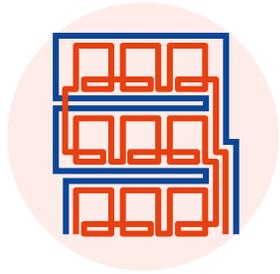




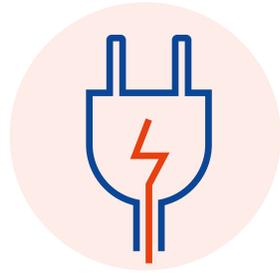
## **TECHNICAL FEATURES OF THE PRODUCT PORTFOLIO**

Энергия ДВИ  
Энергия СВЕТ

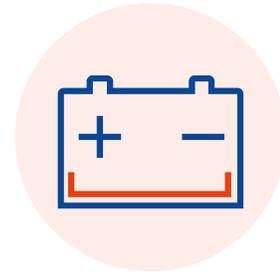
# AREAS OF APPLICATION FOR BATTERIES



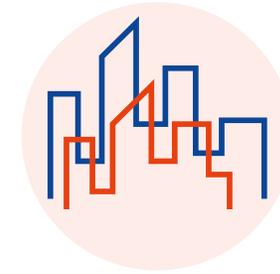
DATA CENTERS



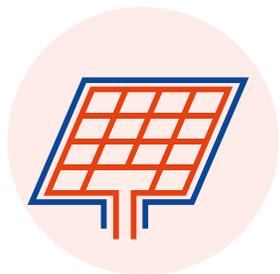
MULTIPURPOSE



UPS



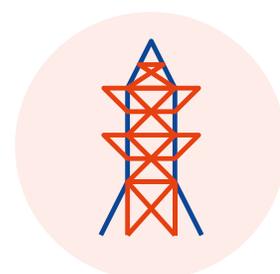
TELECOM



RENEWABLE  
ENERGY SOURCES



SFS



SUBSTATIONS



MOTO

# BATTERIES SCOPE OF APPLICATION



<b>SCOPE OF APPLICATION</b>	<b>ASTERTION</b>
SFS	DT, DTS, DTX
Multipurpose application, including UPS	DTM, DTM-L, DTM I
Industrial UPS, Server	HR, HR-W
Data centers	HRL, HRL-W
Telecom	FTS-X, FT-M
Autonomous power supply systems	GEL, GX, CGD
Power engineering, Substations	STC, GSC, OPzS, OPzV
MOTO BATTERY	CT, EPS

# BATTERIES FOR SFS

- Low-current systems
- Special specifics of operation with annual replacement to maintain the need for equipment service
- Special requirements for the cost of the series



# BATTERY SERIES

## ASTERION DT, DTS, DTX



- Security systems
- Electronic cash registers
- Access control systems

- Emergency lighting systems
- Geophysical and geodetic equipment

# MULTIPURPOSES BATTERIES



- Average battery parameters
- Undemanding systems
- Mixed mode of operation



# BATTERY SERIES

## ASTERION DTM, DTM L, DTM I



# BATTERIES FOR THE TELECOM INDUSTRY

- 48v and 60v dc systems
- Working under normal conditions
- Communication monitors and outdoor cabinets
- Work in harsh climatic conditions



# BATTERY SERIES

## ASTERION FT-M, FTS-X



# FRONT-TERMINAL BATTERIES

Are the optimal solution for use in telecom systems where the popular discharge time is 3-4 hours.

When discharged at intervals of less than an hour, the efficiency of front-terminal batteries will be lower both in energy and economically, because to ensure the autonomy time of 15 minutes, front-terminal batteries of greater capacity and a large number of batteries will be required than stationary ones in a classic case.



# BATTERIES FOR RENEWABLE ENERGY SOURCES

- Some of the most difficult operating conditions
- The battery group is from 12v, usually up to 48v, but there may be more
- Cyclic operation mode
- Chronic undercharges



# BATTERY SERIES



## ASTERION GEL, GX, CGD



# GX AND GEL



	TECHNOLOGY	AGM+GEL	GEL
STANDARD CONDITIONS	Gas recuperation	++++	+++++
	Cyclicality at DoD 30%	+++ (1900 cycles)	+++ (1900 cycles)
	Additional protection against "drying out" of the electrolyte	+++	++++
NON-STANDARD CONDITIONS	Gas recovery at elevated temperature (above nominal +25)	++	++++
	Maximum resolution of lead sulfate after operation at temperature deviations	++	++
	The degree of recovery in case of chronic undercharging or prolonged stay in a discharged state	++	+++
			

