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MOTIVE POWER
INTEGRATED SOLUTIONS



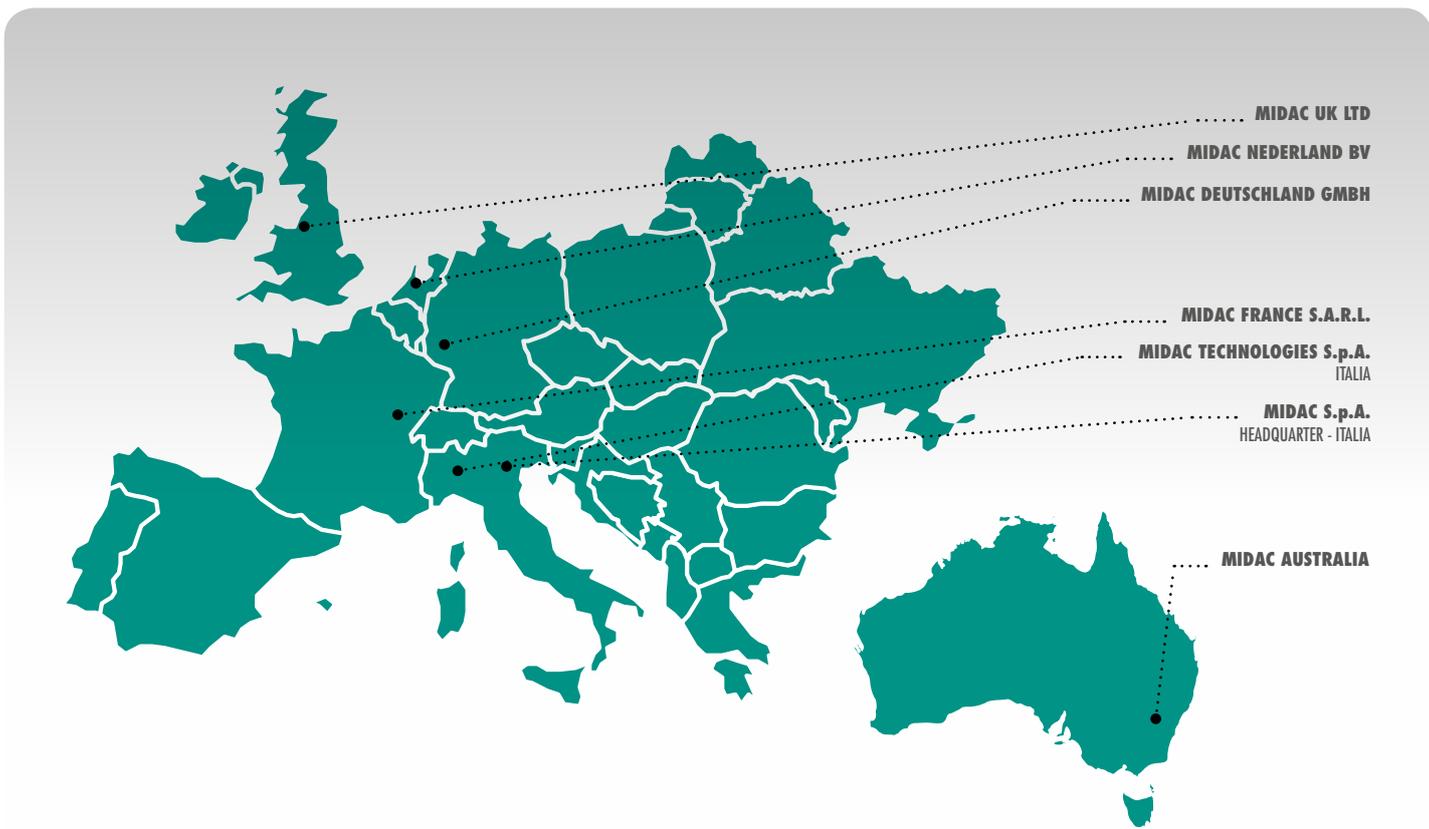
MIDAC SPA | POWER PASSION

MIDAC VISION

PASSION, COMMITMENT AND INNOVATION TO ACHIEVE EXCELLENCE

The only company that produces Automotive, Motive power and Stationary batteries in the same production plant, in less than twenty years it has become one of the leading companies in Europe and its products are sold worldwide.

