

MONBAT[®]

BATTERIES

SOURCE OF
POWER

2018



AUTOMOTIVE CATALOGUE

LIGHT VEHICLES COMMERCIAL AND HEAVY-DUTY VEHICLES SPECIAL VEHICLES



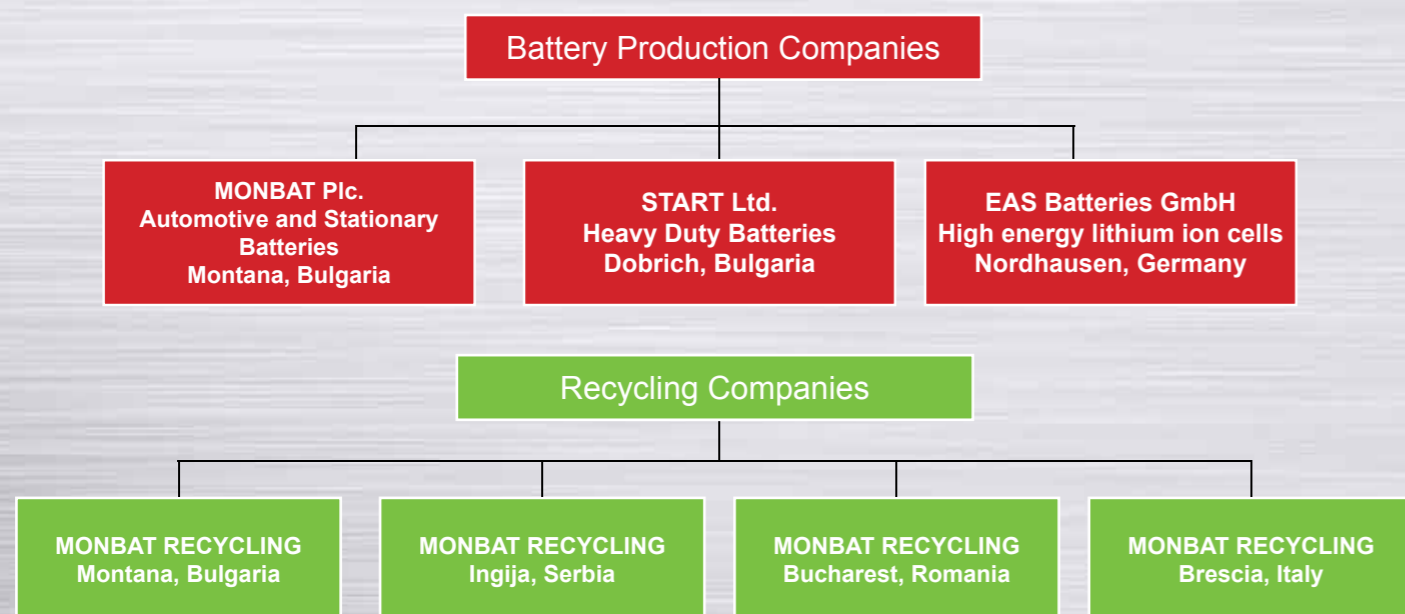
ABOUT MONBAT GROUP

MONBAT ECONOMIC GROUP is a fast growing company which manufactures lead-acid batteries and high energy lithium ion cells for a large assortment of applications.

Monbat Economic Group consists of seven plants - two factories for lead-acid batteries located in Bulgaria, one factory for production of high energy lithium ion cells in Nordhausen, Germany and four recycling plants for used lead-acid batteries located in Bulgaria, Romania, Serbia and Italy.

The products of our company have been present on the international market for more than 50 years.

The wide product range includes starter batteries, leisure & marine, solar, stationary AGM batteries and special batteries for military applications. Our production facilities are equipped with state-of-the-art equipment and machines using the latest technologies, granting high quality products and reaching annual volumes of 3.5M automotive and 0.5M AGM batteries.



