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VEECO INSTRUMENTS INC
Form S-3/A
April 30, 2002

AS FILED WITH SECURITIES AND EXCHANGE COMMISSION ON APRIL 30, 2002

REGISTRATION NO. 333-84252

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

AMENDMENT NO. 1
TO
FORM S-3

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

VEECO INSTRUMENTS INC.
(Exact name of Registrant as specified in its charter)

DELAWARE
(State or other jurisdiction of
incorporation or organization)

11-2989601
(I.R.S. Employer Identifi

100 SUNNYSIDE BOULEVARD
WOODBURY, NEW YORK 11797
(516) 677-0200

(Address, including zip code, and telephone number, including area
code, of Registrant's principal executive offices)

GREGORY A. ROBBINS
VICE PRESIDENT AND GENERAL COUNSEL
VEECO INSTRUMENTS INC.
100 SUNNYSIDE BOULEVARD
WOODBURY, NEW YORK 11797
(516) 677-0200
(Name, address, including zip code, and telephone number,
including area code, of agent for service)

Copies to:
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425 Park Avenue
New York, New York 10022-3598
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APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. / /

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. /X/

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. / /

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. / /

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. / /

CALCULATION OF REGISTRATION FEE

| TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED | AMOUNT TO BE REGISTERED | PROPOSED MAXIMUM OFFERING PRICE PER UNIT | PROPOSED AGGREGATE OFFERING |
|---|----------------------------|---|-----------------------------------|
| 4 1/8% Convertible Subordinated Notes Due 2008..... | \$220,000,000 (1) | 100% | \$220, |
| Common Stock, \$0.01 par value (including the associated preferred share purchase rights)..... | 9,756,919 shares (3) | \$30.625 (4) | \$34, |

- (1) Represents the aggregate principal amount of the Registrant's 4 1/8% Convertible Subordinated Notes due 2008 (the "Notes") issued by the Registrant prior to the date of this registration statement.
- (2) Fee previously paid by the Registrant in connection with the initial filing of this registration statement on March 13, 2002 (the "Initial Filing").
- (3) Such number includes 5,712,800 shares of the Registrant's Common Stock (including the associated preferred share purchase rights) that are initially issuable upon conversion of the Notes registered hereby. For purposes of estimating the number of shares of the Registrant's Common Stock issuable upon conversion of the Notes, the Registrant used a conversion

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price of \$38.51 per share of such Common Stock, which is the initial conversion price under the Notes. Pursuant to Rule 416 under the Securities Act of 1933, as amended, in addition to the shares of the Registrant's Common Stock set forth in this table, the number of such shares registered hereby includes such additional indeterminate number of shares of the Registrant's Common Stock (including the associated preferred share purchase rights) as may be issuable from time to time upon conversion of the Notes as a result of stock splits, stock dividends and the anti-dilution provisions thereof. Also includes 4,044,119 shares of the Registrant's Common Stock (the "Additional Shares") being registered hereby for resale by certain selling securityholders in addition to the shares of the Registrant's Common Stock issuable upon conversion of the Notes described in the preceding sentences.

- (4) Relates only to the 1,136 shares of Common Stock being registered pursuant to this Amendment No. 1 to the registration statement. Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(c) under the Securities Act of 1933, as amended, on the basis of the high and low selling prices per share of the Registrant's Common Stock on the Nasdaq National Market on April 26, 2002.
- (5) A fee of \$11,467.36 was previously paid with the Initial Filing with respect to the 9,755,783 shares of Common Stock covered thereby. Due to the additional 1,136 shares of Common Stock being registered pursuant to this Amendment No. 1 to the registration statement, an additional fee in the amount of \$3.20 is being paid herewith. The indicated registration fee is payable only in connection with the registration of 1,136 shares of the Additional Shares. No additional consideration will be received by the Registrant for the shares of its Common Stock (or the associated preferred share purchase rights) issued upon conversion of the Notes registered hereby and therefore, pursuant to Rule 457(i) under the Securities Act of 1933, as amended, no registration fee is required for such shares (or the associated preferred share purchase rights).

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(A) OF THE SECURITIES ACT OF 1933 OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE SECURITIES AND EXCHANGE COMMISSION, ACTING PURSUANT TO SUCH SECTION 8(A), MAY DETERMINE.

PROSPECTUS

[LOGO]

VEECO INSTRUMENTS INC.

\$220,000,000 4 1/8% CONVERTIBLE SUBORDINATED NOTES DUE 2008, SHARES OF COMMON

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STOCK ISSUABLE UPON CONVERSION OF THE NOTES AND 4,044,119 ADDITIONAL SHARES OF
COMMON STOCK

We issued the notes in a private placement in December 2001. This prospectus will be used by selling securityholders to sell their notes and the shares of our common stock issuable upon conversion of their notes. This prospectus will also be used by certain other holders of our common stock to sell up to 4,044,119 shares of our common stock held by them.

The notes are convertible, at the option of the holder, at any time on or prior to maturity into shares of our common stock. The notes are convertible at a conversion price of \$38.51 per share, which is equal to a conversion rate of approximately 25.9656 shares per \$1,000 principal amount of notes, subject to adjustment. On April 26, 2002, the closing bid price of our common stock on the Nasdaq National Market was \$29.50 per share.

We will pay interest on the notes on June 21 and December 21 of each year, beginning June 21, 2002. The notes will mature on December 21, 2008. We may redeem some or all of the notes at any time on or after December 21, 2004, at the redemption prices set forth in this prospectus.

We pledged a portfolio of U.S. government securities as security for the first six scheduled interest payments on the notes. The notes are otherwise our general unsecured obligations. The notes are subordinated to all of our existing and future senior indebtedness and will be effectively subordinated to all of the indebtedness and liabilities of our subsidiaries. The indenture governing the notes does not limit the incurrence by us or our subsidiaries of senior indebtedness or other indebtedness or other liabilities.

The notes were sold initially to qualified institutional buyers and are currently trading in the PORTAL market. Notes sold by means of this prospectus will not be eligible for trading in the PORTAL market. We do not intend to list the notes for trading on any national or other securities exchange or on the Nasdaq National Market. Our common stock is traded on the Nasdaq National Market under the symbol "VECO."

We will not receive any proceeds from the sale by the selling securityholders of the notes, the shares of our common stock issuable upon conversion of the notes or the other shares of our common stock which are sold using this prospectus. Other than selling commissions and fees and stock transfer taxes, we will pay all expenses of the registration of the notes and the common stock and certain other expenses, as set forth in the registration rights agreement we have entered into with the holders of the notes and the registration rights agreement we have entered into with the other selling securityholders who may use this prospectus.

INVESTING IN THE NOTES AND IN OUR COMMON STOCK INVOLVES RISKS THAT ARE DESCRIBED IN THE "RISK FACTORS" SECTION BEGINNING ON PAGE 6 OF THIS PROSPECTUS.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES

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COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is April 30, 2002.

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You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. The selling securityholders are not making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus or any documents incorporated by reference is accurate only as of the date on the front cover of the applicable document. Our business, financial condition, results of operations and prospects may have changed since that date.

We are not making any representation to any purchaser of the notes or any shares of our common stock regarding the legality of an investment in the notes or such shares by such purchaser under any legal, investment or similar laws or regulations. You should not consider any information in this prospectus to be legal, business or tax advice. You should consult your own attorney, business advisor and tax advisor for legal, business and tax advice regarding an investment in the notes or our common stock.

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THE INFORMATION IN THIS PROSPECTUS MAY NOT CONTAIN ALL OF THE INFORMATION THAT MAY BE IMPORTANT TO YOU. YOU SHOULD READ THE ENTIRE PROSPECTUS, AS WELL AS THE DOCUMENTS INCORPORATED BY REFERENCE IN THIS PROSPECTUS, BEFORE MAKING AN INVESTMENT DECISION. EXCEPT IN THE "DESCRIPTION OF THE NOTES" SECTION AND WHERE THE CONTEXT OTHERWISE INDICATES, AS USED IN THIS PROSPECTUS THE TERMS "VEECO," "WE," "OUR" AND "US" MEAN VEECO INSTRUMENTS INC. AND ITS CONSOLIDATED SUBSIDIARIES.

