Архангельск (8182)63-90-72
Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Киргизия (996)312-96-26-47
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Россия (495)268-04-70
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Казахстан (772)734-952-31
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

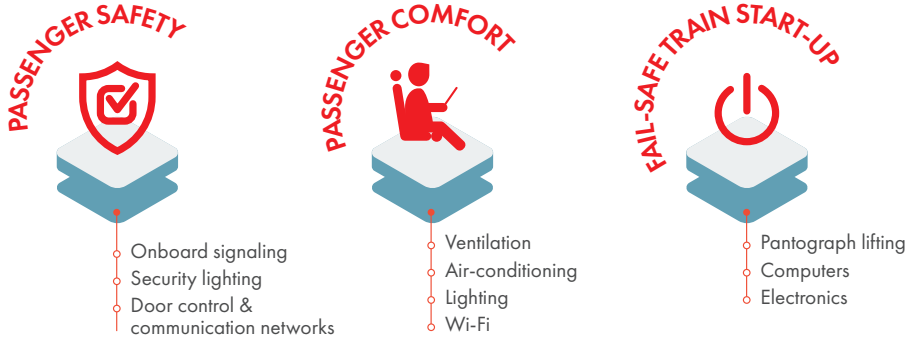
www.sft.nt-rt.ru | | sfq@nt-rt.ru

Технические характеристики на никель-кадмиевые аккумуляторы для железных дорог серии SRA

THE RAIL BATTERY EXPERT

In an ever-connected world, rail services are vital to keep the world running for passengers and freight. For decades, has been at the forefront of providing a wide range of safe and sustainable onboard battery solutions for the rail industry.

With , operators can expect reliable and predictable battery performance over a long service life.



SRA
PREDICTABLE MEDIUM POWER BACKUP BATTERY FOR RAIL OPERATION IN EXTREME TEMPERATURES

For rail operators, maintaining regular services in even the harshest environments depends on reliable batteries to support key functions such as critical safety and auxiliary systems. As a trusted partner for rail industry, has engineered SRA batteries to provide uninterrupted onboard backup power in both regular and extreme temperatures.

- SRA Standard is designed to deliver outstanding performance in moderate temperatures;
- SRA LT (low temperature) enables a smaller battery size to support the required load profile in low temperatures;
- SRA HT (high temperature) offers superior charge efficiency in higher temperatures, providing increased capacity.

ENDURANCE
- Three versions are available for different operating temperatures
- Resistance to extreme temperatures from **-50°C to +70°C**

WIDE CAPACITY RANGE
- Single cell capacities optimized sizing from **70 to 375 Ah**
- Containers available in various plastics (FRpp, P, F2) and stainless steel