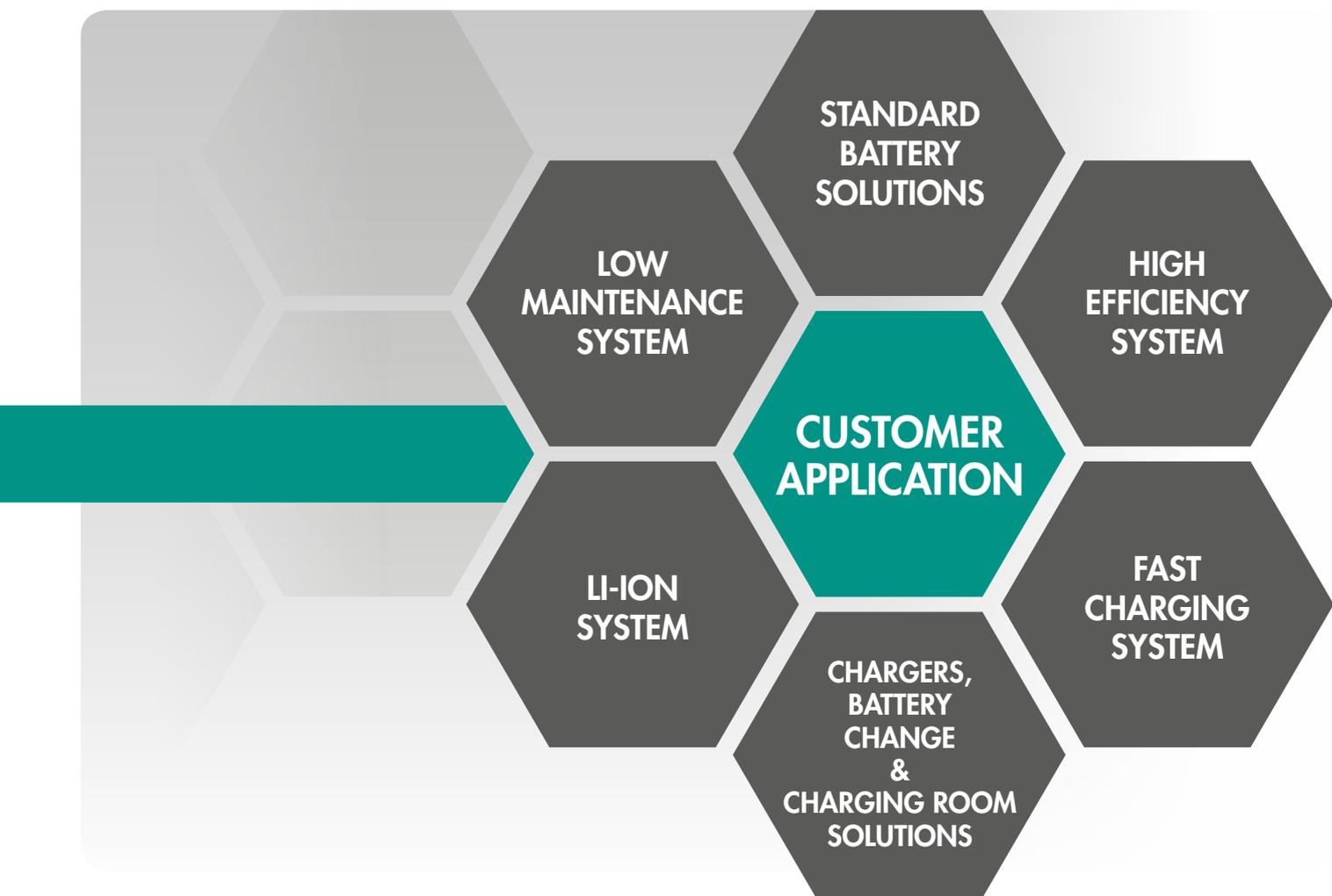
Midac is the European leader in the production of industrial Motive Power batteries. Midac cells and batteries can be assembled on a wide range of accessories to obtain maximum performance and reliability.