AUTOMOTIVE BATTERY RANGES



AGM SERIES

LIFE EXPECTANCY	START/STOP SYSTEMS	EQUIPMENT LEVEL	CYCLING CAPABILITY	CCA CAPABILITY	WATER CONSUMPTION
★★★★★	HIGHLY RECOMMEND	★★★★★	★★★★★	★★★★★	EXTREMELY LOW



EFB SERIES

LIFE EXPECTANCY	START/STOP SYSTEMS	EQUIPMENT LEVEL	CYCLING CAPABILITY	CCA CAPABILITY	WATER CONSUMPTION
★★★★★	RECOMMEND	★★★★	★★★★	★★★★	VERY LOW



PREMIUM SERIES

LIFE EXPECTANCY	START/STOP SYSTEMS	EQUIPMENT LEVEL	CYCLING CAPABILITY	CCA CAPABILITY	WATER CONSUMPTION
★★★★★	NOT RECOMMEND	★★★★	★★★	★★★★	VERY LOW



FORMULA ASIA SERIES

LIFE EXPECTANCY	START/STOP SYSTEMS	EQUIPMENT LEVEL	CYCLING CAPABILITY	CCA CAPABILITY	WATER CONSUMPTION
★★★	NOT RECOMMEND	★★★	★★★	★★★	VERY LOW



Dynamic SERIES

LIFE EXPECTANCY	START/STOP SYSTEMS	EQUIPMENT LEVEL	CYCLING CAPABILITY	CCA CAPABILITY	WATER CONSUMPTION
★★	NOT RECOMMEND	★★	★★	★★	VERY LOW



AGM Start Stop

SEALED MAINTENANCE FREE



- ★★★★★

LIFE EXPECTANCY
- HIGHLY RECOMMEND

START/STOP SYSTEMS
- ★★★★★

EQUIPMENT LEVEL
- ★★★★★

CYCLING CAPABILITY
- ★★★★★

CCA CAPABILITY
- EXTREMELY LOW

WATER CONSUMPTION

Batteries with special absorbent glass mat. Its superb performance is suitable for the most demanding modern vehicles and their electrical systems. MONBAT AGM offers excellent endurance, ideal for advanced Start/Stop systems where the battery needs to be charged and discharged repeatedly keeping its performance levels.

MAIN BENEFITS

- ▶ Latest AGM technology
- ▶ Excellent for advanced Start/Stop systems with regenerative braking
- ▶ Absolutely maintenance-free, leakage, spill and vibration proof
- ▶ Designed for extreme power demands
- ▶ Optimum starting power and maximum capacity
- ▶ High cycling durability
- ▶ Flexible installation and safe handling
- ▶ Reducing the fuel consumption and CO2 emissions
- ▶ Extra long service life



EFB Start Stop

SEALED MAINTENANCE FREE



- ★★★★★

LIFE EXPECTANCY
- RECOMMEND

START/STOP SYSTEMS
- ★★★★★

EQUIPMENT LEVEL
- ★★★★★

CYCLING CAPABILITY
- ★★★★★

CCA CAPABILITY
- VERY LOW

WATER CONSUMPTION

MONBAT's Enhanced Flooded Battery (EFB) is perfectly suited for light vehicles with standard Start/Stop systems which operate at a partial state of charge and do not require the deep-cycling characteristics of an AGM battery. Our technology with improved casted plates and the addition of a polyester fleece scrim mesh to the PAM surface greatly improves the endurance.

MAIN BENEFITS

- ▶ Improved EFB technology
- ▶ Excellent for standard Start/Stop systems
- ▶ Supports extended engine-off periods
- ▶ High starting power
- ▶ High cycling performance
- ▶ Improved charge acceptance
- ▶ Improved vibration resistance
- ▶ Sealed maintenance free SMF
- ▶ Long service life and reliability

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout	Terminals	Hold Down	
MD 075 AGM	60	560	L2	242	175	190	0		1	B13
MD 096 AGM	70	760	L3	278	175	190	0		1	B13
MD 096L AGM	80	840	L4	310	175	190	0		1	B13
MD 019 AGM	90	850	L5	353	175	190	0		1	B13

Battery Classification as per EN 50342

Water consumption	Charge retention	Vibration resistance	Endurance Level	Micro-cycle performance
W4	C2	V3	E3	M2

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout	Terminals	Hold Down	
EF4-075 SMF	60	560	L2	242	175	190	0		1	B13
EF6-096 SMF	70	680	L3	278	175	190	0		1	B13
EF8-096L SMF	80	740	L4	310	175	190	0		1	B13
EF10-019 SMF	90	820	L5	353	175	190	0		1	B13