# GX AND CARBON



	TECHNOLOGY	GEL	CARBON
STANDARD CONDITIONS	Gas recuperation	+++++	+++
	Cyclicality at DoD 30%	+++ (1900 cycles)	++++ (3900 cycles)
	Additional protection against "drying out" of the electrolyte	++++	+++
NON-STANDARD CONDITIONS	Gas recovery at elevated temperature (above nominal +25)	++++	++
	Maximum resolution of lead sulfate after operation at temperature deviations	++	+++++
	The degree of recovery in case of chronic undercharging or prolonged stay in a discharged state	+++	++++
			

Due to the higher conductivity of carbon (carbon additive)

# BATTERIES FOR UPS

- Especially responsible consumer
- Supporting operation mode
- More frequent triggering than in the data center
- Large arrays of batteries connected in series up to 64 pcs. In the group



# BATTERY SERIES

## ASTERION HR, HR-W



# DATA CENTER BATTERIES

- Especially responsible consumer
- Supporting operation mode
- Large arrays of batteries connected in series up to 64 pcs. In the group



# BATTERY SERIES

## ASTERION HRL-X, HRL-W



# BATTERIES FOR SUBSTATIONS

- Compensation of large waste currents
- Buffer mode, usually without deep triggers



# BATTERY SERIES

## ASTERION OPz, STC, GSC



# BATTERIES FOR MOTO VEHICLES

- Motorcycles, scooters
- Atvs, JET SKIS
- Motorbikes, snowmobiles
- Starting the internal combustion engine



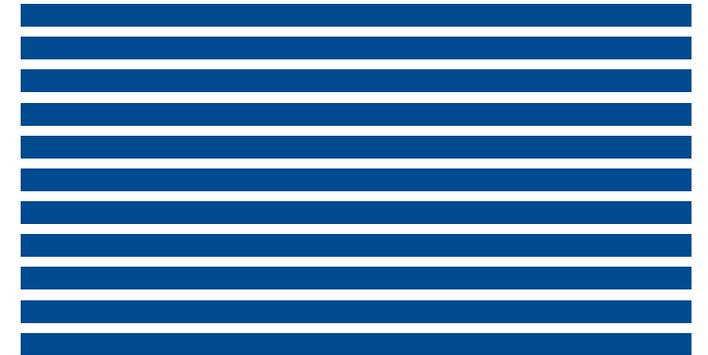
# BATTERIES FOR MOTO VEHICLES



Schematic representation of **stationary battery** electrodes



Schematic representation of **starter battery** electrodes



The use of starter batteries in UPS is not economically justified, since the degradation of thinner electrodes when operating in buffer mode will occur faster, which will lead to premature replacement..

# BATTERY SERIES



## ASTERION CT, EPS

AGM technology



26 models  
From 2,5 Ah to 30 Ah

NANO-GEL  
technology



7 models  
From 14 Ah to 30 Ah

Three lines of batteries for any motorcycle: from a scooter to a superbike. We know how much customers appreciate the opportunity to choose, so our assortment includes three series of batteries made using different technologies at once.

