

ULVAC, Inc.

## **Corporate Profile**

### 2022 - 2023



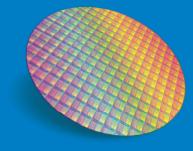
ULVAC, Inc.

2500 Hagisono, Chigasaki, Kanagawa 253-8543, Japan TEL: +81-467-89-2033 FAX: +81-467-82-9114 www.ulvac.co.jp/en

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# ULTIMATE IN VACUUM





Semiconductors

## Vacuum technology realized in everyday life



Drones



Automobiles



Flat Panel Displays



Pharmaceuticals

Packaging Materials



Smartphones



"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 lives.

### **TOP MESSAGE**

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

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 equipment, components, advanced materials, and analytical equipment. At ULVAC, we pursue leadership in vacuum technology to realize innovations for our customers.

> Setsuo Iwashita President and CEO

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### **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**

### 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 that complement vacuum technologies.

### HISTORY

Since our founding 70 years ago, we have pursued the creation of new technologies in response to structural changes in industry, contributing to social growth and actively promoting globalization as markets change.

Our ratio of overseas sales now accounts for 70% of all sales. Our passion for realizing growth in all industries and scientific fields through vacuum technology has been passed on in our DNA.

1952 JAPAN VACUUM ENGINEERING CO., LTD, was established Received the first order of vacuum evaporation equipment for coating automobile parts form ICHIKOH INDUSTRIES (formerly HAKKOSHA)

**1955** | Established the Omori Plant and started manufacturing 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 ULVAC's first overseas local corporation in Hong Kong
- 1968 | The Chigasaki Head Office/Plant was completed
- 1972 | Established the Institute for Super Materials as 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 for IBM



1986 | The "MCH Series," the world's first multi-chamber sputtering system, has been acclaimed by many semiconductor manufacturers



- **1988** | The "SHD Series," a sputtering system for manufacturing hard discs, became a global hit
- **1990** | Established the Fuji Susono Plant as a dedicated plant for semiconductor production equipment
- 1992 | Launched the dedicated LCD production "SMD Series" deposition system, which became a cornerstone of the FPD 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 The company name was changed to ULVAC, Inc.



2004 | New buildings of Chigasaki Head Office/Plant were completed



- Listed its stock on the First Section of the Tokyo Stock Exchange Established a production base for full-scale vacuum equipment in Suzhou, China
- 2005 | Established a large-scale production base for large-size display production equipment in South Korea
- **2006** | Established a production subsidiary for large-size display production equipment in Taiwan
- 2007 | Established the Chiba Tomisato Plant for the development and manufacturing of materials Received an order for an integrated production line for thin-film solar cells (TFSCs)
- 2011 | Established the Institute for Super Materials in South Korea
- **2015** | Established the Future Technology Research Laboratory
- 2016 | ULVAC (SUZHOU) CO., LTD. began manufacturing production equipment for large displays
- 2018 | Established ULVAC-Osaka University Joint Research Laboratory for Future Technology in Graduate School of Engineering, Osaka University
- 2021 | Established ULVAC Advanced Technology Collaborative Research Cluster in Tokyo Institute of Technology
- **2022** | The company celebrated the 70th anniversary of its founding





### FPD<sup>\*1</sup> Production Equipment

ULVAC is recognized as the global leader in sputtering systems for liquid crystal display application. We provide state-of-the-art vacuum technology for organic LED mass production equipment and develop next-generation display technology. We also provide solutions from R&D to scaling and support to our FPD customers for TVs, smartphones, PCs, and tablets.

