

## Japanese Industry News

### Sanyo's New RACs Feature 'Air-Wash' Function

From March, Sanyo Electric Co. will release 8 new models belonging to the "Shikisaikan" (4-season pavilion) EX series room air conditioners (RACs) for 2007.



Sanyo RAC 'Shikisaikan' EX series

To provide higher air quality, the new series has adopted an 'air-wash' function incorporated in the drum-type washer-dryer AQUA which applies ozone to decompose odorants and bacteria in the indoor unit.

The 'air-wash' function works in two modes: In the <block mode>, it vigilantly checks the room temperature and humidity to prevent occurrence of mold or odors in the indoor unit when it is not in operation; in the <attack mode>, during operation, the CO<sub>2</sub> sensor, simultaneous air supply/exhaust unit, UV degerming unit and electric air purifier work together to purify the air in the room.

In the air-wash <block mode>, ozone assisted air purification occurs automatically at the end of cooling, heating and dehumidifying operation. While the indoor unit is not in operation, an alert function works to constantly check the inside temperature and humidity so that the air-wash function automatically initiates in order to prevent conditions conducive to mold growth. The air-wash function can also be performed manually by pressing the button.

In the <block mode>, after 25 minutes of internal drying, with the front panel and flap closed, a low concentration of ozone is generated from the electric air purifier for 30 minutes, diffusing throughout the air in the inside of the unit after which the residual ozone and decomposed constituents of odors, mold, etc. are exhausted by the simultaneous air supply/exhaust unit.

The <attack mode>, thanks to the simultaneous air supply/exhaust function provides smooth ventilation where the inside and outside air pressure is kept the same and room air pollutants are removed quickly.

Regarding energy efficiency, all models have cleared the specified APF values, and the 4.5 kW type has attained a 36% increase in energy efficiency over the previous model (4.0 kW) released 11 years ago.

### Sharp RACs Offer 'No-Air-Stream' Feeling

Sharp announced the release of 6 models of RAC in the "New Eco-Form" SX series for 2007. While realizing fur-

ther energy savings, they have also realized comfortable air conditioning with a new-type air stream based on aerodynamics to eliminate "wind stress" and give a feeling of a windless stream.



New "Eco-Form" RACs: Sharp SX series

Instead of the conventional louver flap, the new series uses a "Long Panel" (23 cm long), which adopts the industry's first top & bottom opening mechanism based on aerodynamics, thus realizing a comfortable air stream which does not directly hit users.

The Long Panel features a dual shaft changeover system that changes the panel opening direction either upward in the cooling mode or downward in the heating mode.

In the cooling mode, air is blown upward toward the ceiling, while in the heating mode, it is blown downward toward the floor to prevent cool or hot air from hitting the users directly. Thus, the single Long Panel controls the new air stream to eliminate unpleasant wind stress.

Additionally, since the Long Panel features a seamless "long nozzle" and raises the air blowout efficiency by about 20% over the previous series, the industry's top-class energy efficiency (APF 6.1 for the 4.0 kW type) has been achieved.

Moreover, the Long Panel can effectively intercept sound from the indoor unit's fan, reducing operational sound during cooling operation (down 3 dB from the previous series).

To ensure further cleanliness, the new models have adopted the "micron mesh filter" preventing the invasion of dust into the unit inside, "automatic filter cleaner." Also incorporated are the "unit inside purifying operation" function and "heat exchanger with organic hydrophilic coating."

### The 2nd Mekong Bridge to Streamline Sakura's Services

The completion of the second Mekong bridge has provided Sakura Corporation, with its factory located in Thailand, a good opportunity to improve its services to its customers.



Sakura split air conditioners

The dream of crossing Mekong River by highway has now become true with the December 2006 completion of the second Mekong Bridge as a part of the Ho Chi Ming Highway construction program between Da-Nang (Vietnam) and Mawlamyine (Myanmar) going through both Savanaket (Laos) and Mukdahan (Thailand). This 1.6km long bridge and the Highway will eventually shorten transportation routes by up to thousands of kilometers from the searlanes that have been used so far in the region.