# THE DESIGN LIFE SERVICE OF THE BATTERY



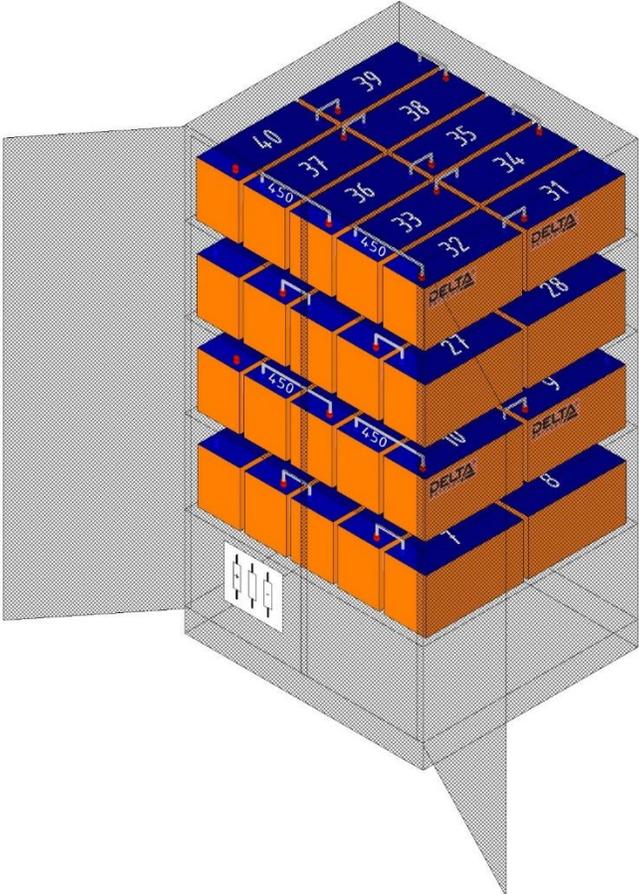
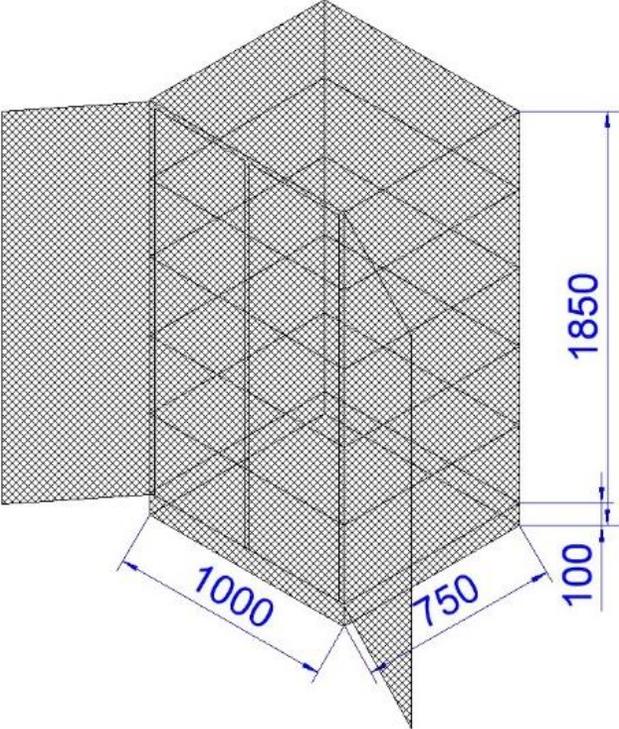
DESIGN LIFE SERVICE	SERIES OF RECHARGEABLE BATTERIES
5 years	DT up to 40Ah inclusive
6 years	DTM, DTS, DTX
8 years	HR-W, HR up to 26Ah inclusive
7-10 years	DT up to 65Ah
10-12 years	DTM-L, HR up to 40Ah, DTM-I, HRL, HRL-W, FT-M, FTS-X, GEL,
15 years	GX, CGD
20 years	STC, GSC, OPzV, OPzS

