

Cooling Systems Division

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Social environments have undergone major changes amid heightened awareness of infection control measures due to the spread of COVID-19. People are often restricted from working face-to-face, and remote work has become the new normal. ICT systems are now playing an extremely important role supporting this new mode of life. ICT equipment such as servers, storage devices, and routers have

been constantly improved in speed, capacity, and performance becoming denser and generating more heat. This has raised demand for cooling fans with higher airflow, higher static pressure, and lower power consumption.

Furthermore, outdoor equipment such as base stations, PV inverters, and digital signage have increased in performance and functionality, requiring water-resistant cooling fans

with higher cooling performance.

Also, the use of air purifiers in large spaces where many people gather is considered increasingly important in today's society.

To meet such market demands, we developed and launched cooling fans and air purifiers with industry-leading performance and reliability.

Below is an overview of the products we developed in 2022.

■ Low Noise Fan

DC Fan

• 80 × 80 × 38 mm *San Ace 80 9RA* type

Our 80 × 80 × 38 mm fans are mainly used in 2U servers, and we have focused especially on increasing the performance. Meanwhile, power supply and measurement equipment industries are now demanding fans with lower noise and lower power consumption

while maintaining the same cooling performance as the products currently in use.

To meet such demands, we developed and launched the *San Ace 80 9RA* type fan, which has the industry's lowest⁽¹⁾ noise and power consumption.



(1) Based on our own research as of June 10, 2022, conducted among equally-sized axial DC fans on the market.

- 120 × 120 × 38 mm *San Ace 120 9RA* type

Our 120 × 120 × 38 mm fans are used in a wide range of applications such as communication, medical, and measurement equipment. In these applications, there is now an growing demand for fans with lower noise and lower power consumption while

offering the same cooling performance as the fans currently used.

To meet such market demands, we developed and launched the *San Ace 120 9RA* type fan, which has the industry's lowest⁽²⁾ noise and power consumption.

(2) Based on our own research as of January 27, 2022, conducted among equally-sized axial DC fans on the market.



- 140 × 140 × 38 mm *San Ace 140 9RA* type

Our 140 × 140 × 38 mm fans are often used in equipment such as commercial air conditioners and medical equipment. Such equipment is used near people and thus requires quiet fans. Moreover, there is also high demand for reduced power consumption for environmental and

running cost reasons.

To meet such market demands, we developed and launched the *San Ace 140 9RA* type fan that has the industry's lowest⁽³⁾ noise and power consumption. Its details are covered in a separate article in this issue.

(3) Based on our own research as of October 27, 2022, conducted among equally-sized axial DC fans on the market.



■ Splash Proof Fan

DC Fan

- 40 × 40 × 20 mm *San Ace 40 9WPA* type
- 40 × 40 × 28 mm *San Ace 40 9WPA* type

In recent years, outdoor equipment such as base stations, quick EV chargers, and surveillance cameras is increasing in performance, and this has raised demand for compact water-resistant fans with higher performance.

To respond to such market demands, we developed and launched the *San Ace 40 9WPA* type Splash Proof Fan, which offers the industry's highest⁽⁴⁾ airflow and static pressure, as well as IP68-rated protection⁽⁵⁾.

(4) Based on our own research as of June 28, 2022, conducted among equally-sized water-resistant fans on the market.

(5) IP68-rated protection:

The IP Code, or Ingress Protection Code is defined by International Electrotechnical Commission (IEC) in the IEC 60529 standard "Degrees of Protection Provided by Enclosures (IP Code)".



■ 120 × 120 × 38 mm ACDC Fan

- 120 × 120 × 38 mm *San Ace 120AD* 9ADA type
- 120 × 120 × 38 mm *San Ace 120AD* 9ADAW type

An increasing number of customers have requested 120 × 120 × 38 mm ACDC Fans with even higher airflow than our current products (9AD type fans). Also, there has been increasing demand for durable fans with water and dust resistance for use in applications where AC fans are preferred, such as in plant factories and control panels used

in factory equipment.

To meet such demands, we developed and launched two fans featuring the highest airflow and static pressure in the industry⁽⁶⁾: the *San Ace 120AD* 9ADA type fan; the *San Ace 120AD* 9ADAW type fan, which offers IP68-rated protection⁽⁵⁾. Their details are covered in a separate article in this issue.

(6) Based on our own research as of August 24, 2022, conducted among equally-sized ACDC fans and water-resistant ACDC fans on the market.



■ 160 × 160 × 51 mm ACDC Fan

- 160 × 160 × 51 mm *San Ace 160AD* 9AD type
- 160 × 160 × 51 mm *San Ace 160AD* 9ADW type

Our 160 × 160 × 51 mm AC Fans—designed in our proprietary size—are used in equipment such as control panels, industrial equipment, and air conditioners.

In these applications, there is an increasing demand for features such as low power consumption, low noise,

water resistance, PWM control, and a wide input voltage range.

To meet such market demands, we developed and launched 160 × 160 × 51 mm *San Ace 160AD* 9AD type ACDC Fans and *San Ace 160AD* 9ADW type Splash Proof ACDC Fans with IP56-rated protection⁽⁷⁾.

(7) IP56-rated protection:

The IP Code, or Ingress Protection Code is defined by International Electrotechnical Commission (IEC) in the IEC 60529 standard “Degrees of Protection Provided by Enclosures (IP Code)”.



■ Air Purifier

- *San Ace Clean Air*

Against the background of increasing air pollution and the spread of COVID-19, there is now a greater public demand for clean air. It is expected that demand for large air purifiers will continue to grow as an infection control measure in facilities where many people gather.

To respond to such market demands, we have leveraged our accumulated cooling fan expertise and high-efficiency air flow channel design expertise to develop and launch the *San Ace Clean Air* Air Purifier capable of sanitizing and filtering the air in large rooms.



Author

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