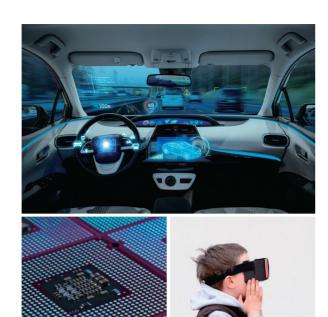
Busines

scale

\*1 FPD: Flat Panel Display



Liquid crystal display production equipment
 Organic LED production equipment
 Evaporation roll coater



### Semiconductor 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, in which next-generation automobiles will play a significant role, is beginning to be realized. We globally engage with customers in fields, such as memory, logic power devices, communication devices, sensors, and opto devices, to develop innovative vacuum technology and help customers realize development and/or scaling production.



Semiconductor production equipment (memory, logic, power or other devices)
 Electronic device production equipment (MEMS, communication devices, opto devices, etc.)
 Advanced packaging production equipment (WL-CSP, FoPLP, etc.)



### Components

Business scale

Our life is surrounded by electronic products made using vacuum technology, such as smartphones and IoT devices. 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 to maintain vacuum, power supplies, vacuum valves, and other parts for vacuum equipment.



Vacuum pumps
 Vacuum gauges
 Helium leak detectors

Process gas monitors
Power supplies
Vacuum valves

Deposition controllersVacuum transfer robots



### **Industrial Equipment**



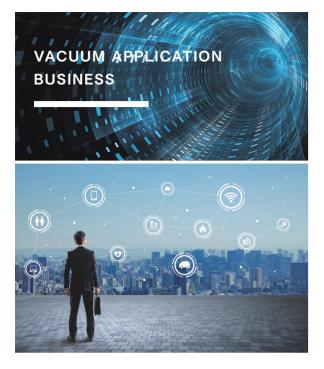
ULVAC has been at the forefront of industrial equipment manufacturing since its founding, contributing to the growth of heavy industries for steel and metal and to the automobile and home appliance industries. Today, we are making full use of the fundamental technologies we have cultivated so far to manufacture vacuum melting and vacuum sintering furnaces for rare earth magnets used in EV drive motors, vacuum sintering furnaces for manufacturing tantalum capacitors, and vacuum brazing furnaces for heat exchange parts. We also develop furnaces for manufacturing silicon wafers. In the field of life sciences, we develop lyophilizers for pharmaceuticals and centrifugal thin film evaporators for pharmaceutical ingredients.



- Vacuum heat treatment furnaces
- Vacuum brazing furnaces
- Vacuum melting furnaces
- Lyophilizers
   Micropowderdry™
- systems



 Centrifugal thin film evaporators
 Automatic He leak test systems



### **Materials**

ULVAC Materials Division provides high-quality, high-efficiency advanced materials in vacuum technology to the world market. We supply thin film materials (mainly sputtering targets) used in the deposition process of semiconductor/electronic devices and FPD contributing to the development and production of state-of-the-art devices. To meet our customers' needs, we melt, process, and manufacture high-melting-point metal (e.g., tantalum, niobium) parts used in high functional material applications for chemical and medical industries and for electronic devices and accelerators.





Business scale

 Sputtering target materials • High-melting-point metal materials and production of components Nano-metal inks



**Surface Analysis** Instruments. Mask Blanks<sup>\*2</sup>, 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 instruments and analytical services to research institutions. Our control systems products are used in industrial machinery drive gears primarily in the automobiles. We are also active in the manufacture of mask blanks for semiconductors and large-size mask blanks for FPDs, which are key components of the lithography process indispensable for the manufacture of computer and electronics products in the semiconductor field.

\*2 Mask blanks: The substrates that hold the master patterns in the manufacture of semiconductor integrated circuits



 Surface analysis instruments Controllers Mask blanks, etc



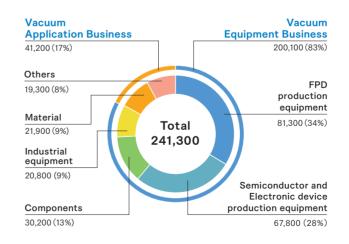
As of June 30th, 2022

Name	ULVAC, Inc.
Head Office	2500 Hagisono, Chigasaki, Ka
Established	August 23rd, 1952
Capital	20,873,042,500 JP yen
Net sales	Consolidated 241.260 billion
Number of Employees	Consolidated 6,235 (Non-con
Business Areas	Develops, manufactures, sells
	· · · · ·

