Through technology, EBARA finds solutions to today’s global issues

In today’s world, against a backdrop of accelerating climate change and rising global population, water and energy shortages beset emerging countries as their economies develop, and cities are regularly hit by torrential rains. Consequently, the world’s inhabitants are facing many environmental challenges, and not everyone has access to enough water and energy.

In response, EBARA Corporation offers diverse solutions to the water, energy and environmental issues confronting every region of the world through its superior products, technologies, and services. Foremost among these are the pumps, compressors and other fluid machinery that comprise an essential part of society’s infrastructure. EBARA has been providing these products since its founding in 1912. The company is also leveraging its technologies to develop equipment for manufacturing semiconductors, the key component of our information society.

Looking ahead, EBARA will offer its full support to help societies achieve sustainable growth, creating a brighter future for the planet and all its inhabitants.
Message from the President

In today’s world, societies increasingly need social and industrial infrastructure—power plants and grids, water treatment and other environment-related facilities—along with highly efficient systems and equipment that are used in such infrastructure. EBARA’s business domains are well suited for meeting these social needs, and we recognize that we have a social responsibility to offer solutions through our products and services. That is our mission at EBARA.

Based on our medium-term management plan, which provides a basic framework for the company’s business activities, we are making rapid progress and accelerating our growth. Furthermore, we are striving to make EBARA a leading industrial machinery manufacturer globally by leveraging the company’s high-earnings capacity to establish a global presence, and by encouraging every member of the EBARA Group to maximize his or her potential, regardless of gender, nationality or other individual characteristics. For more than a century, EBARA has conducted all business dealings with high ethical standards and has built relationships based on trust with all of its stakeholders. Over the next 100 years, all of us at the EBARA Group look forward to contributing to societies worldwide through leading-edge technologies and superior services.

TOICHI MAEDA
President, Representative Executive Officer

We have a social responsibility to offer solutions through our products and services. That is our mission at EBARA.
Establishing a global manufacturing, sales, service and support network

Over the medium to long term, EBARA aims to become a leading industrial machinery manufacturer globally with a worldwide presence in each of its business domains. To achieve this goal, the company recognizes the absolute necessity of moving beyond the framework of traditional manufacturers and evolving into a service-oriented business that handles products and facilities over their entire lifecycle. That means tailoring production at factories in every region of the world to meet the exact needs of customers. It also means having consulting and marketing handled by sales representatives who thoroughly understand their respective regions of the world. EBARA is expanding its operations globally to provide comprehensive customer support and after-sales service, including repair work and maintenance, so that customers know they can rely on its products after installation.

Core competencies driven by technological capabilities

As an industrial machinery manufacturer, EBARA is leveraging its technological capabilities to drive its core competencies. The company’s core technologies not only include those applied in its products, but also those applied in production, quality control, and repairs and maintenance after equipment has been installed. Together, these allow the company to offer services covering the entire product lifecycle. At EBARA’s factories around the world, products are tailored to meet the needs of regional customers, and advanced production processes are optimized so that high-quality products can be delivered quickly and efficiently. Furthermore, in its after-sales service and customer support, EBARA aims to offer optimal solutions to customers, even if machinery operating conditions change. By constantly refining its technologies, EBARA maintains its ability to provide dependable products and services that earn the trust of customers.
The EBARA brand is now trusted worldwide, reflecting our support for industry and people’s livelihoods.

EBARA is working to create a corporate culture that values diversity.

EBARA established its first office outside of Japan in Thailand in 1964 and its first overseas production plant in Brazil in 1975. Since then, the company has been setting up factories and sales offices across the globe, including in Asia, the Americas, Europe and the Middle East. Worldwide, the EBARA Group employs over 15,000 people at its workplaces in 28 countries and regions, and is actively expanding its global footprint. EBARA promotes working environments in which every employee, regardless of gender, nationality or other individual characteristic, can realize his or her full potential. In this way, the company is creating a corporate culture that respects diversity and brings out the best in employees by valuing their creativity and encouraging a spirit of challenge.
Since its founding more than 100 years ago, EBARA has been at the forefront of developing some of the world’s most advanced fluid technologies. Based on this know-how and by continually taking on challenges and pursuing innovations, EBARA has applied leading-edge technologies and provided unrivalled services that exceed customer expectations and meet the needs of society. Presently, EBARA consists of three in-house companies: the Fluid Machinery and Systems Company, specializing in pumps, compressors and other equipment; the Environmental Engineering Company, which builds and operates waste incineration plants; and the Precision Machinery Company, which focuses on semiconductor manufacturing equipment.