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SUMMARY

THIS SUMMARY HIGHLIGHTS INFORMATION CONTAINED ELSEWHERE OR INCORPORATED BY REFERENCE IN THIS PROSPECTUS. YOU SHOULD READ THE ENTIRE PROSPECTUS CAREFULLY, INCLUDING THE "RISK FACTORS" SECTION, THE INCORPORATED FINANCIAL STATEMENTS AND THE RELATED NOTES AND THE DOCUMENTS INCORPORATED BY REFERENCE INTO THIS PROSPECTUS, BEFORE MAKING AN INVESTMENT DECISION.

VEECO INSTRUMENTS INC.

OUR BUSINESS

Veeco designs, manufactures, markets and services a broad line of equipment primarily used by manufacturers in the telecommunications/wireless, data storage, semiconductor and research industries. These industries help create a wide range of information age products such as computer integrated circuits, personal computers, hard disc drives, network servers, fiber optic networks, digital cameras, wireless phones, TV set-top boxes and personal digital assistants. Our broad line of products featuring leading edge technology allows customers to improve time-to-market of next generation products.

Our process equipment products precisely deposit or remove (etch) various materials in the manufacturing of advanced thin film magnetic heads for the data storage industry, specialty semiconductor products and telecommunications/wireless components. Our metrology equipment is used to provide critical surface measurements on semiconductor devices, thin film magnetic heads and disks used in hard drives and in telecommunications/wireless and research applications. This equipment allows customers to monitor their products throughout the manufacturing process in order to improve yields, reduce costs and improve product quality.

Demand for our products has been driven by the increasing miniaturization of microelectronic components; the need for manufacturers to meet reduced time-to-market schedules while ensuring the quality of those components; and, in the data storage industry, the introduction of giant magnetoresistive (GMR) thin film magnetic heads (TFMHs) which require additional manufacturing steps and the ability to conduct critical measurements for quality control and other purposes during the manufacturing process. The ability of our products to precisely deposit thin films, and/or etch sub-micron patterns and make critical surface measurements in these components enables manufacturers to improve yields and quality in the fabrication of advanced microelectronic devices, such as passive and active telecommunications components, wireless devices, TFMHs and semiconductor devices.

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We serve customers worldwide through our global sales and service organization located throughout the United States, Europe, Japan and Asia Pacific. As of December 31, 2001, we had 1,446 employees, with manufacturing, research and development and engineering facilities located in New York, California, Minnesota, Colorado and Arizona.

Veeco Instruments Inc. was incorporated in Delaware in 1989. Our principal offices are located at 100 Sunnyside Boulevard, Woodbury, New York 11797. Our telephone number is 516-677-0200.

OUR STRATEGY

We have pursued, and will continue to pursue, the following growth strategy:

- capitalize on the long-term growth opportunities in the telecommunications/wireless industry by expanding process equipment and metrology solutions,
- pursue focused market opportunities in the semiconductor industry in which we have specific technology leadership,
- strengthen our position as a leading "one-stop shop" for etch, deposition and metrology equipment for the data storage industry,

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- pursue internal growth, as well as strategic mergers and, where appropriate, to further expand our breadth of product line,
- leverage our technology and strategic customer relationships and assist our customers' time-to-market for their new products, and
- utilize our industry-leading global sales and service network to further strengthen customer relationships.

RECENT EVENTS

On September 17, 2001, we completed a merger with Applied Epi, Inc., a world leading supplier of molecular beam epitaxy equipment. Applied Epi's customers use its equipment and components to manufacture compound semiconductor devices for a wide variety of communications applications, including fiber optic modules and subsystems, mobile phones, wireless networks and satellites. In the merger, Applied Epi's former stockholders received approximately 3.9 million shares of our common stock and approximately \$29.8 million in cash. We accounted for the merger using the purchase method of accounting.

We recorded an aggregate restructuring charge during our fiscal quarter ended December 31, 2001 of approximately \$19.0 million, resulting from the restructuring of our operations in response to the significant downturn in the telecommunications industry and the overall weak business environment. This charge consisted of an approximately \$13.6 million write-off of inventory (included in cost of sales) related to order cancellations and the rationalization of certain product lines. Also included in this charge was approximately \$2.0 million related to plant consolidations and a 15% workforce

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reduction initiated in our fiscal quarter ended December 31, 2001, as well as approximately \$3.4 million write-down of certain of our intangible and fixed assets. In addition, Veeco has classified its Industrial Measurement business as a discontinued operation and incurred approximately \$3.4 million of losses (net of taxes) related to such reclassification in our fiscal quarter ended December 31, 2001.

On December 21, 2001, we completed a private placement of \$200.0 million in aggregate principal amount of the notes. On January 3, 2002, we issued an additional \$20.0 million in aggregate principal amount of the notes in connection with the initial purchasers' exercise in full of the over-allotment option we granted to them. The net proceeds to us from the sale of the notes (after deducting expenses) was approximately \$212.7 million. We used approximately \$25.9 million of the net proceeds to purchase the U.S. government securities which we have pledged to secure payment of the first six scheduled interest payments on the notes, as described under the heading "Description of the Notes--Security." We intend to use the balance of the net proceeds primarily for working capital and general corporate purposes, including acquisitions. While we regularly evaluate acquisition opportunities for complementary businesses, products and technologies, we currently have no contract or arrangement with respect to any material acquisition. Pending these uses, we expect to invest the net proceeds in investment-grade, interest-bearing securities.

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THE NOTES

THE FOLLOWING IS A BRIEF SUMMARY OF CERTAIN TERMS OF THE NOTES. FOR A MORE COMPLETE DESCRIPTION OF THE TERMS OF THE NOTES SEE THE "DESCRIPTION OF THE NOTES" SECTION IN THIS PROSPECTUS.

| | |
|------------------------|---|
| Issuer..... | Veeco Instruments Inc. |
| Notes offered..... | \$220,000,000 aggregate principal amount of 4 1/8% convertible subordinated notes due 2008. |
| Maturity of notes..... | December 21, 2008. |
| Interest on notes..... | 4 1/8% per year on the principal amount, payable semiannually on June 21 and December 21, beginning June 21, 2002. |
| Conversion rights..... | The notes are convertible, at the option of the holder, at any time on or prior to maturity, unless the notes have previously been redeemed or repurchased, into shares of our common stock at a conversion price of \$38.51 per share, which is equivalent to a conversion rate of approximately 25.9656 shares per \$1,000 principal amount of notes. The conversion price is subject to adjustment. See "Description of the Notes--Conversion Rights." |
| Security..... | We purchased and pledged to the trustee under the indenture, as security for the exclusive benefit of the holders of the notes, U.S. government securities. |

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which will be sufficient upon receipt of scheduled principal and interest payments thereon to provide for the payment in full of the first six scheduled interest payments due on the notes. The notes are otherwise secured. See "Description of the Notes--Security."

Ranking..... The notes are unsecured (except as we describe above) and subordinated to all of our existing and future senior indebtedness and effectively subordinated to all existing and future indebtedness and other liabilities of our subsidiaries. Excluding intercompany indebtedness, at December 31, 2001, we (excluding our subsidiaries) had no senior indebtedness and our subsidiaries had liabilities of approximately \$82.0 million, including approximately \$19.0 million of indebtedness for borrowed money. Because the notes are subordinated, in the event of bankruptcy, liquidation, dissolution or acceleration of payment on our senior indebtedness, holders of notes will not receive any payment other than the amount pledged as security for the notes until holders of our senior indebtedness have been paid full in cash. The indenture does not limit the incurrence by us or our subsidiaries of senior indebtedness or other indebtedness or liabilities. See "Description of the Notes--Subordination of Notes."

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Optional redemption..... We may redeem all or a portion of the notes at any time on or after December 21, 2004, at the redemption prices listed in this prospectus, plus accrued and unpaid interest up to, but not including, the redemption date. See "Description of the Notes--Optional Redemption."