Battery Classification as per EN 50342

Water consumption	Charge retention	Vibration resistance	Endurance Level	Micro-cycle performance
W4	C2	V2	E2	M1



Premium

SEALED MAINTENANCE FREE



- ★★★★

LIFE EXPECTANCY
- NOT RECOMMENDED

START/STOP SYSTEMS
- ★★★★

EQUIPMENT LEVEL
- ★★★★

CYCLING CAPABILITY
- ★★★★

CCA CAPABILITY
- VERY LOW

WATER CONSUMPTION

MONBAT Premium series offer great power and endurance for vehicles with the latest equipment and highest electrical requirements. Our new design with punched grids and polyester fleece provides superior starting power and excellent level of endurance.

MAIN BENEFITS

- ▶ Premium battery option on the market
- ▶ Punched grid technology for improved performance
- ▶ Up to +30% increased starting power
- ▶ Special fleece increases the cycling ability
- ▶ Ideal for cars with the latest electrical equipment
- ▶ Charge level indicator
- ▶ Increased service life
- ▶ Designed specially to withstand extreme climate conditions (heat proof)
- ▶ Enhanced safety and reliability



Formula Asia

JIS SEALED MAINTENANCE FREE



- ★★★

LIFE EXPECTANCY
- NOT RECOMMENDED

START/STOP SYSTEMS
- ★★★★

EQUIPMENT LEVEL
- ★★★★

CYCLING CAPABILITY
- ★★★★

CCA CAPABILITY
- VERY LOW

WATER CONSUMPTION

MONBAT Formula Asia offer great power and endurance for vehicles with the latest equipment and high electrical requirements. Our improved plate construction provides high starting power and endurance suitable for all classes of light vehicles. The range is completely sealed and spill-proof.

MAIN BENEFITS

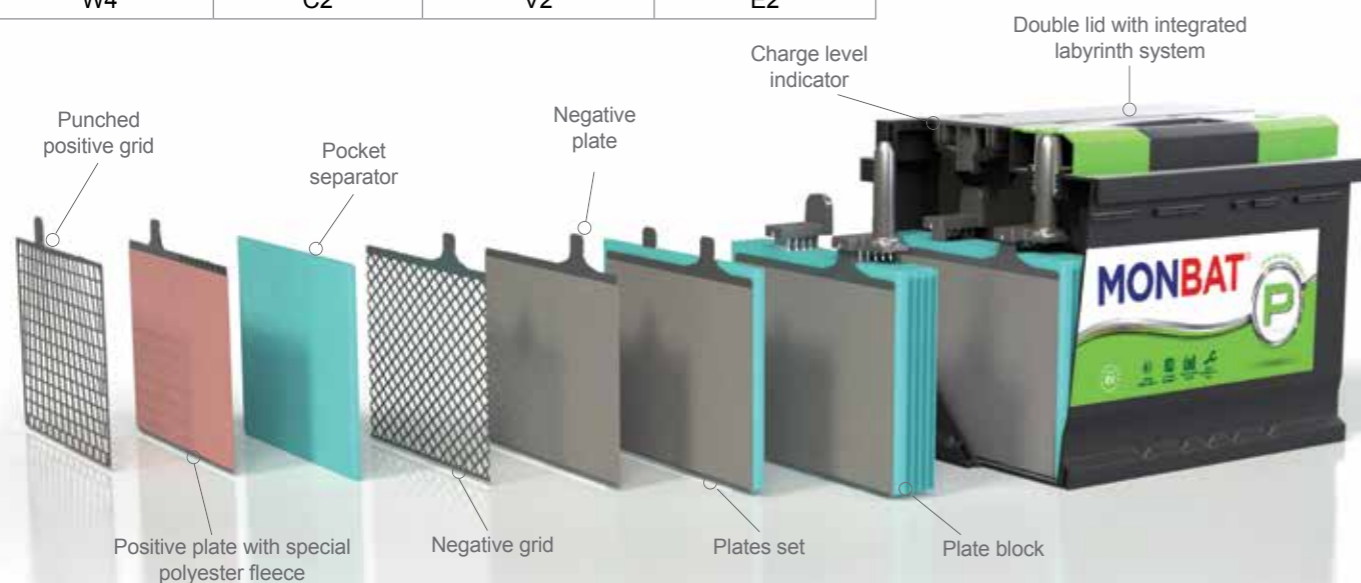
- ▶ Best formula for Asian vehicles
- ▶ Punched grid technology for improved performance
- ▶ Charge level indicator
- ▶ Suitable for vehicles with high level of electrical demand
- ▶ Guaranteed start at extreme temperatures
- ▶ Enhanced safety, leakage and spill proof

