saft



RELIABLE

LOW MAINTENANCE

SAFE

SRM-F3
Ni-Cd Battery

TotalEnergies



saft

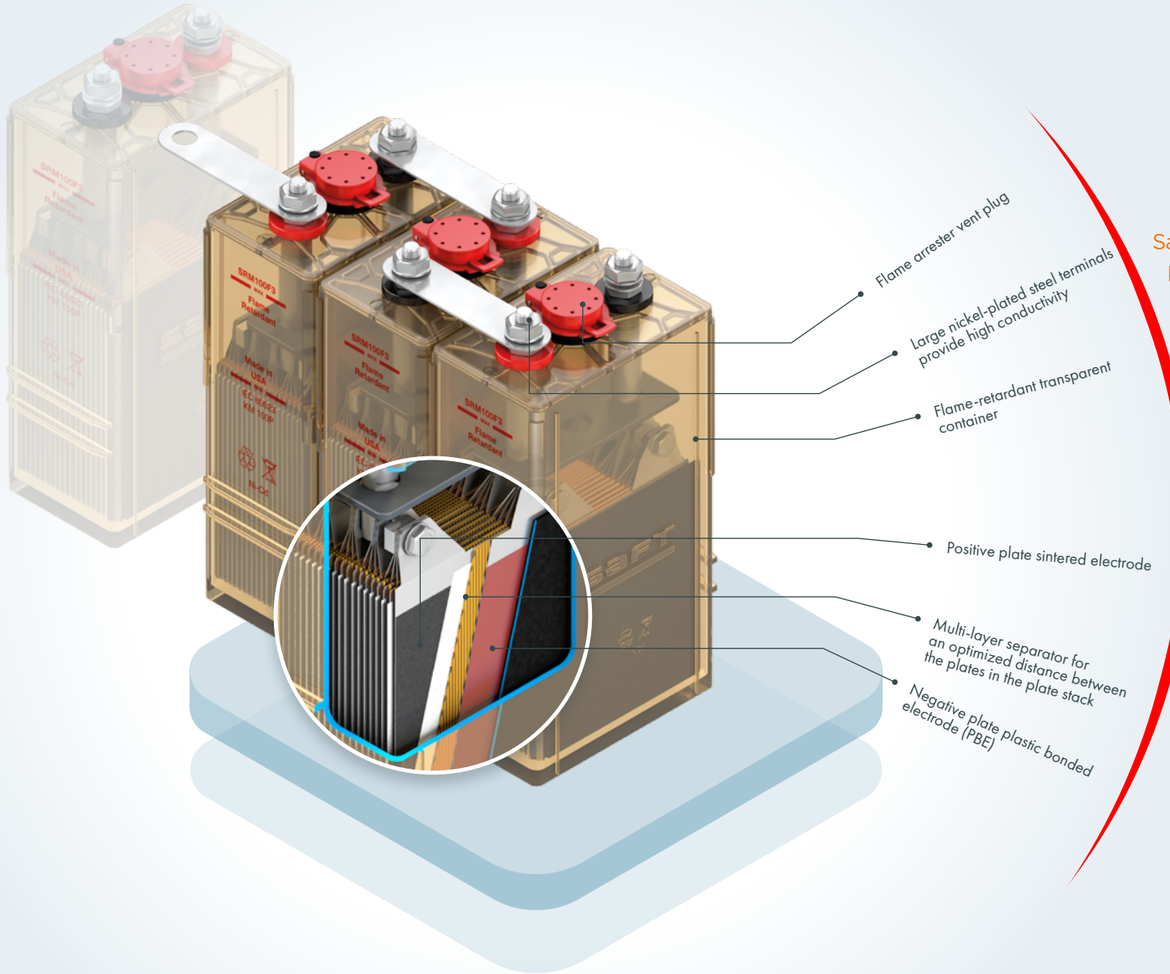
THE RAIL BATTERY EXPERT

Rail industry operators depend on on-board batteries to deliver the reliability, robustness and long-life essential for passenger safety and comfort. They also need to know that their batteries will help keep services running on time, with minimum disruption due to any loss of external power.

PASSENGER SAFETY
- On-board signaling
- Security lighting
- Door and communication networks

PASSENGER COMFORT
- HVAC (heating, ventilation and air conditioning)
- Lighting
- Wi-Fi

FAIL-SAFE TRAIN START-UP
- Pantograph lifting
- Computers
- Electronics



Saft's **SRM-F3** battery benefits from the proven reliability of Ni-Cd technology and efficient sintered/ plastic bonded electrode (S/PBE) construction.

It is engineered to ensure reliable support for on-board auxiliary functions ranging from light-rail and metros to high-speed intercity trains.

SRM-F3

The reliable backup energy for rail transit

Saft's full range of rail batteries offers long service life, excellent cycling capability and low maintenance. They support rail manufacturers and operators in providing reliable rail transport at low Total Cost of Ownership (TCO). The lightweight SRM-F3 battery is an ideal solution for OEMs and railway operators specifying the reliability and long service life of Ni-Cd technology. The goal is to provide optimal service with faster-recharge, lower maintenance and reduced operating cost solution for multiple rail applications.