MOTIVE POWER | INTEGRATED SOLUTIONS

PRODUCT SOLUTION	MDL - MBS	MLM	MHE
APPLICATION	Standard	Low Maintenance	High Efficiency
TECHNOLOGY	VLA VRLA	VLA	VLA
MAINTENANCE	VLA = weekly VRLA = yearly	quarterly	weekly
DESIGN	IEC 60254-2 series L-E (2V DIN-BS cells)	IEC 60254-2 series L-E (2V DIN-BS cells)	IEC 60254-2 series L (2V DIN cells)
CAPACITY (C5)	100-1550 Ah	100-1550 Ah	250-1000 Ah
INTER-CELL CONNECTIONS	Bolted (std)	Bolted (std)	Welded
DESIGN LIFE (CYCLES*)	VLA 1500+ VRLA 1200+	up to 1500	up to 1800
SINGLE POINT WATERING	Optional (VLA)	YES	YES
AIR MIXING	Optional (VLA)	NA	NA
ELECTROLYTE LEVEL SENSOR	Optional (VLA)	YES	YES
CHARGING SOLUTION	7 to 12 hrs charging time with transformer or HF switching chargers	7 to 12 hrs charging time ONLY with designed High Efficiency (HE) chargers	7 to 12 hrs charging time ONLY with designed High Efficiency (HE) chargers
ENERGY PACK CHARGER	MIDATRON MTB (VLA) MIDATRON MTT (VLA) MIDATRON HF	MIDATRON HE	MIDATRON HE
BMU MODULE	Optional	YES	YES
BATTERY CHANGE SOLUTION	YES	YES	YES

(*) 80% DoD at 30°C with Energy Pack configuration (applicable correcting factors to be considered)



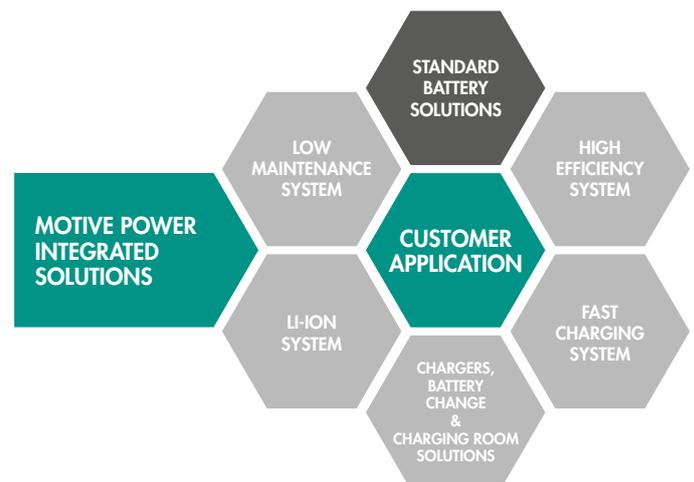
	MHEfast	MDLblock - MBSblock	FORCEblock	LI-ION
	High Efficiency FAST CHARGING	Standard	Standard	High Efficiency FAST CHARGING
	VLA	VLA	VLA VRLA	LI-ION
	weekly	weekly	VLA = weekly VRLA = yearly	yearly
	IEC 60254-2 series L (2V DIN cells)	Multicell block (24V DIN-B / BS)	Multicell block (6V - 12V)	Multicell pack (25.6V custom)
	250-775 Ah	130-250 Ah	60-200 Ah	up to 100 Ah
	Welded	Welded (internal)	Welded (internal)	NA
	up to 1800	1500+	VLA flat 500+ / VLA tubular 1200+ VRLA AGM 400+ / VRLA GEL 600+	2000+
	YES	Optional	Optional (depending on the battery model)	NA
	NA	NA	NA	NA
	YES	NA	NA	NA
	fast charging ONLY with designed High Efficiency (HE) chargers	7 to 12 hrs charging time with HF switching chargers	7 to 12 hrs charging time with HF switching chargers	fast charging ONLY with designed High Efficiency (HE) chargers
	MIDATRON HE	MIDATRON HF	MIDATRON HF	MIDATRON HE
	YES	Optional	NA	Integrated BMS
	YES	YES	NA	NA

MDL - MBS



PRODUCT SOLUTION	MDL - MBS
APPLICATION	Standard
TECHNOLOGY	VLA VRLA
MAINTENANCE	VLA = weekly VRLA = yearly
DESIGN	IEC 60254-2 series L-E (2V DIN-BS cells)
CAPACITY (C5)	100-1550 Ah
INTER-CELL CONNECTIONS	Bolted (std)
DESIGN LIFE (CYCLES*)	VLA 1500+ VRLA 1200+
SINGLE POINT WATERING	Optional (VLA)
AIR MIXING	Optional (VLA)
ELECTROLYTE LEVEL SENSOR	Optional (VLA)
CHARGING SOLUTION	7 to 12 hrs charging time with transformer or HF switching chargers
ENERGY PACK CHARGER	MIDATRON MTB (VLA) MIDATRON MIT (VLA) MIDATRON HF
BMU MODULE	Optional
BATTERY CHANGE SOLUTION	YES