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout	Terminals	Hold Down	
MP2-063 SMF	56	560	L1	207	175	190	0		1	B13
MP4-075 SMF	66	660	L2	242	175	190	0		1	B13
MP6-096 SMF	80	760	L3	278	175	190	0		1	B13
MP8-096L SMF	90	820	L4	310	175	190	0		1	B13
MP10-019 SMF	100	920	L5	353	175	190	0		1	B13

Battery Classification as per EN 50342

Water consumption	Charge retention	Vibration resistance	Endurance Level
W4	C2	V2	E2



SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout	Terminals	Hold Down	
MD054 B1	35	300	B19 / NS40	197	128	220	0		3	B1
MD054	35	300		197	128	220	0		3	B0
MD055	35	300		197	128	220	1		3	B0
MD056	45	330	B24 / NS60	237	128	220	0		3	B0
MD057	45	330		237	128	220	1		3	B0
MD005L	60	450	D23	230	170	220	0		1	B1
MD005R	60	450		230	170	220	1		1	B1
MD088	70	560	D26/N50	260	170	220	0		1	B1
MD089	70	560		260	170	220	1		1	B1
MD249	90	630	D31/N70	304	173	220	0		1	B1
MD250	90	630		304	173	220	1		1	B1
MD615R	100	700	E41/N100	413	175	223	0		1	B0
MD616	100	700		413	175	223	1		1	B0

Battery Classification as per EN 50342

Water consumption	Charge retention	Vibration resistance	Endurance Level
W4	C2	V1	E2



Dynamic

SEALED MAINTENANCE FREE



- ★★

LIFE EXPECTANCY
- NOT RECOMMENDED

START/STOP SYSTEMS
- ★★

EQUIPMENT LEVEL
- ★★

CYCLING CAPABILITY
- ★★

CCA CAPABILITY
- VERY LOW

WATER CONSUMPTION

MONBAT Dynamic series offer reliable power for all vehicles with standard electrical equipment. The range is fully sealed and spill-proof and no maintenance is required.

MAIN BENEFITS

- ▶ Suitable for vehicles with standard level of electrical demand
- ▶ Integrated degassing Labyrinth system
- ▶ Lockable terminal protection caps
- ▶ Easy access to terminals for testing
- ▶ Enhanced safety, leakage and spill proof
- ▶ Long service life

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout	Terminals	Hold Down	
MD002L	40	300	L0	175	175	190	0		1	B13
MD063	45	360	LB1	207	175	175	0		1	B4
MD079	45	360	L1	207	175	190	0		1	B13
MD027	60	540	L2	242	175	190	0		1	B13
MD075	60	540	LB2	242	175	175	0		1	B4
MD096	70	640	LB3	278	175	175	0		1	B4
MD096L	80	720	LB4	310	175	175	0		1	B4
MD017	88	750	LB5	353	175	175	0		1	B4
MD019	100	840	L5	353	175	190	0		1	B13

Battery Classification as per EN 50342

Water consumption	Charge retention	Vibration resistance	Endurance Level
W3	C2	V1	E1

HEAVY-DUTY BATTERY RANGES

AGM SERIES



VALUE FOR CUSTOMER	EQUIPMENT LEVEL	VIBRATION RESISTANCE	CYCLING CAPABILITY	CCA CAPABILITY	WATER CONSUMPTION
★★★★★	★★★★★	★★★	★★★★★	★★★★★	EXTREMELY LOW