Change in control..... Upon certain changes in control, each holder of the notes may require us to repurchase some or all of the notes at a purchase price equal to 100% of the principal amount of the notes plus accrued and unpaid interest. We may, at our option, instead of paying the change in control purchase price in cash, pay in shares of our common stock valued at 95% of the average of the closing sales prices of our common stock for the five consecutive trading days immediately preceding and including the third trading day prior to the date we are required to repurchase the notes. We cannot pay the change in control purchase price in common stock unless we satisfy the conditions described in the indenture under which the notes were issued. See "Description of the Notes--Repurchase at Option of Holders Upon a Change in Control."

DTC eligibility..... The notes were issued in fully registered form. The notes are evidenced by one or more global notes,

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deposited with the trustee under the indenture as custodian for The Depository Trust Company, or DTC and registered in the name of Cede & Co., DTC's nominee. Beneficial interests in the global notes will be shown on, and transfers will be effected through, records maintained by DTC and its participants. See "Description of the Notes--Global Notes; Book-Entry; Form."

Registration rights..... Under a registration rights agreement, we agreed to file with the Securities and Exchange Commission, the Commission, the shelf registration statement of which this prospectus forms a part, for the resale of the notes and the shares of our common stock issuable upon conversion of the notes. We have agreed with our noteholders, subject to certain exceptions, to use our best efforts to keep the registration statement effective until the earlier of January 3, 2004 and the date on which all holders of the notes and the common stock issuable upon conversion of the notes are able to sell their securities immediately pursuant to Rule 144(k) under the Securities Act of 1933, as amended, or the Securities Act. If we do not comply with these registration obligations, we will be required to pay liquidated damages to the holder of the notes or the common stock issuable upon conversion of the notes. See "Description of the Notes--Registration Rights."

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Certain holders of our common stock have also included shares held by them in the shelf registration statement of which this prospectus forms a part. Generally, these shares of common stock will be included in the registration statement only until September 17, 2002.

Use of proceeds..... We will not receive any of the proceeds from the sale of any securities offered by this prospectus.

Trading..... The notes are currently trading in the PORTAL market. Notes sold by means of this prospectus will not be eligible for trading in the PORTAL market. We do not intend to list the notes for trading on any national securities exchange or on the Nasdaq National Market.

Our common stock is quoted on the Nasdaq National Market under the symbol "VECO."

Risk factors..... See "Risk Factors" and the other information included or incorporated by reference in this prospectus for a discussion of factors you should consider carefully before deciding to invest in the notes or shares of our common stock.

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RATIO OF EARNINGS TO FIXED CHARGES

Our ratio of earnings to fixed charges for each of the periods indicated is as follows:

| | FISCAL YEAR ENDED DECEMBER | | |
|---|----------------------------|------|-------|
| | 1997 | 1998 | 1999 |
| Ratio of earnings to fixed charges..... | 14.9x | 6.2x | 10.3x |

The ratio of earnings to fixed charges is computed by dividing our income before provision for income taxes, discontinued operations and cumulative effect of change in accounting principle plus fixed charges, by fixed charges. Fixed charges consist of interest expense, the portion of rental expense under operating leases we deem to be representative of interest and amortization of debt issue costs.

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RISK FACTORS

AN INVESTMENT IN THE SECURITIES OFFERED BY THIS PROSPECTUS INVOLVES A HIGH DEGREE OF RISK. YOU SHOULD CAREFULLY CONSIDER THE FOLLOWING FACTORS AND THE OTHER INFORMATION INCLUDED AND INCORPORATED BY REFERENCE IN THIS PROSPECTUS BEFORE DECIDING TO PURCHASE THE NOTES OR SHARES OF OUR COMMON STOCK. THESE RISKS AND UNCERTAINTIES ARE NOT THE ONLY ONES WE FACE. OTHERS THAT WE DO NOT KNOW ABOUT, OR THAT WE DO NOT NOW THINK ARE IMPORTANT, MAY IMPAIR OUR BUSINESS OR THE TRADING PRICE OF OUR NOTES OR OUR COMMON STOCK.

RISKS RELATED TO OUR BUSINESS

WE DEPEND ON THE MICROELECTRONICS INDUSTRY. THE CYCLICALITY OF THE DATA STORAGE, TELECOMMUNICATIONS/ WIRELESS SEMICONDUCTOR, RESEARCH AND INDUSTRIAL INDUSTRIES DIRECTLY AFFECTS OUR BUSINESS.

Veeco's business depends in large part upon the capital expenditures of data storage, telecommunications/wireless and semiconductor manufacturers, as well as research and industrial customers, which accounted for the following percentages of our net sales for the periods indicated:

YEAR ENDED
DECEMBER 31,

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| | 1999 | 2000 | 2001 |
|----------------------------------|------|------|------|
| Data storage..... | 66% | 44% | 31% |
| Telecommunications/Wireless..... | 7% | 23% | 30% |
| Semiconductor..... | 11% | 14% | 17% |
| Research and Industrial..... | 16% | 19% | 22% |

The data storage, telecommunications/wireless, semiconductor, research and industrial industries are cyclical. These industries have experienced significant economic downturns at various times in the last decade, characterized by diminished product demand, accelerated erosion of average selling prices and production overcapacity. A downturn in one or more of these industries or the businesses of one or more of our customers could have a material adverse effect on our business, prospects, financial condition and operating results.

The current global downturn in general economic conditions and in the markets for our customers' products is resulting in a reduction in demand for some of our products, and during this downturn and any subsequent downturns we cannot assure you that our sales or margins will not decline. As a capital equipment provider, our revenues depend in part on the spending patterns of our customers, who often delay expenditures or cancel orders in reaction to variations in their businesses or general economic conditions. Because a high proportion of our costs are fixed, our ability to reduce expenses quickly in response to revenue short-falls is limited. In a prolonged economic downturn, we may not be able to reduce our significant fixed costs, such as continued investment in research and development or capital equipment requirements. In addition, during an economic downturn we may experience delays in collecting receivables, which may impose constraints on our working capital.

OUR QUARTERLY OPERATING RESULTS FLUCTUATE SIGNIFICANTLY.

Our quarterly results have fluctuated significantly in the past and we expect this trend to continue. Factors which affect our quarterly results include:

- cyclical patterns of capital spending by customers,
- changes in the market for personal computers, network servers, telecommunication/wireless devices or other products incorporating telecommunications/wireless, data storage or semiconductor/research technology,
- market acceptance of our systems and our customers' products,
- specific economic conditions in the telecommunications/wireless, data storage or semiconductor/ research industries,
- our acquisitions and financings,

- changes in product mix,

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- the timing of significant orders and customer acceptance of our products,
- the introduction of new products and technological innovations by us and our competitors,
- production and quality problems and resulting shipment delays,
- changes in the cost of materials, and
- disruption in our sources of supply.

Many of these factors are beyond our control. If our new orders, net sales or operating results in a particular quarter do not meet expectations, our stock price may be adversely affected.

OUR CUSTOMERS MAY BE ADVERSELY AFFECTED BY RAPID TECHNOLOGICAL CHANGE AND WE MAY BE UNABLE TO MAINTAIN TIMELY PRODUCT INTRODUCTION.

The data storage, telecommunications/wireless, semiconductor manufacturing, research and industrial industries are subject to rapid technological change and new product introductions and enhancements. Our ability to remain competitive will depend in part upon our ability to develop in a timely and cost effective manner new and enhanced systems at competitive prices and to accurately predict technology transitions. In addition, new product introductions or enhancements by our competitors could cause a decline in sales or loss of market acceptance of our existing products. Increased competitive pressure could also lead to intensified price competition resulting in lower margins, which could materially and adversely affect our business, prospects, financial condition and operating results. Our success in developing, introducing and selling new and enhanced systems depends upon a variety of factors, including:

- our product offerings,
- timely and efficient completion of product design and development,
- timely and efficient implementation of manufacturing processes,
- effective sales, service and marketing, and
- product performance in the field.

