China Gas Compressor Manufacturing Industry Report, 2009

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2.2 Development of China Gas Compressor Manufacturing Industry in 2009

2.2.1 Output

*Monthly Output and Growth Rate of Gas Compressor in China, 2008-Sep 2009*

In the fourth quarter of 2008, China's gas compressor output declined. In 2009, the output has begun to rise steadily. In July of this year, China's gas compressor output reached 9.921 million, setting the highest record in this year.
2.2.2 Demand

In 2008, as the national petrochemical industry continued to expand the scale of production, rail and transport infrastructure construction increased, so the demand for gas compressor was stimulated. However, due to the global financial crisis, Chinese compressor manufacturers got less orders and the growth rate of the industry slowed down obviously after the second half of this year.

In response to the global financial crisis, from late 2008 to early 2009, China constituted a series of programs to stimulate the economy, focusing on the revitalization and adjustment of 10 industries, including petrochemical industry and metallurgical industry which were the downstream industries of gas compressor. These measures will have a positive impact on the development of gas compressor industry. In the next three years, China's petroleum industry, chemical industry, metallurgical industry, shipbuilding industry, environmental protection industry and clean energy industry will develop further, so the compressor market is promising and the demand for large thrust reciprocating compressors, screw compressors, large displacement oil-free compressors, high pressure large displacement compressors, engine auxiliary compressors and low noise marine compressors will be considerable.
2.2.3 Economy

In 2008, the output value of China's gas compressor maintained to grow. In 2009, the output value decreased, and still declined in the first half of this year. In August 2009, the output value increased to RMB4.16 billion, close to that in the beginning of this year. With the acceleration of domestic construction, the demand has been further amplified. In the fourth quarter of 2009, the output value is expected to rebound.

Output Value and Growth Rate of Gas Compressor in China, Feb 2008-Aug 2009

Source: ResearchInChina; WIND
5.1.2 Market Competition Structure

China is the second largest gas compressor market around the world. In recent years, China compressor market keeps growth, and the industry concentration improves. In addition, the industry structure becomes more and more proper and there forms several large-scale industry groups.

In recent two years, most of gas compressor enterprises in China have carried on economic and strategic recombination, and concentrated on key fields and key enterprises constantly. During this process, some disadvantageous enterprises withdraw; excellent enterprises take good position, and improve capital operation efficiency, also undertake national big technology equipment projects. For example, Shenyang Blower Works Group Co., Ltd. recombined with Shenyang Yuanda Gas Compressor Co., Ltd. and Shenshui Mechanical Machinery Co., Ltd, and set up large group. It is forecasted that the total output value will be RMB10 billion by 2010 and the group will be listed into national top 500. In addition, Shaanxi Blower (Group) Co., Ltd. recombined with Xi’an Instruments Factory and Xi’an Boiler Factory, the scale expanded swiftly.

Shaanxi Blower (Group) Co., Ltd. is a large-scale whole set equipment manufacturing enterprise. Its recombination with Xi’an Boiler Factory generates the resource advantage, and further strengthens its ability to provide systematic solutions. In addition, along with more connection with international market, its standard also improves, thus prompts its quality.
When the state-owned enterprises step up reform, private enterprises also develop greatly, which make the core competitiveness improve obviously and product structure change greatly. Because of flexibility of private enterprises, the competitiveness is strengthened greatly, and the scale is expanded swiftly. Taken Shenyang Yuanda Gas Compressor Co., Ltd. as example, with more than ten years’ development, it has undertaken large scale compressor for petrochemical industry.

Foreign-funded enterprises (including Sino-foreign joint ventures, enterprises with Sino-foreign cooperation, and wholly foreign-owned enterprises) take the second position behind private enterprises in terms of market share, and its profitability is higher than the average level. For the fast and balanced economic development in recent years, the market demand is strong, and the good market environment further attracts and prompts foreign-funded enterprises’ development. Chinese enterprises cooperate with foreign enterprises by joint venture or technology introduction, which advance the gas compressor manufacturing industry development, also intensify the industry competition.

Some high-end products in large and medium scale compressor market are mainly relied on import. In addition, the market is dominated by large-scale state-owned enterprises. The main suppliers include Shenyang Blower Works Group Co., Ltd., Shaanxi Blower (Group) Co., Ltd., Wuxi Compressor Co., Ltd., and Shanghai Compressor Co., Ltd.

In terms of key products, the key player in large-scale reciprocating compressor market is Shenyang Blower Works Group Co., Ltd.; the medium-scale reciprocating compressor market is equally seized by Shenyang Blower Works Group Co., Ltd. and Wuxi Compressor Co., Ltd.; the key players in large-scale centrifugal compressor market are Shenyang Blower Works Group Co., Ltd., and Shaanxi Blower (Group) Co., Ltd. The main manufacturer of axial compressor is Shaanxi Blower (Group) Co., Ltd., and the product is widely applied in thermal power, steel and petrochemical
industry. Integral base-mounted compressor is mainly manufactured by Shenyang Blower Works Group Co., Ltd., and large-scale screw compressor is mostly made by Wuxi Compressor Co., Ltd.