EFB SERIES



VALUE FOR CUSTOMER	EQUIPMENT LEVEL	VIBRATION RESISTANCE	CYCLING CAPABILITY	CCA CAPABILITY	WATER CONSUMPTION
★★★★★	★★★★★	★★★	★★★★★	★★★★★	VERY LOW

SMF SERIES



VALUE FOR CUSTOMER	EQUIPMENT LEVEL	VIBRATION RESISTANCE	CYCLING CAPABILITY	CCA CAPABILITY	WATER CONSUMPTION
★★★	★★★★	★★	★★★★	★★★★★	VERY LOW

HD SERIES



VALUE FOR CUSTOMER	EQUIPMENT LEVEL	VIBRATION RESISTANCE	CYCLING CAPABILITY	CCA CAPABILITY	WATER CONSUMPTION
★★	★★	★★	★★	★★★★	LOW



AGM series

HEAVY-DUTY VEHICLES



- ★★★★★
VALUE FOR CUSTOMER
- ★★★★★
EQUIPMENT LEVEL
- ★★★★
VIBRATION RESISTANCE
- ★★★★★
CYCLING CAPABILITY
- ★★★★★
CCA CAPABILITY
- EXTREMELY LOW
WATER CONSUMPTION

Our AGM battery for heavy vehicles provides superb performance is suitable for the most demanding modern commercial and heavy-duty vehicles and their electrical systems. MONBAT AGM offers much improved vibration resistance, endurance, very high reliability and safety.

MAIN BENEFITS

- ▶ Latest AGM technology
- ▶ High cycling stability
- ▶ Absolutely maintenance-free, leakage, spill and vibration proof
- ▶ Designed for extreme power demands
- ▶ Optimum starting power and maximum capacity
- ▶ Flexible installation and safe handling
- ▶ Reducing the fuel consumption and CO2 emissions
- ▶ Extremely long service life



EFB series

HEAVY-DUTY VEHICLES



- ★★★★★
VALUE FOR CUSTOMER
- ★★★★★
EQUIPMENT LEVEL
- ★★★★
VIBRATION RESISTANCE
- ★★★★★
CYCLING CAPABILITY
- ★★★★★
CCA CAPABILITY
- VERY LOW
WATER CONSUMPTION

MONBAT's Enhanced Flooded Battery (EFB) is perfectly suited for heavy vehicles which require deep-cycling characteristics. Our technology offers improved casted plates fixed with hot melt resin as well as added polyester scrim and glass fleece to the plates. These result in an excellent vibration resistance and cyclability. We have also added a specially designed acid circulation system to reduce acid stratification to minimum and improve the performance and life of the battery.

MAIN BENEFITS

- ▶ New EFB technology with casted grids construction
- ▶ Excellent for commercial vehicles with advanced electrical equipment
- ▶ Improved vibration resistance V3 ideal for end-of-frame installation
- ▶ Reliable energy supply also during extended engine-off periods (hotel function)
- ▶ High cycling performance @ 50% DOD
- ▶ Added carbon fibre additives for superior charge acceptance
- ▶ Extreme endurance
- ▶ Longer service life due to extended warranty period

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout	Terminals	Hold Down	
MD 627 AGM	140	1000	A	513	189	223	3		1	B0
MD 629 AGM	170	1100	B	513	223	223	3		1	B0
MD 625 AGM	195	1200	C	514	274	242	3		1	B0
MD 625H AGM	220	1400	C	514	274	242	3		1	B0