Because new product development commitments must be made well in advance of sales, new product decisions must anticipate both the future demand for the products under development and the equipment required to produce such products. We cannot be certain that we will be successful in selecting, developing, manufacturing and marketing new products or in enhancing existing products.

OUR BUSINESS AND FINANCIAL RESULTS FOR A PARTICULAR PERIOD COULD BE MATERIALLY AND ADVERSELY AFFECTED IF ORDERS ARE CANCELLED OR RESCHEDULED OR IF AN ANTICIPATED ORDER FOR EVEN ONE SYSTEM IS NOT RECEIVED IN TIME TO PERMIT SHIPPING DURING THE PERIOD.

Customer purchase orders are subject to cancellation or rescheduling by the customer, generally with limited or no penalties. Therefore, backlog at any particular date is not necessarily representative of actual sales for any succeeding period. In addition, we derive a substantial portion of our net sales

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in any fiscal period from the sale of a relatively small number of high-priced systems. As a result, the timing of recognition of revenue for a single transaction could have a material effect on our sales and operating results for a particular fiscal period.

WE DEPEND ON A LIMITED NUMBER OF CUSTOMERS THAT OPERATE IN HIGHLY CONCENTRATED INDUSTRIES.

We rely on our principal customers for a significant portion of our sales. Based on sales, Seagate Technology, Inc. and International Business Machines Corporation, or IBM, are our top two customers.

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The following table sets forth the percentage of our net sales to Seagate and IBM (our only customers with sales greater than 10% in any of the past three years) for the following periods:

| | YEAR ENDED DECEMBER 31, | | |
|--------------|----------------------------|------|------|
| | 1999 | 2000 | 2001 |
| Seagate..... | 20% | 18% | 7% |
| IBM..... | 13% | 4% | 9% |

If any principal customer discontinues its relationship with us or suffers economic setbacks, our business, prospects, financial condition and operating results could be materially and adversely affected. Our ability to increase sales in the future will depend in part upon our ability to obtain orders from new customers. We cannot be certain that we will be able to do so. In addition, because a relatively small number of large manufacturers, many of whom are our customers, dominate the industries in which they operate, it may be especially difficult for us to replace these customers if we lose their business. A substantial portion of orders in our backlog are orders from our principal customers.

VARIATIONS IN THE AMOUNT OF TIME IT TAKES FOR US TO SELL OUR SYSTEMS MAY CAUSE FLUCTUATIONS IN OUR OPERATING RESULTS.

Variations in the length of our sales cycles could cause our net sales, and therefore our business, financial condition, operating results and cash flows, to fluctuate widely from period to period. These variations often are based upon factors partially or completely outside our control. The factors that affect the length of time it takes us to complete a sale depend upon many elements, including:

- the efforts of our sales force and our independent sales representatives,
- the history of previous sales to a customer,
- the complexity of the customer's fabrication processes,

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- the internal technical capabilities and sophistication of the customer, and
- the capital expenditure budget cycle of our customers.

As a result of these and a number of other factors that influence our sales cycles with particular customers, the period between our initial contact with a potential customer and the time when we recognize revenue from that customer, if ever, varies widely. Our sales cycle typically can range up to twelve months. Sometimes our sales cycle can be much longer, particularly when the sales cycle involves developing new applications for our systems and technology. During these cycles, we commit substantial resources to our sales efforts before receiving any revenue, and we may never receive any revenue from a customer despite these sales efforts.

In addition to lengthy and sometimes unpredictable sales cycles, the build cycle, or the time it takes us to build a product to customer specifications, typically ranges from one to six months. During this period, the customer may cancel its order, although generally it will be required to pay us a fee based on which stage of the build cycle we have completed.

For many of our products, after a customer purchases one of our systems we provide an acceptance period during which the customer may evaluate the performance of the system and potentially reject the system. In addition, customers often evaluate the performance of one of our systems for a lengthy period before purchasing any additional systems. The number of additional products a customer may purchase from us, if any, often depends on many factors that are difficult for us to predict accurately, including a customer's capacity requirements and changing market conditions for its products. As a result of these evaluation periods and other factors, the period between a customer's initial purchase and subsequent purchases, if any, often varies widely, and variations in length of this period can cause further fluctuations in our operating results.

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WE CANNOT BE CERTAIN THAT WE WILL BE ABLE TO COMPETE SUCCESSFULLY IN OUR HIGHLY COMPETITIVE INDUSTRIES.

The industries in which we operate are intensely competitive. Established companies, both domestic and foreign, compete with each of our product lines. Many of our competitors have greater financial, engineering, manufacturing and marketing resources than us. A substantial investment is required by customers to install and integrate capital equipment into a production line. As a result, once a manufacturer has selected a particular vendor's capital equipment, we believe that the manufacturer generally relies upon that equipment for the specific production line application and frequently will attempt to consolidate its other capital equipment requirements with the same vendor. Accordingly, if a particular customer selects a competitor's capital equipment, we expect to experience difficulty selling to that customer for a significant period of time. We believe that our ability to compete successfully depends on a number of factors both within and outside of our control, including:

- price,
- product quality,
- breadth of product line,

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- system performance,
- cost of ownership,
- global technical service and support, and
- success in developing or otherwise introducing new products.

We cannot be certain that we will be able to compete successfully in the future.

WE ARE EXPOSED TO THE RISKS OF OPERATING A GLOBAL BUSINESS, INCLUDING RISKS ASSOCIATED WITH EXCHANGE RATE FLUCTUATIONS AND LEGAL AND REGULATORY CHANGES.

In 2000, approximately 50% of our total net sales were generated from sales outside the United States, and in 2001, approximately 46% of our total net sales were generated from sales outside the United States. We expect sales from non-U.S. markets to continue to represent a significant, and possibly increasing portion of our total sales in the future. Our non-U.S. sales and operations are subject to risks inherent in conducting business abroad, many of which are outside our control, including:

- periodic economic downturns and unstable political environments,
- price and currency exchange controls,
- fluctuations in the relative values of currencies,
- difficulties protecting intellectual property,
- unexpected changes in trading policies, regulatory requirements, tariffs and other barriers, and
- difficulties in managing a global enterprise, including staffing, collecting accounts receivable, managing distributors and representatives and repatriation of earnings.

Changes in the relative values of currencies occur from time to time and may, in some instances, have a material effect on our results of operations. In particular, a weakening of the euro or the yen could result in a weakening of our overall financial results. Although we attempt to mitigate our exposure to fluctuations in currency exchange rates, these hedging activities may not always be available or adequate to eliminate, or even mitigate, the impact of our exchange rate exposure. As a result of this exchange rate exposure, as well as the other factors listed above, we may experience a material adverse effect upon our business, prospects, financial condition and operating results.

OUR OPERATING RESULTS ARE INFLUENCED BY THE PERFORMANCE OF ASIAN ECONOMIES, WHICH HAVE EXPERIENCED SIGNIFICANT DOWNTURNS DURING THE PAST FEW YEARS.

In recent years, Asian economies (including Japan) have been highly volatile and recessionary, resulting in significant fluctuations in local currencies and other instabilities. Approximately 35% of our sales in 2000 and approximately 28% of our sales in 2001 were derived from this region. Instabilities in Asian economies (including Japan) may continue and recur again in the future, which could have a material adverse effect on our business, prospects, financial

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condition and operating results. Our exposure to the business risks presented by Asian economies (including Japan) will increase to the extent we continue to expand our operations in that region.

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WE MAY BE SUBJECT TO CLAIMS OF INTELLECTUAL PROPERTY INFRINGEMENT.

Several of our competitors hold patents covering a variety of technologies included in some of our products. In addition, some of our customers may use our microelectronics products for applications that are similar to those covered by these patents. From time to time, we and our customers have received correspondence from our competitors claiming that some of our products, as used by our customers, may be infringing one or more of these patents. As of the date of this prospectus, none of these allegations has resulted in litigation. Competitors or others may, however, assert infringement claims against us or our customers in the future with respect to current or future products or uses, and these assertions may result in costly litigation or require us to obtain a license to use intellectual property rights of others. If claims of infringement are asserted against our customers, those customers may seek indemnification from us for damages or expenses they incur.