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

### Net sales by business segment

(Millions of JP yen)



Figures indicated above are rounded off to the nearest unit and may not coincide with the total.

anagawa, Japan

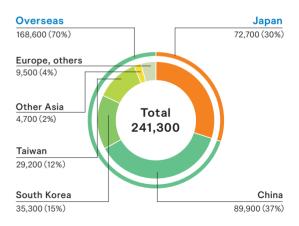
JP yen (Non-consolidated 108.458 billion JP yen)

onsolidated 1,361)

lls, and provides customer support for vacuum equipment, peripheral devices, vacuum components, and materials for the flat panel display, semiconductor, electronic, electric, metal, machinery, automobile, chemical, food product,

Net sales by region

(Millions of JP yen)



### **ULVAC WORLDWIDE**

We have built sales and service networks optimized for each region by partnering with our 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 the development of global industry and science through vacuum technology.

Company Name	Address	Phone Number	Business Areas
ULVAC, Inc.	2500 Hagisono, Chigasaki, Kanagawa 253-8543 Japan	+81-467-89-2033	Develops, manufactures, sells, and provides customer support for vacuum equipment, peripheral devices, vacuum components, and materials for the flat panel display, 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
ULVAC COATING CORPORATION	2804 Terao, Chichibu, Saitama 368-0056 Japan	+81-494-24-6511	Manufactures, processes and sells mask blanks for semiconductors and FPDs
ULVAC KIKO, Inc.	291-7 Chausubaru, Saito, Miyazaki 881-0037 Japan	+81-983-42-1411	Manufactures and sells vacuum pumps and vacuum equipment
ULVAC-PHI, Inc.	2500 Hagisono, Chigasaki, Kanagawa 253-8522 Japan	+81-467-85-6522	Manufactures and sells surface analysis instruments
ULVAC CRYOGENICS INCORPORATED	1222-1 Yabata, Chigasaki, Kanagawa 253-0085 Japan	+81-467-85-0303	Manufactures and sells cryopumps and cryogenic equipment
SHOWA SHINKU CO., LTD.	3062-10 Tana, Chuo-ku, Sagamihara, Kanagawa 252-0244 Japan	+81-42-764-0321	Manufactures and sells vacuum equipment for quartz devices and optical applications
ULVAC TECHNO, Ltd.	2609-5 Hagisono, Chigasaki, Kanagawa 253-8555 Japan	+81-467-87-1046	Sells and provides customer support for vacuum equipment, devices, parts, consumable materials, surface treatment, cleaning and used equipment
ULVAC EQUIPMENT SALES, Inc.	5F Shinagawa Front Building, 2-3-13 Kounan, Minato-ku, Tokyo 108-0075 Japan	+81-3-5769-5511	Sells vacuum equipment and components
TIGOLD CORPORATION	2500 Hagisono, Chigasaki, Kanagawa 253-8543 Japan	+81-467-89-2198	Deposits composite films, develops and sells their related materials and technologies
NISSIN SEIGYO Co., LTD.	1160-33 Hagisono, Chigasaki, Kanagawa 253-0071 Japan	+81-467-58-4525	Designs control systems for vacuum equipment Manufactures, and sells automatic control panels
FINE SURFACE TECHNOLOGY CO., LTD.	2804 Terao, Chichibu, Saitama 368-0056 Japan	+81-494-24-6590	Provides ultra-precision polishing technologies for grass substrates used in the semiconductor field, and blasts parts for ultra-precision equipment
ULVAC (CHINA) HOLDING CO., LTD.	4A, Building 1, No. 1000 Qixin Road, Minhang District, Shanghai 201199 China	+86-21-6127-6610	Undertakes administrative and coordinating tasks for investment and business in China
