Vacuum technology realized in everyday life

“Really? Even these?”
You might be surprised to know how many different products use vacuum technology. It’s used for everyday items like food, razors, and smartphones, as well as in advanced fields like biotechnology and aerospace. ULVAC continues to seek out the potential of vacuum technology and discover many innovations. Vacuum technology is the key to the future development of science and industry. We continue to challenge ourselves to generate new value and enrich our life.
TOP MESSAGE

Building a flourishing future by creating innovative solutions to deliver industrial and scientific advancement

ULVAC was founded in 1952 when vacuum technology was not yet widely used in Japan. It was a venture company started by young engineers who wanted to contribute to the development of science and industry through vacuum technology. Our expertise has grown to possess many aspects of vacuum technology, including vacuum equipments, components, advanced materials, and analytical equipments.

At ULVAC, we pursue leadership in vacuum technology to realize innovations for our customers.

Setsuo Ishibata
President and CEO

BASIC CORPORATE PHILOSOPHY

ULVAC Group aims to contribute to the development of industries and science by comprehensively utilizing its vacuum and peripheral technologies through the mutual cooperation and collaboration of the Group companies.

ULVAC, Inc.

ORIGIN OF COMPANY NAME

‘ULVAC’ is a combination of ‘UL’ from ‘ultimate’ and ‘VAC’ from ‘vacuum’, signifying that we pursue the ‘Ultimate in Vacuum Technology’. Seeking to achieve a dramatic advance, we will further develop the ULVAC brand by pursuing the development of new technologies to complement vacuum technologies.

HISTORY

Since our founding more than 60 years ago, we aggressively challenged creating new technologies in response to changes in the industrial structure, and contributed to the society growth. We have actively promoted globalization as markets changed, and now our ratio of overseas sales has reached 70%. The passion to realize growth to all industries and science through vacuum technology has been passed on as our DNA.

1952 JAPAN VACUUM ENGINEERING CO., LTD. was established
1955 Established the Omori Plant and started manufacturing of equipment domestically
1959 Established the Yokohama Plant
1960 Developed large vacuum equipment for heavy industries such as vacuum melting furnaces and vacuum distilling equipment
1964 Established the ULVAC’s first overseas local corporation in Hong Kong
1968 The Chigasaki Head Office / Plant was completed
1972 Established the Institute for Super Materials at ULVAC’s first full-scale research Institute
1975 Received an order for “SYSTEM 731”, the world’s first computer controlled, fully automatic vacuum evaporation equipment to IBM.
1986 | The "NDH Series," the world’s first multi-chamber sputtering system, has been acclaimed by many semiconductor manufacturers
1988 | The "SDH Series," a sputtering system for manufacturing hard discs, became a hit globally
1990 | Established the Fuji Susumo Plant as a dedicated plant for semiconductor production equipment
1992 | Launched the dedicated LCD production "SDH Series" deposition system, which became a cornerstone of the PDP business
1995 | Established a production base in China and a sales / service base in South Korea
2001 | Established the Institute for Semiconductor and Electronics Technologies
2004 | New buildings of Chigasaki Head Office/Plant were completed for development/prototype production of large LCD equipment
2004 | Listed its stock on the First Section of the Tokyo Stock Exchange
2005 | Established a large-scale production base for large LCD production equipment in South Korea
2006 | Established a production subsidiary for large LCD production equipment in Taiwan
2007 | Established the Chiba Tomisato Plant for the development and manufacturing of materials
2011 | Established the Institute for Super Materials in South Korea
2012 | The company celebrated the 60th anniversary of its founding
2015 | Established the Future Technology Research Laboratory
2016 | ULVAC (Suzhou) Co., Ltd. began manufacturing production equipment for large displays
2018 | The company celebrated the 50th anniversary of the Chigasaki Head Office/Plant Completed

ULVAC, Inc. CORPORATE PROFILE 2018-2019

ULVAC, Inc. CORPORATE PROFILE 2018-2019
ULVAC is recognized as the global leader holding top share in sputtering systems for liquid crystal display application. We provide state-of-the-art vacuum technology for organic EL mass production equipment and develop next-generation display technology. We provide solutions from R&D to scaling and support for our customers in the FPD such as TVs, smartphones, PCs, and tablets. In clean energy, we have developed and provided equipment for many types of solar cells, such as crystalline silicon and compound solar cells, for more than 40 years.

**FPD** and PV production equipment

Business scale

- Liquid crystal display production equipment
- Panel scale
- Compound solar cell production equipment
- Organic EL production equipment
- Crystalline silicon solar cell production equipment
- Semiconductor production equipment (memory, logic, power or other devices)
- Electronic device production equipment (MEMS, semiconductor devices, etc.)
- Advanced packaging production equipment (3D-IC, Flipchip, etc.)
- High-brightness LED production equipment

Semi-conductor and Electronic device production equipment

Technology will continue to evolve at an ever faster pace, including IoT, which enables everything to connect to the Internet; big data, which analyzes and generates new value in huge amounts of data; and AI, autonomous driving, and EV, which have been made possible thanks to advanced high-speed information processing technology. A new socio-industrial structure, with new auto industries, is just around the corner. We globally engage with customers in fields, such as non-volatile memory, 3D-IC, telecom devices, sensors, and opto devices, to develop innovative vacuum technology and help customers realize development and/or scaling production.

