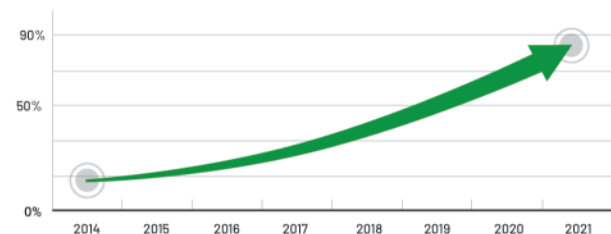


SYSTEM START-STOP

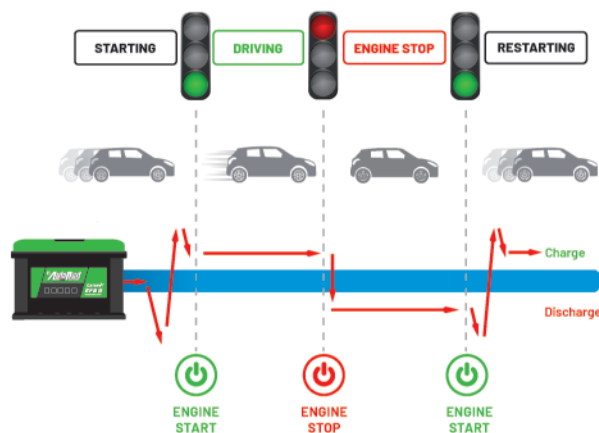
The purpose of the START-STOP system is to monitor engine operation and shut it off when the vehicle stops, and to automatically engage (by pressing the clutch) when the vehicle starts. This helps to avoid unnecessary energy loss due to engine idling and dramatically reduces pollutant emissions in agglomerations by up to 10%. This system is increasingly being used by car manufacturers. By the end of 2021, it is estimated that about 90% of new vehicles will be equipped with it.



- Sales of vehicles with START-STOP system in Poland. Upward trend [%]

SYSTEM START-STOP AND THE BATTERY

The use of the START-STOP system translates into increased battery life. It is responsible not only for frequent engine start-up but also for power supply (when the engine is not running) to all operating devices, e.g.: ventilation, air-conditioning, radio etc. Conventional batteries are not designed for such quick cycles in engine start-up, nor are they capable of being quickly accepting charges (between cycles). It is thus very important to use a battery dedicated to START-STOP vehicles.



INTENDED USE

- Passenger cars factory fitted with START-STOP system
- Vehicles with rich electronic equipment and numerous energy receivers
- Vehicles that are heavily used in urban traffic and are subject to frequent starting cycles
- Commercial and special vehicles carrying materials with special safety requirements
- Vehicles in which the battery can be fitted in both the engine compartment and the vehicle cabin

The **Galaxy EFB II** battery range is available for passenger cars of all manufacturers, including Asian vehicles. With advanced technology, a narrow range can meet the needs of a wide car park.

BATTERY SPECIFICATION

Galaxy EFB II

CAPACITY [Ah]	VOLTAGE [V]	COLD CRANKING PERFORMANCE [A] EN	DIMENSIONS [MM]	SCHEME OF CONNECTIONS	TERMINALS	BASE HOLD DOWN	LID TYPE
			L W H				
60	12	560	242 175 175	0	1	B13	LB2
60	12	600	242 175 190	0	1	B13	L2
62	12	640	242 175 190	0	1	B13	L2
70	12	700	278 175 175	0	1	B13	LB3
72	12	760	278 175 190	0	1	B13	L3
75	12	780	315 175 175	0	1	B13	LB4
82	12	820	315 175 190	0	1	B13	L4
95	12	850	353 175 175	0	1	B13	LB5
100	12	900	353 175 190	0	1	B13	L5
105*	12	950	394 175 190	0	1	B13	L6

Galaxy EFB II JAPANESE

CAPACITY [Ah]	VOLTAGE [V]	COLD CRANKING PERFORMANCE [A] EN	DIMENSIONS [MM]	SCHEME OF CONNECTIONS	TERMINALS	BASE HOLD DOWN	LID TYPE
			L W H				
65	12	620	230 172 222	0	1	B00	D23
70	12	720	259 175 222	0	1	B01	D26
72	12	750	259 175 222	0	1	B01	D26
85	12	820	305 173 221	0	1	B01	D31
90	12	850	305 173 221	0	1	B01	D31

105* - battery in preparation

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2021

Autopart
BATTERY



Galaxy EFB II
BATTERIES

Enhanced Flooded Battery

NEW GENERATION
BATTERY

Galaxy EFB II is a new generation of car batteries made with the Enhanced Flooded Battery technology. Works on structural and electrochemical improvements were performed by the AUTOPART R&D expert team, in cooperation with research centres from both Poland and the USA. Galaxy EFB II is an innovative product, designed for operation in cars with a START-STOP system and with multiple current receivers. The new batteries meet high environmental requirements and the technological solutions employed there have a significant impact on the reduction of CO₂ emissions.

