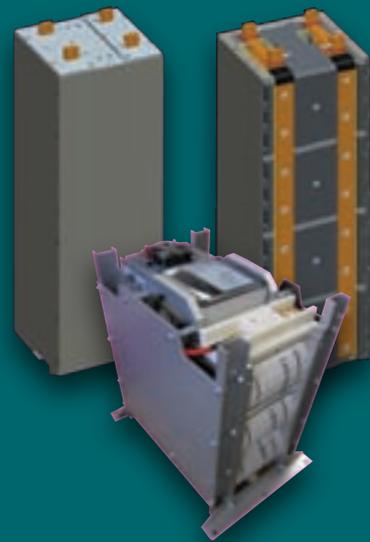




Submarine Batteries
Maximum power
long life, minimum
maintenance



EnerSys[®]

Power/Full Solutions

DEFENCE

At the forefront of technology
for over 100 years



A choice of power solutions

THE ENERSYS® GROUP HAS BEEN
DESIGNING AND MANUFACTURING
SUBMARINE BATTERIES FOR OVER 100
YEARS. CHLORIDE SUPPLIED BATTERIES
FOR THE ORIGINAL HOLLAND CLASS
SUBMARINE IN 1901 AND HAS EQUIPPED
EVERY ROYAL NAVY VESSEL SINCE.
SIMILARLY, VARTA OUTFITTED GERMANY'S
U1 CLASS SUBMARINES. OVER 25 NAVIES
THROUGHOUT THE WORLD HAVE BEEN PART
OF THE ENERSYS EXPERIENCE.

ENERSYS® SUBMARINE BATTERIES PROVIDE
THE WORLD'S NAVIES WITH THE ENERGY
THEY NEED FOR PROPULSION AND
RESERVE POWER

- 25 NAVIES WORLDWIDE
- 35 CLASSES OF VESSEL

Flat Plate

Flat plate designs are exceptionally flexible and offer capacities suitable for standby power in nuclear submarines and for main propulsion of diesel-electric vessels.

- Positive flat plate
- Low antimonial alloy
- Lead or Copper Negative (CSM)



Tubular Plate

Tubular plate designs are equally versatile since EnerSys® offers a comprehensive range of options, including the choice of a single or double-decker tubular cell.

- Positive tubular plate
- Long plate positive
- Single or double-decker
- Lead or Copper Negatives (CSM)
- Low antimonial alloy



Thin Plate Pure Lead VRLA

EnerSys® TPPL batteries are sealed, maintenance-free and at the leading edge of energy storage technology. EnerSys® has pioneered this technology in partnership with the US Navy.

- TPPL Valve Regulated Lead Acid
- Sealed, maintenance-free currently in use by the US Navy
- Recombination technology
- Manufactured to US MIL-PRF 32273 (SH)



EnerSys® — The global leader in energy storage



Safety Solutions:

- Our Hydrogen Eliminator is a catalytic device that protects the crew on a vessel by reducing and maintaining the hydrogen levels onboard.
- Our Battery Monitoring System provides an invaluable check on the battery's state-of-health to increase battery life and reliability.

Pioneering Development

For generations, Chloride, Hawker and Varta have Pioneered the development of advanced technology batteries. Today EnerSys® is at the forefront of modern energy storage.

No other manufacturer has the

- Experience
- Technology
- Geographic reach

Wide Choice of Technologies

Each generation of submarine demands more from its batteries in terms of energy and power density, reliability and service life. EnerSys® is unique — the only manufacturer to offer such a wide choice of technologies, advanced designs and proven performance

We recognize the industry's demands and preferences. We are the only manufacturer to constantly improve our products and develop an extensive range of technologies .

- Flat Plate
- Tubular Plate
- Thin Plate Pure lead VRLA

Optimised Performance

EnerSys® optimises performance and delivers the best value. This means you can always access the most advanced products and the technology of your choice from a single supplier.

Relying on our wealth of experience and respected research facilities, EnerSys® is uniquely placed to lead the industry and continue to develop technology and power for the next generation of submarines

We continuously monitor the quality of our products and the manufacturing process.

Manufacturing

EnerSys® submarine batteries are manufactured in purpose built factories in Europe and the U.S.A. Focusing production at these dedicated centres enables us to best utilise our investment in the latest manufacturing technology.

The factories also include advanced test facilities for materials, components and finished batteries. Batteries are dispatched directly from the factory ready to go into service or are supplied dry for local commissioning.

High Standards for Premium Quality

- As part of our global quality assurance programme, our factories are Quality ISO 9001 approved and ISO 14001 Environmentally approved.
- The batteries themselves comply with international standards such as AQAP 1 and AQAP 2110.

Customer Support

EnerSys® specialists are always available to undertake or assist with:

- Battery commissioning
- On-board battery installation
- Through life capacity tests
- Technical support
- Battery maintenance training

We recognize that every customer has different needs and every contract is unique. Whatever level of involvement we have, every battery installation is a partnership with a shared commitment to a common goal. With unrivalled knowledge and experience, we can recommend, design and manufacture the battery that will best satisfy your operational requirements.

We know that as a customer, you have preferences and as a supplier we have obligations.

Dependability

Submarines depend on their batteries, and with EnerSys® your project is in safe hands. Our experience, technology, manufacturing and global support make the difference.

Talk to the navies around the world who already use our batteries and have done so for many years. Ask the vessel builders why they work with EnerSys® and why they keep coming back.

Explore the best in battery technology with EnerSys® and the benefits of working with a supplier who understands your battery requirements.





Global Support

EnerSys is the world's largest industrial battery manufacturer and we are dedicated to being the best. Our strategically located manufacturing plants are efficient and responsive with a culture of continuous improvement and added value for our business partners

EnerSys has an enviable position in technology leadership and with significant investment in research and development we intend to stay at the leading edge in product innovation. Our team of development engineers is driven by the desire to build the best energy solutions and works closely with our customers and suppliers to identify development opportunities. Our bias for rapid innovation means we get new products to the market fast.

EnerSys is dedicated to providing customers with the best solutions and after-sales support for their business, wherever you do business, EnerSys can support your requirements through our vast network of approved maintenance distributors.



EnerSys_Hawker_Submarine_Brochure_June-2013_Version1_EN



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Please refer to the website address for details of your nearest EnerSys office.

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