# **Consumer Products**

In the consumer products field, Toshiba aims to further improve the usability of familiar electric appliances and create products tailored to the life style of the customer. In order to support a beautiful and happy life, we offer products such as our drum type washer dryer utilizing an energy saving/low operation noise new direct drive motor (S-DD engine<sup>™</sup>), high capacity non-fluorocarbon refrigerator using a compact module system and compact fluorescent lamp of which shape and lighting characteristics are almost exactly the same as those of an incandescent lamp.

### THE FRONT IN DRUM™ TW-150VC/SVC Automatic Washer Dryer



TW-150VC/SVC automatic washer-dryer

The swing in the number of consumers switching to automatic washer dryers is increasing every year. There is a tendency for consumers to want not only basic performance features like "Washing", "Spinning" and so on from their automatic washer dryer, but also features like "Finishing", "Low operation noise" and "Energy saving" according to the analysis of voice of the customer results.

In response to this voice of the customer, Toshiba HA Products Co., Ltd. has developed the TW-150VC/SVC model equipped with a new S-DD (Direct Drive)<sup>+3</sup> engine<sup>TM</sup>, which was put on the market in January/February 2006.

The features of the machine are as follows:

- Equipped with a high-power compact and highly effective S-DD<sup>+3</sup> engine<sup>™</sup> based on the adoption of high power rare earth magnets and optimal magnetic circuit design.
- The washing performance is improved by the quick turn control of the S-DD<sup>+3</sup> engine<sup>™</sup>, drying is also achieved with fewer wrinkles.
- The water and power consumption as well as the operating time from washing to drying are reduced by the S-DD<sup>+3</sup> engine<sup>™</sup> with three sensor control in which a high-speed spin of 1,500 rpm is adopted. Furthermore, the noise level is also the lowest in the industry.

#### Twin Cooling "SENZOHKO™"(\*) GR-W45FB



GR-W45FB refrigerator

Toshiba HA Products Co., Ltd. has developed a high capacity 450 liter non-fluorocarbon refrigerator with "French-doors" (both door-opening type), which can be installed as it is in the same installation space required for a 400 liter class refrigerator.

- The main features are as follows:
- High-efficiency capacity with a compact module system
- Opening and closing is easy with the electromotive style touch opening device and the automatic door-closing structure.
- Fresh food preservation with clean cold air using the function named "COOL PURIFIER™"
- The amino acid and sugar level in food is improved with a twin cooling system.
- As for nano-optical plasma and anti-bacteria treatment of the ice cube tray, it remains maintenance-free for about 12 years.

(\*) "SENZOHKO<sup>TM</sup>" carries a connotation of maintaining the freshness of food while it is stored.

#### Mini-SMMS<sup>TM</sup>, High-Efficiency and Compact Light Commercial Use Multi-Air-Conditioner for Overseas



Configuration of the "Mini-SMMS™" system

Toshiba Carrier Corporation has developed a new sideair-flow type multi-air conditioner the "Mini-SMMS<sup>™</sup>" for overseas, and launched a series of outdoor units with cooling capacities of 12.1 kW, 14.0 kW, 15.5 kW in March 2006.

The features of this product are as follows:

- The volume and weight reduction of the outdoor unit compared with the conventional model "Super-MMS<sup>™</sup>" are 71% and 48%, respectively. It can be installed in confined spaces like balconies, or mounted on a wall.
- The industry top class COP (Coefficient of Performance) of 4.02 and the rated sound level of 50/52 dB (cooling/heating) for the outdoor unit are achieved by the high-efficiency twin rotary compressor optimized for R410A refrigerant, the vector control inverter for single-phase power supply, the newly designed propeller fan and other functional parts in the 14.0 kW model.
- The greater application versatility for various user's needs is realized by the indoor unit line-up of 81 models in 13 types for use in up to 9 rooms in one system, the total piping length 180 m (farthest 100 m) and the available two types of branch joint in a Y-shape and 4-branch-header.
- The optional PMV (Pulse Motor Valve) kit enables a quieter interior environment, and it is compatible for installation in half of the indoor unit line-up in the liquid pipe between the indoor and outdoor units.
- The advanced compressor oil management system guarantees improved reliability.



## Neobali-Z Real<sup>™</sup> Self-Ballasted Compact Fluorescent Lamp



Neoball-Z Real<sup>™</sup> (left) and conventional incandescent lamp (right)

Toshiba Lighting & Technology Corporation has launched the self-ballasted compact fluorescent lamp, Neoball-Z Real<sup>TM</sup>, which can take the place of a 60 W incandescent lamp.

This lamp is now the smallest in the world within this category of lamps, and can naturally be fitted in most incandescent lamp luminaries because its shape and lighting characteristics are almost exactly the same as those of an incandescent lamp.

The features of the Neoball-Z Real<sup>TM</sup> are as follows:

• Eco-friendly energy saving

We have introduced a new technology for downsizing the lamp. The discharge bulb consists of three thin Ushaped tubes connected together, which has not been adopted before. Complementary paired MOS-FETs (Metal Oxide Semiconductor-Field Effect Transistors) within one small package have been developed; accordingly the inverter circuit is housed vertically in the lamp base. The final mass of the lamp has been reduced by 25% from that of the former type.

• High efficiency

The sealed end of an ordinary internally connected multi U-shaped discharge bulb is inserted into a plastic holder. Thus the light emitted from this area is absorbed inside of the lamp and never reaches the outside, i.e. energy loss. We have adopted a new structural holder of the discharge bulb. Consequently, the luminous efficiency is much improved and luminous output of 810 lm is attained with a lamp power of 12 W.