ULVAC (Shanghai) Trading Co., Ltd.	1st-3rd Floor, Building 1, No. 1000 Qixin Road, Minhang District, Shanghai 201199 China	+86-21-6217-6618	Sells and provides customer support for products manufactured by ULVAC group companies
ULVAC (NINGBO) CO., LTD.	No. 888 Tonghui Road, Jiangbei District, Ningbo 315020 China	+86-574-8790-5551	Manufactures, sells and provides customer support for vacuum pumps
ULVAC NONFERROUS METALS (NINGBO) CO., LTD.	No. 99 Haichuan Road, Jiangbei District, Ningbo 315032 China	+86-574-8757-5856	Manufactures, sells and provides research guidance/technical advice on casting materials (e.g. aluminum alloys)
ULVAC (SUZHOU) CO., LTD.	No. 277 Suhong East Road, Suzhou Industrial Park, Suzhou, Jiangsu 215026 China	+86-512-8666-9111	Manufactures, sells and provides customer support for vacuum equipment and components
ULVAC Research Center SUZHOU Co., Ltd.	No. 277 Suhong East Road, Suzhou Industrial Park, Suzhou, Jiangsu 215026 China	+86-512-8917-9801	Develops film deposition process, and provides technical support at customer sites
ULVAC Orient (Chengdu) Co., Ltd.	No. 1189 Baicao Road, Hi-Tech West Zone, Chengdu, Sichuan 611731 China	+86-28-8798-0133	Manufactures, sells and provides customer support for vacuum equipment
ULVAC ORIENT TEST AND MEASUREMENT TECHNOLOGY (CHENGDU) CO., LTD.	No. 1189 Baicao Road, Hi-Tech West Zone, Chengdu, Sichuan 611731 China	+86-28-8798-0138	Manufactures, sells and provides customer support for leak test equipment, components and refrigerant fillers
ULVAC CRYOGENICS (NINGBO) INCORPORATED	3F Building 3, No. 888 Tonghui Road, Jiangbei District, Ningbo 315020 China	+86-574-8790-3322	Manufactures, sells and provides customer support for cryopumps
ULVAC Automation Technology (Shanghai) Corporation	No. 198 Huancheng East Road, FengXian District, Shanghai 201401 China	+86-21-3756-5599	Manufactures and sells electrical control panels and automatic controllers
ULVAC (Shenyang) Co., Ltd.	No.12A Lantai Road, Hunnan District, Shenyang 110171 China	+86-24-2381-2999	Manufactures, sells and provides customer support for vacuum equipment
ULVAC Materials (Suzhou) Co., Ltd.	No. 55 Pingsheng Road, Industrial Park, Suzhou 215126 China	+86-512-8777-0123	Develops, manufactures, sells and provides customer support for sputtering target materials and their related components
ULVAC Tianma Electric (Jing Jiang) Co., Ltd.	No. 18 Xinzhou Road, Jingjiang, Jiangsu 214500 China	+86-523-8292-6002 +86-523-8292-6099	Manufactures and sells parts for vacuum pumps
ULVAC VACUUM EQUIPMENT (SHANGHAI) CO., LTD.	2B1-2, 2F, No. 213 Taigu Road, Wai Gao Qiao Free Trade Zone, Shanghai 200131 China	+86-21-6127-6618	Sells vacuum equipment and parts
ULVAC Coating Technology (HEFEI) Co., Ltd.	No. 358 Ming Zhu road, Hi-Tech District, Hefei, Anhui 230088 China	+86-551-6566-5280	Manufactures, processes and sells mask blanks for displays
Hong Kong ULVAC Co., Ltd.	Flat L, 9F SUMMIT Building, 30 Man Yue Street, Hunghom, Kowloon, Hong Kong	+852-2627-0200	Sells vacuum equipment and components