Fluid Machinery and Systems Company

Pumps Business
This business supplies a wide range of different kinds of pumps, including pump units and standard pumps used in office buildings, condominiums and other buildings, as well as high-pressure pumps and large-scale pumps used in industrial facilities and social infrastructure, such as city water and sewerage, rainwater drainage and irrigation systems, power plants and oil- and gas-related plants.

Compressors and Turbines Business
Compressors compress gas for transportation, and turbines harness steam energy through rotational force. This business supplies compressors and steam turbines used in oil refineries and petrochemical plants that produce ethylene, a raw material for plastics and synthetic fibers.

Chillers Business
This business supplies chillers used for air-conditioning systems in buildings and large commercial complexes, as well as cooling towers and related systems used to extract heat from cooling water (generated by heat-exchange facilities) and discharge it into the atmosphere.

Contributing to society, industry and people’s livelihoods through leading-edge technologies and superior services

Since its founding more than 100 years ago, EBARA has been at the forefront of developing some of the world’s most advanced fluid technologies. Based on this know-how and by continually taking on challenges and pursuing innovations, EBARA has applied leading-edge technologies and provided unrivalled services that exceed customer expectations and meet the needs of society. Presently, EBARA consists of three in-house companies: the Fluid Machinery and Systems Company, specializing in pumps, compressors and other equipment; the Environmental Engineering Company, which builds and operates waste incineration plants; and the Precision Machinery Company, which focuses on semiconductor manufacturing equipment.
Environmental Engineering Company

Environmental Plant Business
Leveraging its incineration and gasification technologies, EBARA is involved in all stages of environmental plant operations, particularly municipal solid waste treatment facilities, from design and construction to operational management and maintenance.

Note: EBARA’s water treatment business is handled by Swing Corporation, an affiliated company established through a three-way partnership with Mitsubishi Corporation and JGC Corporation.

Precision Machinery Company

Precision Machinery Business
This business supplies dry vacuum pumps, which produce the clean vacuum conditions needed for manufacturing semiconductors, flat panel screens, LEDs and other items essential for the progress of today’s information society. The precision machinery business also provides gas abatement systems for treating harmful gases and greenhouse gases, and chemical mechanical polishing (CMP) systems, which ensure that semiconductor wafers are perfectly flat at the nano-level. All of these products contribute to making a more convenient society.
Using the world’s water and energy resources more sustainably with advanced technologies and superior services

**EBARA FACT:**

-162°С～450°С

The extremely wide temperature range at which EBARA’s lineup of pumps can handle liquids
EBARA supplies the world with highly efficient and dependable pumps for water-related facilities such as water systems and desalination plants, and for energy-related facilities including oil and gas and power plants. The company also develops products that conserve energy by more efficiently utilizing energy resources. By ensuring optimal operations at facilities it has built or installed through after-sales service and customer support, EBARA provides superior service and leading-edge technologies designed to answer the diverse needs of every region around the world.

Main products and servicing

- Large-scale pumps
- High-pressure pumps
- API pumps
- Cryogenic pumps
- Standard pumps
- Fans

Optimally designed pumps underpinned by advanced platform technologies

In response to customers’ requests, EBARA designs its high-efficiency pumps to optimize flow channels inside the pumps via a combination of flow analysis and the Three Dimensional Inverse Method that simulates the internal shape of pump interiors. EBARA supplies highly reliable high-performance pumps by applying its many technologies, which include material technologies that help pumps resist corrosion from seawater or other substances and erosion from sand, component technologies for constructing pumps, particularly the rotating parts, and advanced platform technologies for analyzing the structural strength of pump products, the degree of pump vibration resulting from operating environments, flows of water tank intake, and other factors.

