

ADVANCED ENERGY SOLUTIONS FOR INDUSTRIAL APPLICATIONS



Advanced Lead (Pb) based technologies
Advanced Nickel (Ni) based technologies
Advanced Lithium (Li) based technologies
Specialty Fuel Cells

EnerSys
Power./Full Solutions

EnerSys is the global leader in stored energy solutions for industrial applications. We complement our extensive line of motive power, reserve power, aerospace/defense and specialty batteries with a full range of integrated services and systems. With sales and service locations throughout the world, and over 100 years of battery experience, EnerSys is the Power/Full Solution for stored DC power products.

Motive Power	Batteries, chargers, systems, and service for forklift trucks, floor care machines, automated guided vehicles, solutions for rolling stock, mining, airport ground service equipment, and other specialty equipment.
Reserve Power	Batteries for telecom, UPS, utilities, renewable & specialty applications, power for aerospace & defense for land, sea & air applications.
Technologies	Advanced lead (Pb), nickel (Ni) and lithium (Li) based energy storage batteries, fuel cells and related smart systems and chargers.
Sales	Financial Year 2011 \$ 1.964 billion across the Americas, Europe, Middle East, Africa & Asia, over 10,000 customers over 100 countries.
Employment	Over 8,100 employees worldwide, 20 major factories (see last page).
Website/Listing	www.enersys.com & New York Stock Exchange Listing (NYSE:ENS)

GLOBAL MARKET LEADER WITH 25% SHARE for Industrial Energy Storage





MARKETS:

Material handling equipment, ranging from small walk-behind trucks in food stores, to massive narrow aisle equipment in the most advanced logistics hubs, represents a large and growing industry. These markets are supported by global trade, advanced supply chains, and further migration from internal combustion engine trucks to electric or battery powered trucks.

The shift towards more electric trucks is supported by further expansion with AC drives and battery developments like low maintenance designs, fast-charge technology, unique energy packs like Thin Plate Pure Lead (TPPL) batteries and lithium-ion solutions. EnerSys is the world's largest producer of batteries and chargers for material handling equipment, with leading market share positions in North America and Europe, and fast growing positions in Asia, Russia and the Middle East.

PRODUCTS:

Hawker®, Ironclad®, General Battery™, Fiamm Motive Power®

As the industry's leading manufacturer of industrial batteries and chargers, our expertise extends to full system solutions for material handling equipment. Only EnerSys® offers an extensive preventative maintenance program through worldwide service networks. The variety of battery and charger systems offered by EnerSys can be customized to meet the evolving requirements of today's marketplace.

EnerSys battery designs meet most global size requirements from European DIN and British Standard, to North American and Asian specifications. Battery technologies range from heavy duty, high-capacity designs to maintenance-free, VRLA designs. Innovative charging technologies help contain operational costs by extending battery cycle life, reducing electricity costs and carbon footprint. Fast chargers and opportunity chargers help increase productivity by eliminating battery changes in many applications.

These systems will meet the diversity of application requirements including:

- Reduced maintenance and operational costs,
- System reliability,
- Increased productivity,
- Maximize use of floor space,
- Extreme operational conditions,
- Unique equipment requirements including floor-care machines, Automatic Guided Vehicles, access platforms, personnel shuttles, etc.

EnerSys can help you design the power system that best meets your unique requirements no matter where in the world you may be.





MARKETS:

Dependence on continuous power has never been more important with integrated networks and systems, yet worldwide power generation and distribution investments continue to lag behind the growing demand.

- Wireline and wireless telecommunications
- Uninterruptible Power Supplies (UPS) for computer systems, security, etc.
- Protection power for utility switchgear
- Power Generation (Conventional and Nuclear)

EnerSys® is the global leader in supplying reserve power batteries, which cover the full range of standby power applications including:

PRODUCTS: PowerSafe®, DataSafe® and Odyssey®

With globally leading brands, EnerSys® has the reputation, technology and product range to comprehensively cover all applications. The industry's largest demand is for a range of lead acid-based offerings due to the reliability, cost and recyclable features. The EnerSys range of lead acid-based products is complete up to 12,000 Ah:

- Flooded or classic (flat plate, tubular & planté)
- VRLA-AGM and VRLA-Gel large 2V cells
- High power discharge UPS bloc products
- Industry leading front termination VRLA-AGM blocs
- Advanced technology TPPL or SBS pure lead designs
- EON Technology: In response to ever-evolving telecommunication networks' technologies and ever-challenging operating conditions, EnerSys has launched the ground-breaking EON Technology™. This technology dramatically enhances the cyclic performance without any detrimental effect on product service life

In addition to lead acid technology, we offer a wide range of Nickel based product lines (capacities from 10 to 1,500 Ah) as well as Lithium based products and fuel cells.

EnerSys has pioneered the development of both large format and redundant array format rechargeable lithium-ion batteries ranging from 11 to 400 V and 50 to 1,000 Ampere-hours. Their unique electronically controlled battery architecture delivers energy storage solutions that are flexible, reliable, inherently safe and cost effective for a wide range of reserve power applications.

EnerSys has led the industry in providing advanced stored power solutions featuring long life, energy density, cyclic performance and high temperature resistant designs. EnerSys provides battery design made in North America, Europe and Asia to support our global customers with compatible, highly-reliable components that integrate seamlessly into their worldwide supply chains.



SPECIALTY SOLUTIONS

Rail application



EnerSys® is a highly regarded supplier to the rail industry with long standing relationships in the United Kingdom, Germany, France, Russia, Austria, The USA and many other countries. Our most recent business development is a twelve year contract to equip the Swiss Railway tilting trains with replacement batteries. We use our experience, skills and knowledge to advise, plan, set up the project and finally deliver the complete energy system. Rail technology with its own competence centre will be a significant part of the new product development and application centre established by EnerSys near Basel, Switzerland. Our target is to assure customers that with EnerSys energy solutions, the trains arrive safely and on time.

Odyssey® batteries



The combination of extreme power and performance makes Odyssey batteries perfect for a range of applications, including auto/LTV, marine, commercial, racing and powersports. Odyssey batteries deliver twice the overall power and three times the life of conventional batteries!

Mining



EnerSys supplies the full range of Oldham® lamps which are ATEX and IEC Ex certified for use in Group I mining (Coal mines and other hazardous environments) and Group II surface applications. These rugged mining lamps are widely used for sewer inspection and repair, petrochemical applications, night work for rail infrastructure, and marine safety lamps in addition to many other applications where a strong, reliable and safe portable light source is required. Experience has proven worldwide that the rugged construction of all Oldham lamps make them the "lowest cost of ownership" caplamps in the world. Our latest development is the EnerSys L16 MSHA approved Lithium-ion battery which provides superb performance at a greatly reduced weight.

Lithium-ion



Rechargeable, large and small format lithium-ion batteries serve aerospace applications and also specialized applications in standby power and commercial markets (telecom, UPS, robotics, renewable energy systems ...) where space and weight constraints are tight and ambient temperatures are low (-30 °C).

GLOBAL MANUFACTURING CAPABILITY



LATEST DEVELOPMENTS:

Fuel Cells



Thin Pure Lead Technology for Motive Power application (XFC Flex[®], NexSys[™])



Lithium-ion solutions



Modular HF charger range with unique adaptive recharge technology



Water Less 20[®]- Low maintenance power package



Life IQ[™] 1 and 3 phases Multi-profile charger



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