News Release

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NexSys® battery range now covers all materials handling vehicle applications

ZUG, Switzerland, 11th February 2020 – Thin Plate Pure Lead (TPPL) battery technology from EnerSys®, long-established in providing highly flexible, maintenance-free operation for materials handling vehicles, is now available in two forms. First is the NexSys CORE battery (available only in EMEA markets), a high-performance alternative to traditional lead-acid batteries. Then, for users seeking even more enhanced capabilities, outstanding cycling performance in Partial State of Charge (PSoC) operations and increased cycle life, there is the new NexSys PURE battery. Comprising TPPL technology with the addition of carbon in the active material formulation, the NexSys PURE battery is powerful enough to offer a compelling alternative to lithium-ion (Li-ion) in many applications.

"*With these two NexSys batteries, we can meet the needs of all electric materials handling vehicle users,*" comments Sorelle Metiendjo Tiam, Advanced Technologies Product Manager EMEA at EnerSys. Tiam continued: "*Those that would have previously deployed traditional lead-acid batteries can benefit from the superior performance of the NexSys CORE battery; for them, this battery becomes the standard solution. Similarly, the NexSys PURE battery offers an attractive lower price alternative to lithium-ion for users seeking the highest level of performance.*"

The NexSys battery family offers users a full spectrum of choice. The NexSys CORE battery is currently optimised to achieve 100% energy throughput for low to medium-duty operations. In contrast, the NexSys PURE battery delivers up to 160 per cent energy throughput per day. This means the NexSys family offers true flexibility for all material handling applications.

The energy content of NexSys batteries is up to 10% more than flooded batteries and up to 20% more than gel batteries. This is

possible as one tubular plate is equivalent to three TPPL plates. Therefore, both the NexSys CORE and NexSys PURE battery have three times more plates than flooded and gel batteries of the same volume. TPPL plate thickness down to 0,8mm allows this density.

Unlike conventional lead-acid solutions, the NexSys CORE battery has fast charge capability. It can be fully charged in 5 hours. Moreover, it is possible to use short break times to opportunity charge the NexSys CORE battery, even without reaching full state of charge. This allows the user to complete a higher number of cycles (up to 1500 cycles at 60% DOD), and the cycle life increases exponentially at lower DoD levels.

Opportunity charges allow users to complete daily missions, which may overtake the nominal capacity of the battery, and therefore provide flexibility in truck operation with up to 100 per cent energy throughput per day. A truck can accordingly complete an entire shift, possibly longer, without needing removal from service for a battery change or recharge.

Due to the high efficiency of NexSys batteries, the associated NexSys charger can significantly reduce energy costs compared to conventional lead-acid batteries. This transforms the whole NexSys package into an optimised Total Cost of Ownership (TCO) solution. What's more, the batteries are virtually maintenance-free, and no water top-ups are required.

The NexSys PURE battery achieves its enhanced performance by adding carbon in the active material formulation. This reduces negative plate sulfation and increases the surface area and porosity. It reduces internal resistance and increases charge acceptance.

The NexSys PURE battery offers all NexSys CORE battery benefits, plus ultra-fast charge capability and exceptional PSoC cycling performance. By adding a carbon compound, the NexSys PURE battery can achieve more cycle life and higher energy throughput.

With increased specific power, the NexSys PURE battery can sustain up to 160 per cent energy throughput per day. The batteries can be used for two or even three-shift operation, in PSoC mode with multiple opportunity charges. They have exceptional fast charge acceptance capability.

The extended battery life of the NexSys PURE battery makes it ideal in applications where a minimum life expectancy is required. For instance, in a typical double-shift application, where several break times can be used to opportunity charge the battery, the cycle life of the battery is higher than the NexSys CORE battery. This enables NexSys PURE to cover the duration of most truck rental contracts with no battery change. Overall, TCO is reduced through fewer battery

replacements and lower operating costs. Also, unlike Li-ion, the TPPL batteries are easily recyclable.

The NexSys CORE and NexSys PURE batteries are both available as COMpact solutions with an on-board charger and battery monitoring system (BMS). These batteries allow complete plug ‘n’ play operation and the operators can use their truck like a simple household appliance – by just stopping and plugging into an AC socket.

Overall, the key advantages of NexSys CORE and NexSys PURE TPPL technology can be summarised as zero battery change, virtually free of maintenance, maximum charging flexibility, longer service life and reduced TCO.

For more information about the NexSys battery family, please visit:
https://www.discovernexsys.com/

ABOUT ENERSYS®

EnerSys, the global leader in stored energy solutions for industrial applications, manufactures and distributes reserve power and motive power batteries, battery chargers, power equipment, battery accessories and outdoor equipment enclosure solutions to customers worldwide. Motive power batteries and chargers are utilized in electric forklift trucks and other commercial electric powered vehicles. Reserve power batteries are used in the telecommunication and utility industries, uninterruptible power supplies, and numerous applications requiring stored energy solutions including medical, aerospace and defense systems. With the recent Alpha acquisition, EnerSys provides highly integrated power solutions and services to broadband, telecom, renewable and industrial customers. Outdoor equipment enclosure products are utilized in the telecommunication, cable, utility, transportation industries and by government and defense customers. The company also provides aftermarket and customer support services to its customers in over 100 countries through its sales and manufacturing locations around the world.

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