Company Name		Address			Phone Number	Business Areas
ULVAC KOREA, Ltd.		5, Hansan-gil, Cheongbuk-eup, Pyec Gyeonggi-do 17792 Korea	ongtaek-si,		+82-31-683-2922	- Manufactures, sells and provides customer support for vacuum equipment
Hyeongok Factory		123, Hyeongoksandan-ro, Cheongbuk-eup, Pyeongtaek-si, Gyeonggi-do 17812 Korea		+82-31-617-9500		
Songtan Factory		68, Sandan-ro 52beon-gil, Pyeongtaek-si, Gyeonggi-do 17746 Korea		+82-31-680-9023		
Bun	dang Branch	27F B Kins Tower, 8, Seongnam-dae		lang-gu,	+82-31-8023-9890	
		Seongnam-si, Gyeonggi-do 13558 K		to 108/5 Korea	+82-31-8071-2920	
		3F DA LCD Plaza, 6, LCD-ro, Wollong-myeon, Paju-si, Gyeonggi-do 10845 Korea				
		<ul> <li>3F Taeyang B/D, 1369, Hyohaeng-ro, Hwaseong-si, Gyeonggi-do 18384 Korea</li> <li>4F Buheung B/D, 791, Eumbong-ro, Eumbong-myeon, Asan-si,</li> </ul>			+82-41-532-2921	
		Chungcheongnam-do 31419 Korea				
		302-7, 3gongdan 1-ro, Gumi-si, Gyeongsangbuk-do 39391 Korea			+82-54-471-3567	
	Sales Office	T-PLEX 206-109, 50, Yutongdanji 1-ro			+82-51-317-2920	
Pure Surface Technology, Ltd.		60, Hyeongoksandan-ro 93beon-gil, Gyeonggi-do 17812 Korea	Cheongbuk-eup, Pye	ongtaek-si,	+82-31-617-9800	Conducts surface treatment of parts for deposition equipme Conducts bonding of sputtering target materials Manufactures parts for large substrate vacuum equipment a other vacuum equipment
PST Hyeong	ok 4 Factory	60, Hyeongoksandan-ro 93beon-gil, Gyeonggi-do 17812 Korea	Cheongbuk-eup, Pye	ongtaek-si,	+82-31-617-9800	
PST	Paju Factory	51, Dangdong 2-ro, Munsan-eup, Pa	iju-si, Gyeonggi-Do 1	0816 Korea	+82-31-617-9800	
PST Gwang	sung Factory	115-8, Gwangsung-gil, Cheongbuk-e Gyeonggi-do 17811 Korea	eup, Pyeongtaek-si,		+82-31-617-9800	
JLVAC CRYOGENICS KOREA INCORPORAT	ED	107, Hyeongoksandan-ro, Cheongbu Gyeonggi-do 17812 Korea	uk-eup, Pyeongtaek-s	i,	+82-31-683-2926	Manufactures and sells cryopumps
JLVAC TAIWAN INC.		8F., No. 5, Keji Rd., Hsinchu Science Taiwan (R.O.C.)	Park, Hsinchu City 3	800092	+886-3-579-5688	Manufactures, sells and provides customer support f vacuum equipment
Tai	chung Office	1F., No. 37, Keya Rd., Daya Dist., Tai	chung City 428015 Ta	aiwan (R.O.C.)	+886-4-2565-3600	
Tainan Fab		No. 27, Nanke 2nd Rd., Tainan Scier Tainan City 744092 Taiwan (R.O.C.)			+886-6-505-8080	
ULTRA CLEAN PRECISION TECHNOLOGIES	CORP.	No. 27, Sec. 1, Huandong Rd., South Xinshi Dist., Tainan City 744092, Ta		Park,	+886-6-505-8888	Manufactures, cleans, conducts surface treatment and provid customer support for vacuum equipment and parts
Tao	yuan Branch	No. 20, Ln. 211, Puzhong Rd., Zhon Taoyuan City 320071 Taiwan (R.O.C			+886-3-286-0998	
Tai	chung Office	1F., No. 37, Keya Rd., Daya Dist., Taic	hung City 428015 Tai	wan (R.O.C.)	+886-4-2565-3400	