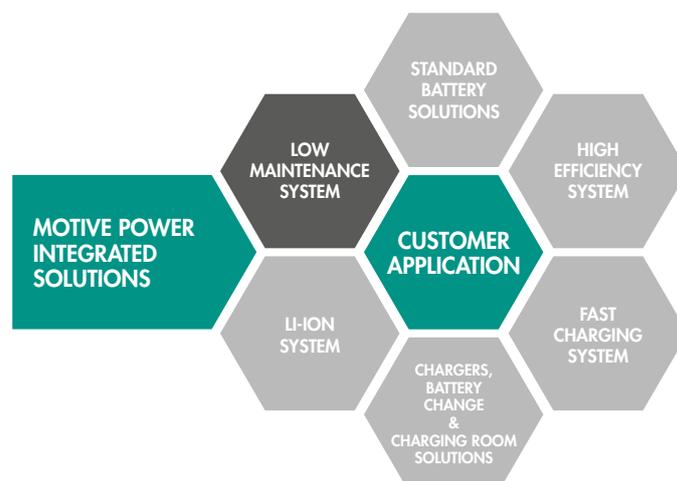
State-of-the-art production technology, the standard MOTIVE POWER range includes the complete DIN and British Standard series according to EN60254-1/2 and in compliance with EN50272-3, available in the widest range of possible configurations and charging solutions, ensuring the most flexible answer to any specific application.





PRODUCT SOLUTION	MLM
APPLICATION	Low Maintenance
TECHNOLOGY	VLA
MAINTENANCE	quarterly
DESIGN	IEC 60254-2 series L-E (2V DIN-BS cells)
CAPACITY (C5)	100-1550 Ah
INTER-CELL CONNECTIONS	Bolted (std)
DESIGN LIFE (CYCLES*)	up to 1500
SINGLE POINT WATERING	YES
AIR MIXING	NA
ELECTROLYTE LEVEL SENSOR	YES
CHARGING SOLUTION	7 to 12 hrs charging time ONLY with designed High Efficiency (HE) chargers
ENERGY PACK CHARGER	MIDATRON HE
BMU MODULE	YES
BATTERY CHANGE SOLUTION	YES

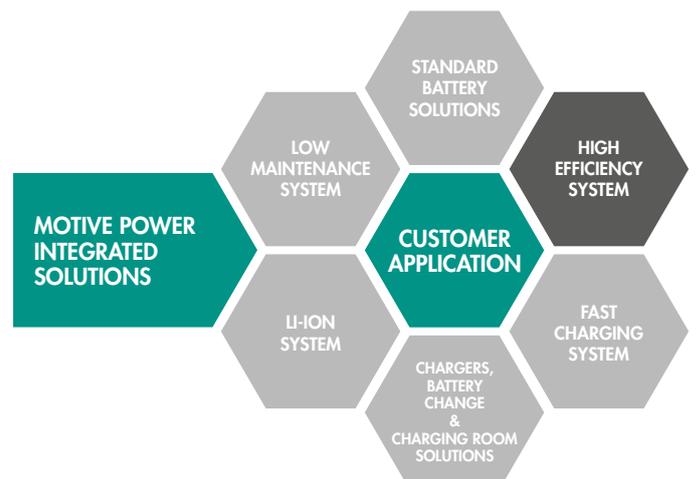
Designed for low water consumption, the MLM system reduces the need for maintenance to once every 3+ months, through the combination of MLM special battery design, high efficiency charger MIDATRON HE and controlled charging profile by means of the MB2 module (MIDAC Battery Brain), while ensuring a long life up to 1500 cycles even on 80% DoD operation, the optimization of the energy consumption during the charge and the battery monitoring / data recording, also available by remote WEB management.





