



Edelhoff Life Support System 2020

Technical Information

The Edelhoff Life Support Systems guarantee safe working in non-breathable atmospheres.

They basically comprise of a breathing air monitoring console and an Anti-Panic Helmet, which was originally developed by NASA.

The essential components of our LSS are:

- integral personal breathing helmet with antipanic lock and three air lines operating independently of one another



- integral communication system between operator under helmet, safety man under helmet (stand-by) and supervisor in control unit with the breathing air console
- Overpressure air supply system for four technicians simultaneously
- Ex and O₂ analysis instruments
- Documentation system (DVD/USB, recording unit)
- The LSS is either mounted in a vehicle, in a tandem trailer, or it is delivered as a mobile system in transport cases.



Integral personal breathing helmet

The helmet was designed to be an Anti-Panic-Helmet. An analogue security system avoids, that the operator reflexively takes the helmet of his head. After having closed the latch assembly a second person is in charge to drive the screws. Like that the operator cannot untighten the latch assembly by himself.

The helmet is designed to offer its user the best comfort as possible in a narrow space at the inside of the helmet:

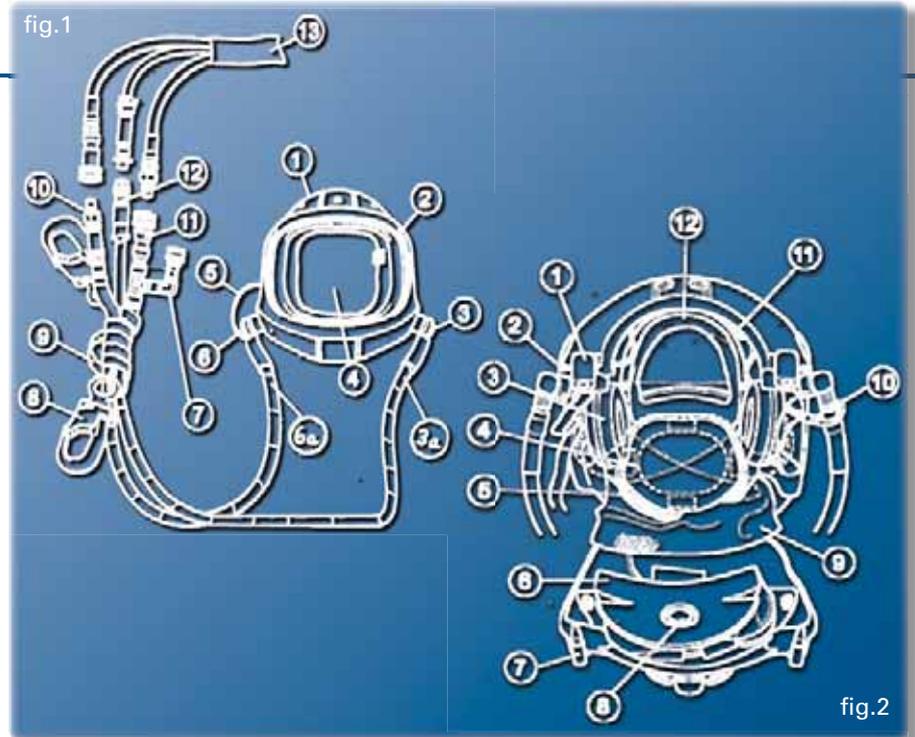
- Two pads so the head won't hit the hard helmet
- A Kevlar net with the possibility to fit in foam material parts, in case the user has a smaller head (figure 2 no. 9)
- A PVC pillow that can be pumped with air to ensure that the head is in a fixed position inside the helmet
- The communication assembly contains one head phone inside the helmet (figure 2, no. 3) and a bone microphone (figure 2, no. 8). The bone microphone does not transmit the breathing sound of the operator and has a magnificent voice quality

Life Support Breathing Air Console:

The air supply is built as a dual system. Two separate air banks are connected, which supply air to two identical control systems.

The umbilicals also have dual air hoses. One of the supply lines is used as a main supply and the other as a stand by emergency backup.

The breathing air system is built to supply a maximum of 4 operators under helmet with a constant air flow for working in a non-breathable environment.



The helmets have two inlet air regulators, a primary and a secondary. Both regulators have an individual air supply line, called pigtail (figure 1, no. 10 and 11 with 125 PSI).

This will ensure that in case one air supply gets cut, the operator under helmet has a second air supply.

For safety reasons we have a third option for emergency air supply. One system is a 5 liters air bottle that is fixed to the harness at hip height.

Alternatively the operator under helmet has an extra air supply line, that is connected to a separate air cylinder next to the manhole.

An inbuilt voice communication system ensures a continuous connection between operator under helmet and monitoring staff.

The Life Support console contains all controls in order to monitor the primary and secondary air supply system:

- Control instruments for regulating the primary and secondary breathing air to helmet
- Connections for visual and audible communication system

- Shut-off valves for primary and secondary breathing air supply separately for each LSS operator

- Connections for primary and secondary air supply cylinders

- Umbilical connections and umbilical assembly with two breathing air supply lines, communication cable and steel safety cable

- Audible alarms

Want to know more? Then get in contact with us!

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