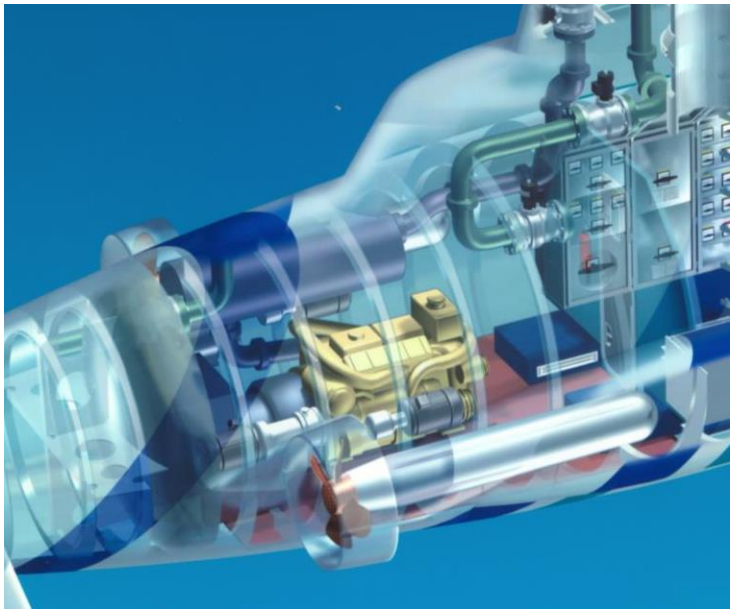
# POWER GENERATION AND PROPULSION

Power is derived from one diesel generator: Johon Deere 224 KW PM-Generator. Should a future customer prefer another type or make of diesel or generator, then this can be discussed.

However, the John Deere option must not be discarded too lightly. Not only is this manufacturer well-acquainted with warship power generation in general, but has done a lot of research on the influence of varying pressure at the intake and exhaust levels of diesel engines for snorkelling applications. This has led to the development of a special submarine turbocharger, consisting of a radial exhaust gas turbine and radial compressor. The main drive is provided by a water-cooled, double armature compound motor.



Snorkelling is made possible by a dry snorkel induction system, which allows diesel starting as soon as the induction valve breaks the surface. No time is lost in the otherwise obligatory draining. The induction mast is telescopic, in contrast to the snorkel exhaust mast, which is just the vertical end-part of the exhaust system located in the sail.
An important, rarely-mentioned facet connected with snorkelling is the instantaneously available air-buffer space. When the top valve closes, because of a passing wave for example, the diesel continues to suck air, but now from the engine room.

In this respect it is very important that there is a direct connection between the ventilation system and one or two other submarine compartments, otherwise the pressure in the engine room drops too fast, and the diesel will, in fact, be automatically stopped too soon, making realistic snorkelling very difficult.

In the case of the NEYK design the author has insufficient information about this aspect. However, an indiscretion rate of 12.5% at 6 knots is claimed, which is a rather positive figure, given that it is based on realistic snorkel conditions, including regular closing and opening of the top valve. The forward speed during snorkelling is at least 10 knots.

# NEYK SUBMARINE