Compact Ni-Cd battery

The compact solution for stationary applications

saft

a company of TOTAL

Compact, delivering high-energy performance **in a compact maintenance-free package**

Compact: guaranteed power continuity for remote or hard to access installations

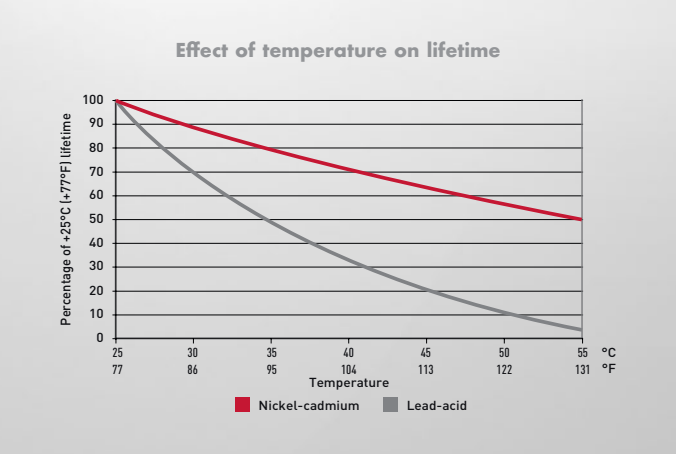
Compact delivers exceptional reliability to offer effective insurance against unexpected outages for industrial installations where continuity and reliability of power supplies is an absolutely critical factor, such as oil & gas exploration and production, utilities and manufacturing plant. Compact is especially suited for remote and/or decentralized locations where travel time and restricted access demand an optimized maintenance regime and guaranteed performance to ensure quality of service.

Typical Compact applications include supporting vital control and instrumentation systems in onshore and offshore oil & gas facilities, onboard communication, navigation and emergency lighting on vessels and mobile LCD screens for concerts and sport games.

Compact is also ideally suited for railway signalling and infrastructure applications, for trackside signals, switches, crossing control signals & barriers and other equipment – both to guarantee public safety and ensure the effective control of trains and other traffic on highway crossings.

Compact robust Ni-Cd construction and engineered electrolyte ensure total reliability and a long, predictable service life.

The Compact battery has a Ni-Cd construction designed for more than 20 years' service life at + 25°C (+ 77°F). Like any other battery, high temperature operation will reduce its life expectancy. For comparison, at + 35°C (+ 95°F), the lifetime reduction for a Ni-Cd battery is 20%, while it reaches 50% for a lead-acid battery.



Compact, perfectly adapted **for battery installations in tight spaces**

The Compact Ni-Cd battery delivers the optimum combination of high-energy performance, reliability and long-life in a new compact, modular maintenance-free design that ensures the lowest possible TCO (Total Cost of Ownership). Thanks to its outstanding energy density of up to 100 Wh/l, Compact is the perfect direct replacement for VRLA batteries in stationary back-up applications where limited space is available. Compact reduces battery weight by 30% in the same space.

Reliable backup performance guaranteed – even in extreme temperatures

Compact offers the ideal combination of reliability, performance and long-life over a wide range of operating temperatures.

- Utilizes robust construction based on unique well-proven Ni-Cd electrochemistry
- Eliminates the corrosion, sudden death and thermal runaway risks associated with VRLA batteries
- Combines superior performance with high charging efficiency
- Operates in temperatures from - 20°C to + 50°C (- 4°F to + 122°F) and tolerates - 50°C to + 70°C (- 58°F to + 158°F) for short durations
- Exceptional reliability removes the need for dual-redundant systems

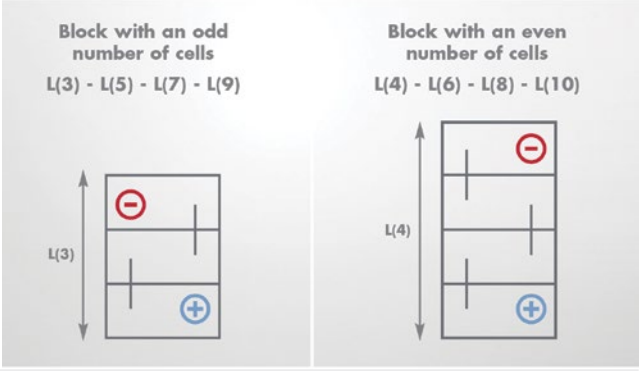
Operating and maintenance requirements are reduced – even for remote installations

Compact's reliable maintenance-free design is perfectly adapted for difficult to access installations.