PRODUCT SOLUTION	MHE
APPLICATION	High Efficiency
TECHNOLOGY	VLA
MAINTENANCE	weekly
DESIGN	IEC 60254-2 series L (2V DIN cells)
CAPACITY (C5)	250-1000 Ah
INTER-CELL CONNECTIONS	Welded
DESIGN LIFE (CYCLES*)	up to 1800
SINGLE POINT WATERING	YES
AIR MIXING	NA
ELECTROLYTE LEVEL SENSOR	YES
CHARGING SOLUTION	7 to 12 hrs charging time ONLY with designed High Efficiency (HE) chargers
ENERGY PACK CHARGER	MIDATRON HE
BMU MODULE	YES
BATTERY CHANGE SOLUTION	YES

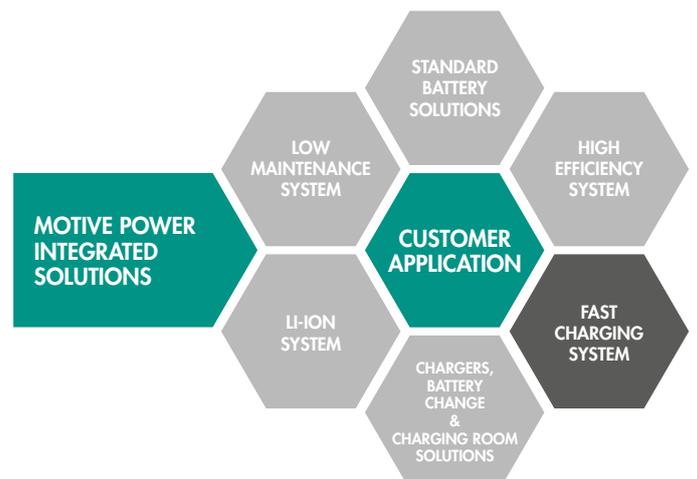
Environment-friendly solution, the MHE system reduces energy consumption and consequently CO₂ emissions by up to 30% through the perfect integration of MHE special battery design, high efficiency charger MIDATRON HE and a controlled charging profile using the MB2 module (MIDAC Battery Brain), while ensuring an extended life up to 1800 cycles on heavy operation and battery monitoring / data recording, with the option of remote WEB management.





PRODUCT SOLUTION	MHEfast
APPLICATION	High Efficiency FAST CHARGING
TECHNOLOGY	VLA
MAINTENANCE	weekly
DESIGN	IEC 60254-2 series L (2V DIN cells)
CAPACITY (C5)	250-775 Ah
INTER-CELL CONNECTIONS	Welded
DESIGN LIFE (CYCLES*)	up to 1800
SINGLE POINT WATERING	YES
AIR MIXING	NA
ELECTROLYTE LEVEL SENSOR	YES
CHARGING SOLUTION	fast charging ONLY with designed High Efficiency (HE) chargers
ENERGY PACK CHARGER	MIDATRON HE
BMU MODULE	YES
BATTERY CHANGE SOLUTION	YES

Based on MHE system technology, the fast-charge version has been specifically designed for two shift operation and can be sized for up to 24h/5 day use through opportunity charging, with weekend equalization, while preserving the expected equivalent life of 1800 cycles and introducing enhanced safety characteristics and savings in terms of fleet management costs. In combination with battery change solutions, MHEfast completes the most advanced proposal to satisfy any requirement.

