



Traction batteries
Oerlikon evolution





oerlikon batterie evolution

The Oerlikon evolution is a new valve regulated gas recombination battery with gelled electrolyte, accepting up to 80% DOD/C₅. This range is suitable for use in materials handling equipment in low to medium duty applications. The cells have an enhanced capacity compared to most other maintenance free batteries on the market. In combination with the high frequency Oerlikon Lifeplus or Oerlikon Powertech allowing a short charging time in 8 hours at 60% DOD and in 12 hours at 80% DOD, the full benefit of its high performance can be used in an optimised way. The Oerlikon evolution battery range is available in DIN and BS dimensions. It meets the dimensions of the standards DIN/EN 60254-2 and IEC 60254-2.

Features

The gelled electrolyte of the Oerlikon evolution battery is based on a highly dispersed mixture of sulphuric acid, water and silica. It not only prevents any acid leakage, but also ensures that there is no stratification of the acid during cycling.

Maintenance free

The Oerlikon evolution battery is maintenance free over the whole operational life; water topping up is not required. Through the internal oxygen circulation and the special charging regime, the very low gas emission permits decentralised charging of the truck or equipped machine, or makes the use of a simplified charging room possible. From this significant cost benefits arise, because of low investment and operational costs.

Maintenance free energy with reduced charging time (8 hours at 60% DOD)



Construction

The Oerlikon evolution motive power battery is the result of considerable research and development effort and combines the features of a valve regulated battery with the robust design of a traction cell with tubular positive plates (PzS type). Alloy (lead calcium with tin for the positive plate), the active mass and separator are adapted for the performance requirements of the battery. The valve of the Oerlikon evolution cell has pressure working range with low tolerances and ensures a highly efficient internal oxygen circuit. This specific design allows a high gas recombination rate, preventing any premature electrolyte dry out. Through this, the optimum life cycle for maintenance free batteries can be achieved.



Cell connectors

The cells are joined by fully insulated flexible and halogen free connectors. The bolt connectors allow cells to be replaced or moved without excessive work and the use of heat welding equipment.



Charging

Oerlikon has developed for their high frequency chargers, Oerlikon Lifeplus and Powertech, a specially designed charging regime, which ensures a safe and gentle full charge of the Oerlikon evolution battery with a low charging factor. With these chargers, charging time can be reduced to 8 hours with 60 % DOD. On the weekend automatically 8 hours after the end of charge an equalizing charge is actuated. A complete charge shall be carried out every working day. Through the high efficiency of the Oerlikon Lifeplus and Powertech, additional energy cost savings can be realised.



Benefits

Maintenance free

- no water topping up necessary over the complete battery life

Depth of discharge

- depth of discharge up to 80% of the nominal capacity C_5 for a 12 hour charging time and up to 60% of the nominal capacity C_5 for a 8 hour charging time

Electrolyte

- no risk of spillage, utilises gelled electrolyte

Charging

- gentle and safe 8 hour charge for 60% discharge C_5 or 12 hour charge for 80% discharge C_5 , thanks to Oerlikon chargers

Charging factor

- the highly effective charging profile of the Oerlikon Lifeplus and Powertech chargers ensures a full charge with low charging factor and avoids damaging overcharge

Decentralised charging

- decentralised charging safeguarded through low hydrogen emission
- thus reduction of investment costs

Efficiency

- the system Oerlikon evolution and Oerlikon Lifeplus or Powertech guarantee a high energy efficiency and make energy cost savings of up to 30%

Definition of application fields

1. Low duty

- single shift with light operation and discharge lower than 60% C_5 .
- electrolyte T°C about 30°C

2. Normal duty

- single shift with discharge up to 80% C_5 .
- electrolyte T°C 30°C

3. Heavy duty

- single shift with discharges of 80% C_5 and high discharging currents
- opportunity charging to augment the useable capacity
- multi-shift operation with or without battery changes
- high ambient temperature

Field of Applications

For applications with low or normal duty in one shift operations (6 days max. a week) on these trucks :

- pallet trucks (24V, 36V, 48V)
- order pickers (24V, 36V, 48V)
- pallet stackers (24V, 36V, 48V)
- counterbalanced trucks 24V, 36V, 48V with the limits of capacity 420 Ah max* and 1.8 T max.
- retractable mast trucks and cleaning machines under condition of a technical study and approval

*For higher capacities a technical study by the Oerlikon technical team must be carried out and approved.

	1. Low duty	2. Normal duty	3. Heavy duty
Oerlikon perfect plus	Yes	Yes	Yes
Oerlikon perfect plus with electrolyte circulation	Yes	Yes	Yes
Oerlikon Water Less®	Yes	Yes	Yes
Oerlikon Water Less® with electrolyte circulation	Yes	Yes	Yes
Oerlikon evolution	Yes	Yes	Yes



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