If we become subject to infringement claims, we will evaluate our position and consider the available alternatives, which may include seeking licenses to use the technology in question or defending our position. These licenses, however, may not be available on satisfactory terms or at all. If we are not able to negotiate the necessary licenses on commercially reasonable terms or successfully defend our position, it could have a material adverse effect on our business, prospects, financial condition and operating results.

WE ARE EXPOSED TO THE RISKS THAT THIRD PARTIES MAY VIOLATE OUR PROPRIETARY RIGHTS AND OUR INTELLECTUAL PROPERTY RIGHTS MAY NOT BE WELL PROTECTED IN FOREIGN COUNTRIES.

Our success depends on the protection of our proprietary rights. In our industry, intellectual property is an important asset that is always at risk of infringement. We incur costs to obtain and maintain patents and defend our intellectual property. We rely upon the laws of the United States and of other countries in which we develop, manufacture or sell our products to protect our proprietary rights. However, these proprietary rights may not provide the competitive advantages that we expect, or other parties may challenge, invalidate or circumvent these rights.

Further, our efforts to protect our intellectual property may be less effective in some countries where intellectual property rights are not as well protected as in the United States. Many U.S. companies have encountered substantial problems in protecting their proprietary rights against infringement in foreign countries. We derived approximately 50% of our sales from foreign countries in 2000, and approximately 46% of our sales from foreign countries in 2001. If we fail to adequately protect our intellectual property in these countries, it could be easier for our competitors to sell competing products.

THE LOSS OF KEY MANAGEMENT OR OUR INABILITY TO ATTRACT AND RETAIN SUFFICIENT NUMBERS OF MANAGERIAL, ENGINEERING AND OTHER TECHNICAL PERSONNEL COULD HAVE A MATERIAL ADVERSE EFFECT ON OUR BUSINESS.

Our continued success depends, in part, upon key managerial, engineering and technical personnel as well as our ability to continue to attract and retain additional personnel. In particular, we depend on our Chairman, President and Chief Executive Officer, Edward H. Braun. The loss of key personnel could have a material adverse effect on our business, prospects, financial condition or operating results. We may not be able to retain our key managerial, engineering

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and technical employees. Our growth is dependent on our ability to attract new highly skilled and qualified technical personnel, in addition to personnel that can implement and monitor our financial and managerial controls and reporting systems. Attracting qualified personnel is difficult, and we cannot assure you that our recruiting efforts to attract and retain these personnel will be successful.

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OUR RECENT ACQUISITIONS, AS WELL AS ADDITIONAL ACQUISITIONS IN THE FUTURE, SUBJECT US TO RISKS ASSOCIATED WITH INTEGRATING THESE BUSINESSES INTO OUR BUSINESS.

We have made significant acquisitions during the past five years. In addition, we may make acquisitions of, or significant investments in, other businesses in the future. Acquisitions involve numerous risks, many of which are unpredictable and beyond our control, including:

- difficulties and increased costs in connection with integration of the personnel, operations, technologies and products of acquired companies,
- diversion of management's attention from other operational matters,
- the potential loss of key employees of acquired companies,
- lack of synergy, or inability to realize expected synergies, resulting from the acquisition, and
- acquired assets becoming impaired as a result of technological advancements or worse-than-expected performance by the acquired company.

Our inability to effectively manage these acquisition risks could materially and adversely affect our business, prospects, financial condition and operating results.

In addition, if we issue equity securities to pay for an acquisition, the ownership percentage of our then-existing shareholders would be reduced and the value of the shares held by our then-existing shareholders could be diluted, which could affect the trading price of our common stock and of the subordinated notes. If we use cash to pay for an acquisition, the payment could significantly reduce the cash that would be available to fund our operations or to use for other purposes, including making payments on the notes. Also, acquisition financing may not be available on favorable terms or at all. Future acquisitions may also require us to assume contingent liabilities that could have a material adverse effect on our business, prospects, financial condition or operating results.

WE MAY NOT OBTAIN SUFFICIENT AFFORDABLE FUNDS TO FUND OUR FUTURE NEEDS FOR MANUFACTURING CAPACITY AND RESEARCH AND DEVELOPMENT.

We need to continue to make significant capital expenditures to expand our operations and to enhance our manufacturing capability to keep pace with rapidly changing technologies. Also, our industry is characterized by the need for continued investment in research and development. If we fail to invest sufficiently in research and development, our products could become less attractive to potential customers. As a result of our emphasis on research and development and technological innovation, our operating costs may increase in the future. We expect our research and development expenses to increase as a percentage of our net sales for the foreseeable future. During the past few years, the markets for equity and debt securities have fluctuated significantly,

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especially with respect to technology-related companies, and during some periods offerings of those securities have been extremely difficult to complete. As a result, in the future we may not be able to obtain the additional funds required to fund our operations and invest sufficiently in research and development on reasonable terms, or at all. Such a lack of funds could have a material adverse effect on our business, prospects, financial condition and operating results.

WE ARE SUBJECT TO COSTS AND OTHER RISKS ASSOCIATED WITH NON-COMPLIANCE WITH ENVIRONMENTAL REGULATIONS.

We are subject to environmental regulations related to the disposal of hazardous wastes used in the development and manufacturing of our products. The failure or inability to comply with existing or future environmental regulations could result in significant remediation liabilities, the imposition of fines or the suspension or termination of production, each of which could have a material adverse effect on our business, prospects, financial condition and operating results.

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BECAUSE WE DO NOT HAVE LONG-TERM CONTRACTS WITH OUR CUSTOMERS, OUR CUSTOMERS MAY CEASE PURCHASING OUR PRODUCTS AT ANY TIME IF WE FAIL TO MEET THEIR NEEDS.

We do not have long-term contracts with our customers. As a result, our agreements with our customers do not provide any assurance of future sales. Accordingly:

- our customers can cease purchasing our products at any time without penalty,
- our customers are free to purchase products from our competitors,
- we are exposed to competitive price pressure on each order, and
- our customers are not required to make minimum purchases.

RISKS RELATED TO THE SECURITIES

BECAUSE THE NOTES ARE SUBORDINATED TO OUR SENIOR DEBT OBLIGATIONS, WE MAY NOT HAVE SUFFICIENT FUNDS TO PAY OUR OBLIGATIONS UNDER THE NOTES IF WE ENCOUNTER FINANCIAL DIFFICULTIES.

The notes are unsecured (other than by the U.S. government securities we pledged for the benefit of the noteholders) and are subordinated in right of payment in full to all of our existing and future senior indebtedness. As a result, in the event of our bankruptcy, liquidation or reorganization or upon acceleration of the notes due to an event of default under the indenture and in certain other events, our assets will be available to pay obligations on the notes only after all senior indebtedness has been paid in full in cash. After retiring our senior indebtedness, we may not have sufficient assets remaining to pay amounts due on any or all of the notes then outstanding. If the notes are accelerated because of an event of default, holders of any senior indebtedness will be entitled to payment in full in cash or other payment satisfactory to holders of all senior indebtedness before the holders of the notes are entitled to receive any payment or distribution.

The notes are also effectively subordinated to all existing and future indebtedness and other liabilities of our subsidiaries. Our right to receive

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assets of a subsidiary upon its liquidation or reorganization, and therefore the right of the holders of the notes to participate in those assets, will be subject to the claims of that subsidiary's creditors.

As of December 31, 2001, excluding intercompany indebtedness, we, excluding our subsidiaries, had no senior indebtedness outstanding, and our subsidiaries had liabilities of approximately \$82.0 million, including approximately \$19.0 million of indebtedness for borrowed money. We can, however, borrow up to \$100 million under our revolving credit facility (less the face amount of any letters of credit outstanding under that facility). Although no borrowings under this facility were outstanding as of December 31, 2001 or are outstanding under this facility as of the date of this prospectus, any future amounts we borrow under this facility would be senior indebtedness.

