

## Washing machines: Suppliers undertake sales-boosting efforts

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The latest releases have increased interior capacity and energy efficiency. These target alternative markets.

China makers of washing machines are implementing varied methods of improving competitiveness.

Product enhancement is among the popular steps. Resultantly, many companies are exerting efforts to boost overall quality while increasing interior capacity and energy efficiency.

Anti-bacterial models with low operating noise and elastic-vein drums are some of the latest releases.

This model from Zhongshan Galanz has a 6kg capacity and 17 preset operating programs.

In addition, suppliers are developing water-saving washing machines. These include front-loading designs, which typically have only half the liquid and power requirement of top-loading versions. The latter type, however, continues to enjoy strong demand in Asia.

The majority of companies are also incorporating features such as A or A+ class energy consumption, electrical controls, LED displays, user-determined presets, child-lock systems, and memory capability with automatic power-off.

Further, makers are increasing shipments to Eastern Europe, Asia and the Middle East and other alternative markets. They are widening their sales networks and distribution channels, with online B2C popular for its convenience and low cost.

The government in China is also taking steps to ensure industry viability.

These procedures include the Delivering Appliances to the Countryside program, and the increase of the export tax rebate rate to its current level of 17 percent.

Such attempts to improve competitiveness come as suppliers encounter various obstacles. Falling purchasing power in the main overseas markets of the US and the EU, and rising material costs are examples of the latter. The revaluation of the yuan, which caused production bases such as Ningbo to lose their price advantage, was also a factor.

According to China customs statistics for January to June 2009, the volume and value of outbound shipments decreased by 22 and 17 percent YoY. Some makers, however, recovered in the second half of 2009 and expect orders in 1H10 to be 10 to 25 percent higher than the corresponding period in the previous year.

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## Product range

Mainland China suppliers offer household washing machines at all price segments. Models for personal and industrial applications are also available.

Domestically sourced plastic resins such as ABS and PP are employed for housings. Stainless steel and other metals are purchased from large local providers, including Shanghai Baosteel.

Further, some companies utilize Japan, Taiwan or South Korea materials, which generally have greater durability than alternatives.

Motors are among the key performance determinants of washing machines. These parts are typically from established suppliers such as Welling and Emerson. They are more powerful and efficient than other local versions while generating less operating noise.

Switches, timers, controls, LCD panels and wires are often sourced within the mainland.

The traditional top-loading and impeller types come in single- or twin-tub configurations. Demand for front-loading designs, however, is growing in the US and the EU.

Most household units exported from China are in a top-loading construction with agitators and wash plates. They are for the low-end and midrange segments.

The majority of inexpensive releases are semiautomatic twin-tub or impeller models. The interiors, lids, bases and housings are made of PP or ABS. These top-loading products have a full load capacity of 3 to 8kg, rotary knob controls and two operating cycles. Prices are \$40 to \$70.

Some units come with painted steel tubs, lids and cabinets. This material increases resistance to rust but is not impervious to stains and scratches.

A number of midrange top-loading washing machines boast fully automatic operation. These have painted metal single inner tubs and housings. The former part can also come in stainless steel, which is mold-resistant and withstands higher spin speeds.

The load capacity is 3 to 12kg. Operating cycles for delicate clothes and heavy garments, soak options, alarm capability, and rotary controls with child-lock systems are standard. Electronic push-button controls, quick-wash functions and detergent dispensers are available. Quotes are \$80 to \$100.

In addition, midrange top-loading models can be fitted with casters for mobility. Multiple water temperature settings, 30-minute cycles for lightly soiled clothing, automatic water-level functions, and automatic balancing system to lower operating noise are the other options. Some products also have anti-rodent mesh.

These versions are generally priced between \$100 and \$200.

Most high-end units are fully automatic front-loading machines with stainless steel tubs, porcelain-coated steel cabinets,

electronic push-button controls, LCDs and fabric sensors. Cycles for wool and silk, and multiple wash, rinse and temperature settings are included. Quotes are \$200 to \$300.

Further, a number of releases have faster spin speeds and additional cycles for different fabrics and materials. Some even boast a 10kg load and drying capacity, 10 operating cycles, six wash and spinspeeds, three dirt level presets, six water temperature options and four rinse selections.

AMT door gaskets, self-cleaning lint filters and inclined water-resistant control panels can likewise be included.

In addition to units with silver ion sterilization, some large companies are launching models that utilize blue light generators that activate water and oxygen. The resulting hydroxyl group is said to have decontamination properties superior to those of silver ions. Such products go for \$300 to \$500.

## Industry overview

China is home to about 150 companies that manufacture washing machines for household and commercial applications.

Haier takes up more than 40 percent of overseas shipments, followed by Siemens, Panasonic, Samsung, Sanyo, Royalstar and Little Swan.

Units under the Haier brand had the largest share of the global market at 8 percent in 2009, according to Euromonitor Research.

The company cooperates with GE and has developed the S-Drive core frequency conversion technique. It has also released 13kg models for the upscale segment.

