ARTS ENERGY

DESIGNER AND MANUFACTURER OF BATTERIES AND ENERGY SOLUTIONS
FOR PROFESSIONAL & TECHNICALLY DEMANDING APPLICATIONS
We design energy products and solutions according to our customer needs

From 1Wh to 10kWh
Up to 60V

HIGH CAPACITY & FLEXIBLE EQUIPMENTS

- Electrical welding experts
- In-house equipment design and validation
- High modularity & line flexibility
- Safety test equipment to support designs

ELECTROCHEMISTRY EXPERTS

- Multi battery technologies experts
- ARTS Energy develops and produces Nickel based technologies
- Electrochemical analysis
- Customised electrochemical compositions and electrodes

SYSTEM & ELECTRONIC EXPERTS

- Customised and optimised solutions
- Intelligence associated with the battery
- Technical management of safety considerations
- Co-development with customers

MECHANICAL DESIGN EXPERTS

- Design to cost
- Standard terminals available
- Customised products available
- Plastic moulding capability
- Ultrasonic assembly design experts
- Fast prototyping & 3D printing

Your partner for energy storage solutions
With highly skilled Designers

EMS (ENERGY MANAGEMENT SYSTEM)
- Optimisation of energy consumption
- Customer application management
- Interface battery/customer application
- Energy and cost savings

BMS (BATTERY MANAGEMENT SYSTEM)
- Customised battery management
- Customers training & partnering
- Optimisation of battery performances
- Safety and reliability

SYSTEMS AND COMMUNICATION
- Plug & Play
- Communication interface available (I2C, CAN, RS232...)
- SMART products
- With long experience of production

CHARGERS
- Fully compliant with safety rules
- For Nickel or Lithium based battery packs
- From attractive cost to high quality
- Wireless chargers

PROTECTION ADAPTED TO THE TECHNOLOGIES
- User Safety First, especially for lithium
- Safety level SIL 1 as a minimum (ref EN61508)
- Large range available for all technologies
- In-house conception, and qualification

TEMPERATURE MANAGEMENT

CHARGE PROTECTION

DISCHARGE PROTECTION

CHARGE MANAGEMENT

VOLTAGE MANAGEMENT

CURRENT MANAGEMENT
Qualified high quality products

WITH OVER 40 YEARS OF EXPERIENCE

EXPERTS IN BATTERY STANDARDS AND TRANSPORTATION REGULATIONS
We support our customers and manage battery certifications upon request
• IEC61951-1, 61951-2 and 61960
• IEC62133, UL 2054
• UN/DOT 38.3 compliance for Lithium
• FR21G

QUALITY & ENVIRONMENT
• High level of product traceability
• Dedicated project and production quality teams
• Member of Recharge Association
• Research program in partnership with BASF
• Dedicated after sales team

ELECTRICAL LABORATORY
• Comprehensive resources (Expertise & Test Equipment)
• Very long term tests (up to 20 years) at different temperatures
• Customers application tests
• Benchmarking tests

LOGISTIC
• High flexibility with Lean manufacturing
• Fast delivery worldwide
• Consignment or safety stock ability

OTHER SERVICES
• Your product assembly
• Storage management

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More than 40 years expertise delivered to our customers

We offer Nickel based technologies with the industries recognised high performance and quality cells in the market.

<table>
<thead>
<tr>
<th>Ni-MH TECHNOLOGY</th>
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<tbody>
<tr>
<td>ENERGY TYPE</td>
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<tr>
<td>HIGH ENERGY DENSITY</td>
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**Ni-MH Technology**

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<table>
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<tr>
<th>Cells size</th>
<th>AAA</th>
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<th>4/5A</th>
<th>A</th>
<th>4/3A</th>
<th>4/3fatA</th>
</tr>
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<tbody>
<tr>
<td>Capacity (Ah) minimum</td>
<td>0.65 - 0.93</td>
<td>1.5 - 2.3</td>
<td>1.55 - 1.95</td>
<td>2.45</td>
<td>3.6</td>
<td>4.1</td>
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<th>D</th>
<th>F</th>
</tr>
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<tbody>
<tr>
<td>Capacity (Ah) minimum</td>
<td>0.8 - 1.1</td>
<td>1.6 - 2</td>
<td>4</td>
<td>6 - 8</td>
<td>10 - 13</td>
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**Ni-Cd Technology**

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<tbody>
<tr>
<td>Capacity (Ah) minimum</td>
<td>0.6 - 0.8</td>
<td>1.5 - 1.6</td>
<td>4</td>
<td>7</td>
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<td>1.6</td>
<td>2.5</td>
<td>4 - 4.2</td>
<td>7</td>
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We offer a comprehensive range

**OF STANDARD EQUIPPED CELLS:**

- **CELLS SLEEVED: CFG**
  The cell is delivered sleeved with or without washer

- **CELLS SLEEVED WITH LONG TABS: CLG**
  The cell is delivered sleeved and equipped with 2 long tabs on the same side

- **CELLS SLEEVED WITH SHORT TABS ON TOP AND BOTTOM: HBG**
  The cell is delivered sleeved and equipped with 2 short tabs on the opposite side

- **CELLS SLEEVED WITH SHORT TABS ON TOP: HHG**
  The cell is delivered sleeved and equipped with 2 tabs on the top

**OF STANDARD BATTERY PACKS:**

- **BLOC BATTERY PACK WITHOUT SLEEVE**
  The battery pack is built with one or 2 rows and equipped with tabs

- **BLOC BATTERY PACK WITH FLANGES**
  The battery pack is built with 2 rows and plastic flanges with tabs

- **BATTERY PACK WITH WIRES AND CONNECTOR**
  The battery pack is made with wires and connectors

- **STICK BATTERY PACK WITH TABS**
  The battery pack is built as a stick with tabs

**OF STANDARD BATTERY SYSTEMS:**

<table>
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<tr>
<th>Extensolar (VHT)</th>
<th>Mobility (VH)</th>
<th>PV (VHT)</th>
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<tr>
<td>With BMS &amp; communication</td>
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<td>12V - 20Ah</td>
</tr>
<tr>
<td>12V - 36V</td>
<td>12V - 36V</td>
<td>10Ah - 20Ah</td>
</tr>
<tr>
<td>10Ah - 20Ah</td>
<td>9Ah - 30Ah</td>
<td>10Ah - 20Ah</td>
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<th>5Smart (VH)</th>
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<td>9Ah - 30Ah</td>
</tr>
<tr>
<td>6Ah - 20Ah</td>
<td>6Ah - 20Ah</td>
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<tr>
<th>Endurance L1/L2/L4 (VHT)</th>
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<tbody>
<tr>
<td>No electronic</td>
</tr>
<tr>
<td>12V - 48V</td>
</tr>
<tr>
<td>6Ah - 20Ah</td>
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</table>

**AND ALSO CUSTOMISED BATTERY PACKS TO MATCH YOUR APPLICATION:**

- Your dimensions
- Casing on demand
- Electronic development
Meet ARTS Energy

ALL OVER THE WORLD

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contact@arts-energy.com

www.arts-energy.com