SUNON®

Headquarters:

Sunonwealth Electric Machine Industry Co., Ltd.

12th floor, 120 Chung Cheng 1st Road, Kaohsiung, Taiwan

TEL: +886-7-7163069

FAX: +886-7-7163086

URL: http://www.sunon.com

E-mail: sunon@email.sunon.com.tw

Sunon Inc. (U.S.A.)

1075 West Lambert Road Suite A, Brea, California 92821 U.S.A

TEL: +1-714-255-0208

FAX:+1-714-255-0802

URL: http://www.sunonusa.com

E-mail: info@sunon.com

Sunon SAS (Europe)

Parc Medicis, 66, Ave Des Pepinieres 94832, Fresnes Cedex-France

TEL:+33-1-46154515

FAX:+33-1-46154510

URL: http://www.sunoneurope.com

E-mail: info@sunoneurope.com

Sunon Corporation (Japan)

Stork Minami Otsuka 4Fl.33-1, 2 Chome,

Minami Otsuka Toshimaku, Tokyo Japan 170-0005

TEL: +81-3-5395-3069

FAX: +81-3-5395-3080

URL: http://www.sunon.co.jp

E-mail: info@sunon.co.jp

Sunonwealth Electric Machine Industry (HK) Ltd. (Hong Kong)

1906 Nan Fung Center, 264 Castle Peak Road, Tsuen Wan, Hong Kong

TEL:+852-24-111-388

FAX:+852-24-050-707

Sunon Technologies Pte Ltd. (Singapore)

FAX:+65-6795-0600 E-mail:info@sunon.com.sg

Sunon Electronics (Kun Shan) Co.,Ltd. (Shanghai, China)

TEL: +86-512-57700108
FAX: +86-512-57711575
URL: http://www.sunon-ks.com.cn



Company Profile

History of Sunon

2003 • "Certificate of Sony Green Partner" received.

• Awarded 2003 Annual Magnetic Industrial Technology Contribution Award.

 Alex Horng, CEO of Sunon, obtained 2003 Excellence For Technology & Innovation Award.

• Awarded 2003 Industrial Sustainable Excellence Award.

Sunon Global Operation Center application officially approved in Nov..

Sunon Research application officially approved in Nov..

2002 • Introduced the world's smallest "Mighty Mini Fan" sized 8x8x5 mm.

• Awarded the 10th "The Silver International Award of Innovation" of Taiwan.

Awarded the Industrial Technology Advancement '02.

2001 • Pioneered the introduction of DC brushless vibration motor.

Awarded the 10th "The Bronze International Award of Innovation" of Taiwan.

• Launched Kun Shan Plant in Shanghai, China.

• OS 9000 certified.

2000 • Awarded the 9th "The Bronze International Award of Innovation"

• Listed on the Main Board, capital reached NT\$ 1209 million.

• Launched the France and Japan subsidiaries.

• New series of Green Motor introduced.

• Launched the U.S. subsidiary.

• Launched the Research and Development Building.

 Received Contribution Award from Chinese Association for Magnetic Technology.

Invested in Sunon Motor specializing in precision motors.

Introduced the MagLev Motor fan.

1998

• Alex Horng, the founder of the corporation, awarded 7th "The Gold International Award of Innovation"

Awarded the 6th "Silver National Award of Excellence of Taiwan"

• Listed on the Second Board. Capital reached NT\$ 690 million.

ISO 14001 certified.

• Awarded the "Gold National Award of Excellence of Taiwan"

• Awarded by Chinese Association for Magnetic Technology.

• Setup the NanHai factory in Kuangtong, China, officially started overseas production.

• Established U.S. office.

●ISO 9001 certified.

• Set up offices in Singapore and Europe.

• ISO 9002 certified.

• Set up Hong Kong and Taipei office.

• Introduced extra small & thin cooling fan series

1991 • Launched mass production of self-innovated DC brushless cooling fan.

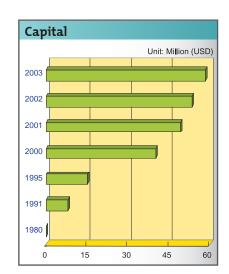
• Received the first patent certification.

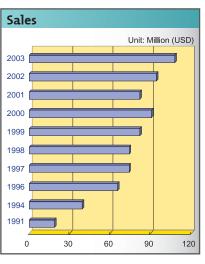
• Established Shehing-Yuan Cerebral Palsy Children Education Center to fulfilling society obligation, which was aimed to inspire the mentally disabled children.

1984 • Founded the Kaoshiung factory.

Registered trademark worldwide.

