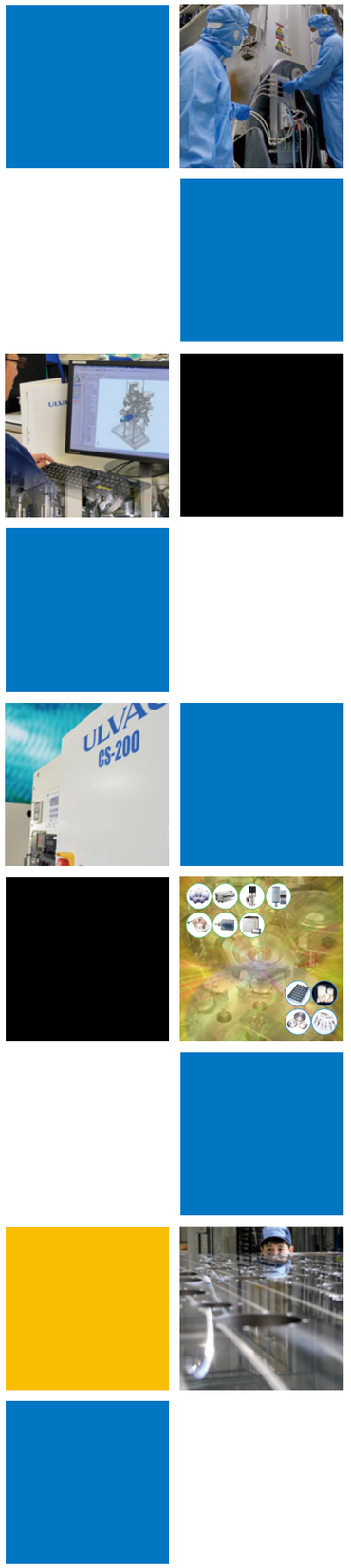
ULVAC

ULVAC TECHNO, Ltd.
2609-5 Hagisono, Chigasaki,
Kanagawa, Japan 253-8555
TEL +81-467-87-1046
FAX +81-467-57-0803
ISO 9001 certified
ISO 14001 certified



ULVAC

Quest for the Best Value

CORPORATE INFORMATION

ULVAC TECHNO, Ltd.

Company-En-1908/500ADP

Policy & Top Message

Providing Services that Fit the New Era

— Greater Value with Solutions for Customers

Since our establishment, our corporate philosophy has been the Customer First Principle with the following company motto:

"ULVAC TECHNO, Ltd., shall respect the reliance of customers"

"All activities by ULVAC TECHNO, Ltd., shall be useful to customers"

We offer a variety of options to improve customer satisfaction, such as, providing maintenance services, parts, and vacuum materials, as well as more functional and higher performance used machines, surface treatment and precision cleaning treatment services, and also proposing remodeling that contributes to improvements in quality and productivity.

The environment surrounding our industry is rapidly changing. A society well connecting people, things and information sharing through the evolution of IoT —a super-smart era with new services like automated driving and advanced remote medical service— is now a reality. Of course, customer requirements will become more sophisticated. Consequently, we are building a new platform system in preparation for this new era by using the Big Data that we have accumulated from our many years of experience. We believe that the customer solutions created from this system will offer greater value and more benefits to our customers.

Thanks to all of you, we have reached the 40th year since the establishment of the company. We will continuously work to fulfill our original purpose in the hope that our good relationship with customers will continue as well. We look forward to your continued support in the future.

ULVAC TECHNO, Ltd.
President and CEO
Kyuya Kobayashi

Policy & Top Message
Field Support p.8
Improvement Support p.10
Resale & Refurbish p.12
Parts Supply p.14
Surface Treatment & Precision Cleaning p.16

History of ULVAC, Inc.

