At the 11th Excellent Contribution to Industry-Academia-Government Collaboration Award Ceremony, the National Institute of Advanced Industrial Science and Technology (AIST) and Fuji Electric Co., Ltd. Jointly Received the Japan Business Federation Chairman's Award.

— ULVAC, Inc.

President Obinata, President Chubachi of AIST and Representative Director Shigekane of Fuji Electric (from the left)

At the ceremony held on the occasion of the 11th Escellent Contribution to Industry-Academia-Government Collaboration Award, ULVAC, Inc. jointly received the Japan Business Federation Chairman's Award along with AIST and Fuji Electric for its contribution to the establishment of "TPEC (Tsukuba Power-Electronics Constellations)" which is a joint research body based on vertical industry-academic collaboration.

Aimed at promoting industrial-academic-government collaborative activities, this award recognizes universities, public research institutions and businesses which have made significant achievements or pioneering efforts in such activities. This year 11 awards, including the Prime Minister Award, were granted for 14 activities. President Obinata participated in the awards ceremony and represented his company.

TPEC was founded by the AIST, universities and businesses in April 2012 as a center for SiC power semiconductor research. This is an advanced framework of the Initiative for Innovative Research in Industry "SiC Device Mass Production Prototype Research and System Application Demonstration" conducted by the AIST, Fuji Electric and ULVAC from 2010 to 2012.

Power electronics is a field where Japan is still highly competitive in the global market. TPEC is a joint research body which independently operates an open innovation center for power electronics with research and development funds mostly provided by related businesses that want to secure next-generation technology. In addition to research and development activities, TPEC aims to foster top grade researchers.

Starting its activities with the three award winners, including ULVAC, and other 13 leading Japanese companies, TPEC has now expanded to a total of 31 members. As a principal member, ULVAC plays a pivotal role in TPEC operations.

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The Thermoelectric Property Evaluation Device "ZEM-5" was Granted the Kanagawa Industrial Technical Development Incentive Award.

— ULVAC-RIKO, Inc.

ULVAC-RIKO is a manufacturer of thermoelectric property evaluation equipment. On October 2013, its thermoelectric property evaluation device "ZEM-5" which is an electric resistance measuring system won the incentive award for excellent technologies or products which is one category of the Kanagawa Industrial Technical Development Award that is bestowed on excellent industrial technologies or products developed by small and medium-sized companies that operate in the prefecture.

President Gonohe of ULVAC-RIKO (center) receiving a plaque from Kanagawa Governor Kuroiwa (right)

ULVAC-RIKO developed evaluation equipment such as the "ZEM-1" in 1995 and since then has made repeated model changeovers reflecting customer feedback. The name "ULVAC-ZEM" has constantly appeared in electronic editions of prestigious journals, such as "Science" and "Nature", and this evaluation equipment is now a de facto standard for thermoelectric measurement equipment.

In 2012, the company developed the "ZEM-5 series" intended for thin films and high temperature on the basis of the general-purpose "ZEM-3 series" to

New Products

* Please visit our website for further information.

ULVAC, Inc.

High-speed Spectroscopic Ellipsometers "UNECS Series" is Greatly Expanded its Products Line

ULVAC, inc. added new models of high-speed spectroscopic ellipsometers "UNECS Series", greatly expanded its products line.

UNECS series is a kind of spectroscopic ellipsometers to measure the refractive index and thickness of the thin film quickly and accurately.

It has a strong products line, such as the portable type, the automatic stage type, and the built-in type etc., so can meet various needs for many purposes.

Main Features

(1) High-speed Measurement:
The snapshot measurement method is realized and the high-speed measurement is 20ms per point

(2) Visible Spectral Range:
The spectral wavelength range can be selected. The standard type is 530nm to 750nm and the visible spectral type is 380nm to 760nm.

(3) Compact Sensor Unit:
The sensor unit is light-weighted and very compact. It consists of an optical element that does not have any rotating mechanism. In addition, there is no need for any periodic maintenance.

(4) Strong Product-line:
There is a strong products line with the portable type, the manual/automatic stage type, the built-in type and the large substrate type etc.

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ULVAC Technologies, Inc.

ULVAC Ships First - Made in USA – Plasma Etching System "NE-550EXa"

ULVAC Technologies, Inc. (UTECH) has

further meet market needs. The award was given as recognition for this functional improvement.

With this development, ULVAC-RIKO is expected to attract attention from researchers as well as developers of thermoelectric materials and to make extensive contributions to the development of a diverse range of thermoelectric materials.

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Granted a Medical Device Manufacturing License under the Pharmaceutical Affairs Act

— ULVAC KIKO, Inc.