• Founded with NT\$1 million capital, Sunon established as a specialist in reseach, development, production, and marketing of micro cooling fans and precision motors.





Sunon, Precision fan & Motor Leader

Sunonwealth Electric Machine Industry Co., , (Sunon) was established in 1980, is a global leader in precision fan & motor. Sunon is driven by innovation. Its highcaliber research teams and state-of-the-art R&D equipment have together built up the strong capabilities in research and development of the company. Over decades of hard work and research effort, the Sunon brand has become a synonym for global leader in miniature cooling fan and leading brand in motor fan industry. For years, it has received high praises in the industry; many international leading manufacturers have even chosen Sunon as a designated brand for use in their products. The company produces a variety of products including axial AC & DC fans, blowers, and coolers, which are being widely used in the information technology, network communications, and optoelectronics industries, as well as in industrial production equipment, medical equipment, home appliances, OA machine, and others. The company is second to none when it comes to super miniature cooling fan motors,. Sunon has secured its leadership position in this area by repeatedly topping the world rankings and by demonstrating impressive innovativeness and entrepreneurship in the industry.

Innovation driven and quality oriented, the Ministry of Economic Affairs of R.O.C has honored Sunon with several National Invention Awards and National Awards of Excellence for years, and a dozen of Sunon products have been granted the Symbol of Excellence. As Sunon products are being marketed around the world, consumers will be able to better appreciate the fine quality and high value of Taiwanese products. In terms of R&D results, up to 2003, Sunon has been granted patents on near 700 inventions worldwide.

Headquartered in Taiwan, Sunon also has a strong international presence, including subsidiaries in Europe, America, Japan, Hong Kong, and Singapore. Through its over 70 distributors and more than 1,000 sales/service sites worldwide, Sunon has successfully established a comprehensive global network for customer service and R&D technical support.

Facing the constantly changing business environment in the 21st century, in addition to moving product design towards smaller sizes, slimness, and lighter weights and continuing its research into multifunctional fans, Sunon is determined to make further efforts in the development of rctional and high-speed brushless precision mini-motors in order to meet the increasing market demand for "intelligent motors" for the new century. Moreover, it will continue to capitalize on its R&D strengths to create continuous industrial miracles and to seek sustainable business development



SUNON Research

-- The driving engine behind SUNON Group

Exploring unlimited possibility from motor technology

SUNON RESEARCH, established in 2002, is a specialized motor innovation and invention center integrating the various Sunon research laboratories around the globe. Since its establishment, Sunon Research has focused on Sunon's existing expertise in motor business and has strived to seek the best performance and unlimited possibilities with motor application. Sunon Research is mainly responsible for the planning, promotion, and integration of various innovation projects with precision motors within Sunon Group.

Motor is the heart of electronic and mechanical industries and the engine that drives the world technology towards the future. Behind the design of each precision motor are the massive talents and efforts of world's top-level engineers and vast investments in high-end equipment and technology. As the world leading manufacturer of specialized precision motors, Sunon is determined to create state-of-thefirm basis and strong capabilities in the industry, to show the world the unlimited possibilities of future motors.









Total

thermal

solution, Simulation,

Certification

Motor Research

Innovation is the foundation for all businesses and industries. Relying on a basis of precision motor research and invention, Sunon has endeavored ceaselessly to improve itself in this area and has made tremendous contributions to key industries such as IT, electronics, and machinery with its impressive R&D results including highprecision, low-noise, and long-lifetime motor products.

Motor Applied Research

Precision motors are widely applied in today's star industries such as IT products, scanners, printers, digital cameras, CD-ROM drives, DVD-ROM drives, mobile phones, optoelectronics, and communications. Therefore, precision motors should have great market potential and business opportunities. Sunon has successfully commercialized many of its applied research results including fan motors, spindle motors, and vibration motors that have continuously helped push motor applications to high

Total Thermal Solution

Within the catalog of Sunon motor applications, the company's performance in the fan industry is by far the most impressive and widely recognized. Using its advantages in motor development, Sunon has successfully put to market motor fan products that allow more flexibility in size, consume less electricity, generate less noise, and with longer product life. In light of the increasing demand for simplicity in mechanical design among electronics and IT industries where fans are widely used, Sunon now not only provides top-quality motor products but also total thermal solutions for its clients. Sunon aims to provide the most cost-effective total thermal solutions by integrating its fan product, heat design, and mechanical layout proposal in as sma lowest cost



▼ Acoustics Laboratory (Sound Ouality)







▼ Air Flow/Pressure Test

Sunon reliability testing system

In order to provide products that meet the needs of its customers (i.e. high quality/low noise/long life), the company has invested heavily to build a computer-controlled comprehensive product reliability testing system to ensure product quality. In other words, the company's products will undergo a series of stringent testing and verification in each and every stage of development starting from innovation / design to trial production, and to mass production, in order to make sure that every Sunon product is made to the customer's satisfaction.