August, 1952

ULVAC, Inc. established for the purpose of contributing to industry

In August 1952, ULVAC, Inc. was founded as Japan Vacuum Engineering Co., Ltd. The company was founded to contribute to the restoration of industries in Japan after WW II by a group of young researchers in vacuum technologies under the support of influential business leaders like Konosuke Matsushita (founder of Panasonic). Since then ULVAC, Inc. has supplied products valuable to the industries and research sectors as the single manufacturer of comprehensive vacuum equipment.

Headquarters of ULVAC, Inc. at the time of its foundation in Tokyo. The business started in a small rented room at the top floor of the building.

1950s and 60s

Challenge to production of vacuum equipment in Japan as the comprehensive vacuum equipment manufacturer

Three years after ULVAC, Inc. was founded, the business changed from import and sales of vacuum equipment made in the United States to full-scale production of equipment made in Japan.

Omori Plant (Tokyo)

1970s

Contributed to sophisticated engineering industries like automobiles and electrical appliances using our advanced technologies

In 1975, ULVAC, Inc. was awarded a contract to manufacture fully automatic semiconductor production equipment from IBM, the United States giant. The established technologies of ULVAC, Inc. were recognized throughout the world.

Vacuum equipment delivered to IBM

1980s

Expansion of production and service facilities / Contribution to the semiconductor and electronics industries

Industry sectors in which ULVAC, Inc. served expanded in the 1980s, and ULVAC vacuum equipment for semiconductor and electronics industries increased its reputation.

Vacuum equipment favorably received worldwide

1990s

Expansion of super-large vacuum equipment business serving the industry of FPD TV sets

In the 1990s, ULVAC, Inc. continued to provide continuously evolving vacuum equipment that met industry needs. In particular, sales of the vacuum equipment used for LCD displays for desktop PCs expanded worldwide.

Vacuum equipment used for production of the FPD

2000s

Establishment of operations in China, Korea and Taiwan

Manufacturing facilities for large LCD TVs expanded into Taiwan, Korea, and China; ULVAC, Inc. actively expanded into all eastern Asian countries.

Opening ceremony held in China

Present

Explore the future of an advanced information society with the next generation vacuum technologies

ULVAC, Inc. is challenging the sectors of sophisticated information, energy saving, and energy creation to contribute to the creation of new values for the future and to a long-lasting affluent society.

Aerial view of ULVAC, Inc. headquarters and plant

History of ULVAC TECHNO, Ltd.

ULVAC TECHNO, Ltd., was formed as an independent company specialized in providing services first in the vacuum equipment industry

ULVAC

The name "ULVAC" was the trade name created from the "Ultimate in Vacuums," which means the pursuit of the unlimited possibilities of the vacuum, which is also used as the name of the company. Vacuum technology, with its unlimited possibilities, serves a variety of functions in the diverse fields of energy saving, energy creation, IoT (Internet of Things) represented by ICT, and in our daily lives.

January 1979 ULVAC TECHNO, Ltd. was established / Expansion of the service facilities network

ULVAC TECHNO, Ltd., (then ULVAC SERVICE CORPORATION) was established in 1979 after spinning off the service division of ULVAC, Inc. ULVAC TECHNO, Ltd. was the first to specialize in providing services in the vacuum equipment industry in Japan.

Increasing service facilities in Japan, and addition of vacuum materials and surface treatment businesses

ULVAC TECHNO, Ltd. increased its service facilities in Japan in close collaboration with ULVAC, Inc., from the mid-1980s. In the 1990s, the new businesses of supplying vacuum materials and functional surface treatment were included in our business portfolio in addition to the maintenance business.

Customer support business expanded with addition of cleaning business

In the 2000s, all ULVAC group companies expanded the business of providing solutions to enhance customer satisfaction. A few of those solutions are the cleaning business and sales of refurbished vacuum equipment. ULVAC TECHNO, Ltd. offers solutions as the core of the ULVAC group.

Support for solutions business collaborating with ULVAC group companies outside Japan

ULVAC, Inc. and its group companies became more dependent on operations outside Japan. ULVAC TECHNO, Ltd. responded to that movement by providing support for the transfer of the successful Japan solutions business to group companies outside Japan.