Battery Classification as per EN 50342

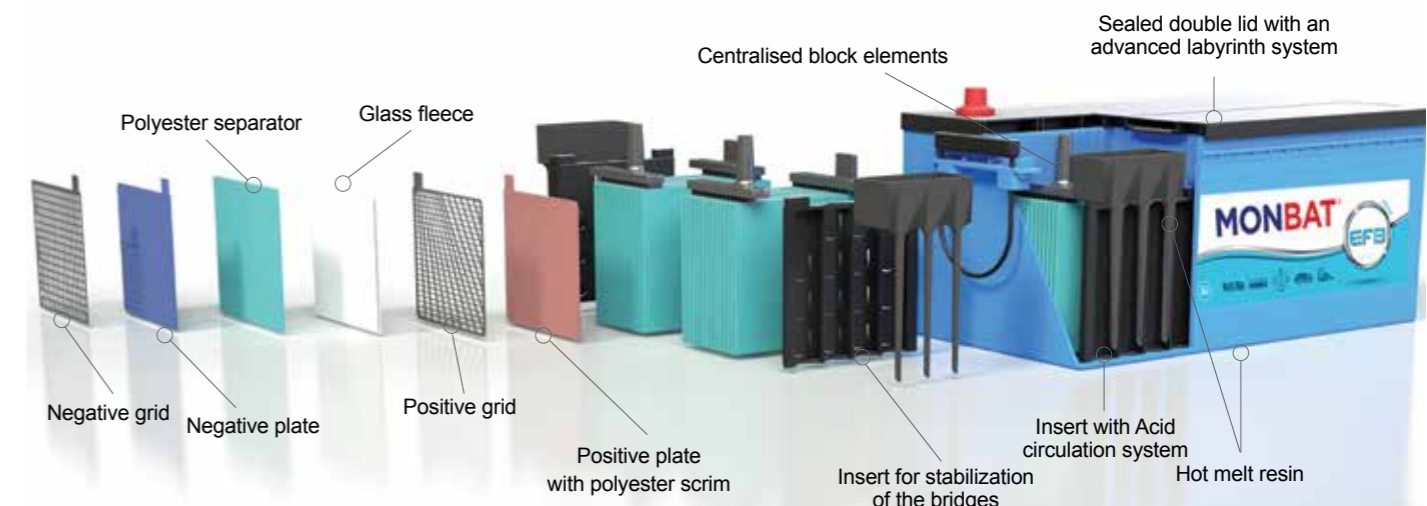
Water consumption	Charge retention	Vibration resistance	Endurance Level
W4	C2	V3	E3

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout	Terminals	Hold Down	
EF14-629SMF	180	1100	B	513	223	223	3		1	B0
EF16-625SMF	225	1200	C	514	276	242	3		1	B0

Battery Classification as per EN 50342

Water consumption	Charge retention	Vibration resistance	Endurance Level
W4	C2	V3	E3





SMF series

HEAVY-DUTY VEHICLES



- ★★★★
VALUE FOR CUSTOMER
- ★★★★
EQUIPMENT LEVEL
- ★★★
VIBRATION RESISTANCE
- ★★★★
CYCLING CAPABILITY
- ★★★★★
CCA CAPABILITY
- VERY LOW
WATER CONSUMPTION

MONBAT SMF series offer great power and endurance for heavy duty vehicles with advanced electrical equipment and power requirements. Our design provides superior starting power and excellent level of endurance.

MAIN BENEFITS

- ▶ Sealed Maintenance Free
- ▶ Advanced labyrinth system for recombination of gases and reduced water loss
- ▶ High Endurance
- ▶ Enhanced Safety
- ▶ Longer Service Life compared to conventional batteries
- ▶ Low rate of self discharge
- ▶ Ideal for H.G.V., Coaches and buses with the latest electrical equipment

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout	Terminals	Hold Down	
MP12-627 SMF	140	950	A	513	189	223	3		1	B0
MP14-629 SMF	180	1200	B	513	223	223	3		1	B0
MP15-623 SMF	180	1200	B	513	223	223	4		1	B0
MP16-625H SMF	230	1350	C	514	274	242	3		1	B0

Battery Classification as per EN 50342

Water consumption	Charge retention	Vibration resistance	Endurance Level
W4	C2	V2	E2



HD series

HEAVY-DUTY VEHICLES



- ★★★
VALUE FOR CUSTOMER
- ★★★
EQUIPMENT LEVEL
- ★★★
VIBRATION RESISTANCE
- ★★★
CYCLING CAPABILITY
- ★★★★
CCA CAPABILITY
- LOW
WATER CONSUMPTION

MAIN BENEFITS

- ▶ Complete range for vans, agricultural vehicles, tractors, HGVs, coaches and buses
- ▶ Suitable for heavy vehicles with standard electrical requirements
- ▶ Wide range of available specifications
- ▶ Vibration proof
- ▶ Low rate of self discharge
- ▶ Improved Endurance
- ▶ Enhanced Safety and reliability