Shenyang Blower Works Group Co., Ltd is one of the important gas compressor manufacturers in China. In 2008, it made total industrial value of RMB8 billion, up 42.9% yr-on-yr, and two times than that of 2006. The market share of centrifugal compressor of it in China was 85%, the market share of reciprocating compressor in petrochemical industry was about 80%, 60% in fertilizer industry and 70% in military industry.

Shaanxi Blower (Group) Co., Ltd. is also the important compressor manufacturers in China. From 2001 to 2008, its scale increased from RMB 0.4 billion to 5 billion. Its traditional products include axial compressor, energy recovery turbo-expanders and centrifugal compressor. Its dominant products -- axial compressor and energy recovery turbo-expanders are high-efficient and energy-saving products. Its products are widely applied in metallurgical, petrochemical, chemical, power, urban construction, environmental protection, pharmaceutical and national security industry.

5.2 Regional Development

In terms of amount of enterprises, the air compressor manufacturers above designated size (i.e. all state-owned enterprises and those non-state-owned enterprises with an annual sales income over 5 million yuan) are mainly distributed in east China, reaching 277 and accounting for 71% of China’s total. Amount of such enterprises in central south and northeast areas is 38 and 28, representing for 9.7% and 7.2% respectively, while it amounts to only 47 in total in other regions.
In terms of market share, the east China area took up the highest market share in China’s air compressor manufacturing industry by sales revenue in Jan-Nov 2008, reaching 72%, followed by central south area, 19.1% and then other regions, all less than 5%.

The air compressor manufacturers in Shandong province combined have an approximately 20% market share in China, and Shandong Airtop Compressor Co., Ltd, which pays much attention to technical innovation in R & D, production and distribution, is a leading air compressor producer. The air compressor manufacturing industry in Shanghai takes up an 18.79% market share with amount of such manufacturers up to 46, becoming very competitive.
### Top 10 Provinces/Municipalities in Air Compressor Manufacturing Industry by Sales Revenue, Jan-Nov 2008

<table>
<thead>
<tr>
<th>Province/Municipality</th>
<th>Number of Enterprises</th>
<th>Sales Revenue (RMB100 million)</th>
<th>Market Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shandong Province</td>
<td>65</td>
<td>111.34</td>
<td>19.70%</td>
</tr>
<tr>
<td>Shanghai Municipality</td>
<td>46</td>
<td>106.18</td>
<td>18.79%</td>
</tr>
<tr>
<td>Zhejiang Province</td>
<td>79</td>
<td>99.36</td>
<td>17.58%</td>
</tr>
<tr>
<td>Guangdong Province</td>
<td>19</td>
<td>98.47</td>
<td>17.43%</td>
</tr>
<tr>
<td>Jiangsu Province</td>
<td>60</td>
<td>69.64</td>
<td>12.32%</td>
</tr>
<tr>
<td>Liaoning Province</td>
<td>27</td>
<td>16.19</td>
<td>2.87%</td>
</tr>
<tr>
<td>Sichuan Province</td>
<td>17</td>
<td>15.19</td>
<td>2.69%</td>
</tr>
<tr>
<td>Fujian Province</td>
<td>14</td>
<td>10.71</td>
<td>1.90%</td>
</tr>
<tr>
<td>Shaanxi Province</td>
<td>11</td>
<td>8.24</td>
<td>1.46%</td>
</tr>
<tr>
<td>Guangxi Zhuang Autonomous Region</td>
<td>5</td>
<td>5.53</td>
<td>0.98%</td>
</tr>
</tbody>
</table>

Source: National Bureau of Statistics, China Machinery Industry Federation, ResearchInChina

#### 5.3 Enterprise Analysis based on Economic Type

According to the National Bureau of Statistics, there were 390 gas compressor manufacturing enterprises with above designated size (i.e. all state-owned enterprises and those non-state-owned enterprises with an annual sales income over 5 million yuan) in 2008, among which 24 were collective-holding enterprises, 253 were personal-holding enterprises, 65 were foreign holding enterprises and 26 were share-holding enterprises with investors from Hong Kong, Macao and Taiwan.
7.2 Shanghai Hanbell Precise Machinery Co., Ltd

7.2.1 Company Introduction

Approved by the Shanghai Municipal Government, Shanghai Hanbell Precise Machinery Co., Ltd (previously Shanghai Hanbell Machinery Co., Ltd), is an enterprise solely invested by Hermes Equities Corp. Until June 2008, the assets of the company amounted to CNY150.5 million. It occupies land of 38,700 sqm, situated at the ancient town Fengjing, the southwestern gate of Shanghai, and crossing point between Shanghai-Hangzhou Expressway and National Highway No.320. It employs 300 people. On August 17, 2007, the company was listed at the Shenzhen Stock Exchange.
7.2.2 Company Operation

The sales achievements of the company decreased in the first half of 2009, as a result of the financial crisis. During this period, the company realized total operating income of CNY165.8035 million, down 20.35% year on year; operating revenue rose 37.40% year on year to CNY21.372 million; the net profits declined 27.30% year on year to CNY19.5454 million; the basic earnings per share decreased 27.28% year on year; the rate of return on net assets dropped 1.60% year on year.