ULVAC KIKO was granted a medical device manufacturing license under the Pharmaceutical Affairs Act.

This supplier of small vacuum pumps for aspirators, sterilizers, oxygen concentrators and other medical devices is now licensed to manufacture medical devices as well as their components on its own and so is more prepared now than ever before to meet the various needs of medical device manufacturers.

In December 2011, Miyazaki Prefecture, where the company's head office is located, and neighboring Oita Prefecture were designated as a "special zone for the East Kyushu Medical Valley Framework" which is a governmental designated joint special zone, where special permission is given for deregulation and for other exceptional measures.

Taking advantage of this special zone, ULVAC KIKO aims to commercialize "automatic phlegm aspirators" developed jointly with Kyushu University of Health and Welfare and others as well as obtain "a manufacturing and marketing license for medical devices". With this license, the company will continuously contribute to the medical device industry.

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USA News

ULVAC Technologies, Inc. (UTECH) Awarded GINA and C2MI

■ **GINA Award** (March 2013):

UTECH was awarded the GINA Award for outstanding compliance with Export Control Regulations including ITAR (International Traffic in Arms Regulations), EAR (Export Administration Regulations) and C-TPAT (Customs-Trade partnership Against Terrorism).

■ **C2MI** (Center de Collaboration MiQro Innovation) (October 2013):

C2MI (Center de Collaboration MiQro Innovation) held a symposium in Bromont, Quebec, Canada, where UTECH was presented an award for the ENVIRO Ashing System, and its high ashing rate, and its contribution to the "green" technology of the Center.

UTECH will keep export under strict control, and continue to pursue technology for products and environment, to respond to the further expectations from customers.

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delivered the first domestically manufactured NE-550EXa plasma etching system to a Government Research Facility, in the Washington, D.C. area. The NE-550EXa is the most capable and flexible etching system for advanced research and critical manufacturing. The system operates at low pressure and with high plasma densities which ensures optimal etch rates, enhanced profile control, and improved surface flatness. The NE-550EXa is typically used in applications for III-V materials, insulating layers, organics, metals, ceramics, and MEMS devices.

ULVAC has been making etching systems in Japan since 1989. To better serve the R&D and smaller production facilities in North America, ULVAC Technologies began manufacturing etching systems at its Methuen, MA facility in 2012.

ULVAC Technologies, in Methuen, MA, is an ISO-9001 and ITAR* Certified manufacturing facility.

Domestic manufacturing enables lower pricing for U.S. customers, improves U.S. customer support capabilities, reduces the lead-time for new systems and spare parts, and provides better customer access to enhanced process support.

**ITAR: International Traffic in Arms Regulations*

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ULVAC, Inc.

Sales Debut of Optical Process Monitor "Optius", Enabling to Monitor the Situation of Various Process

ULVAC, Inc has begun selling new optical process monitor "Optius".

"Optius" has been developed for enabling to monitor the situation of various processes in real time by measuring an emission spectrum of the plasma. "Optius" can respond various plasma process like feedback control of introduced gas flow rate (PEM feature) in reactive sputtering, endpoint determination

Best/Good Standard Products of the Year Award—second anniversary of the internal awards system

— ULVAC Group

The ULVAC Group started an awards system for products which contribute to improving sales during the six months from July to December 2012. This year marks the second anniversary of this award or namely "the Good Standard Products of the Year Award". Among the various products receiving this award, the Group has selected the most superior product as the "Best Standard Product of the Year Award 2013". This year's winner of the "best" award is as follows:

[Best Standard Product of the Year Award 2013]

■Automatic helium leak tester, "QYH-3000"
(ULVAC Orient (Chengdu) Co., Ltd.)

The automatic helium leak tester "QYH-3000 series" is a high-precision leak tester for parts of air conditioners, cars, and electrical machinery with the following features:

(1) High-tech leak tester for parts using helium, a gas which can readily penetrate material in a vacuum, as a medium
(2) High-efficiency, high-precision device for industrial production
(3) Device for commercial use

[Good Standard Products of the Year Award 2013]

■ Scan-type X-ray photoelectron spectroscopy analyzer "PHI5000 VersaProbe II™"
(ULVAC-PHI, Inc.)

The awards were presented at the production technology reporting meeting of the ULVAC Group companies in October 2013. At this meeting, representatives of each of these products made a commemorative speech and the divisions and group companies shared their best practices with each other. We aim to expand our business in this continuing activity.

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Automatic helium leak tester, "QYH-3000"

ULVAC Group

We conduct a variety of Social contribution activities at ULVAC Group.

In particular, social contribution activities such as volunteer activities have become important form the experience of the Great East Japan Earthquake. We have established policy and priority issues, and will lead to the promotion of social activities of ULVAC Group.