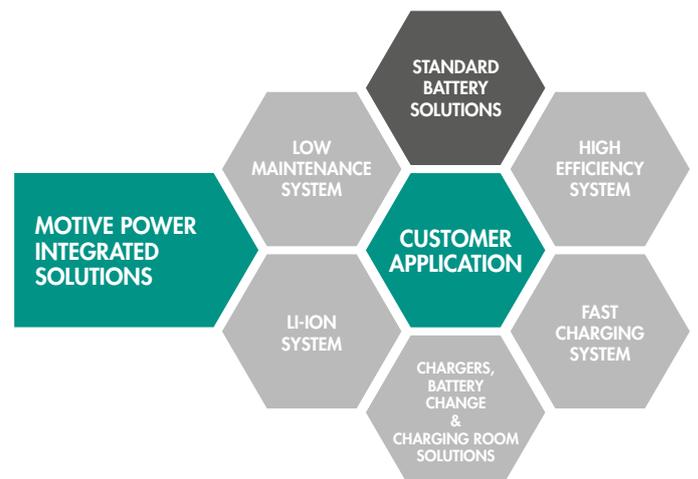


MDLblock - MBSblock



PRODUCT SOLUTION	MDLblock - MBSblock
APPLICATION	Standard
TECHNOLOGY	VLA
MAINTENANCE	weekly
DESIGN	Multicell block (24V DIN-B / BS)
CAPACITY (C5)	130-250 Ah
INTER-CELL CONNECTIONS	Welded (internal)
DESIGN LIFE (CYCLES*)	1500+
SINGLE POINT WATERING	Optional
AIR MIXING	NA
ELECTROLYTE LEVEL SENSOR	NA
CHARGING SOLUTION	7 to 12 hrs charging time with HF switching chargers
ENERGY PACK CHARGER	MIDATRON HF
BMU MODULE	Optional
BATTERY CHANGE SOLUTION	YES

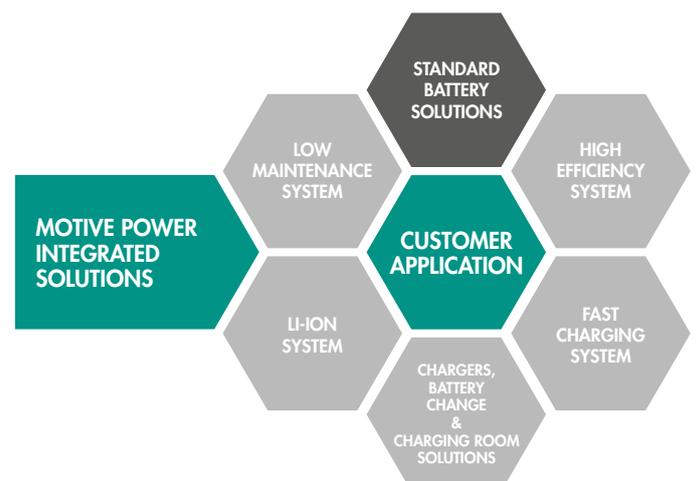
One of the greatest challenges in technological development is to create innovation, whilst introducing substantial improvements to both the production process and the resulting product, that positively impact quality, cost and application. The "block project", 8 years on from the launch of the revolutionary MBSblock range, is now completed and significantly enhanced by the introduction of the new MDLblock versions to cover most of the applications on pallet trucks designed for British Standard and DIN-B 24V batteries up to 250 Ah/C5.





PRODUCT SOLUTION	FORCEblock
APPLICATION	Standard
TECHNOLOGY	VLA VRLA
MAINTENANCE	VLA = weekly VRLA = yearly
DESIGN	Multicell block (6V - 12V)
CAPACITY (C5)	60-200 Ah
INTER-CELL CONNECTIONS	Welded (internal)
DESIGN LIFE (CYCLES*)	VLA flat 500+ / VLA tubular 1200+ VRLA AGM 400+ / VRLA GEL 600+
SINGLE POINT WATERING	Optional (depending on the battery model)
AIR MIXING	NA
ELECTROLYTE LEVEL SENSOR	NA
CHARGING SOLUTION	7 to 12 hrs charging time with HF switching chargers
ENERGY PACK CHARGER	MIDATRON HF
BMU MODULE	NA
BATTERY CHANGE SOLUTION	NA

Following the long and successful experience of EW (Energy at Work) batteries, the new FORCEblock range has been designed to be a complete and reliable solution for ALL those LIGHT MOTIVE POWER applications such as EV, cleaning machines, small pallet trucks, aerial platform and lifts, as well as wheelchairs and golf cars. Now available in vented and sealed version, both flat and tubular plates models can be defined to properly satisfy the specific application.