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity Ah	CCA A [EN]		L	W	H	Layout	Terminals	Hold Down	
MD643	95	650	Compact Low	345	175	230	0		1	B0
MD644	95	650	Compact Low	345	175	230	1		1	B0
MD663	110	750	Compact Low	345	175	230	0		1	B0
MD664	110	750	Compact Low	345	175	230	1		1	B0
MD655	130	840	Compact High	345	175	285	0		1	B0
MD656	130	840	Compact High	345	175	285	1		1	B0
MD627	125	800	A	513	189	220	3		1	B0
MD627S	140	950	A	513	189	220	3		1	B0
MD622	143	950	MAC 143	514	218	210	3		1	B3
MD629	170	1100	B	513	223	223	3		1	B0
MD629S	180	1200	B	513	223	223	3		1	B0
MD625	210	1300	C	514	276	242	3		1	B0
MD625S	230	1350	C	514	276	242	3		1	B0

Battery Classification as per EN 50342

Water consumption	Charge retention	Vibration resistance	Endurance Level
W3	C2	V2	E1



Garden series

SEALED MAINTENANCE FREE



- ★★★★
VALUE FOR CUSTOMER
- ★★
VIBRATION RESISTANCE
- ★★★★
CYCLING CAPABILITY
- ★★★★
CCA CAPABILITY
- EXTREMELY LOW
WATER CONSUMPTION

Our Garden series are specially designed for powering ride-on lawnmowers, small tractors and other garden machinery. They deliver consistent starting power in every season. Our calcium plate technology provides an increase in the cranking capabilities in comparison to conventional garden batteries. Our batteries also come fully charged and ready to fit on different types of gardening equipment.

MAIN BENEFITS

- ▶ Completely maintenance free, no fill-up necessary
- ▶ Enhanced safety, leakage and spill proof
- ▶ Very high cranking performance
- ▶ Increased reliability
- ▶ High endurance
- ▶ Charge level indicator
- ▶ 100% European origin

SPECIFICATIONS

Battery Type	Performance		Box	Dimensions			Technical Characteristics			
	Capacity, Ah	CCA, A [EN]		L	W	H	Layout	Terminals	Hold Down	
12N24-3 / 895	28	250	U1R-9	196	128	184	0		4	B0
12N24-4 / 896	28	250	U1R-9	196	128	184	1		4	B0
12N24-3 / 895	32	280	U1R-9	196	128	184	0		4	B0
12N24-4 / 896	32	280	U1R-9	196	128	184	1		4	B0

Battery Classification as per EN 50342

Water consumption	Charge retention	Vibration resistance	Endurance Level
W3	C2	V1	E1



NATO series

NATO / 6TN / OTAN



- ★★★★
ENDURANCE
- ★★
VIBRATION RESISTANCE
- ★★★★
CYCLING CAPABILITY
- ★★★★
CCA CAPABILITY
- EXTREMELY LOW
WATER CONSUMPTION

Special batteries for NATO design tanks and armoured vehicles. Our design with flame retardant boxes and lid meets all military requirements and EN standards to provide a high level of performance and reliability. Available in wet and dry charged version to meet all demands.

MAIN BENEFITS

- ▶ High endurance and reliability
- ▶ Long service life

SPECIFICATIONS

Battery Type	Nominal Voltage	Performance		Dimensions			Technical Characteristics			
		Capacity, Ah	CCA, A [EN]	L	W	H	Layout	Terminals	Hold Down	
6TN	12 V	110	800	286	260	226	2		1	B0
6TN-HD	12 V	125	850	286	260	226	2		1	B0

Battery Classification as per EN 50342

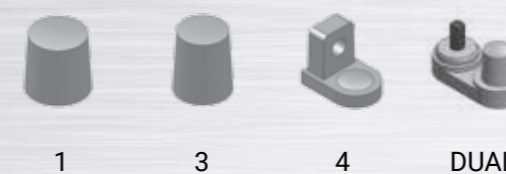
Water consumption	Charge retention	Vibration resistance	Endurance Level
W2	C2	V2	E2

LEGEND

LAYOUT



TERMINALS



HOLD-DOWN





RECYCLE WITH

MONBAT[®]



THE SOURCE OF POWER

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