Sakura Corporation, with its factory in Thailand, is best positioned to benefit from the bridge, supplying distributors and customers located in Indochina areas such as Vietnam, Laos, Cambodia and even Myanmar, with its products such as the Wall Split, Ceiling Floor, Cassette and Duct type Air Conditioners shown below.

In addition to the advantage of the bridge cutting down transportation time, another boost to the export of Thailand-made products in general is the streamlined processing provided by "form D," applicable to all over-the-border trade within AFTA.

### Sanyo's Electrolyzed Water Technology Found to Inactivate Norovirus

Sanyo Electric Co., Ltd. Announced last month that its proprietary electrolyzed water technology, which has been applied to a number of heat, ventilation and air conditioning products, was confirmed to be more than 99% effective in suppressing Norovirus (Feline Calicivirus) infectivity, a virus which has been running rampant this winter. The findings were the result of joint research with the Gunma Prefecture Institute for Public Health and Environmental Sciences.

Sanyo has provided numerous products using its unique electrolyzed water technology dating back to 1987, when the company started sales of the cup-type vending machines. Since that time, many products have utilized this technology such as swimming pool antibacterial water systems, washing machines with a non-detergent course, commercial-use air purifier systems fitted with the virus washer function, and home-use humidifiers and air purifiers.



Sanyo home-use air purifier with virus washer function

In May 2006, this same technology was confirmed to inactivate the highly-pathogenic avian influenza and other airborne human influenza which have become of particular concern around the world in recent years, a finding that resulted from joint research with Tottori University.

Mr. Masahiro Iseki, General Manager of Sanyo's Human Ecology Re-

search Center, stated that "Based on the 'Think GAIA' vision, Sanyo utilized its expertise in water recycling and circulation to develop and apply technology using hypochlorous acid, created by electrolyzing tap water, which is effective at removing bacteria. Hereafter, based on the evidence gained from these collaborative research findings, Sanyo will continue to promote the company's proprietary air purification systems fitted with the 'virus washer' function as a preventative measure for suppressing the Norovirus."

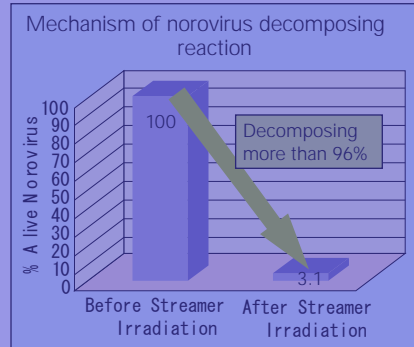
*Note: Feline Caliciviridae is widely recognized as a proxy indicator for the Norovirus among researchers today. The analysis of a sample of a given quantity will show the level of infectiousness of the virus.*

### Daikin's Streamer Discharge Decomposes Norovirus

Jointly with Mr. Kazutaka Kano, Associate Professor, Kobe University Graduate School of Medicine, Daikin Industries, has demonstrated that the company's own streamer discharge technology can decompose viruses.

In the test, 10 µl (micro liters) of solution of noroviruses' antigen was put into the microwell and dried at room temperature. Then, the dried antigen of noroviruses were exposed to streamer discharge for 24 hours.

After the exposure to streamer discharge, noroviruses' antigen was washed in 100 µl of dilute solution, and the concentration of noroviruses' antigen was measured according to the ELISA protocol (a method for quantitatively identifying the antibody reaction in terms of the degree of extinction). As a result, it could be confirmed that more than 96% of noroviruses' antigen had decomposed.



With the destruction of protein on the surface of noroviruses, streamer discharge changes their structure so that spiral RNA is exposed. The RNA itself is easily decomposed by ribonuclease (enzyme decomposing ribonucleic acid) existing in the environment. These processes, it is thought, have made virus decomposition possible.

Exposition to streamer discharge was performed in a small testing unit consisting of a streamer unit used for the company's home-use air purifier, discharge section same in voltage and current with the streamer unit, and a filter whose position can be adjusted.

Daikin established a technology for stably generating streamer discharge in 2004, and is currently incorporating it into its home-use air purifiers, room air conditioners (RACs) and commercial deodorizers.