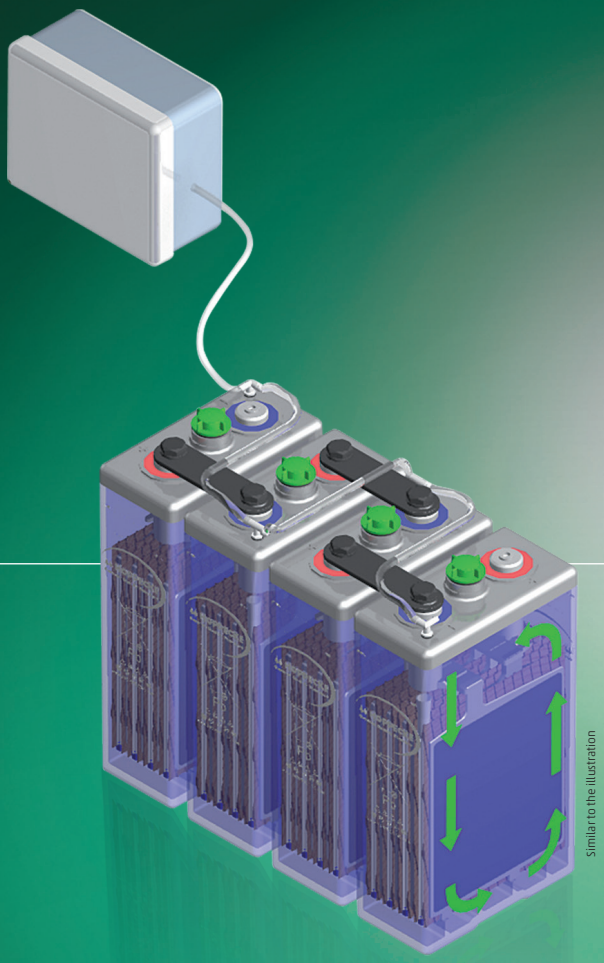
HOPPECKE
POWER FROM INNOVATION



Similar to the illustration

sun | air

Electrolyte Circulation System

Typical applications:

- Village power supplies
- Hybrid systems
- Peak Shaving/voltage stabilisation
- Stations for mobile communications
- Sustainable tourism
- Cathodic corrosion protection
- Pumping systems

Your benefits:

- Economic recharge – increased charging efficiency, significant reduced recharge time and cost reduction
- Environment-friendly – reduced runtime of additional (Diesel) generators and cost savings
- Extended battery service life – no acid stratification
- Minimum maintenance costs – maintenance free pump system (automatically controlled)
- Reduced battery service costs – reduced water loss for longer refill intervals

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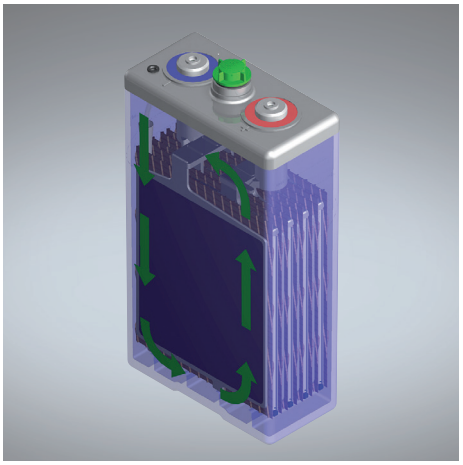
sun | air Operation concept, technical characteristics and dimensions

Operation concept

- The HOPPECKE sun | air pumps ambient air to the bottom of each battery cell. Emerging air bubbles rise through the electrolyte, ensuring a homogeneous electrolyte density distribution in each cell. The system is switched on and off automatically and is virtually maintenance free.
- The system is easy to install (plug & play), works independently and can be retrofit to **sun | power** V L batteries. For safe operation the system is equipped with maintenance free pump motor and filter for air intake.



Increase of efficiency and cost savings

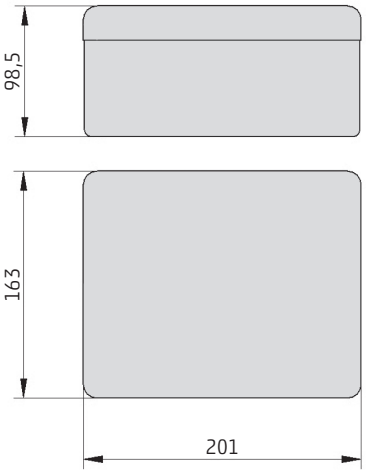
- Typically up to 120% of discharged energy need to be recharged in order to reach the initial state of charge (Vented lead acid battery types). This charging factor includes the elimination of acid stratification.
- Application of the HOPPECKE sun | air reduces the required charging factor significantly. Increase in efficiency is up to 15% compared to charging without the sun | air.
- Therefore less time and energy is required to recharge the battery and to achieve a homogeneous electrolyte distribution.
- The sun | air reduces also service costs because of reduced water loss compared to conventional charging.
- Moreover HOPPECKE sun | air increases service life of the battery and provides environmental and economical benefits for your entire battery system.

Technical characteristics

Battery	
Series	**sun | power** V L - Series OPzS
Capacity range at C_{100}	6 **sun | power** V L 910 Ah to 26 **sun | power** V L 4700 Ah

Pump	
Motor	Brushless
Voltage/Current	24 V/48 V DC/ca. 0.6 A/0.3 A during operation
Power consumption	Ca. 15 W during operation/ca. 20 Wh per 6 h charge phase (ca. 0.6 W during standby)
Volumetric current	720 l/h at 100 mbar

Housing (Pump and Control Unit)



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