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CVD EQUIPMENT CORP  
Form 10KSB  
March 30, 2004

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 10-KSB

Annual Report Pursuant to Section 13 or 15(d) of  
the Securities Exchange Act of 1934

For the year ended December 31, 2003 Commission File Number 1-16525

CVD EQUIPMENT CORPORATION  
(Exact name of registrant as specified in its charter)

New York	11-2621692
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(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

1860 Smithtown Avenue  
Ronkonkoma, New York 11779  
(Address of principal executive office)

Registrant's telephone number, including area code (631) 981-7081

Securities registered pursuant to Section 12(b) of the Act: NONE

Securities registered pursuant to Section 12(g) of the Act:

Common Stock, Par value \$0.01  
(Title of class)

Indicate by check mark whether the Registrant (1) has filed all reports to be filed by Section 13 or 15(d) of the Securities and Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-KSB.

The aggregate market value of the common stock held by non-affiliates as of March 26, 2004 was \$2,578,305

The Registrant's revenues for 2003 were \$ 9,787,939

The number of shares outstanding of common stock, as of March 26, 2004 was 3,039,100

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### Item 1. Business

Unless otherwise set forth herein, when we use the term 'we' or any derivation thereof, we mean CVD Equipment Corporation, a New York corporation.

CVD Equipment Corporation (the "Company") was incorporated under the laws of New York State in October 1982. CVD is a manufacturer of UHVCVD, MOCVD, PECVD, LPE, VPE, RTP, Etch, Gas and Chemical Delivery Systems, Belt Furnaces, Rework Station products and services for the Semiconductor, Telecommunications, Wireless, Optoelectronics, MEMS, Solar Power and Surface Mount Technology markets.

We conduct our operations through three divisions, CVD, SDC/ECS and Conceptronic/RI. Each division operates reasonably autonomously on a day-to-day basis with its own operating manager and with sales and administration being handled by corporate managers. Yet there is an overall corporate coordination in the day-to-day administration of the business, in setting policy and consistently applying procedures.

Our Company designs, develops, manufactures, markets, installs and services equipment primarily for the semiconductor industry. Our products include (1) both batch and single wafer systems used for depositing, rapid thermal processing, annealing, diffusion and etching of semiconductor films, (2) gas and liquid flow control systems, (3) ultra high purity gas and chemical piping delivery systems, (4) standard and custom quartzware and (5) reflow furnaces and rework stations for surface mounting of components onto printed circuit boards. We also provide equipment consulting and refurbishing of semiconductor processing equipment. Our products are generally manufactured as standard products or customized to the particular specifications of each of our customers.

Semiconductor components are the fundamental electronic building blocks used in modern electronic equipment and systems. These components are classified as either discrete devices (such as transistors) or integrated circuits (in which a number of transistors and other elements are combined to form a more complicated electronic circuit). In an integrated circuit, these elements are formed on a small "chip" of silicon or gallium arsenide, which is then encapsulated in an epoxy, ceramic or metal package having lead wires for connection to a circuit board. Our products are used in the manufacture and mounting of these components.

#### CVD Division

Our CVD division designs and manufactures both standard and custom equipment for the semiconductor industry. CVD's equipment, with its leading edge technology, is utilized for silicon, silicon germanium, silicon carbide and gallium arsenide processes. These processes are paramount in the semiconductor, optoelectronic and wireless communications arena.

#### SDC/ECS Division

In December 1998, we purchased at public auction, the inventory, tangible assets, intangible assets and intellectual property of Stainless Design Corporation, Saugerties, New York for \$672,095. We formed a new 100% owned subsidiary called Stainless Design Concepts, Ltd. ("SDC"). In April, 1999, SDC was merged into the Company as a wholly owned division.

SDC designs and manufactures in their Class 100 cleanroom, ultra high purity gas and chemical delivery control systems for the semiconductor industry.

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In November, 1999, we formed another division called Equipment Consulting Services ("ECS"). ECS complements SDC by providing equipment consulting and the refurbishing of semiconductor equipment. The field service group provides for contract maintenance, high purity fab and equipment installations and equipment removal. During the fourth quarter 2002, the Company combined the operations of SDC and ECS and they are currently being reported under SDC. The startup of our SDC/ECS division provided new products for CVD to offer to the semiconductor industry and also improved the manufacturing of gas and chemical delivery systems used in most CVD products.