Fabricated duplex stainless steel pumps

Over many years, EBARA has delivered seawater pumps with exceptional standards of reliability and corrosion-resistance. The company has amassed extensive expertise through materials research and development, including studies of the corrosive action of seawater under real-world conditions. In this context, EBARA successfully commercialized fabricated duplex stainless steel pumps ahead of its competitors by applying its advanced production and manufacturing technologies, including welding techniques. This seawater pump is used worldwide, including in the seawater desalination, electric power, and oil and gas industries in the Middle East, China, Japan, Southeast Asia, Europe and North America.
Elliott’s products are used worldwide as core components in oil refineries and petrochemical plants

EBARA FACT:

30%
The EBARA Group’s global market share of compressors used in ethylene plants and oil refining plants
Developed by Elliott Group, a principle subsidiary of EBARA Corporation, Elliott compressors and turbines are commonly used as core components of energy-related plants around the world, including oil, gas and liquefied natural gas (LNG) facilities. Leveraging an integrated design and production system, Elliott’s factories in both Japan and the US work closely together to ensure a global supply of products that boast a uniformly high level of quality. Moreover, Elliott offers superior service and support—not only for its own products but also for non-Elliott products—at its service centers located in every region of the world, ensuring that when it comes to support, The World Turns to Elliott.

Main products and services

- Centrifugal compressors
- Axial compressors
- Steam turbines
- Gas expanders

Superior upgrades and technical modifications

Rapid advances in technology, design, materials or plant capacity can make turbomachinery obsolete, even if it is well-maintained and in good operating condition. Recognizing this fact, Elliott draws on its 100 years of engineering expertise and experience to upgrade and modernize this equipment to improve operating efficiency, reduce operating costs and help boost capacity at plants all over the world. For both Elliott and non-Elliott equipment, the company offers its customers solutions and services including reverse engineering, upgrades and technical modifications of existing machinery, and onsite audits focusing on reliability, efficiency and higher return on investment.

Compressors for a broad range of pressure and flow applications

Elliott compressors are designed with advanced original technologies for enabling improved fluidic performance, lower power consumption, increased process flexibility and reduced capital costs. Employing designs and analyses based on gas dynamics, Elliott refines impeller designs, optimizes flow channels and improves rotor stability. This allows the company to maximize compressor performance over a broad range of pressure and flow applications. At a 1.5-million-ton-capacity ethylene plant, for example, a single Elliott compressor was able to do the work that previously required two compressors.
Mitigating global warming with technologies that utilize exhaust heat and enable higher efficiency

EBARA FACT:

1930

The year EBARA produced the first centrifugal chiller made in Japan
In 1930, EBARA launched the first centrifugal chiller manufactured in Japan. In 1952, the company achieved another first with the country’s first domestically produced square-type cross-flow cooling tower. EBARA’s high-efficiency chillers, cooling towers and other equipment are designed with the environment in mind, and the company is promoting modern and advanced thermal-energy systems. Moreover, drawing on its many years of expertise, EBARA offers a full range of after-sales service and customer support and is extending it to key markets worldwide, particularly in China and Southeast Asia. In this way, EBARA is applying its capabilities to offer comprehensive solutions tailored to the needs of customers.

Main products and services

- High-efficiency centrifugal chillers
- Absorption chiller/heaters
- Square-type cooling towers
- Screw modular chillers

Full-scale optimization of air-conditioning systems

At large-scale facilities like airports and shopping centers, air-conditioning equipment can account for about 60% of all energy consumed. This energy cannot be effectively conserved through heat source equipment alone. In this context, EBARA works to help facility operators save energy by optimizing every aspect of air-conditioning systems—including auxiliary equipment—through its comprehensive engineering service. This service makes air-conditioned spaces even more comfortable by applying EBARA’s many years of product development capabilities, manufacturing know-how, engineering expertise utilized for large-scale plants, district heating and cooling systems, and other facilities, along with expert after-sales service and support to enhance customer satisfaction.