- Maintenance free design, with a low pressure venting system, reduces water consumption to an absolute minimum
- No topping up is necessary (in recommended operation) – water addition is possible under exceptional circumstances
- Periodic checks of charging voltage are recommended, but Compact requires no further attention once installed
- Extended lifetime matches the stationary equipment it supports

Flexible block configuration

Compact batteries can be assembled either on shelves or into Saft's standard and seismic battery racks. The rack assembly method (with 2 rows of Compact on each step) enables the installation to be optimised in terms of footprint and volume. For series connection on racks or on shelves, a block with an even number of cells should be selected to ensure short, straight, inter-block connectors. If it is necessary to specify a block with an odd number of cells it should be placed at the end of a row.



Compact,
for ease of installation and operation

A simple and direct replacement

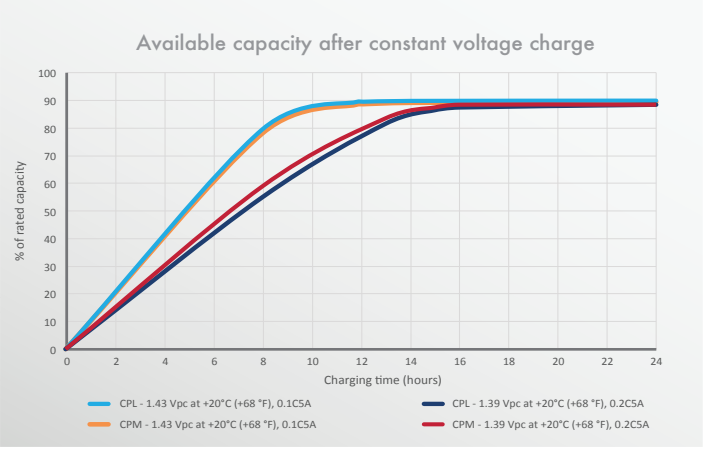
Compact modular design makes Compact the ideal direct replacement for VRLA batteries in backup applications
- it fits easily within the available space and is fully compatible with existing equipment.

- Highly compact design optimizes:
  - Volume: high energy density of up to 100 Wh/l
  - Weight: 30 % lighter than VRLA
- Modular design suits specific capacity needs:
  - Compact L range from 83 to 185 Ah and Compact M range from 76 to 180Ah in modular block construction
  - Each module comprises 3 to 10 cells in flame retardant material
  - Possibility of many parallel assemblies
- Layout provides easy access to front terminals
- Lifting handles on each module ensure easy handling and installation
- Can be assembled into standard stationary racks

Designed for ease of operation

Compact offers the ease of operation that contributes to a long and trouble-free service life.

- Compact is compatible with VRLA charging systems thanks to its single step 1.39 V/cell floating voltage, with no need for temperature compensation
- Environmental protection for terminals and connectors is provided by a protection cover (meeting IP20 level against electrical shock according to safety standard EN 50272-2/IEC 62485-2
- Cabling is carried out from back to, front, with front accessible connection points between adjacent blocks
- Active cooling is not required, even in harsh environments
- Compact batteries may be stored for up to one year without special maintenance before installation



Compact,
the sustainable battery solution

Designed with sustainability in mind

Compact is purpose designed for minimum environmental impact throughout its entire life cycle, from manufacturing to operation and recycling at end-of-life.

- Compact manufacturing processes are designed to minimize consumption of upstream energy
- In operation, Compact contributes to a significant reduction in energy consumption throughout its service life
- Highly efficient charging reduces peripheral energy consumption, including cabinet air conditioning and maintenance
- Advanced design reduces the environmental impact of waste processing

Conforms with quality, safety and environmental standards

Meets the highest international standards including:

Electrical and performances

- Certified IEC 60623 – vented nickel technology battery
- Certified NF C 15-100 – Low-voltage electrical installations

Safety

- EN 50272-2/IEC 62485-2 –Safety requirements for secondary batteries and battery installations – Part 2: Stationary batteries
- UL 94 VO : UL standard for flammability safety of plastic materials for parts in devices and appliances testing
- UL 1989: Safety standard for Standby batteries by Intertek

