This report

◆ analyzes the status quo of micro motor market and application industry

◆ Focuses on the Micro Motor Manufacturers, such as NIDEC, MINEBEA, Mabuchi Motor, Johnson Motor, Tokyo Parts, JAHWA ELECTRONICS, LG INNOTEK, and so on

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Abstract

Micro motor refers to the motor of special use and performance with the diameter less than 160mm or the rated power below 750W. Micro motor gets generally in control system to perform detection, algorithm, magnification, execution or conversion of electromechanical signals or energy. Also, micro motor can be used for the loading of transmission machinery as well as served as AC/DC power. This report highlights micro motors which are applied in IT, mobile phone, air-conditioner and automotive sectors.

Revenue of Major Micro Motor Manufacturers Worldwide, 2009-2010

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Revenue, 2009 (USD min)</th>
<th>Revenue, 2010 (USD min)</th>
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<tbody>
<tr>
<td>NIDEK</td>
<td>4,850</td>
<td>5,527</td>
</tr>
<tr>
<td>NIDEC SANKYO</td>
<td>231</td>
<td>263</td>
</tr>
<tr>
<td>MINEBEA</td>
<td>920</td>
<td>1,048</td>
</tr>
<tr>
<td>MABUCHI MOTOR</td>
<td>850</td>
<td>969</td>
</tr>
<tr>
<td>JOHNSON ELECTRIC</td>
<td>1,080</td>
<td>1,080</td>
</tr>
<tr>
<td>JAHWA</td>
<td>70</td>
<td>61</td>
</tr>
<tr>
<td>LG INNOTEK</td>
<td>196</td>
<td>171</td>
</tr>
<tr>
<td>SEMCO</td>
<td>312</td>
<td>270</td>
</tr>
<tr>
<td>SHICOH Electronics</td>
<td>157</td>
<td>179</td>
</tr>
<tr>
<td>MITSUBA</td>
<td>2,020</td>
<td>2,562</td>
</tr>
<tr>
<td>SHINANO MOTOR</td>
<td>400</td>
<td>456</td>
</tr>
<tr>
<td>MITSUME ELECTRIC</td>
<td>450</td>
<td>513</td>
</tr>
<tr>
<td>ASMO</td>
<td>2,850</td>
<td>3,248</td>
</tr>
<tr>
<td>SANYO Saitec</td>
<td>320</td>
<td>365</td>
</tr>
<tr>
<td>DENSO</td>
<td>2,398</td>
<td>2,735</td>
</tr>
<tr>
<td>ZHONGSHAN BROAD-OCEAN MOTOR</td>
<td>210</td>
<td>340</td>
</tr>
<tr>
<td>Welling Holding</td>
<td>700</td>
<td>1,110</td>
</tr>
</tbody>
</table>
As for micro motor for automobiles, it is still the Japanese enterprises that take the lead. The micro motor manufacturers include Nidec, ASMO, Mitsuba, Denso and Mabuchi Motor, with the aggregate market shares exceeding 50% in 2009. The key micro motor producer in Europe comes to Brose. But America, as the giant in automotive sector, mainly imports micro motors from Mainland China and Japan.

In November 2006, Nidec took over the auto motor department of Valeo, a leading auto parts enterprise in France, and entered automotive industry. Nidec consolidates its hegemonic power by means of mergers and acquisitions year by year. In August 2010, EMC business of Emerson Electric was acquired by Nidec at a price of JPY 65 billion; in December 2010, Nidec purchased SANYO Seimitsu, the overlord in mobile vibration motor industry.

Concerning micro motors in IT field, Japanese manufacturers enjoy overwhelming superiority. The HDD spindle motor is the micro motor with crowning technical content. Only four manufacturers in the world can produce HDD spindle motors which have strictest requirements on running accuracy, they are NIDEC, JVC, PANASONIC, SAMSUNG, of which NIDEC boasts a market share of more than 80% in 2009. Additionally, ODD spindle motor is next to HDD spindle motor in terms of technology content, but merely four producers worldwide are capable of making the product, including Nidec whose market shares occupy 75%.

Likewise, Japanese manufacturers including Minebea, Nidec and SANYO Seimitsu also predominate the market of axial fan motors with a combined share of 85% or more. By contrast, mobile vibration motor features comparatively low technology content, especially hollow cylindrical cup-shaped motor which can be made by a great many Chinese enterprises, while flat-type ones are mainly produced by foreign counterparts due to higher technical content.
production of motors applied in white home appliances and kitchen supplies, and they converge in the Pearl River Delta and Zhejiang Province, including Zhangqiu Haier, Welling Holding, Zhongshan Broad-Ocean Motor, Zhejiang Wolong, Hangzhou Panasonic, NIDEC SHIBAURA and Jiangsu Futianjiang Electronic.

As an associated enterprise of Midea, Welling Holding is a flagship enterprise in air-conditioner motor industry, with its market share topping the world. Jiangsu Futianjiang Electronic is a joint venture of Jiangsu Sanjiang Electric Group and Japan-based Fujitsu; Panasonic and NIDEC SHIBAURA are both Japanese enterprises. What’s remarkable, Zhangqiu Haier has higher market shares than its domestic peers; Zhejiang Wolong relies on Wolong Group; and Zhongshan Broad-Ocean Motor as one of the few independent enterprises encounters difficulties in air-conditioner motor field, but it is striving for expanding auto motor business.

Brose, a Germany-based enterprise, runs as a pioneer in window regulator, door system and seat adjustment system, with the annual output as many as 70 million sets or more. In 2003, Brose took over gate lock business of Bosch; in late December 2007, Brose purchased auto motor division of original Siemens VDO and engine cooling fan business of Continental AG, making it become the largest manufacturer of auto motor in Europe and America.

Johnson Electric is a Hong Kong-based enterprise which targets European and American markets. It features the most comprehensive sales network in motor industry.

As a loyal partner of Honda, Mitsuba almost monopolizes the supply of micro motors to Toyota. Mabuchi Motor produces a wide range of products, covering the arenas of auto, optical disc player, stereo system, toy and home appliances.

The motors applied in white home appliances characterize rather low technical content. China is the largest producer of white goods and kitchen supplies, with the market occupancy involved in the production of motors applied in white home appliances and kitchen supplies, and they converge in the Pearl River Delta and Zhejiang Province, including Zhangqiu Haier, Welling Holding, Zhongshan Broad-Ocean Motor, Zhejiang Wolong, Hangzhou Panasonic, NIDEC SHIBAURA and Jiangsu Futianjiang Electronic.
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- **Routing No #:** 332906
- **Bank SWIFT Code:** COMMCNBJG

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