Realizing the first project of Japan’s Joint Crediting Mechanism

EBARA supplies highly efficient and dependable chiller products that are used not only for air-conditioning, but also for other specialized industrial applications. For instance, a textile plant in Indonesia was able to reduce its energy requirements by replacing the existing chillers with EBARA’s products. The factory’s conventional air-conditioning system, which had been used for controlling humidity to maintain product quality, was consuming vast amounts of energy. EBARA replaced the system’s two chillers with a single new type of high-efficiency chiller that saves energy and reduces CO₂ emissions. EBARA’s product and handling of the project were positively evaluated, and in October 2014, it was registered as the first project under Japan’s Joint Crediting Mechanism, a credit system legislated by the Ministry of the Environment. EBARA is proud to have contributed to the fight against global warming on an international level through its technologies.
Offering total solutions for waste treatment facilities

E B A R A F A C T:

160,000 kilowatts

The combined power capacity of municipal solid waste incineration facilities built by EBARA in Japan.
EBARA’s Environmental Plant Business is guided by its business philosophy of contributing to the creation of a sustainable society by providing superior technologies and services related to solid waste treatment. Accordingly, it offers total solutions spanning from the design, engineering and construction of waste treatment facilities to their maintenance and operational management. Over the course of more than half a century, the business has built over 400 facilities and plants in Japan and other countries. Based on its waste treatment technologies developed over many years, the business responds to changing social needs, such as giving greater consideration to the environment and how resources are used.

**Main products and services**

- Waste treatment facilities and equipment
- Waste incineration power plants
- Waste recycling facilities
- Biomass power generation facilities

**Combustion techniques for ensuring safe and secure waste treatment and power supplies**

EBARA’s waste treatment technologies cover a wide range of applications, from treating low- to high-calorific value waste in small to large incinerators. With two kinds of combustion techniques—one for stoker incinerators and the other for fluidized-bed incinerators—EBARA’s technologies not only ensure high levels of efficiency and performance, but also flexible and secure operations suitable for increasingly diverse needs. Furthermore, with a view to utilizing renewable energy, EBARA is focusing on power generation using biomass and waste materials as fuel. The company also applies high-efficiency power generation technologies and the latest combustion control techniques incorporating low excess air combustion and exhaust gas recirculation systems in order to contribute to the supply of power and ensure that power generation facilities operate safely and securely.

**Waste-to-energy plant in Hiratsuka city**

EBARA was awarded a design-build-operate (DBO) contract for the city of Hiratsuka’s Environment Management Center, covering the design, construction, operational management and maintenance of the facility. The purpose of the center is to facilitate recycling in the city and effectively reuse energy based on the principles of reduce, reuse and recycle. Utilizing heat generated when incinerating waste, the center can generate as much as 5,900 kilowatts of power, from which electricity remaining after powering the facility is supplied to the area. Likewise, surplus heat generated during incineration is supplied to a nearby social welfare facility. Furthermore, the Environment Management Center reuses all incineration ash and non-combustible waste as resources, eliminating the need for landfilling.
Driving the evolution of semiconductors with high-precision manufacturing technologies

EBARA FACT:

Nano $10^{-9}$

The ultrafine nanometer level that can be realized by EBARA’s chemical mechanical polishing system
Dry vacuum pumps create the clean production environments essential for manufacturing semiconductors, flat-panel displays, LEDs and solar cells. Meanwhile, chemical mechanical polishing (CMP) systems enable the miniaturization of semiconductors, which enhance the performance of computers, smartphones, digital consumer electronics goods and automobiles. With these products, EBARA has been accelerating technical progress in the advanced semiconductor industry.