Sunon has been certificated OS9000 and ISO14001, and committed to successful implementation of total quality management.

In the meantime, to enhance testing accuracy and precision, all reliability related tests are carried out by computer systems and all test items are in compliance with or in reference to international standards.

Acoustics Laboratory:

The company currently has altogether three such systems (two semi-anechoic chambers and one anechoic chamber). The background noise level of all three chambers is controlled to be below 15dB.

In traditional acoustics, noise level is tested mainly in terms of sound pressure and sound power. In addition to these two major fields of testing, Sunon invested a vast amount of funds in year 2000 to engage in the research of sound quality engineering in the area of psychological acoustics in order to meet customers' demand for lower noise products.

Air Flow/Pressure Testing System

In the early stages of product design, the company will administer the air flow/pressure test on the product to understand the matching capacity in the designs of motor and fan blade shape. Moreover, to effectively resolve clients' pressing problems with heat dissipation, Sunon also performs thermal flow simulation analysis on clients' systems and provides its expert recommendations on the type of fan and modules to use that not only meet the clients' specific requirements but help reduce noise level and prolong the useful life of their system.

Ball Bearing Test Machine:

The machine is mainly used to test the vibration and noise level produced by ball bearing during operation. Conventional fans tended to adopt ball bearing to achieve longer service life. A major downside with such an approach is the increased noise level. Therefore, Sunon researched and developed MagLev Fans which can last just as long as ball bearing cooling fan and produce far less noise than fans using traditional ball bearing motor design.

Product-life Auto Testing System :

Sunon's product-life testing system incorporates various testing environments including high temperature, low temperature, high/low temperature circulation, hightemperature high-humidity, normal temperature, etc. to understand the changes of service life of Sunon products in different use environments.

The system is computer controlled and monitored on a 24hour basis and can test as many as 2,800 units of fans at the same time. Hence any fan failure can be detected in real time and their life can be accurately estimated.

Sunon Product

-- More precise, quiet, advanced

The continuous effort in research and development has established Sunon as the role model in the industry. Over the year, numerous innovations have contributed to products that are more precise, quiet, and advanced in heat dissipation among the fan industry.

Sunon MagLev Motor Fan ,the world's firstever cooling fan rotates fully exerted by a 360° consistent operation orbit, which contributes to products that are zero friction and no contact between the shaft and the bearing during operation. This pioneering friction-free bearing-toshaft design along with the system can also eliminates resonance, reduces noise, increases durability and even make applications quieter and more value-added.

High Air Flow Fans (Power Motor Fan), equipped with Sunon's self-developed high torque motor along with special framework to provide localized heat dissipation.

The Mighty Mini Fan, surpassing the framework of traditional fan in which it is the first fan smaller than a centimeter, providing thermal solutions for future applications in nanotechnology.

Based on the requirements in smaller, quieter, and advanced fans, Sunon has introduced a wide range of products for applications in IT products, OA equipments, Tele-com equipments, internet equipments, automobiles, home electronics, production facilities, and IA consumer products. The complete line of fans with various sizes and flexible designs is suitable for applications from low-end to high-end products. Wherever thermal issues exist, Sunon's fans contribute the service and the solution.

Smaller

Mighty Mini Fan

Green Motor Fan

Power

Motor

MagLev

Motor







MagLev Motor Fan Series



High Air Flow Fan Series (Power Motor Fan)



Ouieter



Sunon Production Network

plants in both China and Taiwan. The large production capacity is able to meet market demands. The model of economic production and flexible design allows specialized fan products to be produced in the minimal amount of time. In order to ensure quality, standard defect-free.









Wherever air flows, Sunon fans are present.

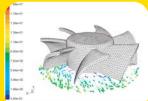
Wherever electric machanism operates, Sunon motors are present.



◆ Total Thermal Solution

All product series come with heat dissipation solutions from Sunon's "Heat Flow Design Research Center". Customized and optimized solutions are provided to customers.

Stronger



- * Customized cooling module design
- * Vent Optimization
- * Blade design and simulation
- * System thermal analysis
- * Noise suppression analysis at design stage



The Blueprint of Sunon Research

According to Sunon Group's planning, Sunon R&D tinity lies at the heart of Sunon Research development, which is comprised of motor research, motor applied research and total thermal solutions. These three aspects together form the vision and blueprint of Sunon's future