**IoT** Internet of Things

**Components**

Our life is surrounded by products made using vacuum technology. For example, smartphones, LED lights, and any type of electronics. ULVAC develops and provides components necessary for various vacuum technologies, such as vacuum pumps, vacuum gauges that measure vacuum (pressure), process gas monitors that identify gas type, helium leak detectors that identify leaks location and amount, power supplies, vacuum valves, and other parts for vacuum equipments.

**Industrial equipment**

We have been in this line of business since ULVAC’s founding. We have contributed to the development of many industries, such as the steel and metals during heavy industry growth period, automobile and home appliance industry. Today sectors such as rare earth magnets used in EV drive motors, vacuum melting furnaces, vacuum sintering furnaces, vacuum heat treatment furnaces for making ceramic capacitors, and vacuum freeze drying equipment used in pharmaceuticals and freeze-dried foods is added to our portfolio.
CORPORATE DATA

As of June 30th, 2018

Name
ULVAC, Inc.

Head Office
2500 Hagisono, Chigasaki, Kanagawa, Japan

Established
August 23, 1952

Capital
20,873,042,500 yen

Net sales
Non-consolidated 148,493 Billion yen Consolidated 249,271 Billion yen

Number of Employees
Non-consolidated 1,293 Consolidated 6,439

Business Areas
Development, manufacturing, sale, and customer support for vacuum equipment, peripheral devices, vacuum components, and materials for the display, solar cell, semiconductor, electronic, electric, metal, machinery, automobile, chemical, food product, and medical product industries, as well as universities and research labs, and import and export of various equipment. Additionally, research guidance and technical advising on vacuum technologies in general.

Materials

In the electronic materials field, we provide high-quality sputtering target materials to various industries, such as FPD, semiconductors, and electronic devices. We play a significant role in thin film materials that are used in cutting-edge devices. We melt, process, and manufacture adjusted to customers need of high melting point metal (e.g., tantalum, niobium) parts used in high-functional material applications such as electronic devices, chemical industry, medical industry, and electronic accelerators.

Analyzers, controllers, mask blanks, etc.

We provide technologies to many industries by using related technologies derived from vacuum manufacturing equipment. In our analytical equipment line, we provide surface analysis and physical property measurement devices to research institutions. Our control systems products are used in industrial machinery drive gears primarily in the auto industry. We are also active in the manufacture of mask blanks*, which are crucial to the manufacture of semiconductor integrated circuits at the heart of computers and electronics.

*Mask blanks: The substrates that hold the master patterns in the manufacture of semiconductor integrated circuits.

Net sales by business segment
(Millions of yen)

<table>
<thead>
<tr>
<th>Segment</th>
<th>Vacuum Application Business</th>
<th>Vacuum Equipment Business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Others</td>
<td>32,000 (12%)</td>
<td>215,700 (87%)</td>
</tr>
<tr>
<td>Material</td>
<td>11,400 (7%)</td>
<td>100,500 (43%)</td>
</tr>
<tr>
<td>Industrial equipment</td>
<td>23,700 (5%)</td>
<td></td>
</tr>
<tr>
<td>Components</td>
<td>30,800 (12%)</td>
<td>35,650 (22%)</td>
</tr>
<tr>
<td>Total</td>
<td>249,300</td>
<td>249,300</td>
</tr>
</tbody>
</table>

Net sales by region
(Millions of yen)

<table>
<thead>
<tr>
<th>Region</th>
<th>US$ (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overseas</td>
<td>153,500 (70%)</td>
</tr>
<tr>
<td>Europe, others</td>
<td>18,200 (8%)</td>
</tr>
<tr>
<td>Other Asia</td>
<td>13,700 (6%)</td>
</tr>
<tr>
<td>Taiwan</td>
<td>14,800 (7%)</td>
</tr>
<tr>
<td>South Korea</td>
<td>20,300 (10%)</td>
</tr>
<tr>
<td>China</td>
<td>25,000 (13%)</td>
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ULVAC, Inc. CORPORATE PROFILE 2018-2019
Global Network
Solution networks to support the industrial development of the world

We have built sales and service networks optimized for each region by partnering with our 49 group companies, not only in Japan, but also in Europe, the US and Asia. As the world’s largest comprehensive vacuum product manufacturer, we provide everything from R&D to manufacturing, sales, and customer support, and we will keep supporting global industry through vacuum technology.

Research & Development
Integrated group development system that paves the way to the future

We have provided products and materials based on vacuum technology that is essential to all industries. With our integrated group development organization, we create high value-added products and technologies through innovative and advanced technical development to meet the requirements of overseas device makers for speed, and to satisfy the actual and potential needs of our customers.

Customer Support
ULVAC CS Solutions pool the Group’s knowledge

We pursue outstanding service concentrating our Group’s knowledge, in order to support our customers’ production operations according to customer needs. Furthermore, customer voices are used to develop new equipments and technologies, we aim to offer more advanced vacuum technologies and service.