Main products and services
- Chemical mechanical polishing (CMP) systems
- Plating systems
- Bevel polishing equipment
- Dry vacuum pumps
- Turbo molecular pumps
- Gas abatement systems

Responding to miniaturization, 3D modeling and cost cutting needs
EBARA’s CMP systems enable 300-millimeter semiconductor wafers to be miniaturized and made ultra-smooth, down to the 10- to 20-nanometer level. The company’s wafer plating systems, meanwhile, enable high-speed and high-performance processing for depositing fine conductive patterns on the wafers, including bumps, pillars, re-wirings and through-silicon via structures, all of which are essential for new packaging techniques. Finally, EBARA’s bevel polishing systems employ novel polishing techniques to process the bevel and backside of the wafers—an area that has attracted attention in recent years as a source of defects amid efforts to improve the yield rate of semiconductor production. EBARA is developing these products while working to meet the challenges posed by semiconductor miniaturization, three-dimensional modeling and pressures to cut costs.

Developing dry vacuum pumps and gas abatement systems for more environmentally friendly semiconductor production
EBARA applies its proprietary motor, hydro, control, heat analysis, and processing technologies to develop compact and lightweight dry vacuum pumps that are energy efficient. EBARA’s latest EV-S model helps cut utility costs, reducing power consumption by 35%, compared to the company’s previous series of pumps. Meanwhile, EBARA’s gas abatement systems can decompose and remove many kinds of gases, including greenhouse gases emitted from semiconductor production processes. These systems also provide energy efficiency and large gas flow volume capacity. Responding to growing expectations for cleaner semiconductor production with reduced environmental impact, EBARA is working to make dry vacuum pumps and gas abatement systems that conserve energy, reduce CO₂ emissions and lighten the environmental burden.
Overview of Products

1. Packaged booster unit for building equipment
2. Water pump for building equipment
3. Submersible motor pump for deep wells
4. Surface pump for Industrial facilities
5. Home-use pump
6. Large-scale water supply pump
7. Seawater cooling pump
8. Large-scale drainage pump
9. Boiler feedwater pump
10. API pump
11. Cryogenic submergible motor-driven vertical pump
12. Gas recirculating fan for coke dry quenching equipment

Compressors and Turbines Business

13. Compressors and turbines for large ethylene plant
14. Welding work
15. Gas expander
16. Maintenance work
17. Multi-stage steam turbine
18. Operations in progress equipment
Centrifugal chiller using the refrigerant pentafluoropropane (HFC245fa)
Centrifugal chiller using the refrigerant tetrafluoroethane (HFC134a)
Square-type cooling tower
Maintenance work
Screw modular chiller
Absorption chiller/heater

Waste incineration power plant (Kawasaki City)
Waste incineration power plant (Fukushima City)
Construction work
Construction work
Biomass power generation facility
An operational control center

Dry vacuum pump
Turbo molecular pump
Gas abatement system
Chemical mechanical polishing (CMP) system
Wafer plating system
Bevel polishing system
Putting an R&D network in place to drive EBARA’s continuous growth

In 2014, EBARA reorganized its research network based on its policy to “continuously enhance core competence (technological capabilities) as an industrial machinery manufacturer,” as set forth in the company’s medium-term management plan, E-Plan 2016. Accordingly, EBARA began promoting EBARA Open Innovation, an initiative for collaborating with universities and other external research institutes as a means to take advantage of outside expertise and enhance its basic research, drawing from the company’s advanced technologies accumulated over many years. Moreover, EBARA set up an in-house research organization called the EBARA Open Laboratory for the purpose of enabling the group as a whole to independently conduct R&D on basic technologies, build up in-house technological expertise and nurture researchers and developers.

Leveraging its R&D network, driven by EBARA Open Innovation and the EBARA Open Laboratory, EBARA will promote more joint-research with research institutes outside the group, including universities, and encourage more collaboration between development departments at its business group subsidiaries worldwide. In this way, EBARA intends to promote original R&D that otherwise could not be achieved independently by the company.

EBARA aims to make its fluid technologies, numerical analysis techniques, materials, analysis and other foundational technologies the very best in the world. By incorporating advanced techniques and methodologies based on these technologies, the company will work to further enhance the core technologies that go into its products while developing technologies for the future.