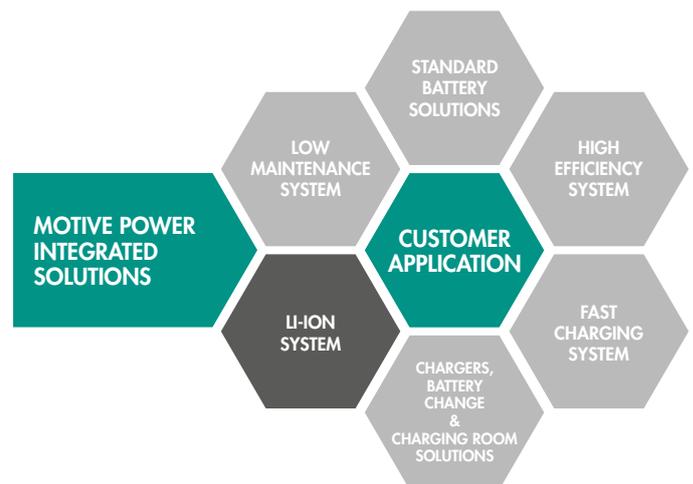


LI-ION



PRODUCT SOLUTION	LI-ION
APPLICATION	High Efficiency FAST CHARGING
TECHNOLOGY	LI-ION
MAINTENANCE	yearly
DESIGN	Multicell pack (25.6V custom)
CAPACITY (C5)	up to 100 Ah
INTER-CELL CONNECTIONS	NA
DESIGN LIFE (CYCLES*)	2000+
SINGLE POINT WATERING	NA
AIR MIXING	NA
ELECTROLYTE LEVEL SENSOR	NA
CHARGING SOLUTION	fast charging ONLY with designed High Efficiency (HE) chargers
ENERGY PACK CHARGER	MIDATRON HE
BMU MODULE	Integrated BMS
BATTERY CHANGE SOLUTION	NA

The mindful approach to new technologies, once again demonstrate the DNA-insight attitude of MIDAC to follow the path of continuous development. Li-ion combines the state-of-the-art in battery technology and electronic integration, where all the functions are closely monitored and controlled by the BMS (Battery Management System). Suitable for fast charging application, it ensures 2000+ cycles at 80% DoD with maintenance-free operation and can definitely be defined as option for special application where LA does not satisfy the requirements.



CHARGING SOLUTIONS



MIDATRON HE

APPLICATION	HIGH EFFICIENCY - FAST CHARGING
TECHNOLOGY	MULTI-VOLTAGE HIGH FREQUENCY SWITCHING
DESIGN	WALL MOUNTED
MAINS	SINGLE-PHASE / THREE-PHASE
CHARGING PROFILE	BMU CONTROLLED IUI α
CHARGING TIME	7 to 12 hrs (or FAST)
USER INTERFACE	TOP CONFIGURATION
CONNECTIVITY	YES
PROTECTION	IP21
COOLING	FAN

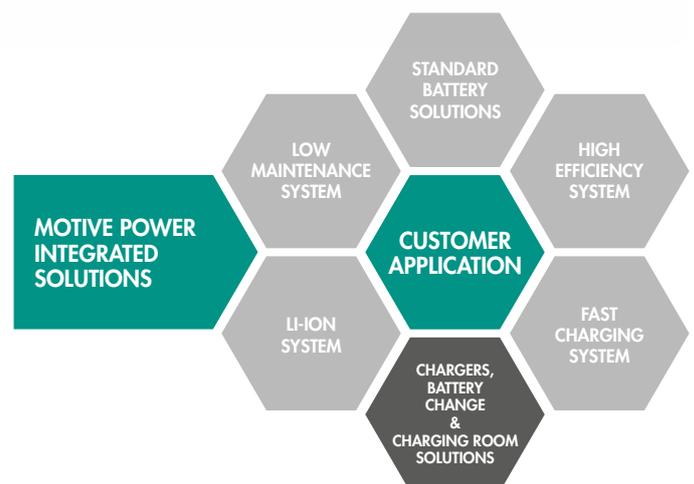
(models with charging current exceeding 150A, see floor mounted MULTI-VOLTAGE IGBT versions)



MIDATRON MTT

APPLICATION	STANDARD TOP
TECHNOLOGY	POWER TRANSFORMER
DESIGN	SHELF - FLOOR MOUNTED
MAINS	THREE-PHASE
CHARGING PROFILE	W $s\alpha$ PULSE
CHARGING TIME	7 to 8 hrs
USER INTERFACE	TOP CONFIGURATION
CONNECTIVITY	YES
PROTECTION	IP21
COOLING	NATURAL

Forefront of charging solutions, MIDATRON HE and MIDATRON MTT actually represent the TOP range from any point of view. Respectively full 100kHz High Frequency switching and 12 Pulse rectification technology, with amazing EFFICIENCY characteristics, ALL the most advanced features are included, starting from the user-friendly interface to the powerline communication with the BMU (MB2).