The indenture governing the notes does not prohibit or limit our ability or the ability of our subsidiaries to incur additional senior indebtedness, other debt obligations or other liabilities. Our incurrence of additional debt and other liabilities could adversely affect our ability to pay our obligations under the notes. See "Description of the Notes--Subordination of Notes."

THE HOLDERS OF THE NOTES ARE NOT PROTECTED BY RESTRICTIVE COVENANTS.

The indenture governing the notes does not contain any financial or operating covenants or restrictions on the payments of dividends, the incurrence of indebtedness or the issuance or repurchase of securities by us or any of our subsidiaries. The indenture contains no covenants or other provisions to afford protection to holders of the notes in the event of a change in control involving Veeco, except for the change in control repurchase right described under "Description of the Notes--Repurchase at

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Option of Holders Upon a Change in Control." There are certain transactions which might otherwise be considered a change in control that would not, under the indenture, constitute a change in control that permits you to require us to repurchase your notes, but that could result in a change in our management or an increase in our indebtedness.

WE MAY NOT HAVE SUFFICIENT FUNDS OR MAY BE RESTRICTED IN OUR ABILITY TO REPURCHASE THE NOTES UPON A CHANGE IN CONTROL.

The indenture governing the notes contains provisions that apply to a change in our control. You may require us to repurchase all or any portion of your notes upon a change in control. We may not have sufficient funds to repurchase the notes upon a change in control. Our future debt agreements may prohibit us from paying the repurchase price. If we are prohibited from repurchasing the notes, we could seek consent from our lenders to repurchase the notes. If we are unable to obtain consent, we could attempt to refinance the notes or our senior indebtedness. If we are unable to obtain a consent or refinance, we would be prohibited from repurchasing the notes. If we are unable to repurchase the notes upon a change in control, it would result in an event of default under the indenture. An event of default under the indenture could result in a further event of default under our other then-existing debt. In addition, the occurrence of the change in control may be an event of default under our other debt. In these circumstances, we would be prohibited from paying amounts due on the notes under the subordination provisions of the indenture. Our ability to repurchase the notes in such event may be limited by law, the indenture, or the terms of other agreements relating to our senior indebtedness. Although we are permitted to pay the repurchase price for notes in common stock if we satisfy certain conditions set forth in the indenture, we cannot assure you that we will satisfy those conditions.

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OUR ISSUANCE OF THE NOTES SUBSTANTIALLY INCREASED OUR INDEBTEDNESS, WHICH COULD ADVERSELY AFFECT OUR BUSINESS.

As a result of the sale of the notes, we incurred \$220 million of additional indebtedness. This additional indebtedness substantially increased our ratio of debt to total capitalization and significantly increased our interest expense and related debt service costs. We may incur substantial additional indebtedness in the future. The level of our indebtedness, among other things, could:

- make it difficult for us to make payments on the notes,
- make it difficult for us to obtain any necessary future financing for working capital, capital expenditures, debt service requirements, acquisitions or other purposes,
- limit our flexibility in planning for, or reacting to changes in, our business, and
- make us more vulnerable in the event of a downturn in our business.

WE CONDUCT A SUBSTANTIAL PORTION OF OUR OPERATIONS THROUGH OUR SUBSIDIARIES, WHICH MAY AFFECT OUR ABILITY TO MAKE PAYMENTS ON THE NOTES.

Our subsidiaries are separate and distinct legal entities. Our subsidiaries have no obligation to pay any amounts due on the notes. Our subsidiaries are not required to provide us with funds for our payment obligations, whether by dividends, distributions, loans or other payments. In addition, any payment of dividends, distributions, loans or advances by our subsidiaries to us may be subject to statutory or contractual restrictions. Payments to us by our subsidiaries will also be contingent upon our subsidiaries' earnings and business considerations.

Our right to receive any assets of any of our subsidiaries upon its liquidation or reorganization, and therefore the right of the holders of the notes to participate in those assets, will be effectively subordinated to the claims of that subsidiary's creditors, including trade creditors. In addition, even if we were a creditor of any of our subsidiaries, our rights as a creditor would be subordinate to any

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security interest in the assets of our subsidiaries and any indebtedness of our subsidiaries senior to that held by us.

AN ACTIVE TRADING MARKET MAY NOT DEVELOP FOR THE NOTES.

There is currently no public market for the notes. Although the notes that were sold to qualified institutional buyers under Rule 144A are eligible for trading on the PORTAL market, any notes resold under this prospectus will no longer trade on the PORTAL market. We cannot predict whether an active trading market for the notes will develop or, if such market develops, how liquid it will be. We do not intend to list the notes on any national or other securities exchange or on the Nasdaq National Market. If an active market for the notes fails to develop or to be sustained, the trading price of the notes could fall. Even if an active trading market were to develop, the notes could trade at prices that may be lower than the initial offering price of the notes, or the holders could experience difficulty or an inability to resell the notes. Whether or not the notes will trade at lower prices depends on many factors, including

- prevailing interest rates and the markets for similar securities,

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- general economic conditions, and
- the factors that affect the trading price of our common stock.

ANY ADVERSE RATING OF THE NOTES MAY CAUSE THEIR TRADING PRICE TO FALL.

In the future, one or more rating agencies may rate the notes. If any rating agency rates the notes, it may assign a lower rating than that which is expected by investors. A rating agency, following any initial or subsequent rating, may also lower ratings on the notes. If a rating agency assigns a lower than expected rating on the notes or reduces its rating on the notes in the future, the trading price of the notes could decline.

OUR STOCK PRICE HAS BEEN AND MAY CONTINUE TO BE VOLATILE.

The trading price of our common stock has been and may continue to be subject to large fluctuations. This could cause the trading price of the notes to fluctuate significantly as well, which may result in losses to investors in the notes. Our stock price may increase or decrease in response to a number of events and factors, including those described elsewhere in this Risk Factors section.

Part of this volatility in the trading price of our common stock is attributable to the current state of the stock market, in which wide price swings are common. This volatility in the stock market may adversely affect the trading prices of our common stock and the notes regardless of our business and operating performance.

OUR ARTICLES OF INCORPORATION, BY-LAWS, SHAREHOLDER RIGHTS PLAN AND DELAWARE LAW MAY HAVE ANTI-TAKEOVER EFFECTS WHICH WILL MAKE AN ACQUISITION OF OUR COMPANY BY ANOTHER COMPANY MORE DIFFICULT.

Our board of directors has the authority to issue up to 500,000 shares of preferred stock and to fix the rights, preferences, privileges and restrictions, including voting rights, of these shares without any further vote or action by the holders of our common stock. We have designated 30,000 of those shares as Series A Junior Preferred Stock for potential issuance under our shareholder rights plan described below. The rights of the holders of any preferred stock that may be issued in the future may adversely affect the rights of the holders of our common stock. The issuance of the preferred stock could have the effect of making it more difficult for a third party to acquire a majority of our outstanding voting stock, thereby delaying, deferring or preventing a change in control of Veeco that a holder of our common stock might consider in its best interest. Furthermore, such preferred stock may have other

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rights, including economic rights senior to our common stock and, as a result, the issuance of the preferred stock could have a material adverse effect on the market value of our common stock.

Our board of directors is divided into three classes of directors with staggered terms. The existence of a classified board may render certain hostile takeovers more difficult and make it more difficult for a third party to acquire control of Veeco in certain instances, thereby delaying, deferring or preventing a change in control of Veeco that a holder of our common stock might consider in its best interest. Further, if shareholders are dissatisfied with the policies and/or decisions of our board of directors, the existence of a classified board will make it more difficult for the shareholders to change the composition (and

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therefore the policies) of our board of directors in a relatively short period of time.

We have adopted a shareholder rights plan, under which we have granted to our shareholders rights to purchase shares of junior participating preferred stock. These rights could generally discourage a merger or tender offer for our common stock that is not approved by our board of directors by increasing the cost of effecting any such transaction and, accordingly, could have an adverse impact on a takeover attempt that a shareholder of Veeco might consider to be in its best interest.