The company mainly engages in the research, design, manufacturing, sales, and after-sales services of the application technologies of screw gas compressors. Its key products include screw cooling compressors and screw gas compressors. Its screw cooling compressors are mainly used in the industries of central air-conditioning, geothermal heat pump, air-cooled heat pump, ice storage system, and medium-low temperature cooling storage system etc. Its screw gas compressors are mainly used in the industries of machinery, electronics, power, chemical, metallurgy, and pharmaceutical etc.

**Operation Status of Shanghai Hanbell Precise Machinery Co., Ltd. by Products, 1H 2009 (Unit: RMB10,000)**

<table>
<thead>
<tr>
<th>Product</th>
<th>Operation revenue</th>
<th>Operation cost</th>
<th>Gross profit margin (%)</th>
<th>Yr-on-yr Growth of operation revenue (%)</th>
<th>Yr-on-yr Growth of operation cost (%)</th>
<th>Yr-on-yr Growth of gross profit margin (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refrigerating</td>
<td>10,542.99</td>
<td>7,168.86</td>
<td>32.00</td>
<td>-26.35</td>
<td>-27.65</td>
<td>1.22</td>
</tr>
<tr>
<td>compressor</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freezing compressor</td>
<td>59.26</td>
<td>47.54</td>
<td>19.78</td>
<td>-48.39</td>
<td>-53.77</td>
<td>9.32</td>
</tr>
<tr>
<td>Air compressor</td>
<td>4,868.18</td>
<td>4,298.83</td>
<td>11.70</td>
<td>8.31</td>
<td>-1.72</td>
<td>9.01</td>
</tr>
<tr>
<td>Parts and maintenance</td>
<td>1,109.91</td>
<td>758.27</td>
<td>31.68</td>
<td>-41.32</td>
<td>-47.62</td>
<td>8.22</td>
</tr>
</tbody>
</table>

Source: Shanghai Hanbell Precise Machinery Co., Ltd., ResearchInChina
Main Business Revenue of Shanghai Hanbell Precise Machinery Co., Ltd. by Region, 1H 2009 (Unit: RMB10,000)

<table>
<thead>
<tr>
<th>Region</th>
<th>Main Business Revenue</th>
<th>Yr-on-yr Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North China</td>
<td>3,554.15</td>
<td>-17.55</td>
</tr>
<tr>
<td>East China</td>
<td>8,255.28</td>
<td>-22.89</td>
</tr>
<tr>
<td>South China</td>
<td>4,187.35</td>
<td>-4.32</td>
</tr>
<tr>
<td>Middle China</td>
<td>38.01</td>
<td>-68.14</td>
</tr>
<tr>
<td>Overseas Countries</td>
<td>545.56</td>
<td>-58.17</td>
</tr>
</tbody>
</table>

Source: Shanghai Hanbell Precise Machinery Co., Ltd., ResearchInChina

7.2.3 Development Strategy

The competition framework of compressors is dominated by the foreign giants. As they take advantage of mature technologies and abundant financing to produce in China, the company will be in a fiercer competitive environment. In order to cope with the fiercer competitive environment, the company strengthens the R&D of new products, enhances the quality of new products, sets up wider and more all-round sales channels, with the growth of sales. By virtue of the reduction of production cost, the company promotes the product efficiency to occupy and expand the market. With the more completed machine models, reasonable prices, faster and better services delivered to all the competitors, the company has gained more market shares, shoring up the competition for the company.
Actively Enhance R&D Result Exchange

The R&D results of the company of the first half of 2009 will gradually enter the stage of mass production. The mass production conversion for R&D results is a key issue for the second half of 2009. The company has been setting the mass production and quality system for new products, occupying the market and winning market reputation at the fastest speed with the deployment of sales strategy, so as to expand market share and promote the operating revenue.

Maintain R&D Speed of New Products

The speed of new product R&D will be kept though the sales are gradually turning better. The company will pay continuous attention to the demands of future market and development of new products.

Intensify the Construction of Investment Projects with Financing

The plant expansion will be completed in the second half of 2009. After the new plant is completed, the company will finish the installation and modification of new product lines and equipment as soon as possible, laying a foundation for the sales and capacity expansion of 2010 and accelerating the investment projects.
- China Agricultural Machinery Industry Report, 2009

- China Wire and Cable Industry Chain Report, 2009

- China Concrete Machinery Industry Report, 2008-2009

- China Locomotive and Rolling Stock Manufacturing Industry Report, 2008-2009


- China Valve and Faucet Industry Report, 2008

- China Fan Industry Report, 2007-2008

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