In addition to complete systems, Wärtsilä ELAC Nautik offers approx. 50 different sonar components, including nearly the complete range of outboard sensor technology for submarines, such as hydrophones or transducers for active, passive, intercept and flank array sonars as well as transducers for active sonars onboard frigates.

More than 2000 transducers and hydrophones are produced per year, all of them are tested electrically and acoustically before delivery. All transducers fulfill military or civil standards, such as IMO or Coast Guard requirements, MIL-Specs and DEF-STAN.

Redesign and replica

Wärtsilä ELAC Nautik possesses a singular know-how and experience in the production of transducers. In addition to the own transducer range, transducer of all kinds can be reproduced. Hydroacoustic systems, for which spare parts are no longer available, can thus be kept operational.

State-of-the-art material and components guarantee highest performance and reliability, and supply shortfalls can thus be avoided.

Accessories

Wärtsilä ELAC Nautik also produces all kinds of accessories for installation and operation of active and passive transducers such as pre-amplifiers, cables, baffles or pressure hull penetrators.

Many of these components can be delivered ex stock, otherwise they will be manufactured or modified according to the customer’s requirements.

Quality standards

- More than 2000 transducers and hydrophones are produced every year
- Tested electrically and acoustically before delivery
- All transducers fulfill military or civil standards (e.g. IMO and Coast Guard requirements, MIL-Specs and DEF-STAN).

Development and production since 1926

- Full 3D-CAD capability (IDEAS)
- FEM-Simulation (ANSYS)
- Own model shop
- Development of test equipment
- In-house production of tools and test equipment.

Quality down to the smallest detail
Broad transducer product range – from 10 Hz to 1 MHz

Precision and dedication
- High-precision assembly of ceramics and mechanical parts
- Fine soldering and wiring
- Development of test equipment
- Wiring test system for continuity / shortage and high-voltage tests
- Assembly, bonding, wiring, soldering
- Sand blasting and priming
- Vacuum degasification and drying
- Preparation for potting
- Potting w/o mold release agent using Teflon surfaces for all molds
- Potting of 7 different PUR-Systems (25-85 Shore A)
- Vulcanising of native rubber (NBR/ SBR).

Automatic array test system
- Test of assemblies, transducers and hydrophones in air
- Impedance
- Phase
- Wiring
- Insulation
- Up to 160 channels
- Implementing statistic process control.

Pressure test tanks
- 3 high-pressure test tanks available up to 120 bar / 1,750 psi
- 30-channel amplifier test system for high-pressure acoustic performance tests
- Insulation tester 50-5,000 V DC.

Automatic array transducer test system (ADAPT)
- Full-scope transducer and hydrophone test
- Turntable ± 360° in steps of 0.05°
- Frequency range 3 kHz-5 Mhz
- Automatic test up to 128 channels
- Amplifier offers 2,500 W from 5-100 kHz and 250 W from 100 kHz-5 MHz
- Implementing statistic process control.

All transducers & hydrophones are thoroughly tested for performance and quality.