ULVAC SOFTWARE CREATIVE TECHNOLOGY, Co., Ltd.		23F., No. 27-9, Sec. 2, Zhongzheng E. Rd., Danshui Dist., New Taipei City 251030 Taiwan (R.O.C.)		+886-2-8809-2259	Develops and produces software for vacuum equipme control systems	
JLVAC Materials Taiwan, Inc.		No. 37, Keya Rd., Daya Dist., Taichu	ng City 42881 Taiwar	n (R.O.C.)	+886-4-2565-8299	Manufactures and sells sputtering targets for FPDs
JLVAC AUTOMATION TAIWAN Inc.		3F., No. 149, Wugong Rd., Wugu Dis Taiwan (R.O.C.)	st., New Taipei City 2	4886	+886-2-2298-9957	Manufactures and sells control panels and automa control equipment
	Tainan Fab	No. 32, Ln. 269, Zhongzheng Rd., Yo Tainan City 71043 Taiwan (R.O.C.)	ongkang Dist.,		+886-6-203-1320	
JLCOAT TAIWAN, Inc.		No. 60, Industry III Rd., An-Nan Dist	t., Tainan 709 Taiwan	(R.O.C.)	+886-6-384-0736	Manufactures, processes and sells mask blanks f semiconductors/FPDs and black matrixes for FPDs
JLVAC SINGAPORE PTE LTD		11 Tampines Street 92, Tampines Bi	z-Hub #02-08, 5288	72 Singapore	+65-6542-2700	Sells and provides customer support for vacuum equipmer and components
Philippines E	Branch Office	Panorama Compound 2, Lot 2, Block Rosario, Cavite 4106 Philippines	k 22, Phase 4, Buildir	ng 1B EPZA,	+63-46-437-7700	
Vietnam Represer	ntative Office	29/11/100 Le Duc Tho Street, Ward Go Vap District Ho Chi Minh City 72			+84-28-3821-2367	
Indonesia Represer	ntative Office	JI Kenari II Blok G1A No 3, Delta Sili Cikarang Pusat, Bekasi 17550 Indon		, Cicau,	+62-21-8990-5070	
	India Branch	301, Tara Tycoon 12-13-97, Tarnaka	a Secunderabad - 500	0017, India	+91-40-27007006	
JLVAC (THAILAND) LTD.		110/6 Moo 13 Soi 25/2, Kingkaew R Amphur Bangplee, Samutprakarn 10		iewa,	+66-2-738-8883	Sells and provides customer support for vacuum equipme
ULVAC MALAYSIA SDN. BHD.		No.8 Jalan Gitar 33/3, Elite Industrial Estate, Off Jalan Bukit Kemuning, 40350 Shah Alam, Selangor Darul Ehsan, Malaysia		+60-3-5121-4700	Sells, provides customer support and conducts cleani and target bonding for vacuum equipment and compone	
FIELD SUPPORT (KULIM SITE)		No.2, Lorong Perusahaan 6C, Kawasan Industri MIEL, 09000 Kulim. Kedah, Malaysia		+60-4-489-3391		
BONDING FA	CTORY (KL)	No 6, Jalan Biola Satu 33/1A, Elite Indus 40400 Shah Alam. Selangor Darul Ehsan		ukit Kemuning.	+60-3-5131-9962	
JLVAC Technologies, Inc. lead Office/Eastern Regional Sales Office		401 Griffin Brook Drive Methuen, MA	A 01844 U.S.A.		+1-978-686-7550	Sells and provides customer support for vacuum equipme
Physical Electronics USA, Inc.		18725 Lake Drive East, Chanhassen	, MN 55317 U.S.A.		+1-952-828-6200	Sells and provides customer support for surface analysistruments