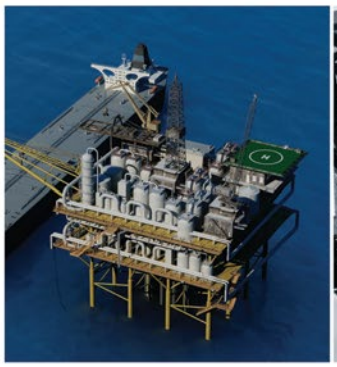
Quality

- ISO 9001
- Saft world class continuous program

Environment

- ISO 14001
- Fully recyclable
- RoHS – Although batteries and accumulators are not within the scope of the RoHS directive, Saft has taken voluntary measures to ensure that the substances prohibited by RoHS are not present in the battery, with the exception of the electro-chemical core
- REACH – The Saft Group has adopted internal procedures to ensure conformity with the European REACH (Registration, Evaluation, Authorisation and Restriction of Chemical Substances) Regulation

Compact L-Type
Technical data



Compact Physical properties L Range

For low rate discharges over long periods between 1 and 100 hours

Cell type	Capacity C_5 Ah	Height		Width		Approx. weight per cell		Internal resistance* mOhm	Cell connection bolt per pole
		mm	in	mm	in	kg	lb		
CPL 80	83	254	10	105	4,13	2,2	4,8	2,35	M6
CPL 100	103	254	10	105	4,13	2,7	5,9	1,88	M6
CPL 150	152	254	10	105	4,13	4,1	7,9	1,37	M6
CPL 180	185	254	10	105	4,13	5,1	10,0	1,15	M6

Cell type	Length per block															
	3 cells		4 cells		5 cells		6 cells		7 cells		8 cells		9 cells		10 cells	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
CPL 80	127	5,0	166	6,6	206	8,1	245	9,7	285	11,3	325	12,8	364	14,4	404	15,8
CPL 100	154	6,1	202	8,0	251	10,0	299	11,8	348	13,7	397	15,7	445	17,6	494	19,5
CPL 150	209	8,3	276	10,9	342	13,5	409	16,1	476	18,8	-	-	-	-	-	-
CPL 180	250	9,9	331	13,0	411	16,2	492	19,4	-	-	-	-	-	-	-	-

Compact M-Type
Technical data



Compact Physical properties M Range

For varied loads with low and high discharge rates, between 30 minutes and 3 hours

Cell type	Capacity C_5 Ah	Height		Width		Approx. weight per cell		Internal resistance* mOhm	Cell connection bolt per pole
		mm	in	mm	in	kg	lb		
CPM 80	76	254	10	105	4,13	2,2	4,8	2,35	M6
CPM 100	98	254	10	105	4,13	2,7	5,9	1,88	M6
CPM 150	147	254	10	105	4,13	4,1	7,9	1,37	M6
CPM 180	180	254	10	105	4,13	5,1	10,0	1,15	M6

Cell type	Length per block															
	3 cells		4 cells		5 cells		6 cells		7 cells		8 cells		9 cells		10 cells	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
CPM 80	127	5,0	166	6,6	206	8,1	245	9,7	285	11,3	325	12,8	364	14,4	404	15,8
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CPM 180	250	9,9	331	13,0	411	16,2	492	19,4	-	-	-	-	-	-	-	-

Saft is committed to the highest standards of environmental stewardship

Saft is committed to protecting and preserving the environment. We are engaged in a sustained effort to use resources responsibly and to act in a way that clearly demonstrates our great respect for the planet.

As part of its environmental commitment, Saft gives priority to recycled raw materials over virgin raw materials, reduces its plants'air and water releases year after year, minimizes water usage, reduces fossil energy consumption and associated CO_2 emissions, and ensures that its customers have recycling solutions for their spent batteries.

Regarding industrial batteries, Saft has set up a network of Bring Back Points (BBPs) which receive end-of-life nickel-based batteries from end users free of charge. These batteries are then shipped by these BBPs to our recycling facility in Sweden or to fully permitted recycling companies, in compliance with the laws governing trans-boundary waste shipments.

The recycling efficiency of these recyclers exceeds 75% of the nickel-based battery weight (a level which exceeds the mandated recycling efficiency of 65% applicable to lead-acid batteries), and recycled materials are reused as secondary raw material for industry.

This network of Bring Back Points comprises over 30 entities and provides services in all of our major markets in Europe, North America, Asia and Africa. The list of BBPs and their contact details are available on the Saft website.

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