We would like to introduce our policy and priority issues.

■ **Priority Areas for Social Contribution Activities**

New Products

* Please visit our website for further information.

(EPM feature), confirmation of the cleaning and initialization status, Monitoring of impurities during process.

Main Features

(1) Spectrometer is included. Measurement wavelength range is 200 to 1000nm. It is also possible to measure 10 arbitrary wavelengths.
(2) Addition of the expansion unit (ESC) options enable simultaneous measurement of up to 5ch.
(3) Feedback control of external equipment by measurement result of arbitrary wavelength.
(4) Software corresponding to multiple processes including the reactive sputtering and etching.
(5) Receiver unit can be selected from atmosphere type or vacuum type depending on the application.

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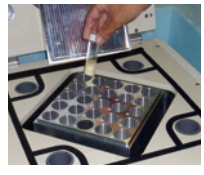
ULVAC-RIKO, Inc.

A microbe activity measurement system "Spica/Antares/Leonis"

ULVAC-RIKO, Inc. started the sales of "Spica" "Antares" "Leonis" whose systems can evaluate the activity of a microbe (vitality) and the dynamics (Growth rate) by measuring "Quantity of heat" which is emitted from microbial cells.

Those systems have features of capability of observing many samples simultaneously and non-destructively with a overwhelmingly little work, capturing the obtained data dynamically and obtaining them in the quantitative, in comparison with agar colony counting method and optical density measurement method with which a microbial activity is observed in the stationary condition.



We expect that those systems will be useful for the researchers who are studying the decomposition and fermentation of foods, antiseptic effect such as antimicrobial agent against liquid/solid, soil environment and pollution, garbage disposal and wastewater

Social Contribution Activities

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ULVAC Group Social Contribution Activities Policy

Based on its corporate philosophy of contributing to the growth of industry and science with innovative, cutting-edge technologies, the ULVAC Group provides distinctive technological innovations globally and implements initiatives for solving various social problems by using ULVAC's technologies and human resources.

ULVAC Group Social Contribution Activities Record (FY2012)

Education support activities for the next generation	8
Regional community contribution activities	20
Environmental contribution activities	27
Total	55

"Tanbo (rice field) project" will pass it's 5th anniversary this year

treatment, and culture in which a microbe gets involved to execute research and development with not only the reduction of cost, time and labor but also obtaining many knowledge.

As a human being emits the heat while they are alive, all biological cells have an enthalpy changes along with a metabolism and creates the heat corresponding to it. Those systems enable to obtain the growth rate of a microbe and the change of activity under various conditions by measuring the time for emitting micro quantity of heat from a microbe, keeping the sample under the environment held with a constant temperature. As the dynamic behavior of the cell can be measured in the quantitative in a real time, those systems can be used in all fields not only foods but also the filed in which a microbe gets involved.

This system can basically correspond to any sample assembly where growth of cells and a microbe may occur. It is suitable for decomposition of food and understanding of antiseptic treatment, fermentation of food/ study of brewing, study of cosmetic and antiseptic treatment, precise evaluation of drug efficiency.

As the safety of food/eating habits is recently getting important, the predicting method of microbe pollution is very important and we expect this system can be applied in a wide range of fields as sure and reliable measures.

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ULVAC Group

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ULVAC TOHOKU, Inc.
ULVAC KIKO, Inc.
ULVAC EQUIPMENT SALES, Inc.
ULVAC CRYOGENICS INCORPORATED
ULVAC-PHI, Inc.
TIGOLD CORPORATION
ULVAC COATING CORPORATION
Nisshin Seigyo Co., LTD
Initium, inc.
ULVAC ENGINEERING, Inc.
ULVAC Human Relations, Ltd.
SHINKU CERAMICS CO., LTD.
FINE SURFACE TECHNOLOGY CO., LTD.
Reliance Electric Limited
SHOWA SHINKU CO., LTD.

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ULVAC Orient (Chengdu) Co., Ltd.
ULVAC Automation Technology (Shanghai) Corporation
ULVAC Tianma Electric (Jingjiang) Co., Ltd.
ULVAC Vacuum Furnace (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.
Luoyang Xinyou Magnesium Co., LTD
Hong Kong ULVAC Co., Ltd.

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ULVAC AUTOMATION TAIWAN Inc.
ULVAC SOFTWARE CREATIVE TECHNOLOGY, CO.,LTD.
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Ulvac Korea Precision,Ltd.
Pure Surface Technology, Ltd.
ULVAC CRYOGENICS KOREA INCORPORATED
ULVAC Materials Korea, Ltd.
UF TECH, Ltd.

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