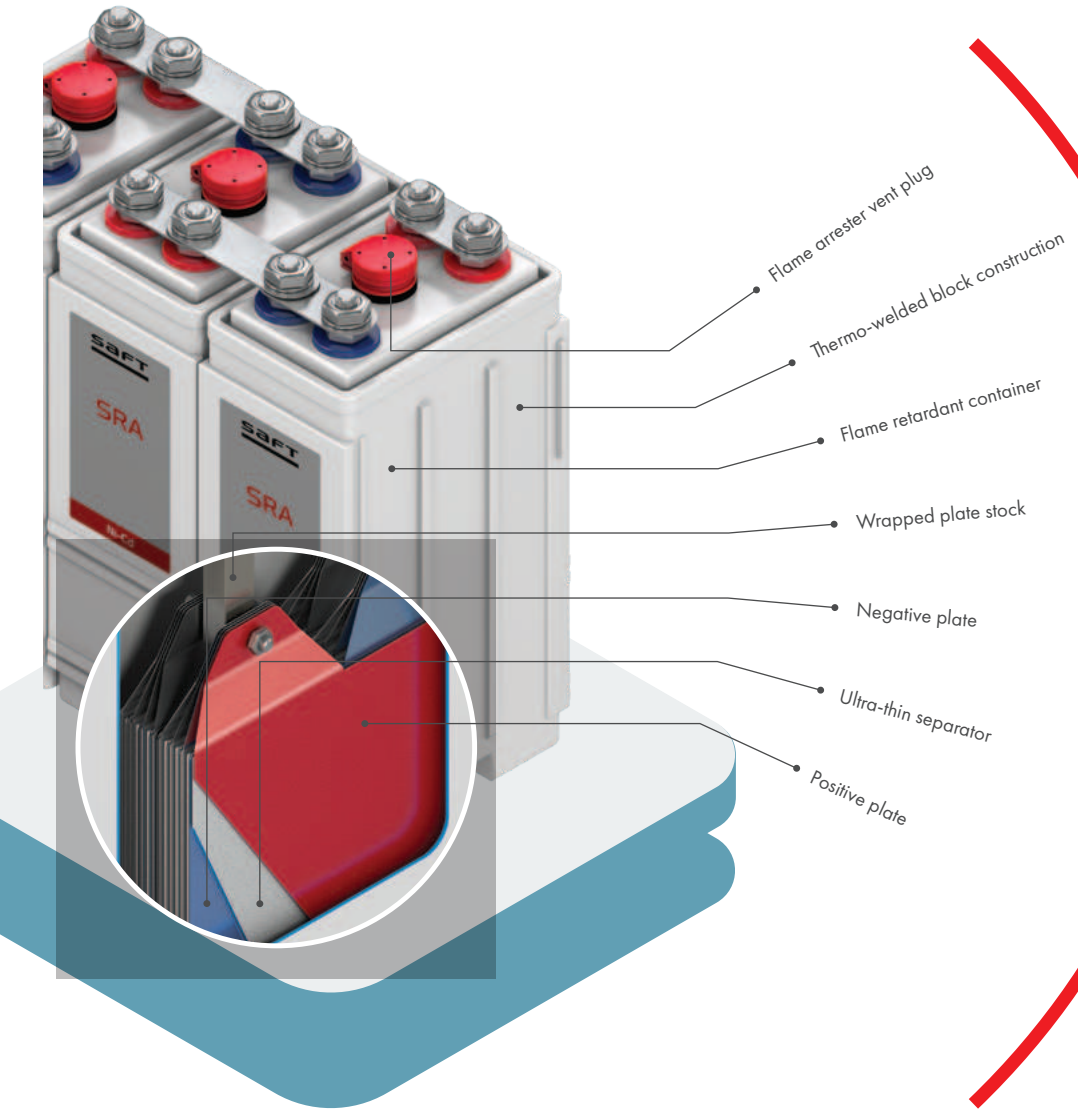
LIGHT AND COMPACT DESIGN
- **Over 30% reduction in overall volume** compared to standard Ni-Cd batteries
- Customized battery boxes and bespoke trays are available for specific applications

PREDICTABLE SERVICE LIFE
- Long service life (>20 years)*, **without risk of sudden death**

LOW MAINTENANCE
- Topping-up intervals at **up to 6 years**
- Only one reconditioning operation during battery service life
- Optional centralized water filling system (WFS)

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

Nominal value – actual results may vary depending on application conditions

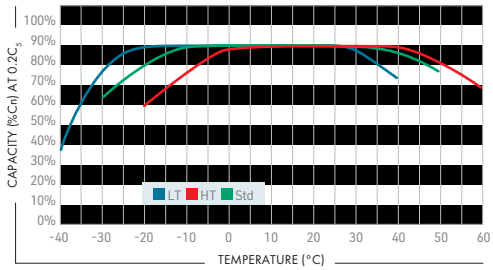


SRA battery offers optimized performance in even **the most extreme weather conditions.** To meet the specific needs of different types of rolling stock, three versions are available:

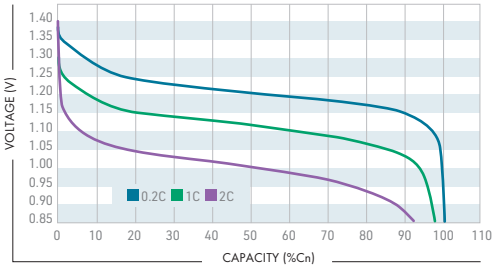
- **SRA Standard** (-30°C to +50°C)
- **SRA LT** (-50°C to +40°C)
- **SRA HT** (-20°C to +65°C)

In addition to high resistance to shock and vibration, SRA batteries are designed for discharge levels at $2C_5A$ continuous and $5C_5A$ peak. This ensures continuous operation of the auxiliary systems that are critical for passenger safety.

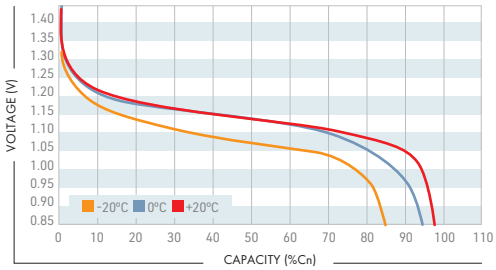
CHARGEABILITY WITH TEMPERATURE COMPENSATION (STD, HT, LT)



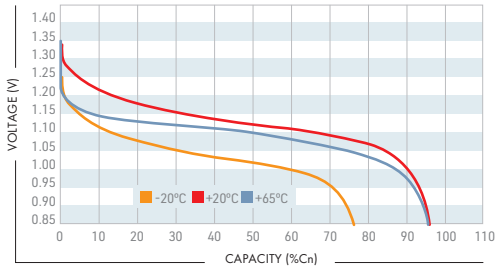
DISCHARGE AT +20°C



DISCHARGE 1C AT VARIOUS T°C



DISCHARGE 1C AT VARIOUS T°C (SRA HT)



Capacity (Ah)			Cell weight (kg)	Width	Height	Length (mm)** Nb of cells per crate							Weight (kg)** Nb of cells per crate						
SRA Standard	SRA LT	SRA HT				2	3	4	5	6	7	8	2	3	4	5	6	7	8
75	75	70	2.7	90	307			254	314	376	436	497			13	16	19	22	25
90	90	85	3.6	90	307			354	439	526	611	697			16	20	24	28	31
110	110	105	3.9	90	307			354	439	526	611	697			17	22	26	30	34
125	125	115	4.7	91	307		323	426	530	634				17	22	27	33		
140	140	130	4.9	91	307		323	426	530	634				18	23	29	34		
160	160	150	6.1	170	343	163	241	319	397	475	553	631	14	20	27	33	39	46	52
190	190	175	6.5	170	343	163	241	319	397	475	553	631	14	21	27	34	41	47	54
220	220	200	7.3	170	343	181	268	355	442	539	616	703	16	24	32	40	47	55	63
260	260	245	8.8	170	343	213	316	419	523	626			19	28	37	47	56		
280	280	265	10.2	170	343	241	358	475	593	709			23	34	44	51	67		
310	310	290	10.5	170	343	241	358	475	593	709			24	35	46	59	70		
340	340	315	11.8	170	343	285	423	562	701				27	39	51	64			
375	375	350	12.2	170	343	285	423	562	701				29	41	55	68			

*The data provided are nominal values and actual results may vary depending upon application conditions.
**Values are not contractual.

SRA Ni-Cd battery

The medium power backup battery for railway applications

SRA nickel-based battery range assures continuity of onboard auxiliary backup applications and delivers outstanding performance, especially in arctic and desert temperature extremes.

SRA Standard range delivers reliable power in a compact package. SRA LT enables a smaller battery size to support the required load profile in low temperatures, while SRA HT offers superior charge efficiency in higher temperatures, providing increased capacity for the ideal battery solution.