What's ULVAC

[Mission of ULVAC TECHNO, Ltd.]

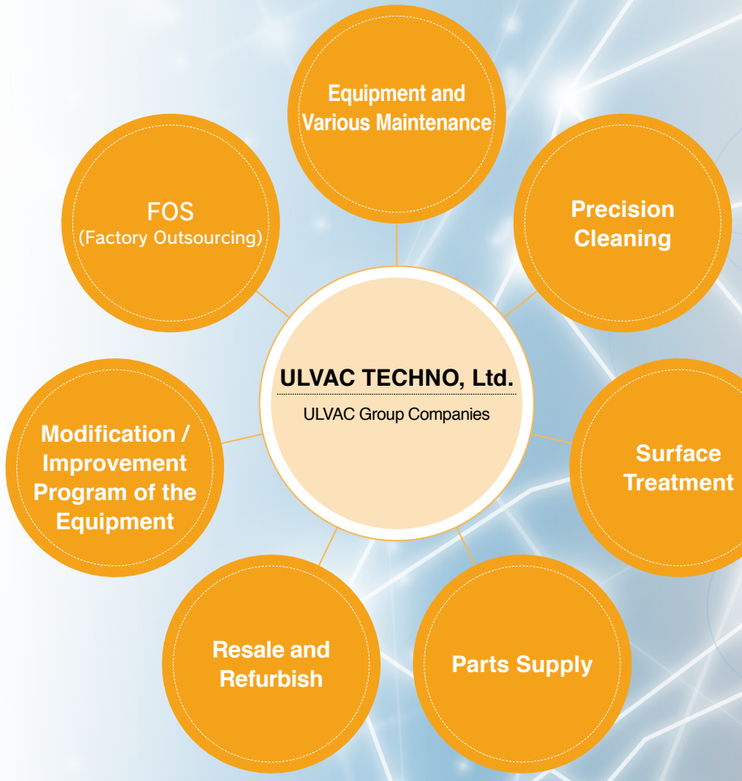
As the Core Company of the ULVAC Group Concentrating in the Customer Support Business

ULVAC, Inc., since its foundation, has served a variety of industries and advanced research sectors as an R&D manufacturer of general vacuum equipment concentrating in vacuum technologies. The business of ULVAC is supported by three strong points: R&D, customer support, and a global network. ULVAC TECHNO, Ltd. is the core of the customer support business.

■"Strong Point" Sustaining Vacuum Business

Customer Support

ULVAC Customer Support Solutions,
Bringing Together the Wisdom of the Group by ULVAC TECHNO, Ltd.



■"Strong Point" Sustaining Vacuum Business

Global Network

Solution Networks to Support the Industrial Development of the World

Materials

Semiconductor and Electric Production Equipment

Industries Equipment

FPD and PV Production Equipment

*FPD: Flat Panel Display
*PV: Photovoltaic Cell (Solar Panel)

Vacuum Technology
ULVAC, Inc.
ULVAC Group Companies

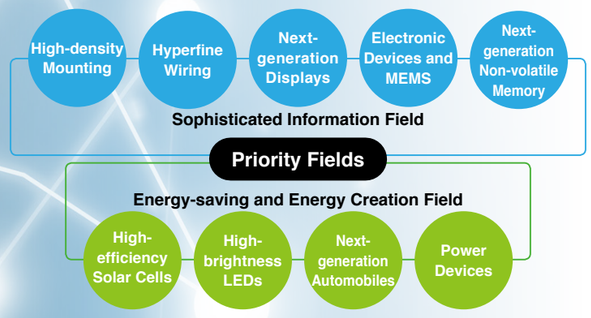
Analyzers, Controllers, Mask Blanks, etc.

Components

■"Strong Point" Sustaining Vacuum Business

Research & Development

Innovative and Advanced Vacuum Technologies to Blaze a Trail for the Future



Vacuum Technologies of ULVAC Supporting our Daily Life, Industries and Leading Edge Technologies

[Customer Support Business of ULVAC TECHNO, Ltd.]

