

Cooling System Division

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In the information infrastructure of society which is said to be undergoing an IT revolution today, telecommunications equipment constituting the key to the ends are growing in capacity and speed at an alarming rate. The market of computers and storage equipment related to the Internet and the market of cellular phones and other communications equipment are growing.



With the increasing speed of information processing, the evolution of communications equipment, the size reduction of equipment, and the advent of fast communications, these items of equipment are producing more heat and needs for cooling equipment are diversifying. Particularly notable is the fact that fans need to achieve large air volumes and require larger cooling capacities.

The main technical results of the Cooling Systems Division in 2000 are as follows:

- (1) "SAN COOLER"
- (2) "SAN ACE 127" E type
- (3) "SAN ACE 120" G type
- (4) "SAN ACE MC" series

"SAN COOLER"

"SAN COOLER"s are fans designed for mid-range equipment to be added to the product line-up. The product brand name is renamed "SAN COOLER", thus constituting a different product line-up from the conventional product line of the "SAN ACE" brand.



We have provided three models 60mm sq. x 25mm thick, 80mm sq. x 25mm thick, and 92mm sq. x 25mm thick. Air volume and noise performance is equal or superior to that of conventional models.

"SAN COOLER"s are produced at the Subic Plant Philippines, the first overseas factory of Sanyo Denki, and hopes run high for them as a major product of that factory.

"SAN ACE 127" E type

We have added a high-air-volume E type to the product line-up of 127mm sq. x 38mm thick fans, "SAN ACE 127".

The "SAN ACE 127" model comes in two types: P and E types.

The P type has an air volume of 4.2m³/min, while the E type has an air volume of 4.8m³/min. Volume is available in



three options (12V, 24V, and 48V) to meet the needs for high air volumes and low noise levels.

Computer servers, communications equipment, and other equipment are increasing their heating rates considerably due to rising processing speeds. This prompts cooling fans to achieve larger air volumes.

The "SAN ACE 127" is a product that meets those needs together with the need for reliability.

"SAN ACE 120" G type

A new series, the "SAN ACE 120" G type, has been added to the family of 120mm sq. x 38mm thick fans, which is the fan standard.

The product is a successor to the 120mm sq. x 38mm thick R type fans, which has long had a good reputation in the market. Hopes run high for the product as a mainstream product for future 120mm sq. fans.



The entire configuration has been newly designed, starting with its motor, thus meeting the needs for low power consumption, large air volumes, and low noise levels.

A size of 120mm sq. meets the cooling needs for large air volumes. It is suited to a wide range of cooling needs, including devices where 120mm sq. fans have long been used and new uses needing larger cooling capacities.

The maximum air volume is 3.88m³/min.

"SAN ACE MC" series

Computer microprocessors (MPUs) are growing in speed at an alarming rate. We are now in the age of gigahertz processors, with clock frequencies of more than 1GHz.

With rising speed, MPUs are rising in heating value as well. Heating density is rising particularly quickly. MPU cooling is thus growing even more advanced in technical terms.

We have commercialized the "SAN ACE MC" for cooling Pentium®III* chips of the gigahertz age, the "SAN ACE MC" for Pentium®4*, and the thin "SAN ACE MC" for 1U rack servers. With the use of a thermally speed-controlled fan in MPU cooling for the first time as well as other ideas, MPU cooling will need even higher performance in the future.

For details, see the cover story of this Technical Report.

* Pentium® is a registered trademark of Intel Corp.



"SAN ACE MC" for Pentium®III



"SAN ACE MC" for Pentium®4



Thin "SAN ACE MC" for 1U

Nobumasa Kodama
Joined company in 1978
Cooling Systems Division, Design Dept.
Worked on development and design of fan motors