USABLE FEATURES



DYNAMIC CHARGE ACCEPTANCE - DCA is an indicator of the ease of accepting an electrical charge. Batteries in vehicles with START-STOP systems are prone to operate undercharged; the higher the DCA, the faster the current shortages are being complemented when the system starts the engine systematically. With the new generation of Galaxy EFB II, this parameter is more than 3 times the requirements of EN50342-6*

* Lead - acid starter batteries - Batteries for Micro-Cycle Applications

HIGH DCA TRANSLATES INTO:

- + Fuel efficiency and reduction in CO₂ emissions
- + Faster battery charging in vehicles with START-STOP, especially in winter and when driving in traffic jams
- + Increased resistance of the vehicle power supply due to the higher average charge level and shorter operation time of an uncharged battery.
- + The possibility of reducing the weight and size of the battery for undercharged operation, which is a common cause of battery damage (due to sulphation)

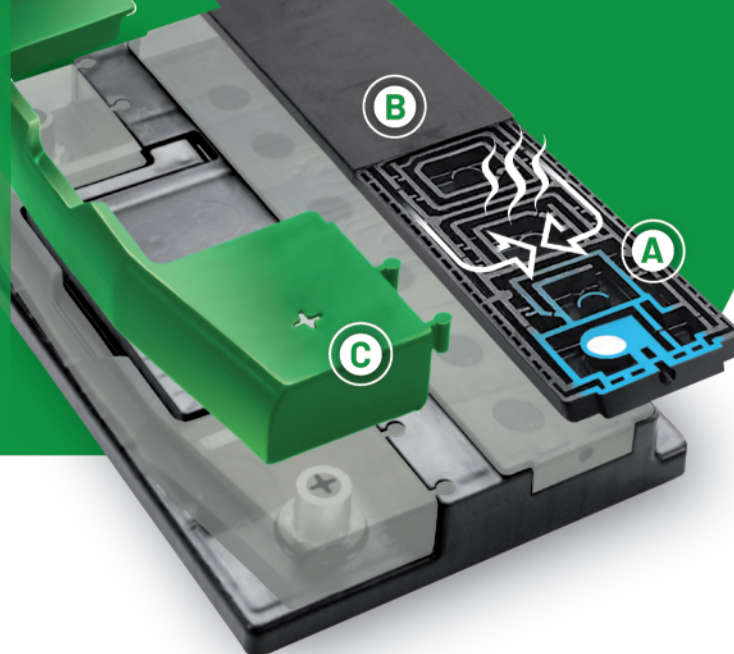
<95g/km*
2021

<81g/km*
2025

<59g/km*
2030

■ CO₂ emissions - a standard for passenger cars

* Ordinance EU 2019/631



NANO POWER CARBON - a new type of carbon additive in the negative plate, which makes batteries more robust and capable of absorbing more charge.



4x MICROCYCLE ENDURANCE - with reinforced internal battery design and improved plate design, the battery achieves up to 4 times longer cyclic life compared to conventional products.

The number of micro-cycles is a key strength parameter for the battery in EFB technology. Especially in urban traffic and with the START-STOP system activated, when the vehicle repeatedly uses the battery's starting power, the more micro-cycles the battery performs, the longer it lasts. The new EFB II generation is more than twice as strong as required by EN 50342-6.



URBAN INTENSIVE USE - the ideal solution for vehicles with START-STOP systems that are heavily used in urban traffic.

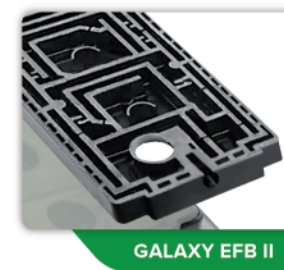
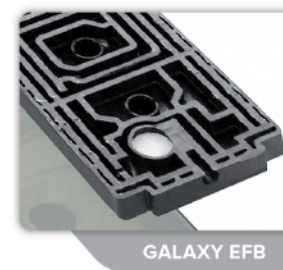


ECO FRIENDLY - for use with systems for boosting fuel efficiency and CO₂ emissions reduction.

THE NEW GALAXY EFB II BATTERY LID

A IMPROVED LABYRINTH DESIGN

The labyrinth system, made by hot seal bonding the lower and upper parts of the lid cover, allows for the elimination of electrolyte vapour and condenses the gases produced in the battery, and then returns them to the cells. The gases pass through the labyrinth chambers before they reach the central channel with which they reach before they leave the battery. The labyrinth also collects and retains the electrolyte from the cells if the battery is very tilted battery to prevent it from leaking.



B HEAT-BONDED LID

The heat-bonded lid is fitted with two anti-explosion inserts to guarantee the highest level of explosion protection.

C END COVERS

Well-adjusted monobloc guard for safe storage.

LID ADVANTAGES

- + Spill-safe even in extremely tilted batteries
- + Flat surface with no visible plugs
- + Top operational safety
- + Versatility in installation and easy storage
- + The lid cannot be disassembled after the cover is installed



SEALED MAINTENANCE FREE - a sealed, maintenance-free battery that combines advanced lid and the latest technology for reduced water consumption and extended battery life.