Variety of Customer Support Services Provided by Reliable Technologies and Trusted Networks

Vacuum equipment and devices from ULVAC, Inc. are used by a variety of industries. ULVAC TECHNO, Ltd. provides total customer support for such vacuum equipment and devices. The support covers the introduction to the operation of the equipment, field support, supply of materials and parts, maintenance of the vacuum pumps and measurement, refurbishment, modification and sales of the used equipment, surface treatment, the precision cleaning, etc., of parts used in the vacuum equipment and in general industries.

Field Support

Maintenance of Vacuum Equipment, Vacuum Pumps, Measurement Tool and Robots / FOS (Factory Outsourcing)

ULVAC TECHNO, Ltd. responds to the customer need for field support for vacuum equipment, vacuum pumps, measurement, and robots after delivery. ULVAC TECHNO, Ltd. also provides FOS service where an expert from ULVAC TECHNO, Ltd. will stay in the customer's manufacturing facility as the resident engineer.

Parts Supply

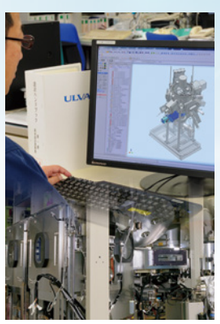
Supply of Vacuum Materials and Parts

ULVAC TECHNO, Ltd. supports customers supplying vacuum materials and parts, as well as custom-made articles.

Customer Support

Improvement Support

Provision of Modification / Improvement Program of the Equipment



ULVAC's equipment is used worldwide. ULVAC TECHNO, Ltd. provides the Continuous Improvement Program (CIP), such as the improvement of productivity for customers in Japan and worldwide so that the equipment delivered can be used efficiently.

Surface Treatment & Precision Cleaning

Surface Treatment, Precision Cleaning of Vacuum Equipment and for General Industries

ULVAC TECHNO, Ltd. provides surface treatment, precision cleaning of parts for vacuum equipment and for general industries.

Resale & Refurbish

Support Refurbishment and Resale of the Used Equipment and Devices

ULVAC TECHNO, Ltd. buys and resells used equipment and provides total service for refurbishment and improvement of the used equipment based on its expertise in vacuum equipment.

This picture shows the manufacturing equipment of the LCD TV sets under maintenance. ULVAC TECHNO, Ltd. provides a variety of maintenance services increasing in size, in addition to the maintenance of the vacuum equipment.

Field Support

The mission of customer support is to provide quick support for the production line of the customer and offer the best expertise. ULVAC TECHNO, Ltd. has about 30 service facilities in Japan based on a system of 24-hour service easily accessible by customers. The maintenance service supports not only vacuum equipment but also vacuum pumps, measurement, and transfer robots. The FOS (Factory Outsourcing) service, where the experts from ULVAC TECHNO, Ltd. are dispatched to the customer's manufacturing facility as resident engineers, is also provided. ULVAC TECHNO, Ltd. operates globally support for the transfer of the business model developed in Japan to ULVAC group companies outside Japan.

Maintenance and Field Support by FOS

- **Equipment Maintenance**
- **Vacuum Pump Maintenance**
- **Measurement Tool Maintenance**
- **Robot Maintenance**
- **FOS** (Factory Outsourcing)

Quick Service Provided for Production Lines with the Best Expertise

— Diversified Support is Provided from Maintenance to FOS.

Field Support

- **Equipment Maintenance**
  Maintenance of a variety of vacuum equipment is provided.
  The 24-hour emergency response system is operational in Japan.
- **Vacuum Pump Maintenance**
  Maintenance is provided for the various types of vacuum pumps like the oil rotary vacuum, dry vacuum, and cryo pumps.
- **Measurement Tool Maintenance**
  Maintenance is provided for the various types of measurement tool like vacuum gages and leak detectors.
- **Robot Maintenance**
  Maintenance is provided for the robots used for the transfer of large substrates in the manufacturing equipment of FPD, solar panels, etc., and for the transfer of wafers for semiconductor production equipment.
- **FOS** (Factory Outsourcing)
  Support is provided by the technical expert from ULVAC TECHNO, Ltd. stationed in the customer's production facility to assist in the operation, maintenance, and management of the vacuum equipment.