The SRA design is fully compatible with range of standardized railway battery systems while its robust and reliable Ni-Cd technology ensures a long and predictable service life.

Applications

All types of trains

- Urban transport: metros, tramways, tram-trains, airport shuttles
- Regional transport: EMU, DMU (Electric and Diesel Multiple Units)
- Intercity transport: high-speed trains, electric locomotives, passenger coaches

All types of function

- Passenger safety: onboard signaling, security lighting, door control and communication networks
- Passenger comfort: ventilation, air-conditioning, lighting, Wi-Fi
- Fail-safe train start-up: pantograph lift-up, computing, electronics

Benefits

- Optimized performance for extreme temperatures
- Reduced installation footprint and lower weight (30% reduced volume and weight compared with a standard Ni-Cd battery)
- Reduced LCC (Life Cycle Cost) and improved LCA (Life Cycle Assessment)
- Customizable for specific needs
- Easy integration of standard cell design into customer battery systems

Features

- Sintered/PBE Ni-Cd technology ensures reliable and predictable service life (20 years)*, without risk of sudden death
- Low maintenance:
  - topping-up interval up to 6 years or more
  - only one reconditioning operation in the battery service life

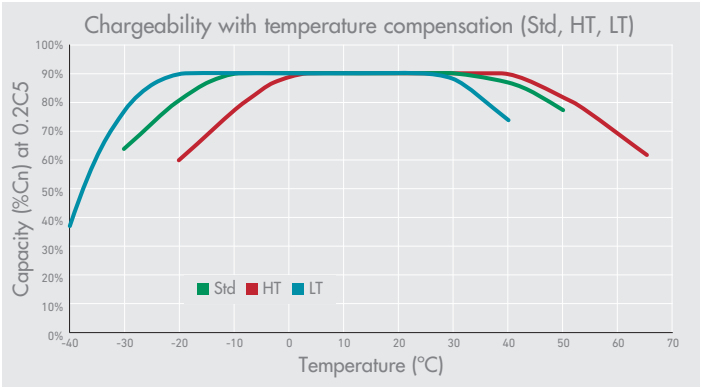
Temperature	
Operating temperature (SRA)	From -30°C to +50°C
Operating temperature (SRA LT)	From -50°C to +40°C
Operating temperature (SRA HT)	From -20°C to +65°C
Resistance to extreme temperatures	From -50°C to +70°C
Maintenance	
Low maintenance thanks to long interval between topping-up operation (for LT & HT consult)	6 years or more (less than 35°C average, with charging temperature compensation)
Optimized reconditioning operation (for LT & HT consult)	Once in the battery lifetime
Optional water filling vents allow for quick and accurate topping-up to minimize maintenance costs	Less than 10 minutes for active topping-up operation
Light and compact design	
Gain in container and battery compartment size vs conventionally sized batteries	60% depending upon requested mission profile
Wide capacity range	
Capacity range to optimize sizing to specific performances request	From 70 to 375 Ah
Available crates for easy integration and handling	For 2 to 8 cells

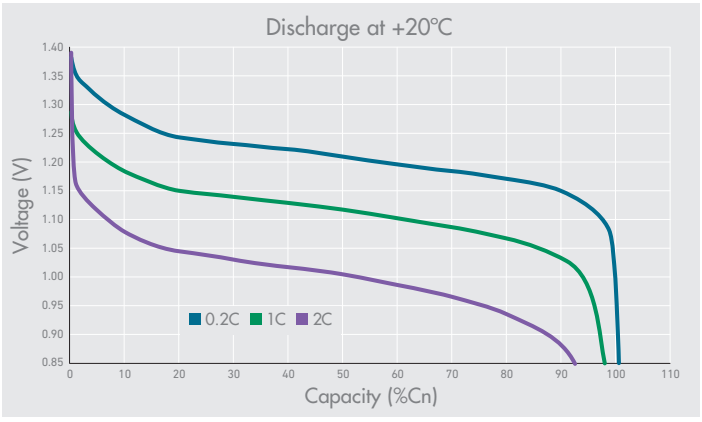
** The data provided are nominal values and actual results may vary depending upon application conditions.*