### Conceptronic/RI Division

In December 2001, we acquired the assets of the Surface Mount Technology division of Research Inc., known as Research International ("RI") for \$750,000. Research International is a manufacturer of Surface Mount Technology (SMT) reflow furnaces.

In June 2002, we purchased substantially all of the assets of Conceptronic Inc.'s Surface Mount Technology business for \$1,239,000. Conceptronic specializes in solder reflow furnaces and rework stations for the printed circuit board and chip scale package industries.

The startup of our Research International and Conceptronic divisions provided a base for CVD to generate new and enhanced standard and custom furnace products to the semiconductor and Surface Mount Technology markets based on technology that existed at CVD and was purchased as part of the acquisition of assets.

### Principal Products

Chemical Vapor Deposition (CVD) - is a process which passes a gaseous compound over a target material surface that is heated to such a degree that the compound decomposes and deposits a desired layer onto substrate material. The process is accomplished by combining appropriate gases in a reaction chamber, of the kind produced by the Company, at elevated temperatures (typically 300-1,500 degrees Celsius). Our Chemical Vapor Deposition Systems are complete and include all necessary instrumentation, subsystems and components. The systems include mass flow controllers, bellows valves, stainless steel lines and fittings. We provide such standard systems and also specifically engineered products for particular customer applications. Some of the standard systems we offer are for Silicon, Silicon-Germanium, Silicon Dioxide, Silicon Nitride, Polysilicon, Liquid Phase Epitaxial and Metalorganic Chemical Vapor Deposition.

Our CVD systems are available in a variety of models that can be used in production and laboratory research. All models can be offered with total system automation, a microprocessor control system by which the user can measure, predict and regulate gas flow, temperature, pressure and chemical reaction rates, thus controlling the process in order to enhance the quality of the materials produced. The Company's standard microprocessor control system is extremely versatile and capable of supporting the Company's complete product line and most custom system requirements. The Company's CVD systems range in price from \$100,000 to \$2,500,000.

Rapid Thermal Processing (RTP) - is used to heat semiconductor materials to elevated temperatures of 1,000 degrees Celsius at rapid rates of up to 200 degrees Celsius per second. Our RTP systems are offered for implant

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activation, oxidation, silicide formation and many other processes. We offer systems that can operate both at atmospheric or reduced pressures. A specific model of our RTP system is used for Thermal Desorption Spectroscopy which allows the semiconductor process

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engineer the ability to analyze the deposited films between the many process steps used in the complex fabrication process. Our RTP systems generally range in price from \$75,000 to \$350,000.

Annealing and Diffusion Furnaces - are used for diffusion, oxidation, implant anneal, solder reflow and other processes. The systems are normally operated at atmospheric pressure with gaseous atmospheres related to the process. An optional feature of the system allows for the heating element to be moved away from the process chamber allowing the wafers to rapidly cool or be heated in a controlled environment. Our cascade temperature control system enables more precise control of the wafers. The systems are equipped with an automatic process controller, permitting automatic process sequencing and monitoring with safety alarm provisions. Our Annealing and Diffusion Furnace systems generally range in price from \$75,000 to \$650,000.

Gas and Liquid Control Systems - Our standard and custom designed gas and liquid control systems encompassing (1) gas cylinder storage cabinets, (2) custom gas and chemical delivery systems, (3) gas and liquid valve manifold boxes (VMB's) and (4) gas isolation boxes (GIB's) to provide safe storage and handling of pressurized gases and chemicals. System design allows for automatic or manual control from both a local and remote location. The price range for our Gas and Liquid Control Systems are from \$20,000 to \$350,000.

Ultra High Purity Gas and Chemical Piping and Delivery Systems - We provide field installation of ultra high purity piping systems within a semiconductor plant for the distribution of gases and chemicals to the assorted process tools. As part of field service, we also offer repair service on customer equipment.

Quartzware - We provide standard and custom fabricated quartzware used in the Company's equipment and other customer tools.

Reflow Furnaces and Rework Stations - We provide a standard line of equipment and parts for the printed circuit board and chip scale package industries.

### Markets and Marketing

During 2003, sales were made by a staff of six employees and twenty five sales representatives whose activities were supported by a staff of twelve application engineers. The Company continues to work on expanding our product offerings.