Improvement Support

GCIP (Global CIP) is the continuous modification and improvement program from ULVAC TECHNO, Ltd. to respond to the strong requests of customers worldwide to modify the delivered equipment for greater versatility and functionality. It is one of the design principles of ULVAC vacuum equipment to allow the continued use of the valuable equipment delivered to the customer for many product lifecycles. ULVAC TECHNO , Ltd. responds to diversified customer needs in close coordination with the R&D / Engineering departments of ULVAC equipment.

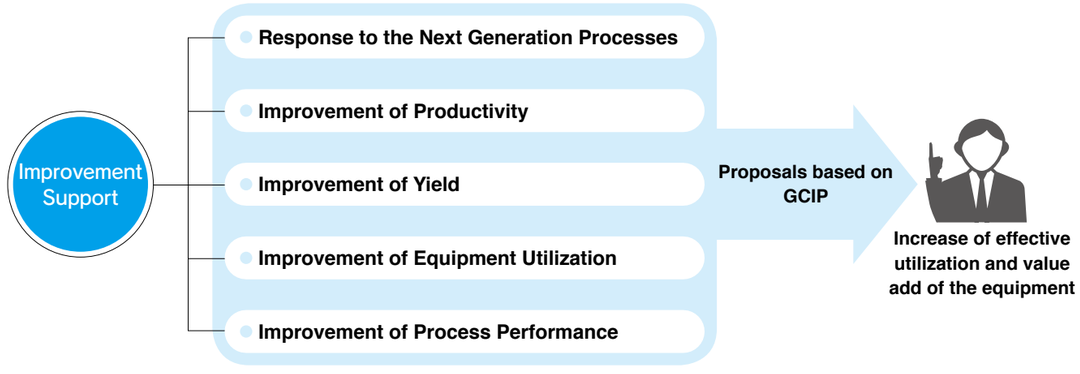
Continuous Modification / Improvement Program of Vacuum Equipment

- **GCIP** (Global CIP)

*CIP: Continuous Improvement Program

Search for Improved Versatility and Functionality of Vacuum Equipment

— Aims at Improved Yield, Utilization, and Productivity



Proposals to increase the versatility and productivity of the vacuum equipment already delivered is the ultimate support program for the customer. This is made possible by the daily efforts of the ULVAC TECHNO, Ltd. engineers acquainted with the vacuum equipment.

Resale & Refurbish

ULVAC TECHNO, Ltd. does not simply handle used equipment. ULVAC TECHNO, Ltd. resells used equipment with a comprehensive support organization after dismantling, refurbishment, and modification of the used equipment, including installation and commissioning, as well as consultations for the operation, maintenance, and supply of materials after delivery in coordination with our departments that offer the expertise specific to the vacuum equipment manufacturer with professional knowledge of vacuum equipment and peripheral equipment.

Trading and Refurbishment of Used Equipment

- Trading of Used Equipment
- Refurbishment of Used Equipment

Kumamoto Resale Innovation Center: The facility that provides total operations such as storage of used equipment, exhibition for resale, refurbishment, and modifications.

The used equipment is brought to the Kumamoto Resale Innovation Center, where total operations for the used equipment such as exhibition for resale, refurbishment, and modifications are provided.

Trading of Used Equipment Provided by Comprehensive Support Organizations

— The Website is Available for the Trading of Used Equipment Information that is Updated in Real Time.

Comprehensive Support Organization

Resale & Refurbish

- **Purchase**
- **Dismantling**
- **Sales**
- **Refurbishment and Modification**
- **Installation and Commissioning**
- **Support After Delivery**

Information is provided to the customer using movie

- **Live on Website for Resale**

Many of the resale products are exhibited at the Kumamoto Resale Innovation Center as real-time images that can be viewed from remote locations by web camera.