Wide temperature range
- Operating temperature from -25 °C to +50 °C
- Resistance to extreme temperatures from -50 °C to +70 °C

Outstanding charge efficiency
- Chargeability at lower charging voltage of 1.45 V/cell at +20 °C (68 °F) for faster recharge time, less installed capacity and lower water consumption

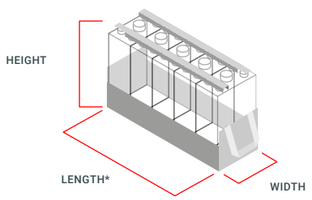
Light and compact design
- At least 20 % reduction in overall volume and weight compared to standard Ni-Cd batteries
- Wide capacity range from 80 to 250 Ah
- Optimized integration for 2 or more cells, with assembly in transparent plastic polysulfone containers held by clip locks and lifting handle, creating a rugged battery system
- Transparent plastic containers make electrolyte levels immediately visible

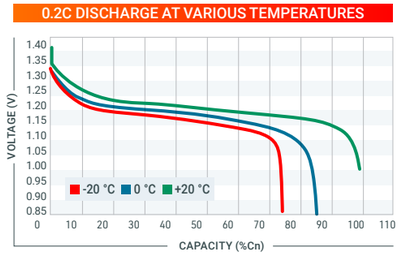
Predictable service life
- Reliable and predictable service life (15 years)*, without risk of sudden death

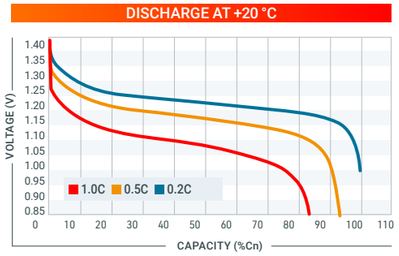
Low maintenance
- Topping-up intervals of up to 2 years
- Optional hydraulic system for topping-up in less than 10 minutes

Safety
- Robust, flame retardant plastic container is highly resistant to shock and vibration

Nominal value – actual results may vary depending on application conditions.
*** Values are not contractual.*



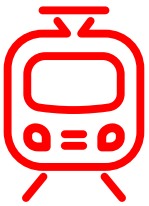




Cell type	Capacity (C5Ah)	Electrolyte reserve cm³	Weight 1 cell		Weight 5-cell tray		Dimensions - 5-cell tray					
							Height		Width		Length	
			lb	kg	lb	kg	in	mm	in	mm	in	mm
SRM80F3	80	500	11.0	5.0	58	26.3	11.71	297.4	6.46	164.1	16.27	413.3
SRM100F3	100	500	11.6	5.3	61	27.7	11.71	297.4	6.46	164.1	16.27	413.3
SRM120F3	120	775	15.6	7.1	81	36.7	11.73	297.9	6.46	164.1	22.64	575.1
SRM140F3	140	775	16.6	7.5	86	39.0	12.84	326.1	6.95	176.5	19.36	491.7
SRM140LF3	140	770	16.2	7.4	84	38.1	11.73	297.9	6.46	164.1	22.64	575.1
SRM160F3	160	770	17.0	7.7	88	39.9	12.84	326.1	6.95	176.5	19.36	491.7
SRM180F3	180	770	17.2	7.8	89	40.4	12.84	326.1	6.95	176.5	19.36	491.7
SRM250CF3	250	1100	26.0	11.8	133	60.3	17.7	449.6	6.46	164.1	22.57	573.3

*The data provided are nominal values and actual results may vary depending upon application conditions.

The perfect fit for all types of modern electric trains



URBAN

- Metros
- Tramways
- Tram-trains
- Airport shuttles

REGIONAL

- EMU
- DMU (Electric & Diesel Multiple Units)

INTERCITY

- High-speed trains
- Passenger coaches

Saft's commitment to a sustainable future

Full conformity with quality, safety and environmental standards.

- **Electrical:** Exceeds the medium "M" type requirements of IEC 60 623, also significantly exceeds UIC 854 requirements
- **Flammability, smoke emission and toxicity:** NFPA 130 (ASTM E 162 and E 662), Boeing BSS7239
- **Shock and vibration:** IEC 61 373
- **Quality:** ISO 9001, Saft world class continuous improvement program
- **Environment:** Fully recyclable
- **Others:** IEC 62973-2 Batteries for auxiliary power supply systems (Ni-Cd), meets Buy America Act

At Saft, we are committed to a more sustainable planet by:

- Giving priority to recycled raw materials over virgin materials
- Minimizing water usage
- Reducing fossil energy consumption and associated CO_2 emissions
- Providing comprehensive recycling solutions for spent batteries

For recycling industrial Ni-Cd batteries, Saft collaborates with collection companies across the world to receive and dispatch customers' batteries at the end of their lives. They are processed in fully approved facilities in compliance with the laws governing trans-boundary waste shipments. Saft also assists its customers in finding environmentally-sound recycling solutions.

Please contact Saft for further information.

SAFT

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