CHARGING SOLUTIONS



MIDATRON HF

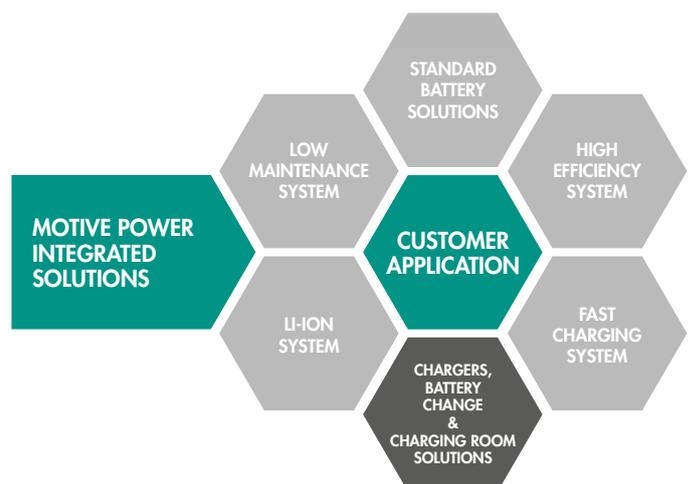
APPLICATION	STANDARD BASIC
TECHNOLOGY	HIGH FREQUENCY SWITCHING
DESIGN	WALL MOUNTED
MAINS	SINGLE-PHASE / THREE-PHASE
CHARGING PROFILE	IUI α
CHARGING TIME	7 to 12 hrs
USER INTERFACE	BASIC CONFIGURATION
CONNECTIVITY	NO
PROTECTION	IP21
COOLING	FAN



MIDATRON MTB

APPLICATION	STANDARD BASIC
TECHNOLOGY	POWER TRANSFORMER
DESIGN	SHELF - FLOOR MOUNTED
MAINS	SINGLE-PHASE / THREE-PHASE
CHARGING PROFILE	W α
CHARGING TIME	10 to 12 hrs
USER INTERFACE	BASIC CONFIGURATION
CONNECTIVITY	NO
PROTECTION	IP21
COOLING	NATURAL

Solid charging solutions, MIDATRON HF and MIDATRON MTB represent the BASIC range with HIGH QUALITY and concrete reliability characteristics. Respectively High Frequency switching and power transformer technology, both the versions include the user-friendly interface common to all the MIDATRON products.



MB2 THE BATTERY BRAIN



Perfectly integrated Battery Module Unit, the MB2 takes reading of ALL the essential parameters like terminals and half battery voltage, in/out current, electrolyte level and temperature, with lab-instrument accuracy, while preserving high mechanical strength and chemical-proof characteristics during the entire battery life.

Constantly communicating with the MIDATRON unit using Powerline wireless technology, MB2 provides record of any relevant event and proactively adjusts the charging algorithm parameters. Responding to the most severe safety protocols, the MIDATRON MB2 system constitutes ultimate solution for Battery Management requirements.



Midac Batteries provides the total solution for every battery room. From the supply of batteries and chargers, we deliver dependable, flexible, and affordable equipment and accessories to customers around the globe.

Midac offers the most comprehensive line of products and services to meet all of your battery, charger, handling, storage, maintenance, and safety needs.



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QUALITY AND FLEXIBILITY

MIDAC is very committed in providing the market with a wide range of products, ensuring premium quality and maximum flexibility to satisfy any requirement, also engineering customized solutions.

MIDAC'S management system is certified according to:

ISO 9001:2008, ISO/TS 16949:2009, ISO 14001:2004, BS OHSAS 18001:2007, SA 8000:2008



MIDAC SPA SPA HEADQUARTER, SOAVE, VERONA, ITALY

Unica realtà a produrre batterie avviamento, trazione e stazionarie in un singolo stabilimento produttivo, in 25 anni è diventata una delle aziende leader in Europa con prodotti distribuiti in tutto il mondo.

The only company that produces Automotive, Motive power and Stationary batteries in the same manufacturing plant, in less than 25 years it has become one of the leading companies in Europe and its products are sold worldwide.

MIDAC PRODUZIONE VERDE

Midac utilizza l'energia pulita prodotta dal proprio impianto fotovoltaico per la produzione di batterie e accumulatori, evitando l'emissione di 945 tonnellate di CO₂ ogni anno.

MIDAC GREEN PRODUCTION

Midac uses clean energy produced by your photovoltaic system for the production of batteries and accumulators, avoiding the emission of 945 tons of CO₂ each year.

