



**ADVANCED
BATTERY
SOLUTION**

**HAWKER®
WATER LESS®**

**LESS WATERING
MORE CUSTOMER BENEFITS**



 **HAWKER®**

ADVANCED BATTERY SOLUTION

Water Less®

MORE OPERATING
TIME - LONGER
TOPPING UP
INTERVALS

ENERSYS® IS FOCUSED ON RAPID INNOVATION AND OUR WHOLE TEAM IS DRIVEN BY THE DESIRE TO BUILD THE BEST ENERGY SOLUTIONS AND WORKS CLOSELY WITH OUR CUSTOMERS AND SUPPLIERS TO IDENTIFY DEVELOPMENT OPPORTUNITIES. HAWKER WATER LESS IS THE EFFICIENT TRACTION BATTERY WITH STATE OF THE ART TECHNOLOGY AND APPEALING FEATURES.

WATER LESS®

Hawker® Water Less® provides more flexibility and more time due to longer topping up intervals of 4, 8 or 13 weeks depending on charging technology. This means reduced labour costs for topping up batteries – up to 60 % (with Hawker® 50 Hz chargers) and up to 75 % (with Hawker Modular chargers).

Hawker Water Less traction batteries provide a high level of power and reliability for all industrial truck applications; even in the most extreme ones thanks to the extended capacity range. Hawker Water Less range is at the leading edge of battery technology and brings added efficiency to your business. A low electrolyte level indicator fitted on the battery informs the user of the battery when water topping up is needed.



CELL CONSTRUCTION

All Hawker Water Less cells use proven PzS technology. The positive electrodes are diecast tubular plates (PzS) and advanced components used in their manufacture provide increased efficiency.

The negative plates are flat pasted plates. The separator is of the microporous type. Constructional specifications like a larger electrolyte capacity, a reduced prism height and new flip top plugs ensure added value for our customers.

Hawker Water Less - Less is More.
Less Watering - More Benefits.

OPTIONS

- Hawker® Aquamatic™: The Aquamatic water refill system makes it possible to top up all the cells from one central point through an integrated system.
- Battery Fleet Management: EnerSys® offers a solution that makes managing your battery fleet straight forward and affordable. BSI40™ and Lifeframework iQ™ are the spearheads of battery fleet management, enabling charging room management and communication with state of charge monitoring. Totally customizable to your needs, these solutions will make your energy and facility management easy and efficient.

WI-IQ® AND MODULAR CHARGER CONNECTIVITY

A further option for Water Less® batteries is Wi-iQ® monitoring device range, which precisely manages the state of charge and operating conditions of the battery as well as storing complete data of the battery's service life and meaningful providing fleet management reports. Wi-iQ direct communicates with Hawker Life iQ™ Modular chargers, enabling battery temperature control and making it possible to work in cold environments.

ADVANTAGES (COMPARED TO STANDARD LEAD ACID BATTERIES)

- More time: longer topping up intervals
- More flexibility: suitable for 50 Hz and HF chargers
- More savings: reduced electricity cost when used with Hawker Modular chargers
- More duties: suitable for all applications

EVEN MORE APPLICATIONS

Hawker Water Less batteries are suitable for use in the following Material Handling applications:

- Counterbalance trucks
- Reach trucks
- Pallet trucks
- Order pickers
- AGV/LGV

ELECTROLYTE CIRCULATION (EC)

Hawker electrolyte circulation system, using the AirLift principle, consists of a pipe system which is fitted in the cells. A diaphragm pump sends a low rate airflow into the cell which creates a circulating air stream inside the cell box. This system prevents electrolyte stratification and the battery charging is optimised. Electrolyte circulation provides optimum performance, reduces recharge time, helps keep the battery cooler and maximizes battery service life in more arduous operations.

MORE FLEXIBILITY

The charging technology must be tailored for the characteristics of the battery and the application. This is a crucial factor for the economic operation of the batteries. Hawker Water Less traction batteries are suitable for 50 Hz and HF smart chargers. Hawker Modular chargers adapt automatically to: capacity of the battery, voltage of the battery (Life iQ Modular), depth of discharge of the battery. This means a high level of flexibility for the customer. The topping up intervals (based on 80% DOD C5, 1 cycle per day, 5 days per week) can be achieved as follows:

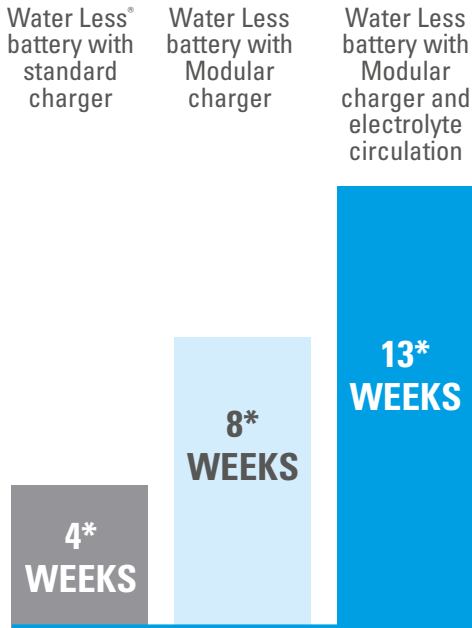
- 4 weeks with conventional 50 Hz chargers
- 8 weeks using Hawker Modular chargers
- 13 weeks when the battery is equipped with electrolyte circulation and when using Hawker Modular charger.



- 50 Hz charger
- HF smart charger
- Modular smart charger plus electrolyte circulation



TOPPING UP INTERVALS



* Longer topping up intervals can be achieved with BS cell types



1. **Low duty:**
single-shift with light operation and discharge lower than 60% C5. Electrolyte T °C about 30°C
2. **Normal duty:**
single-shift with discharge up to 80% C5. Electrolyte T°C 30°C
3. **Heavy duty:**
single-shift with discharges of 80% C5 and high discharging currents; opportunity charging to augment the useable capacity; multi-shift operation with or without battery changes; high ambient temperature

1. LOW DUTY	2. NORMAL DUTY	3. HEAVY DUTY
IRONCLAD		
NEXSYS		
HAWKER EVOLUTION		
HAWKER PERFECT PLUS		
HAWKER PERFECT PLUS WITH ELECTROLYTE MIXING		
HAWKER WATER LESS		
HAWKER WATER LESS WITH ELECTROLYTE MIXING		
HAWKER WATER LESS 20		



EnerSys EMEA
EH Europe GmbH
Baarerstrasse 18 - 6300 Zug
Switzerland
Tel. +41 44 215 74 10
Fax +41 44 215 74 11
www.enersys.com

EnerSys Ltd
Oak Court
Clifton Business Park
Wynne Avenue
Swinton
Manchester M27 8FF
Tel. 0161 794 4611
Fax 0161 727 3809

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 defence systems.

Outdoor equipment enclosure products are utilized in the telecommunication, cable, utility, transportation industries and by government and defence customers.

The company also provides aftermarket and customer support services to its customers from over 100 countries through its sales and manufacturing locations around the world.

**WHEREVER
YOU DO BUSINESS,
ENERSYS
CAN SUPPORT YOU
WITH MOTIVE
POWER ENERGY.**