* You need to make reservations to view the images.

Used Equipment Website

- **What We Sell**
- **What We Purchase**
- **What We Can Find**

Information on our used vacuum equipment website is updated almost on a real-time basis.

Resales Website

ULVAC TECHNO, Ltd. provides the selected products of the vacuum materials and parts used for the vacuum equipment and devices by customers. Quick and stable delivery of the products is realized through the service facility network in Japan and through the group companies outside Japan based on sophisticated inventory control.

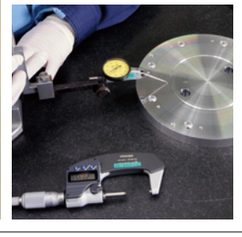
Supply of Vacuum Materials & Parts

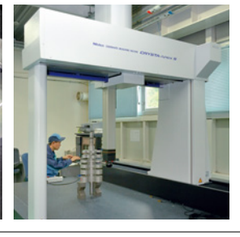
- **Supply of Vacuum Materials**
- **Supply of Vacuum Parts**
- **Manufacture and Supply of Custom Made Parts**
- **Supply of Consumables**

Provides Quick and Steady Supply of Selected Materials and Parts

— High-quality and Abundant Lineup of Materials and Parts Under Strict Control System

- Parts Supply
  - Parts / Products
    - Parts and Consumables Used in Vacuum Device and Equipment
    - Components such as Vacuum Pumps, Measuring and Analytical Measurement, etc.
    - Parts and Consumables of the Components
  - Vacuum Materials
    - Ceramic Products
    - Carbon Products
    - Metal Processed Products
    - Vacuum Deposition Materials

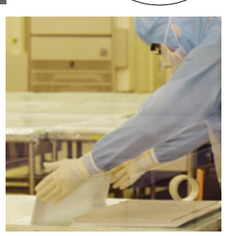




Surface Treatment & Precision Cleaning

Outline of Resource Recovery Cycle from Precision Cleaning

The surface treatment and precision cleaning provided by our facility, one of the largest in Japan, meet the wide variety of applications from the components of general industries to super large components.



The surface treatment, refurbishment, and precision cleaning technologies of ULVAC TECHNO, Ltd. are composed of the technologies originally developed by General Magnaplate in the United States and provided via technical collaboration. ULVAC TECHNO, Ltd. provides unique services utilizing such technologies for the surface treatment of all the different types for components of general industries, as well as surface treatment and precision cleaning of the super-large components of the vacuum equipment for semiconductor production equipment, LCD TV sets, and solar cells.

Surface Treatment and Precision Cleaning

- **Surface Treatment for Vacuum Equipment Component** (VACAL)
- **Surface Treatment for General Industries**
- **Surface Treatment for Interior of Vacuum Chamber**
- **Precision Cleaning of the Parts for Vacuum Equipment**

* Recovery and recycling of the materials from surface treatment and cleaning are also performed. (See the diagram on the left page.)

Highly Functional Surface Treatment and Precision Cleaning for Super-large Parts and Parts of General Industries

— Treatment Facility Providing Reliable Treatment Services That is One of the Largest in Japan.

Surface Treatment

- **VACAL** — Surface treatment technology uniquely developed by ULVAC TECHNO, Ltd. to form special anodized film on the aluminum or aluminum alloy surface to minimize crack formation.
- **TUFRAM** — Surface treatment technology with a combination of hard anodization and fluororesin coating on aluminum alloys. The treatment provides high wear resistance, slidability, corrosion resistance, seawater resistance, etc.
- **NEDOX** — Surface treatment technology with a combination of deposited nickel film and fluororesin coating on steel, stainless steel, aluminum alloys, and copper alloy surfaces.
- **NIFGRIP** — Surface treatment technology with thermal treatment applied after eutectic bonding of nickel and fluororesin on steel, stainless steel, aluminum alloys, and copper alloy surfaces.
- **C39-BK** — Ceramic coating technology uniquely developed by ULVAC TECHNO, Ltd. that is non-adhesive and excellent in wear resistance, heat resistance, and corrosion resistance, applicable to metal, porcelain, glass surface, etc.
- **LECTROFLUOR** — Surface treatment technology of forming special fluororesin film on steel, stainless steel, copper alloys, and aluminum alloy surfaces by electrostatic powder coating etc., which provides high wear resistance, slidability, and release properties.