**Design service life** – is the service life of the battery in strict compliance with operating conditions.

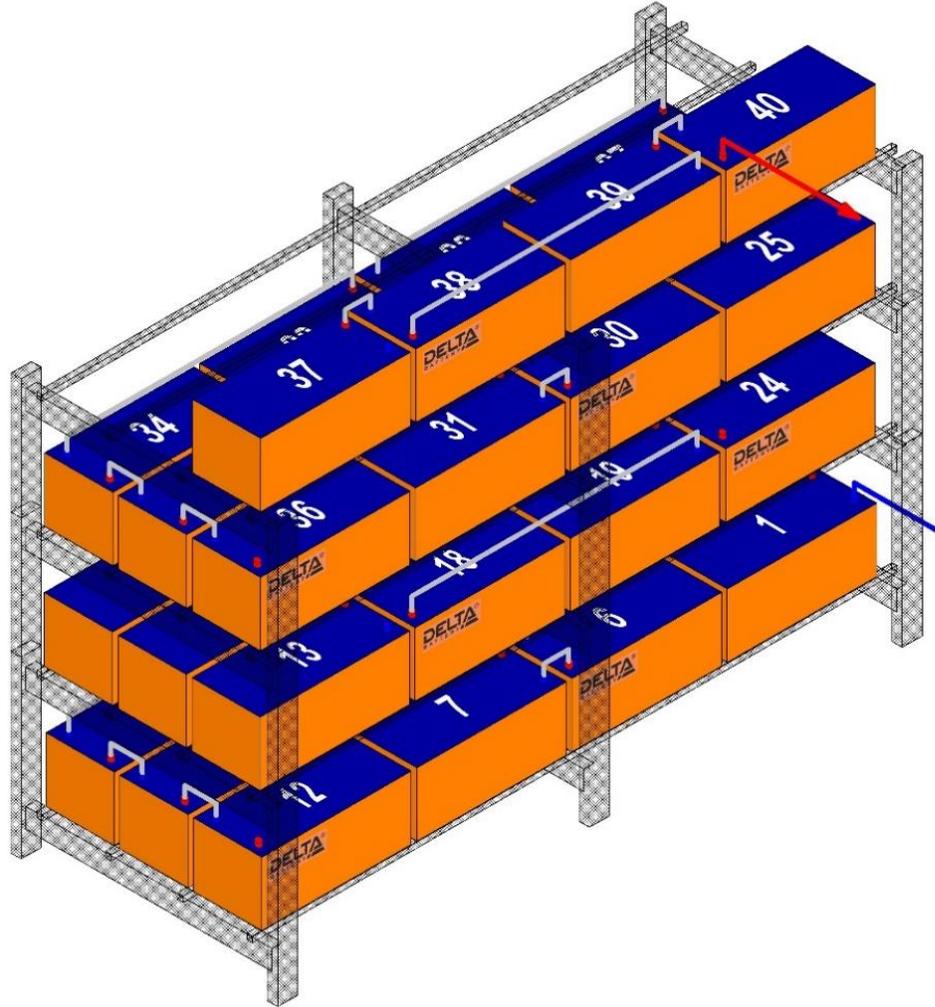
# CABINET SOLUTION



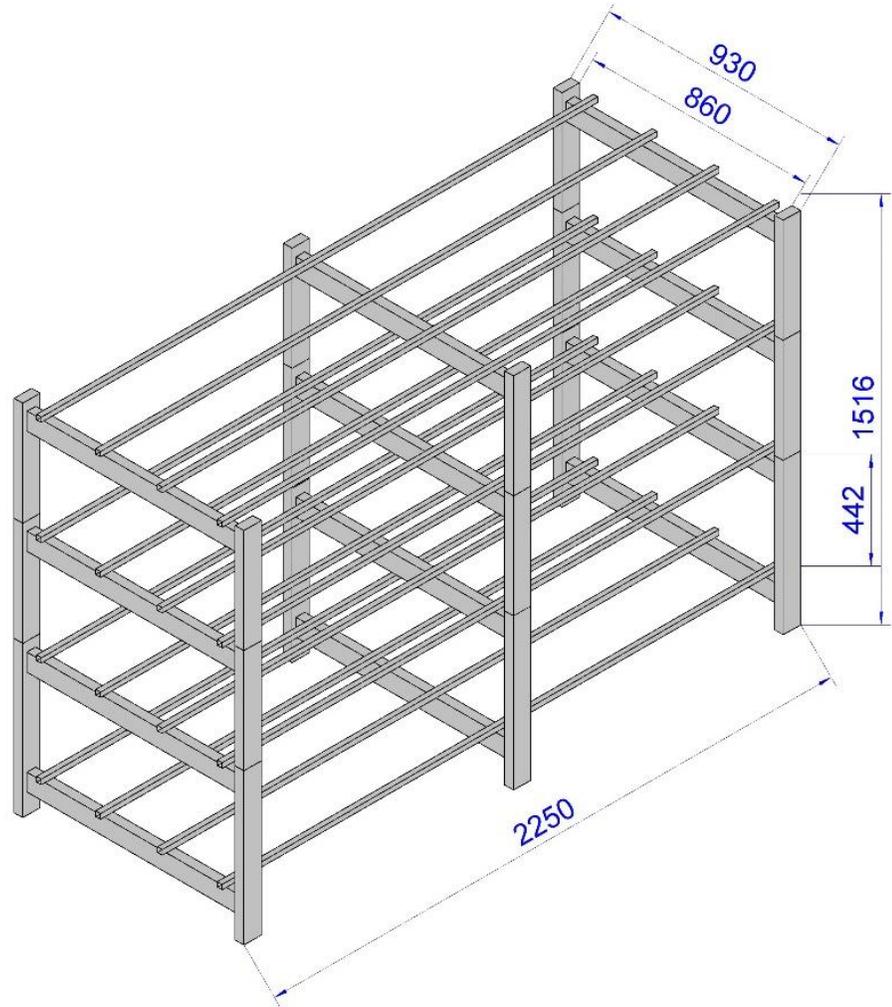
Battery Cabinet Dimensions



# SHELF



Battery Cabinet Dimensions





**THANK YOU FOR YOUR  
ATTENTION**