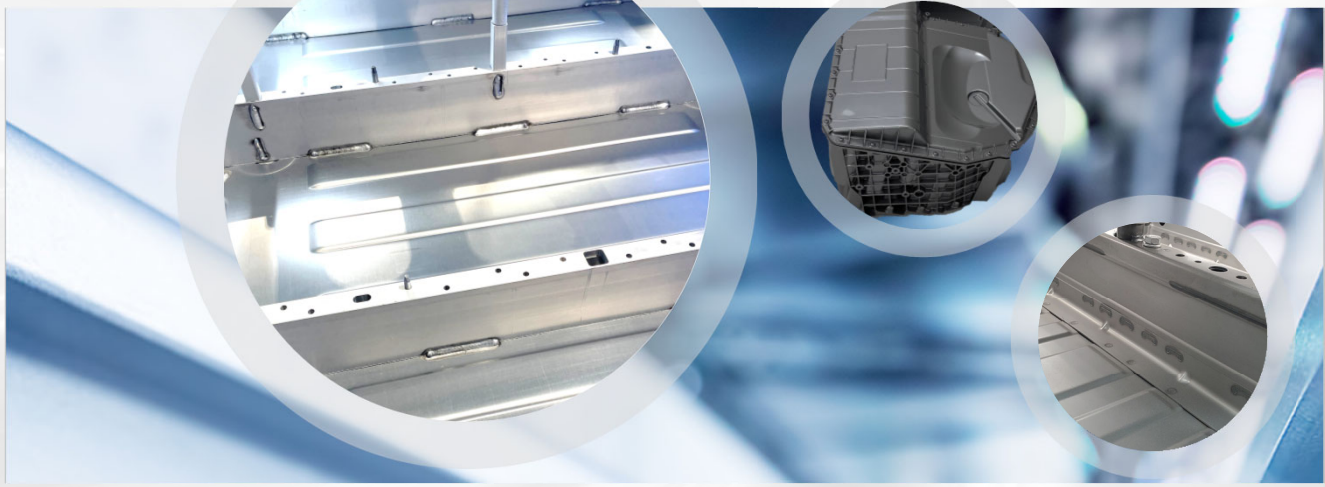
Overview

Battery Enclosure Overview

Magna offers the complete array of battery enclosure production and engineering solutions. The battery enclosure contributes to the structural and safety aspects of the body in white while protecting high-voltage batteries from damage and water. These complex assemblies are available in steel, aluminum, and multi-material configurations including lightweight composites.



Cleaner | Safer | Lighter | Co-Development Opportunity

Design | Electrification

Competitive advantage/differentiators

- Two complete battery enclosure systems for fully-electric vehicles begin production in 2021, following our track record of supplying mid and full-hybrid battery enclosures
- R&D, advanced engineering, and simulation expertise optimize design, and address technical challenges
- Global engineering production footprint

Applications

- Hybrid & EV platforms
- Complex and modular designs
- Multi-material requirements
- Scalable design to fit different vehicle segments or energy densities

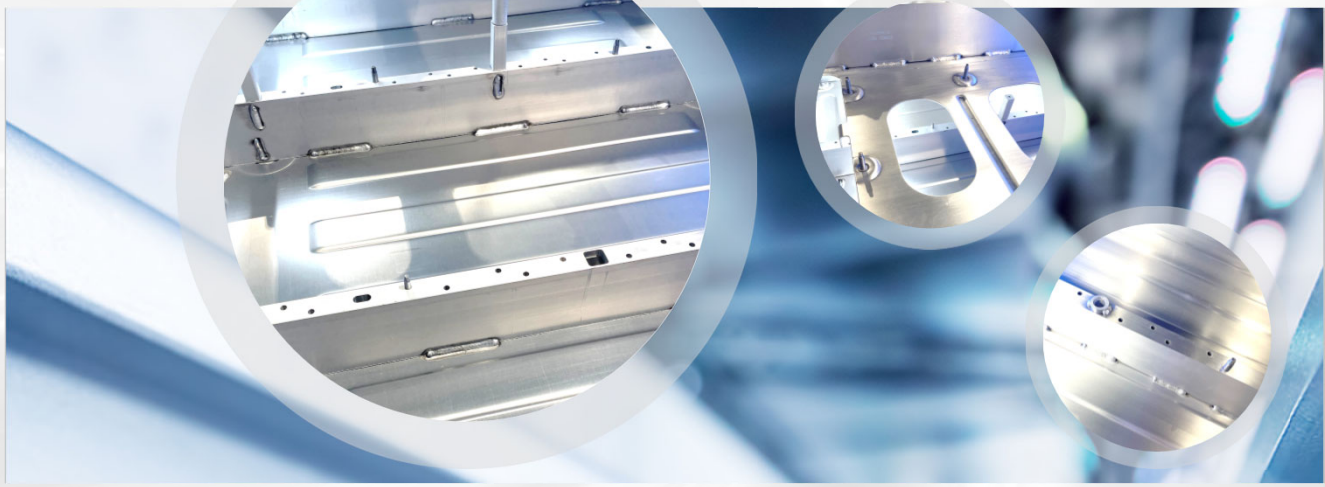
SOP

Ideation | Discovery | Concept | Development | Serial Preparation | in Production

Aluminum Capabilities

Aluminum Battery Enclosure

With Magna's engineering and manufacturing capabilities for complex aluminum assemblies, we can support all customer needs regarding aluminum battery enclosures on a global scale. We offer solutions with the best possible quality from the first concept development to high volume mass production.



Cleaner

Design

Lighter

Electrification

Co-Development Opportunity

Competitive advantage/differentiators

- 20% lighter than comparable steel designs
- Aluminum designs offer light weighting and high-scalability to produce different enclosure sizes for different vehicles on one production line
- Designed as an assembly of extrusions, castings, and stampings

Applications

- Lightweight designs
- Complex and modular designs
- Hybrid & EV platforms

SOP

Ideation | Discovery | Concept | Development | Serial Preparation | In Production

Steel Capabilities

Steel Battery Enclosure

With Magna's broad expertise in engineering and various steel forming and joining capabilities, we offer the complete development and production of steel battery enclosure solutions. This includes all required safety and quality checks on a global scale.

Cleaner | Design | Electrification | Co-Development Opportunity

Competitive advantage/differentiators

- Steel battery enclosures combine the structural advantage of higher-grade steel and the lower material cost compared to aluminum or fiber reinforced plastic
- Large one-piece stampings offer improved leak tightness, are safety-critical, and reduce production costs
- Optimized battery space utilization due to formability properties of steel

Applications

- Complex and modular designs
- Cost reduction initiatives
- Hybrid & EV platforms

SOP

Ideation | Discovery | Concept | Development | Serial Preparation | In Production