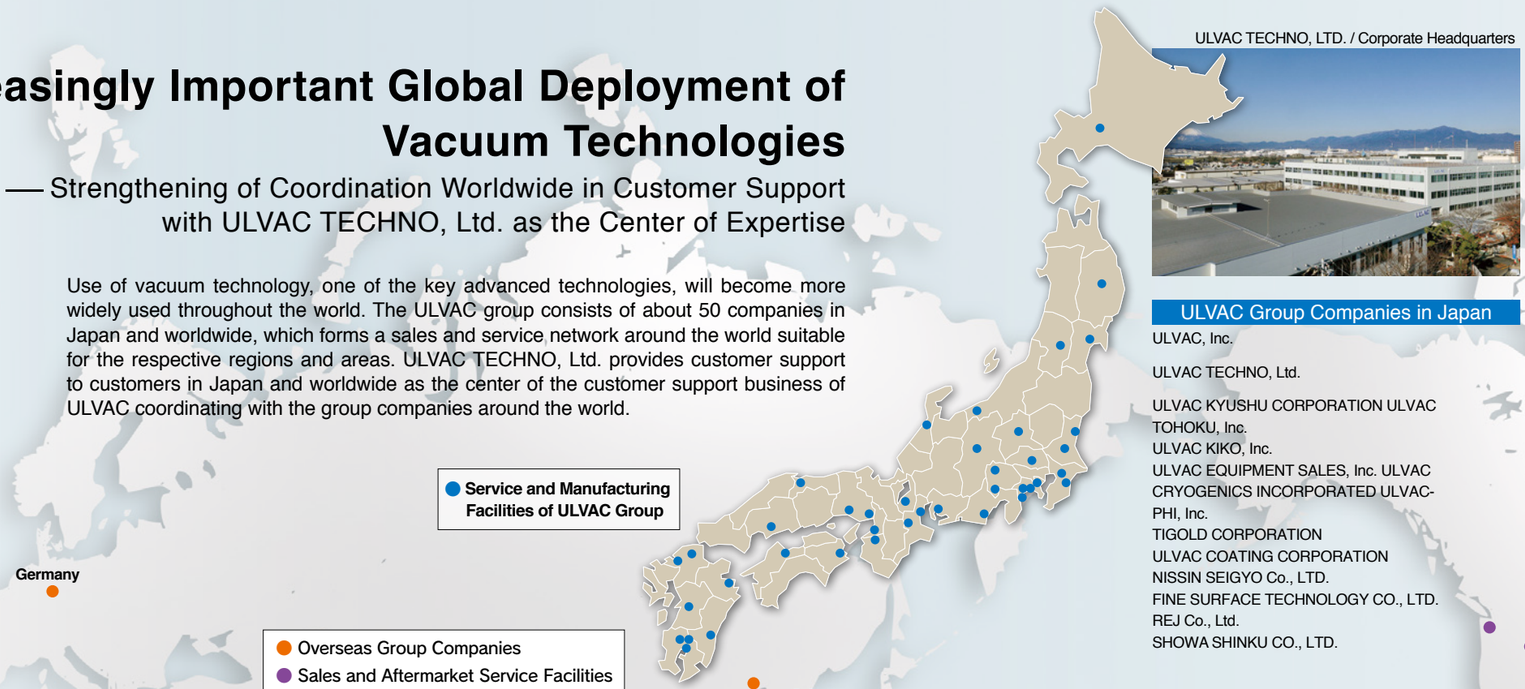
Precision Cleaning

- **Precision Cleaning** — Precision cleaning are available for the various components from small parts of the semiconductor production equipment to super large parts of the FPD production equipment. Damage to the base material is minimized. Surface treatment services for the interior of the vacuum chamber is also provided.