Promoting an open in-house research network as an incubation center for technologies and human resources
Research and Development Network

EBARA’s new research organization, the EBARA Open Laboratory, is a unique organization that facilitates participation in research projects, incorporating research themes and rapidly applying results to business applications. It provides a space to pursue basic research—something that many EBARA researchers were previously unable to pursue in their working hours because they are also responsible for product development in their respective business groups. Established as an incubation center for technologies and human resources, the EBARA Open Laboratory is a new research organization for enhancing knowledge and skills, and for sharing research results obtained through projects conducted by each business group’s product development personnel.

EBARA’s research network is made up of three research departments along with a planning department and administration department. The planning department serves as a think tank for exploring technological “needs and seeds,” based on predictions covering the medium and long terms. The administration department provides support for research projects, compiles past research results in a database for practical applications, and publishes the technology journal The Abstract EBARA Engineering Review to promote EBARA’s technological capabilities.

Intellectual Property

In accordance with EBARA’s policy of promoting strategic intellectual property activities that fully utilize the group’s intellectual property, the Intellectual Property Division strategically acquires intellectual property rights for EBARA’s global operations and continuously strives to enhance the company’s core competencies as an industrial machinery manufacturer. The division has also established a global intellectual property risk management organization and works to reduce business risks by improving the company’s abilities to respond to lawsuits related to intellectual property and to assess intellectual property agreements.

Three Research Departments

1. Fundamental Technologies Research Department
This department carries out research and development across divisions and departments company-wide, applying knowledge to enhance EBARA’s fundamental technologies such as flow analysis, corrosion and anti-corrosion material assessment, chemical properties assessment, control methods, and engineering.

2. Product Core Technologies Research Department
This department acts as an interface between research and business, carrying out applied research jointly with the Fundamental Technologies Research Department and the Advanced Analysis Department. The purpose of this research is to improve the composite technologies at the core of each business group’s products and to bolster product competitiveness.

3. Advanced Analysis Department
This department applies its own highly specialized numerical analysis techniques and carries out R&D independently and jointly with the two above-mentioned departments. It also provides specialized training and assistance in solving issues confronting business divisions.
EBARA regards the combination of three key elements in its framework for corporate ethics as “The Ebara Way.” All over the world, EBARA Group employees follow The Ebara Way in their work, helping to fulfill EBARA’s social mission of offering solutions to society through its products and services, especially in connection with energy- and water-related infrastructural needs. In this way, EBARA will continue contributing to society through its business activities.

**The Ebara Way**

**Founding Spirit of Netsu to Makoto**

The idea behind Netsu to Makoto (Passion and Dedication) is that members of the EBARA Group shall approach their job with enthusiasm while exercising their creativity and ingenuity, and pursue their work with sincerity and integrity.

**Corporate Philosophy**

The EBARA Group contributes to society through high-quality technologies and services relating to water, air and the environment.

**EBARA Group CSR Policy**

The EBARA Group shall base all business activities on its Founding Spirit and Code of Conduct.

**EBARA Group CSR Policy**

1. **Ethics:** We conduct our business with a strong sense of ethics.
   ① **Pride:** We take pride in our role supporting society, industry and life.
   ② **Products and Services:** We satisfy customers with inventive products and services.
   ③ **Competition:** We practice our business based on free and fair competition.
   ④ **Environment:** We play our part in improving the global environment.

2. **Trust:** We foster trust with our valued stakeholders.
   ⑤ **Passion and Dedication:** We pursue all activities with passion and dedication.
   ⑥ **Human Rights and Diversity:** We respect human rights and diversity above all else.
   ⑦ **Disclosure:** We develop mutual understanding with stakeholders through transparent and fair disclosure.
   ⑧ **Work Environment:** We sustain a safe workplace and strive for a stimulating work environment.
   ⑨ **Communication:** We utilize high-quality communication to be an industrial firm all stakeholders take pride in.

