



Technical Note

SKC Sample Pump Nickel-Metal Hydride Battery Pack Characteristics and Maintenance

Several SKC sample pumps use a rechargeable battery pack containing nickel-metal hydride (NiMH) cells. NiMH battery chemistry has unique features and requirements. Batteries are perishable products that begin to age upon manufacture. Battery cycle life is not only predicated on the chemical makeup of the cells, but also on conditions of use such as temperature and pattern. Following recommended use, maintenance, and storage procedures will maximize the chemistry's advantages, minimize the disadvantages, and provide for optimal battery performance and cycle life.

Battery Overview

Cycle Life (approx.)	Environmental Impact	Energy Density
300 to 500	Low	Moderate

NiMH Batteries for SKC Sample Pumps

SKC Universal XR, AirChek® 2000, and AirChek 52 personal sample pumps feature an NiMH battery pack, which provides longer run times.

Characteristics:

- Good energy density
- Environmentally friendly
- Discharge rate of 10 to 15% in first 24 hours after charging.
Charge battery before use for maximum run time.

Maintenance:

- Charge battery completely upon receipt.
- Exercise a new battery for several cycles to reach stated capacity.
- Charge battery before use for maximum run time.
- Perform discharge and charge "exercising" once every 3 or 4 months to maintain optimum performance. To fully discharge battery, run until battery status icon on pump displays low battery fault. Achieve full discharge faster by running pump with sampling media attached.
- If storing the battery, store in a discharged state. Restore a completely discharged battery by exercising it 3 to 5 cycles.
- Ideal storage temperature is 70 F (21 C); higher temperatures increase the rate of self discharge.

For lithium-ion battery pack maintenance, see SKC Publication 1918.

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