The Company's web sites continue to see increased traffic. We have focused our efforts on being in the top listings on many search engines in order to increase the number of "hits" to our web sites.

The Company's products are used in research and production applications by the semiconductor industry. We sell our products primarily to semiconductor manufacturers, institutions involved in electronic research such as universities, government and industrial laboratories and to electronic assembly manufacturers. We have both an international and domestic customer base in excess of 300 customers. For the twelve months

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ended December 31, 2003 and December 31, 2002, 26% and 25% of our revenues respectively were derived from foreign exports. Sales to a single customer in any one year can exceed 10% of our total sales however, we are not dependent on any single customer. In 2003 and 2002, one customer represented 12% and 11% of our total sales respectively. In 2003, one other customer represented 13.4% of our total sales. In 2002, another customer represented 12% of our total sales.

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### Warranties

We warrant our equipment for a period of twelve to twenty four months after shipment, depending on the product, and pass along any warranties from original manufacturers of components used in our products. We provide for our own equipment servicing with in-house field service personnel. Warrantee costs have been historically insignificant.

### Competition

Our business is subject to intense competition. We are aware of other competitors that offer a substantial number of products comparable to ours. Many of our competitors (including customers who may elect to manufacture systems for internal use) have financial, marketing and other resources greater than ours. To date, we have been able to compete in markets that include these competitors, primarily on the basis of price, technical performance, quality and delivery.

### Sources of Supply

We do not manufacture many components used in producing our products. They are purchased from unrelated third-party manufacturers of such equipment. We do not have any supply contracts covering these components. We are not dependent on a principal or major supplier and alternate suppliers are available. We do not use a large amount of raw or difficult to obtain materials that could cause a problem in production of our equipment.

We have our own fully equipped machine shop to fabricate in house, the most complex designed parts of our equipment. We recently invested in additional CNC machines for the machine shop, thus further increasing efficiencies while significantly reducing costs in production. Similarly, our own quartz shop is capable of meeting our quartzware needs.

Materials procured from the outside and/or manufactured internally undergo a rigorous quality control process to ensure that the parts meet or exceed the most stringent specifications. All equipment, upon final assembly, undergoes a final series of complete testing to ensure maximum product performance.

### Backlog

As of December 31, 2003 our order backlog was \$1,738,269 compared to \$3,816,877 at December 31 2002. The exceptionally high backlog at December 31, 2002 was primarily attributable to the work slowdown in the fourth quarter of 2002 when the CVD and Conceptronic divisions relocated to its new facility. Included in the backlog are all accepted purchase orders. Order backlog is usually a reasonable management tool to indicate expected revenues and projected profits, however it does not provide an assurance of future achievement or profits as order cancellations or delays are possible.

### Patents, Copyrights and License Agreements

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We believe that while patents are useful and will be used at times in the future, they are not critical or valuable in many cases on an individual basis. We believe the collective value of the intangible property of the Company is comprised of blueprints, specifications, technical processes, cumulative employee knowledge, experience, copyrights and patents.

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### Research and Development

We continue to concentrate our efforts on several research and development projects. We develop and customize equipment for industry and government, university and industry research laboratories around the world. Our research, design and development of equipment, which remains proprietary to us, is used to improve our existing products and develop new products for customers. The amount spent on research and development was \$273,000 and \$372,000 for the years ended December 31, 2003 and December 31, 2002 respectively.

### Government Regulations

The Company knows of no government requirements for approval of the sale of their products or services except in some export cases. At that time, we apply for the appropriate export, license. As of December 31, 2003, there were no pending government approvals for an export license.

We know of no existing or probable governmental regulations that would have a serious effect on our business.

We have and will continue to comply with any and all environmental laws that are applicable to our business.

### Insurance

Our products are used in connection with explosive, flammable, corrosive and toxic gases. There are potential exposures to personal injury as well as property damage, particularly if operated without regard to the design limits of the systems and components.

Although, we believe that our insurance coverage is adequate, we did not renew our product liability insurance on August 11, 2003 due to a significant increase in premium and in light of our historical experience of not sustaining product liability claims of any consequence. We will reinstate product liability insurance when it is determined to be cost effective to do so. We endeavor to minimize our product liability exposure by engineering safety devices for our products and carefully monitoring incidents involving our products to determine where safety improvements may be made and by conducting training programs in connection with our products.

