

This manual contains preliminary servicing instructions for the Poseidon breathing regulators. It is intended to serve as a guide for repairs and servicing carried out by Poseidon Diving Systems. The instructions given in this manual are based on the assumption that special tools are used and are based on our experience. The work should be done in the same order as shown in these instructions.

TYPE DESIGNATIONS:

In all correspondence concerning breathing regulators, indicate the type designation and serial number. All products in this servicemanual that requires a CE-approval are of course CE-approved. CE approval represents only a minimum level of product quality and manufacturing standards. At Poseidon we put each new addition through rigorious testing procedures our selves. This is the only proper method to ensure that your equipment will live up to our claims.

CLEANING:

If corrosion or salt deposits occurs, place all metal parts – concentrated Hempocid* or 15% Hydrochloric acid for about 10 minutes. Then, rince the parts thoroughly and blow dry with air.
The synthetic parts in the second stage must not be treated with solvent. They shall be cleaned in freshwater only.

**Hempocid = Acid Liquid Detergent Containing phosphoric acid (5 - 10%) and bactericid for desinfectant cleaning.*

FOLLOWING LUBRICATE IS USED:

Grease:

Gleitmo 594 Art no 8507

Siliconpasta Art no 2587

Oil:

Siliconoil Art no 3139



FUNCTION

POSEIDON breathing regulator is a two-stage regulator where the first stage is a diaphragm-actuated reducing valve, whith reduces the primary pressure (Cylinder pressure) to approx. 145 PSI. The reduced pressure (the secondar'y pressure) then goes via the regulator hose to the second stage where the air supply is automatically regulated to the convenience of the diver.

The first-stage always holds the adjusted pressure above the ambient pressure which is necessary to the function of the breathing regulator. This is brought about, the outer springloaded diaphragm being in contact with the ambient pressure. It automatically responds to this pressure acting it and thereby regulates all changes in pressure.

During diving in cold water, i.e, temperatures lower than +6°C (+43°Farenheit), the outer spring housing of the first stage may be provided with an anti-freeze cap in order to prevent direct contact with the water. This is necessary as the considerable cooling that takes place when the primary air expands in the secondary chamber can otherwise cause ice to form and thereby prevent the springs and diaphragm from functioning.

The second-stage functions in such a way that the underpressure created in the regulator housing during each inhalation influences a diaphragm actuated valve system, which will supply the necessary air as long as the inhalation phase lasts. The automatic pressure compensation takes place in the same way as in the first stage, the outer diaphragm surface being in direct contact with ambient pressure, and the pressure on the inside of the diaphragm must correspond to ambient pressure before the diaphragm can return to its position. The diaphragm retums to its rest position and shuts off the air flowing in as soon as the inhalation phase has been broken off and the air pressure in the regulator housing has become equal to ambient pressure.

The second stage fias been provided with an ejector system for the purpose of keeping inhalation effort to a minimum.

During the exhalation phase, the exhaled air goes out through the exhalation diaphragm on the opposite side of the inhalation diaphragm into the ambient medium. The exhalation diaphragm closes automatically when exhalation stops. Also, the exhalation diaphragm regulates the necessary pressure compensation by closing when the ambient pressure is equal. The special construction of the exhalation section of the regulator has been designed to obtain high capacity with low exhalation effort.

The second stage bas a built in purge button, for manual purging.