Furthermore, we have adopted and may in the future adopt certain other measures that may have the effect of delaying, deferring or preventing a change in control of Veeco. Certain of such measures may be adopted without any further vote or action by the holders of our common stock. These measures may have anti-takeover effects, which may delay, defer or prevent a takeover attempt that a holder of our common stock might consider in its best interest. In addition, certain other provisions of our certificate of incorporation and bylaws relating to, without limitation, (a) actions required to be taken at a meeting of shareholders rather than by written consent, (b) the percentage of shareholders required to call a special meeting of shareholders, (c) a limitation on the maximum number of directors, (d) removal of directors only for "cause," and (e) the percentage of shareholders required to approve amendments to our bylaws, may have anti-takeover effects, which may delay, defer or prevent a takeover attempt that a holder of our common stock might consider in its best interest.

We are subject to the provisions of Section 203 of the General Corporation Law of Delaware, which prohibits a Delaware corporation from engaging in any "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. A "business combination" includes mergers, asset sales as well as certain transactions resulting in a financial benefit to the interested stockholder. Subject to certain exceptions, an "interested stockholder" is a person who, together with affiliates and associates, owns, or within three years did own, 15% or more of the corporation's voting stock. The operation of Section 203 may have anti-takeover effects, which may delay, defer or prevent a takeover attempt that a holder of our common stock might consider in its best interest.

A PROPOSED CHANGE IN THE ACCOUNTING TREATMENT FOR THE NOTES COULD REQUIRE US TO RECOGNIZE ADDITIONAL INTEREST EXPENSE.

The Financial Accounting Standards Board has proposed a change in financial accounting standards that would apply to securities such as the notes that have both debt and equity components. We do not know whether this proposed accounting standard will be adopted. If it is adopted in its current form, this proposed new accounting standard would require us to value the equity component of the notes separately from the debt component of the notes at the time of issuance. We would be deemed to have issued the notes at a discount equal to the amount of the equity value, and we would be required to recognize the total amount of this discount as additional interest expense over the life of the notes. As proposed, the standard would be effective for fiscal years starting after June 15, 2002 and would require us to record a cumulative effect adjustment for a change in accounting principle for the period from the date of issuance of the notes through the date we adopt the new accounting standard.

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FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein include

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or may include "forward-looking statements" within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. These forward-looking statements are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements may often, although not always, be identified by the use of words like "believes," "intends," "expects," "may," "will," "should" or "anticipates," or the negative equivalents of those words or comparable terminology, and by discussions of strategies that involve risks and uncertainties.

Given the risks and uncertainties of our business, including those set forth in the "Risk Factors" section of this prospectus, actual results may differ materially from those expressed or implied by forward-looking statements. In addition, we base forward-looking statements on assumptions about future events, which may not prove to be accurate. In light of these risks, uncertainties and assumptions, you should be aware that the forward-looking events we describe in this prospectus and in the documents we incorporate by reference may not occur. You should not place undue reliance on our forward-looking statements.

We cannot assure you that our future results, levels of activity and achievements will occur as we expect, and neither we nor any other person assumes responsibility for the accuracy and completeness of our forward-looking statements. We have no obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

USE OF PROCEEDS

The selling securityholders will receive all the proceeds from the sale of the notes and shares of our common stock sold under this prospectus. We will not receive any proceeds from the sale of these securities.

DESCRIPTION OF THE NOTES

We issued the notes under an indenture dated December 21, 2001 between us and State Street Bank and Trust Company, N.A., as trustee. The terms of the notes include those provided in the indenture and those provided in a registration rights agreement and a collateral pledge and security agreement, each of which we entered into on December 21, 2001. Copies of the form of the indenture, the form of note, the form of registration rights agreement and the form of collateral pledge and security agreement, each of which we describe below, are available upon request to us and are on file with the Commission.

We have summarized portions of the indenture, the notes, the registration rights agreement and the collateral pledge and security agreement below. This summary is not complete. We urge you to read these documents in their entirety because they define your rights as a holder of the notes. Terms not defined in this description have the meanings given to them in the indenture or the form of note, as the case may be.

In this section, "Veeco," "we," "our," or "us" each refers, unless the context otherwise requires, only to Veeco Instruments Inc. and not to any current or future subsidiaries of Veeco Instruments Inc.

GENERAL

The notes are general unsecured (except to the extent described under "--Security" below) obligations of Veeco and are subordinated in right of payment to certain of our other obligations as described under "--Subordination of Notes" below. The notes are convertible into our common stock

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as described under "--Conversion Rights" below. The notes are limited to \$220 million aggregate principal amount and will mature on December 21, 2008.

The notes bear interest at the rate of 4 1/8% per year from December 21, 2001. Interest is payable semiannually on June 21 and December 21 of each year, commencing June 21, 2002, to holders of record at the close of business on the preceding June 6 and December 6, respectively. Interest will be computed on the basis of a 360-day year comprised of twelve 30-day months. In the event of the maturity, conversion, purchase by us at the option of the holder or redemption of a note, interest will cease to accrue on the note under the terms of, and subject to the conditions of, the indenture.

Principal will be payable, and the notes may be presented for conversion, registration of transfer and exchange, without service charge, at our office or agency in New York City, which shall initially be the office or agency of the trustee in New York, New York. See "--Global Notes; Book-Entry; Form."

The indenture does not contain any financial covenants or restrictions on the payment of dividends, the repurchase of our securities or the incurrence of Senior Indebtedness, as defined below under "--Subordination of Notes," or any other indebtedness or other liabilities by us or any of our subsidiaries. The indenture also does not contain any covenants or other provisions to afford protection to holders of the notes in the event of a highly leveraged transaction or a change in control of Veeco, except to the extent described below under "--Repurchase at Option of Holders Upon a Change in Control."

SECURITY

We used a total of approximately \$25.9 million of the net proceeds from our sale of the notes to purchase U.S. government securities which we have pledged to the collateral agent under the collateral pledge and security agreement as security for the exclusive benefit of the holders of the notes (and not for the benefit of our other creditors). These U.S. government securities will be sufficient upon receipt of scheduled interest on and principal payments of such securities to provide for payment in full of the first six scheduled interest payments due on the notes.

The U.S. government securities have been pledged by us to the collateral agent for the exclusive benefit of the holders of the notes and are held by the collateral agent in a pledge account. Immediately prior to an interest payment date, the collateral agent will release from the pledge account proceeds sufficient to pay interest then due on the notes. A failure to pay interest on the notes when due through the first six scheduled interest payment dates will constitute an immediate event of default under the indenture, with no grace period.

The pledged U.S. government securities and the pledge account will also secure the repayment of the principal amount on the notes. If prior to December 21, 2004

- an event of default under the notes occurs and is continuing, and
- the trustee or the holders of 25% in aggregate principal amount of the notes accelerate the notes by declaring the principal amount of the notes to be immediately due and payable (by written consent, at a meeting of note holders or otherwise), except for the occurrence of an event of default relating to our bankruptcy, insolvency or reorganization, upon which event the notes will be accelerated automatically,

then the proceeds from the pledged U.S. government securities will be released for payment to note holders, subject to the automatic stay provisions of

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bankruptcy law, if applicable. Distributions from the pledge account will be applied

- first, to any accrued and unpaid interest on the notes, and
- second, to the repayment of a portion of the principal amount of the notes.

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However, if any event of default is cured prior to the acceleration of the notes by the trustee or holders of the notes as referred to above, the trustee and the holders of the notes will not be able to accelerate the notes as a result of that event of default.

For example, if the first two interest payments were made when due but the third interest payment was not made when due (which would constitute an event of default) and the note holders exercised their right to declare the principal amount of the notes to be immediately due and payable, then, assuming that the automatic stay provisions of bankruptcy law are inapplicable and the proceeds of the pledged U.S. government securities are distributed from the pledge account,

- an amount equal to the interest payment due on the third interest payment would be distributed from the pledge account as accrued interest, and
- the balance of the proceeds of the pledge account would be distributed in repayment of a portion of the principal amount of the notes.