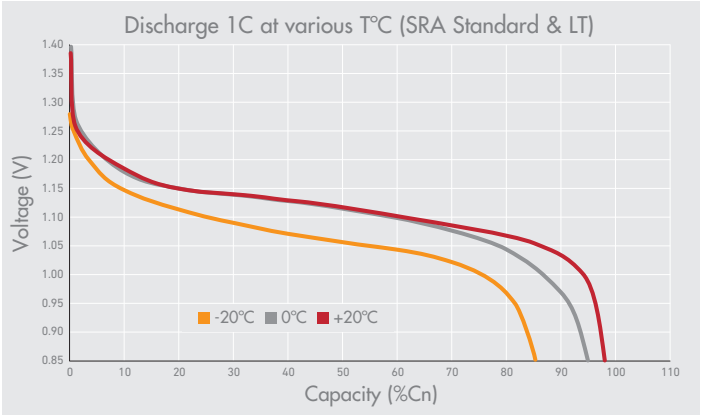
- Available in three versions:
  - SRA Standard for use between (-30°C to +50°C)
  - SRA LT for low temperatures (-50°C to +40°C)
  - SRA HT for high temperatures (-20°C to +65°C)
- Performance
  - Designed for discharge levels of 2C5A continuous and 5C5A peak
  - Optimized performance eliminates the need to oversize the battery
- Flexibility in capacity, container type and maintenance systems
  - Single cell capacities range from 70 to 375 Ah
  - Containers available in various plastics (FRpp, P, F2) and stainless steel containers
  - Optional centralized water filling system
- Fully compatible with railway battery systems
  - Direct fitting within standard systems
  - Customized battery boxes also available
- Batteries can be integrated into bespoke trays designed to suit specific applications

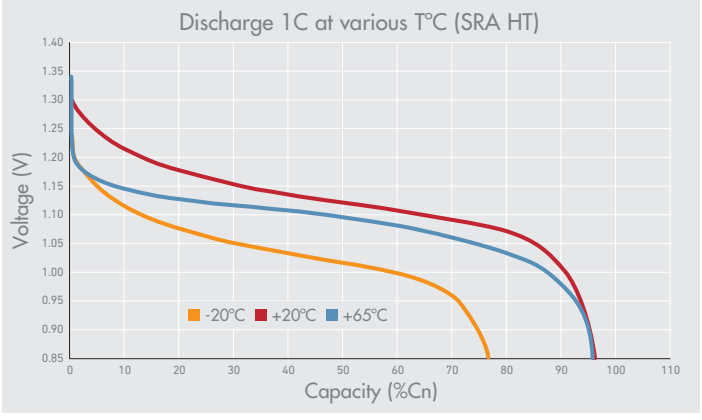
Full conformity with quality, safety and environmental standards

- Electrical: exceeds the medium "M" type requirements of IEC 60 623, also significantly exceeds UIC 854 requirements
- Integration: EN 50547 railway auxiliary onboard battery
- Fire & smoke: NFF 16101-16102, DIN 5510-2, UNI IEC 11170-3, UL 94-V0, NFPA 130 for ASTM E 162 and E 662
- Shocks & vibrations: IEC 61 373
- Quality: ISO 9001, ISO/TS 22163 (IRIS), world class continuous improvement program
- Environment: fully recyclable, ISO 14001, RoHS, REACH
- Others: DIN 40771, BS 6260









Архангельск (8182)63-90-72
Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Киргизия (996)312-96-26-47
Россия (495)268-04-70
Казахстан (772)734-952-31

www.sft.nt-rt.ru | | sfq@nt-rt.ru