**Conducting business based on high ethical standards and building trust with stakeholders**

The United Nations Global Compact promotes 10 principles in the four categories of human rights, labor standards, the environment, and anti-corruption. As a signatory of the compact, EBARA is a member of the Global Compact Japan Network, an organization of companies in Japan, and participates in initiatives intended to realize a sustainable society with various corporations and organizations.
Promoting international cooperation in Asia and beyond for over 25 years through the Hatakeyama Memorial Fund

Purpose and goals of establishing the fund

The Hatakeyama Memorial Fund was set up in 1989 for the purpose of funding international cooperation through activities like technological training and for promoting mutual understanding and friendship between countries. Reflecting former company president Seiji Hatakeyama’s ideal that “EBARA is a member of the community,” the fund is intended for international grassroots collaboration, independent of corporate interests. Through the fund, EBARA helps engineers from various countries learn about the company’s technologies and expertise that are directly relevant to local industry and people, with the goal of giving them the skills needed to independently create and maintain prosperous communities.

Main activities of the fund

The Hatakeyama Memorial Fund is used for the two main activities below.

1. Support for human resources training

The fund is used to finance short-term technical seminars covering EBARA’s expertise and technologies at universities, public institutions and other organizations outside Japan. As of October 31, 2014, a total of 245 seminars, workshops, and training courses have been held in 19 countries, including Thailand, Vietnam and Cambodia, since activities began in 1989, with a total of 11,428 people participating.

2. Support for technical development

Together with local universities, EBARA explores key issues facing the countries it supports through the fund and identifies topics that would not otherwise be pursued by government-led partnerships. It then supports the development of local communities by helping them create the technologies and infrastructure they need using locally procured human resources and materials.
Throughout its history, EBARA has worked to help bring prosperity to industry, society and people’s lives

2013 to the present
100 years in business, EBARA establishes its technologies worldwide
EBARA celebrated the 100th anniversary of its founding in 2012 as a comprehensive service provider rooted in local communities worldwide, with operations spanning manufacturing and sales to after-sales service and customer support. Looking forward to the next 100 years, EBARA will maintain its reputation as a trusted industrial machinery manufacturer by responding to the needs of customers and communities around the globe, while helping make societies more prosperous, secure and safer.

1980s to 2012
EBARA’s technologies progress with the times
During these years, EBARA entered the field of semiconductor manufacturing equipment—essential products for highly advanced information societies—and pursued the development of technologies that could help conserve energy and lower environmental impact, a growing social concern at the time. Meanwhile, the scope of EBARA’s business spread internationally as the world globalized.

1950 to the 1970s
Developing technologies needed by society
EBARA constantly raised the level of its technologies according to customer expectations as it pursued innovative product development and investment in new technologies. In this way, the company broadened its business domains and met the needs of industry. During these years, EBARA also focused on developing products and technologies for supporting social infrastructure, such as water and sewerage systems.

1912 to the 1940s
Building EBARA’s foundation
Originally founded as the Inokuchi Type Machinery Office, EBARA Corporation set out in what was an unknown industry in Japan at the time, guided by its founding spirit of Netsu to Makoto, meaning “Passion and Dedication.” The company went on to develop and supply a large number of products, including pumps, fans and chillers.

Company founder Issei Hatakeyama
Born in 1881, Issei Hatakeyama graduated from the College of Engineering at the University of Tokyo. After founding the Inokuchi Type Machinery Office in 1912 to commercialize products based on the theories of Dr. Ariya Inokuchi, he went on to establish EBARA Corporation in 1920.

EBARA celebrates its 100th anniversary
2012
EBARA begins supplying chemical mechanical polishing systems
2006
EBARA delivers its first fluidized-bed incinerator designed for municipal solid waste
1999
EBARA delivers its first chemical mechanical polishing system
1986
EBARA enters the semiconductor industry and delivers its first roots-type dry vacuum pumps
1983
EBARA delivers its first internally circulating fluidized-bed boiler
1982
EBARA delivers its first fluidized-bed boiler designed for municipal solid waste
1977
Record-large pumps delivered to the world’s biggest drainage pump station
1975
EBARA produces the first centrifugal chiller made in Japan
1961
EBARA launches its waste treatment facility business and delivers its first mechanical stoker-type waste incinerator
1956
Standard pump business launched
1953
EBARA begins supplying high-pressure seawater injection pumps delivered to China
1942
Trial production of turbines and axial-flow compressors for jet engines begins
1941
EBARA produces the first centrifugal chiller, the first absorption chiller/heater
1930
EBARA Corporation established, and manufacturing and sales of pumps commences
1921
Manufacturing of blowers and fans commences
1912
Inokuchi Type Machinery Office founded
The EBARA Group’s international subsidiaries are conducting business with close ties to local customers worldwide