### Employees

At December 31, 2003, we had 86 employees, 82 of which were full time personnel and four worked part time. We had 37 people in manufacturing, 18 in engineering (including research and development and efforts related to product improvement), seven in field service, three in marketing and 21 in general management and administration.

### Item 2. Description of Property.

We maintain our headquarters at 1860 Smithtown Avenue, Ronkonkoma, New York, where we own a 50,000 square foot manufacturing facility which was purchased in November, 2002. Our CVD and Conceptronic divisions operate

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out of this facility. Our SDC division operates out of a 22,000 square foot manufacturing facility situated on five acres of land which we purchased in December 1998 and is located at 1117 Kings Highway, Saugerties, New York.

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### Item 3. Legal Proceedings.

On September 24, 1999 the Company was named in a lawsuit filed by Precisionflow Technologies, Inc., in the United States District for the Northern District of New York. The nature of this legal proceeding focused on a purported comment made by CVD's President Leonard Rosenbaum concerning the intellectual property obtained in the purchase of assets of Stainless Design Corporation. On November 10, 1999, the Company responded with a counterclaim for unauthorized use of our intellectual property. It is legal counsel's belief that the lawsuit against CVD is without merit as comments made by Leonard Rosenbaum were truthful and that our counter-suit will be successful as CVD has valid copyrights that were utilized without our authorization. The plaintiff is seeking monetary damages and injunctive relief, however, the Company considers its potential exposure to be negligible and covered by insurance. Further, the claim against CVD does not assert any ownership claim over our intellectual property. Therefore, we do not anticipate any impact above the levels already being experienced. The Company is also seeking monetary damages and injunctive relief in its counter-suit. All pre-trial disclosure has been completed and the case is currently pending decisions on motions and cross motions for summary judgement. No trial date has been set.

In May 2002, the Company instituted a new action against Precisionflow Technologies, Inc., in the United States District for the Northern District of New York also seeking injunctive relief and monetary damages based upon additional copyright violations. A motion by Precisionflow Technologies, Inc. to dismiss this action has been pending since June 2002.

### Item 4. Submission of Matters to a Vote of Security Holders.

At our annual meeting of stockholders, which was held on August 5, 2003 our stockholders:

- (1) Elected these four nominees for directors to serve for a term of one (1) year; Leonard Rosenbaum, Martin Teitelbaum, Alan H. Temple and Conrad Gunther.
- (2) Ratified the appointment of Albrecht, Viggiano, Zureck & Company, P.C., as our independent auditors and public accountants for the year ended December 31, 2003.

## PART II

### Item 5. Market for Registrant's Common Equity and Related Stockholder Matters.

The principal market for our common stock which is traded under the symbol CVV is the American Stock Exchange. The following table sets forth, for the periods indicated, the high and low sales prices of our common stock on the American Stock Exchange.

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	High	Low
Year Ended December 31, 2003		
1st Quarter.....	\$1.62	\$0.82
2nd Quarter.....	1.35	1.00
3rd Quarter.....	1.95	1.03
4th Quarter.....	1.48	1.10

	High	Low
Year Ended December 31, 2002:		
1st Quarter.....	\$3.10	\$2.30
2nd Quarter.....	2.95	2.10
3rd Quarter.....	2.29	1.54
4th Quarter.....	1.99	0.62

As of March 3, 2004, there were approximately 97 holders of record and approximately 470 beneficial owners of our common stock. On March 2, 2004, the closing sales price of our common stock as reported on the American Stock Exchange was \$1.80.

Dividend Policy

We have never paid a dividend on our common stock and we do not anticipate paying dividends on the common stock at the present time. We currently intend to retain earnings, if any, for use in our business. There can be no assurance that we will ever pay dividends on our common stock. Our dividend policy with respect to the common stock is within the discretion of the Board of Directors and its policy with respect to dividends in the future will depend on numerous factors, including earnings, financial requirements and general business conditions.

Equity Compensation Plan Information

The following table provides information about shares of our common stock that may be issued upon the exercise of options under all of our existing compensation plans as of December 31, 2003.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number remaining for future
	(a)	(b)	
Equity compensation plans approved by security holders (1)	365,400	\$ 1.69	21
Equity compensation plans not approved by security holders	0	0	
Total	365,400	\$ 1.69	21

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