Increasingly Important Global Deployment of Vacuum Technologies

—— Strengthening of Coordination Worldwide in Customer Support with ULVAC TECHNO, Ltd. as the Center of Expertise

Use of vacuum technology, one of the key advanced technologies, will become more widely used throughout the world. The ULVAC group consists of about 50 companies in Japan and worldwide, which forms a sales and service network around the world suitable for the respective regions and areas. ULVAC TECHNO, Ltd. provides customer support to customers in Japan and worldwide as the center of the customer support business of ULVAC coordinating with the group companies around the world.



ULVAC TECHNO, LTD. / Corporate Headquarters

ULVAC Group Companies in Japan

ULVAC, Inc.

ULVAC TECHNO, Ltd.

ULVAC KYUSHU CORPORATION ULVAC TOHOKU, Inc.
ULVAC KIKO, Inc.
ULVAC EQUIPMENT SALES, Inc. ULVAC CRYOGENICS INCORPORATED ULVAC-PHI, Inc.
TIGOLD CORPORATION
ULVAC COATING CORPORATION
NISSIN SEIGYO Co., LTD.
FINE SURFACE TECHNOLOGY CO., LTD.
REJ Co., Ltd.
SHOWA SHINKU CO., LTD.

Fuji Susono Training Center

Dedicated Training Facility for Learning of Leading Technologies

The Fuji Susono Training Center on the premises of the Fuji Susono plant of ULVAC provides unique and leading-edge special training and vacuum basics training. The Training Center also provides on-site training at customers' sites.

Overseas ULVAC Group Companies

●USA
ULVAC Technologies, Inc.
Physical Electronics USA, Inc.

●Europe
ULVAC GmbH

●China
ULVAC (CHINA) HOLDING CO., LTD.
ULVAC (NINGBO) CO., LTD.
ULVAC (SUZHOU) Co., Ltd.
ULVAC Orient (Chengdu) Co., Ltd.
ULVAC Automation Technology (Shanghai) Corporation
ULVAC Tianma Electric (Jingjiang) Co., Ltd.
ULVAC (Shenyang) Co., Ltd.
ULVAC (Shanghai) Trading Co., Ltd.
ULVAC Materials (Suzhou) Co., Ltd
ULVAC Opto-electronics Thin Film Technology (Shenzhen) Co., Ltd.
ULVAC CRYOGENICS (NINGBO) INCORPORATED
ULVAC NONFERROUS METALS (NINGBO) CO., LTD.
ULVAC Research Center SUZHOU Co., Ltd.
Hong Kong ULVAC Co., Ltd.
ULVAC VACUUM EQUIPMENT (SHANGHAI) CO., LTD.

●Taiwan
ULVAC TAIWAN INC.
ULTRA CLEAN PRECISION TECHNOLOGIES CORP.
ULCOAT TAIWAN, Inc.
ULVAC AUTOMATION TAIWAN Inc.
ULVAC SOFTWARE CREATIVE TECHNOLOGY, CO.,LTD.
ULVAC Materials Taiwan, Inc.

●Korea
ULVAC KOREA, Ltd.
Ulvac Korea Precision, Ltd.
Pure Surface Technology, Ltd.
ULVAC CRYOGENICS KOREA INCORPORATED
ULVAC Materials Korea, Ltd.
UF TECH, Ltd.

●Southeast Asia
ULVAC SINGAPORE PTE LTD (Covered Area: Philippines , Vietnam and Indonesia)
ULVAC MALAYSIA SDN. BHD.
ULVAC (THAILAND) LTD.

●India
ULVAC,Inc. India Branch