	10.14	9.41	10.68
Inhale Pos Pressure (mbar)	1.17	0.74	1.59
Exhale Pressure (mbar)	8.64	8.43	8.84
Ext Work of Breathing (J/l)	1.37	1.35	1.39
Inhale Work (J/l)	0.73	0.71	0.75
Pos Inhale Work (J/l)	0.00	0.00	0.00
Exhale Work (J/l)	0.64	0.64	0.65

### Pressure - Volume Diagrams at Mean Depth of : 2.1 msw (6.7 fsw)





## 1 ST STAGE

Light weight first stages made of hard anodized high tensile aluminium for durability and performance in all conditions.

**1st stage regulator UNF 5/8**  
incl. Cylinder valve and  
Pressure gauge  
W: 272g/0.60lb



**1st stage regulator m18**  
incl. Cylinder valve and  
Pressure gauge  
W: 272g/0.60lb



## HOSES

PU braided highflex hoses. 30% lighter than a comparable rubber hose.

**Low Pressure Hose EBS**  
**20" 50 cm with swivel**  
W: 120g/0.26lb  
Metal/Plastic



**Low Pressure Hose EBS**  
**24" 60 cm swivel**  
W: 137g/0.30lb  
Metal/Plastic



**Low Pressure Hose EBS**  
**24" 60 cm swivel**  
W: 137g/0.30lb  
Metal/Plastic



**Low Pressure Hose EBS**  
**27" 70 cm swivel**  
W: 150g/0.33lb  
Metal/Plastic



**Low Pressure Hose EBS**  
**25" 62 cm swivel**  
W: 139g/0.32lb  
Metal/Plastic



## System Overview



## DEMAND VALVES

Demand valves from the proven  
Cyclon range for max reliability.  
Works perfectly in any orientation.

## LIGHTWEIGHT



**2nd stage regulator**  
W: 151g/0.33lb



**2nd stage regulator**  
W: 151g/0.33lb

## HEAVY DUTY



**2nd stage regulator**  
W: 222g/0.49lb



**2nd stage regulator**  
W: 222g/0.49lb

## CYLINDERS

CE - European standards



**Cylinder CE 0.4L/24.4 in³**  
**UNF 5/8x18 232bar/3365psi**  
Aluminium W: 630g/1.39lb  
Ø: 60mm/2.36" L: 250mm/9.84"



**Cylinder CE 0.25L/15.3 in³**  
**UNF 5/8x18 300bar/4351psi**  
Composite W: 270g/0.60lb  
Ø: 51mm/2.00" L: 221mm/8.70"



**Cylinder CE 0.25L/15.3 in³**  
**m18x1.5 300bar/4351psi**  
Composite W: 270g/0.60lb  
Ø: 60mm/2.36" L: 156mm/6.14"



**Cylinder 0.31L/18.9 in³**  
**M18x1,5 300bar/4351psi**  
Composite W: 350g/0.77lb  
Ø: 60mm/2.36" L: 186mm/7.32"



**Cylinder 0.48L/29.3 in³**  
**M18x1,5 300bar/4351psi**  
Composite W: 400g/0.77lb  
Ø: 60mm/2.36" L: 265mm/10.43"



**Cylinder 0.21L/12.8 in³**  
**UNF5/8x18 300bar/4351psi**  
Composite W: g/ lb  
Ø: 51mm/2.0" L: 198mm/7.79"



**Cylinder 0.29L/17.7 in³**  
**UNF5/8x18 300bar/4351psi**  
Composite W: g/ lb  
Ø: 51mm/2.0" L: 251mm/9.88"



**Cylinder 0.4L/24.4 in³**  
**UNF5/8x18 300bar/4351psi**  
Composite W: g/ lb  
Ø: 68mm/2.68" L: 197mm/7.76"



**Cylinder 0.6L/36.6 in³**  
**UNF5/8x18 300bar/4351psi**  
Composite W: g/ lb  
Ø: 68mm/2.68" L: 272mm/10.71"