**EBARA Corporation**

**Fluid Machinery and Systems Company**
- Japan
  - Ebara Densan Ltd.
  - Ebara Material Co., Ltd.
  - Ebara Hamada Blower Co., Ltd.
  - Ebara-Byron Jackson, Ltd.
  - E-Square Co., Ltd.
  - Ebara Refrigeration Equipment & Systems Co., Ltd.
  - Elliot Group Holdings, Inc.
  - Elliot Ebara Turbomachinery Corporation
  - Pacific Machinery and Engineering Co., Ltd.
- North and South Americas
  - Elliott Company (U.S.A.)
  - Ebara International Corporation (U.S.A.)
  - Hood-EIC, LLC (U.S.A.)
  - Ebara Industrias Mecanicas e Comercio Ltda. (Brazil)
- Europe and the Middle East
  - Ebara Pumps Europe S.p.A. (Italy)
  - Sumoto S.r.l. (Italy)
  - Ebara Pompy Polska sp. z o.o. (Poland)
  - Ebara Pumps RUS Limited Liability Company (Russia)
  - Ebara Espana Bombas S.A. (Spain)
  - Ebara Pumps Middle East FZE (UAE)
- Asia and Oceania
  - Ebara Pumps Australia Pty. Ltd. (Australia)
  - Yantai Ebara Air Conditioning Equipment Co., Ltd. (China)
  - Ebara Machinery (China) Co., Ltd. (China)
  - Ebara Great Pumps Co., Ltd. (China)
  - Ebara Densan (Kunshan) Co., Ltd. (China)
  - Ebara Machinery Zibo Co., Ltd. (China)
  - Ebara Densan (Qingdao) Technology Co., Ltd. (China)
  - P.T. Ebara Indonesia (Indonesia)
  - Ebara Fluid Machinery Korea Co., Ltd. (South Korea)
  - Ebara Pumps Malaysia Sdn. Bhd. (Malaysia)
  - Ebara Pumps Philippines, Inc. (Philippines)
  - Ebara Engineering Singapore Pte. Ltd. (Singapore)
  - Ebara-Densan Taiwan Manufacturing Co., Ltd. (Taiwan)
  - Ebara Densan (Taiwan) Samoa Mfg. Co., Ltd. (Taiwan)
  - Ebara (Thailand) Limited (Thailand)
  - Ebara Vietnam Pump Company Limited (Vietnam)

**Environmental Engineering Company**
- Japan
  - Ebara Environmental Plant Co., Ltd.
  - Swing Corporation
- Asia and Oceania
  - Ebara Qingdao Co., Ltd. (China)

**Precision Machinery Company**
- Japan
  - Ebara Field Tech. Corporation
- North and South Americas
  - Ebara Technologies Incorporated (U.S.A.)
- Asia
  - Shanghai Ebara Precision Machinery Co., Ltd. (China)
  - Ebara Precision Machinery Korea Incorporated (South Korea)
  - Ebara Precision Machinery Taiwan Incorporated (Taiwan)
- Europe and the Middle East
  - Ebara Precision Machinery Europe GmbH (Germany)

**Administrative Subsidiaries**
- Japan
  - Ebara Agency Co., Ltd.
  - Ebara Shonan Sports Center Inc.
  - Ebara Meister Co., Ltd.
  - ECE Co., Ltd.
  - Ebara Earnest Co., Ltd.
- North and South Americas
  - Ebara America Corporation (U.S.A.)