The majority of midrange and high-end releases for export are from large suppliers, some of which have in-house brands. Most small and midsize makers are OEM-driven.

Regardless of size, nearly all companies export directly.

In general, established suppliers have strong product development capability and are able to innovate in terms of design and function. They are usually the first to incorporate new features.

Each year, Jinan Hitone Electrical Appliance Co. Ltd invests at least 5 percent of revenue in R&D. It uses CAD, CAPP, CAE, DFA, DFM and PDM software, and equipment from Western Europe.

The maker's technicians have more than 10 years of experience in the development of drum washing machines and related technology. The latter includes China's first intelligent prototyping and testing platform, and anti-bacterial and supersonic features.

Jinan Hitone cooperates with Invensys, Suspa and Diehl for advancements such as injection and magnetic technology.

The majority of large suppliers have fully automated lines. Some factories are even equipped with specialized testing laboratories for prototype evaluation. Inspectors carry out aging, voltage, motor, current leakage, insulation and noise tests before mass production. Water and energy consumption can also be checked.

Tier 3 players on the other hand, do not typically conduct such examinations.

Large makers have in-house laboratories with computerized machines to test operating noise levels as well.

Smaller suppliers use manual meters for inspection.

Most enterprises in China carry out fabrication, assembly of major components, surface finishing and final assembly in-house. A number of companies utilize parts sourced from specialists.

Fabrication involves metal stamping or plastic injection, depending on the housing material. Small and midsize suppliers usually perform some steps manually, while large companies employ automated and computerized equipment.

Mold making and the assembly of computer-controlled panels are subcontracted due to the high manufacturing outlay and technological requirement. Motors are typically from domestic specialists.

Materials can be procured locally or purchased in nearby cities. These are selected according to compliance with RoHS requirements. Jiangsu, Zhejiang and Guangdong provinces are the key hubs.

Before connection, pumps and tubs are tested for water leakage, while transmissions are examined for proper operation, noise and acceptable vibration levels. All painted components are checked visually for defects.

Once units are completely assembled, they are filled with water and inspected for safety, noise, vibration and visual defects, in addition to proper control mechanism functionality.

## Production hubs

The majority of China's washing machine suppliers are located in Shanghai, Jiangsu and Zhejiang. Guangdong and Shandong provinces are the other significant bases.

Jiangsu is the largest export and production center for the line. Makers in this province are mostly large companies that perform contract manufacturing for established international brands. Jiangsu Chunlan and Jiangsu Little Swan are based there.

Guangdong's Jiangmen city is home to many small and midsize washing machine suppliers, which typically focus on midrange products. There are also numerous large companies in Shunde and Zhongshan. Located to the southwest of the Pearl River Delta region, these three locations are only two hours from Hong Kong via sea.

Washing machine makers in Jiangmen have access to a strong supply of raw materials and components. They procure parts locally, and in Japan, Taiwan and South Korea.

Many small and midsize suppliers are located in Zhejiang's Ningbo city, which has one of the mainland's largest trading ports. Companies there have easy access to raw materials and source motors and molds locally, enabling considerable reduction in outlay.

Manufacturers in Jiangmen and Ningbo focus on low-end and midrange OEM models for export. More than 90 percent of output is made up of automatic top-loading units, which can have single or twin tubs.

Miniature washers & dryers: Varied model range

Personal washing machines are widely available in China, and are offered by small and midsize suppliers.

The line is not held to stringent quality standards and is shipped mostly to developing countries in Asia. Prices range from \$13 to \$50.

For low-end models, housings are made of local ABS. Tubs are in PP and can be transparent. Rotary controls and a quick-wash cycle are standard.

Such products are typically between 0.5 and 1kg in capacity.

Midrange units have double-injected ABS shells and 1 or 2kg PP inner tubs. These boast operating cycles for delicate clothes, and multiple wash and rinse settings. Some versions incorporate built-in handles and can be dismantled for storage.

High-end models generally employ imported plastic as the material for housings and tubs. Child-lock functions, and sanitary and multiple water temperature settings are standard.

Compared with household washing machines, there are only a handful of suppliers in China that offer dryers. A few large companies have started to release combination units in recent years. Most products have compact designs.

Apart from having the same features as front-loading washing machines, such models come with multiple drying settings and moisture sensors. Prices range between \$50 and \$300.

Low-end products usually have painted tubs and recycled plastic housings. These are equipped with thermostat-controlled systems, timers, rotary knob controls and end-of-cycle buzzers. Removable drying racks can be installed.

Spray-painted steel cabinets and inner tubs are typical components of midrange units.

Large inner receptacles, moisture sensors and drop-down doors are popular enhancements.

A number of releases in this segment are fitted with porcelain-coated tops for enhanced rust resistance.

High-end dryers typically have compact designs, stainless steel tubs and painted steel housings. Wrinkle-control functions, cool-down cycles, adjustable temperature settings and electronic push-button controls are also available.

Note: All price quotes in this report are in US dollars unless otherwise specified. FOB prices were provided by the companies interviewed only as reference prices at the time of interview and may have changed.

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