In addition, note holders would have an unsecured claim against us for payment of the remainder of the principal amount of their notes.

Once we make the first six scheduled interest payments on the notes, any remaining pledged U.S. government securities will be released to us from the pledge account and thereafter the notes will be unsecured. If Veeco makes an interest payment directly to the trustee because assets are not released from the pledge account in time to make the payment, or if the interest on the notes is lower than we currently anticipate because the principal amount of the notes outstanding has been reduced (as a result of the conversion of any notes or our repurchase and cancellation of notes), then the scheduled interest on and principal of the pledged securities may exceed the amount payable on the remaining of the first six scheduled interest payments due on the notes. In that event, we will notify the collateral agent of the amount of the excess and the collateral agent will release the excess pledged securities to us in compliance with the provisions of the collateral pledge and security agreement. Ernst & Young LLP or another firm of nationally recognized public accountants will verify the mathematical accuracy of our computations as to the amount of any such excess, as required under the collateral pledge and security agreement.

We are obligated to pay reasonable compensation to the collateral agent and to indemnify the collateral agent against certain losses, liabilities or expenses incurred by it in connection with its duties under the collateral pledge and security agreement.

CONVERSION RIGHTS

You may, at any time prior to the close of business on the final maturity date of the notes, convert any outstanding notes, or portions thereof, into our common stock, initially at the conversion price set forth on the cover page of this prospectus, subject to adjustment as described below. However, if we call the notes for redemption, you may convert the notes only until the close of business on the business day preceding the day fixed for redemption, unless we fail to pay the redemption price. If you have submitted your notes for

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repurchase pursuant to a change in control repurchase right, you may convert your notes only if you withdraw your election to exercise your repurchase option in accordance with the terms of the indenture. You may convert your notes in part as long as that part is \$1,000 principal amount or a whole multiple of \$1,000.

Notes surrendered for conversion on a date that occurs between the close of business on any regular record date and the opening of business on the interest payment date to which it relates, except notes to be redeemed on a date within that period, must be accompanied by payment of an amount equal to the interest on the surrendered notes scheduled to be received by the holder on that interest payment date. No payment will be required from a holder if we exercise our right to redeem such notes. We are not required to issue fractional shares of common stock upon conversion of notes and

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instead will pay a cash adjustment based upon the market price of our common stock on the last business day before the date of conversion. In the case of notes called for redemption, conversion rights will expire at the close of business on the business day preceding the day fixed for redemption, unless we default in the payment of the redemption price. Notwithstanding the above, accrued but unpaid interest will be payable upon any conversion of notes at the option of the holder made concurrently with or after acceleration of the notes following an event of default described under "--Events of Default" below.

A holder may exercise the right of conversion by delivering the note to be converted to the specified office of a conversion agent, with a completed notice of conversion, together with any funds that may be required as described in the preceding paragraph. The conversion date will be the date on which the notes, the notice of conversion and any required funds have been so delivered. A holder delivering a note for conversion will not be required to pay any taxes or duties relating to the issuance or delivery of the common stock for such conversion, but will be required to pay any tax or duty which may be payable relating to any transfer involved in the issuance or delivery of the common stock in a name other than the holder of the note. Certificates representing shares of common stock will be issued or delivered only after all applicable taxes and duties, if any, payable by the holder have been paid. If any note is converted within two years after its original issuance, the common stock issuable upon conversion will not be issued or delivered in a name other than that of the holder of the note unless the applicable restrictions on transfer have been satisfied. Any notes or shares of common stock into which the notes are convertible that are resold under this prospectus should be freely tradable after such resale without restriction, unless the holder of the notes or shares is an "affiliate" of Veeco, as that term is defined under the Securities Act.

The initial conversion price will be adjusted as provided in the indenture for certain future events, including:

- (1) the issuance of our common stock as a dividend or a distribution on our common stock,
- (2) certain subdivisions or combinations of our common stock,
- (3) the issuance to all holders of our common stock of certain rights or warrants to purchase our common stock or securities convertible into our common stock at less than, or having a conversion price per share that is less than, the then current market price of our common stock,
- (4) dividends or other distributions to all holders of our common stock of shares of our capital stock, other than our common stock, or evidences of our indebtedness or our assets, including securities, but excluding

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- those rights and warrants referred to in clause (3) above, and
 - dividends and distributions in connection with a reclassification or change with respect to our common stock, merger, consolidation, statutory share exchange, other business combination, sale or conveyance resulting in a change in the conversion consideration, as described in the fourth succeeding paragraph below and dividends or distributions paid exclusively in cash,
- (5) dividends or other distributions consisting exclusively of cash to all holders of our common stock (excluding any cash that is distributed upon a reclassification or change of our common stock, merger, consolidation, statutory share exchange, other business combination, sale or conveyance resulting in a change in the conversion consideration, as described in the fourth succeeding paragraph below and subject to certain other limited exceptions) and purchases of our common stock pursuant to tender offers or exchange offers made by us or any of our subsidiaries where the sum of:

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- such dividends or other distributions within the preceding 12 months and in respect of which no prior adjustment under this clause (5) has been made, plus
- for each such tender offer and exchange offer, the excess of (i) the aggregate amount paid for the purchase of our common stock pursuant to such tender offer or exchange offer concluded within the preceding 12 months and in respect of which no prior adjustment under this clause (5) has been made over (ii) the product of (a) the average of the closing sales price of our common stock for each of the five trading days to and including the trading day immediately preceding the date of announcement of such tender offer or exchange offer multiplied by (b) the number of shares purchased pursuant to such tender offer or exchange offer,

exceeds 10% of our market capitalization at (x) if the event giving rise to this calculation is a dividend or other distribution, the record date for the dividend or other distribution in respect of which such sum is calculated or (y) if the event giving rise to this calculation is a tender offer or exchange offer, the close of the market on the trading day immediately preceding such announcement date for such tender offer or exchange offer in respect of which such sum is calculated. The term "market capitalization" means the product of the then current market price of our common stock and the number of shares of our common stock then outstanding.

In the event we pay a dividend or make a distribution on shares of our common stock consisting of capital stock of, or similar equity interests in (as described in clause (4) above), a subsidiary or other business unit of ours, the conversion rate will be adjusted based on the market value of the securities so distributed relative to the market value of our common stock, in each case based on the average sales price of those securities for the 10 trading days commencing on and including the fifth trading day after the date on which "ex-dividend trading" commences for such dividend or distribution on the Nasdaq National Market or such other national or regional exchange or market on which the securities are then listed or quoted.

No adjustment in the conversion price will be required unless such adjustment would require a change of at least 1% in the conversion price then in effect. Any adjustment that would otherwise be required to be made, but for the application of the immediately preceding sentence, will be carried forward and

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taken into account in any subsequent adjustment.

Under the indenture, if certain of the events described in clauses (1) through (5) above occur and, based on the facts and circumstances associated with such event an adjustment to the conversion price would not appropriately protect the holders of the notes from dilution, then the conversion price will not be adjusted, but rather, we must set aside cash, securities or other assets, as appropriate, at the time of the occurrence of the event, to be received by the holders of notes in the future upon conversion of their notes.

Except as stated above, the conversion price will not be adjusted for the issuance of common stock or any securities convertible into or exchangeable for our common stock or carrying the right to repurchase any of the foregoing.

In the case of:

- any reclassification or change of our common stock (other than changes resulting from a subdivision or combination),
- a consolidation, merger or other business combination involving us,
- a sale or conveyance to another entity of all or substantially all of our property and assets, or
- any statutory share exchange,

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in each case as a result of which holders of our common stock are entitled to receive stock, other securities, other property or assets (including cash or any combination thereof) with respect to or in exchange for our common stock, the holders of the notes then outstanding will be entitled thereafter to convert such notes into the kind and amount of shares of stock, other securities or other property or assets (including cash or any combination thereof) that they would have owned or been entitled to receive upon such reclassification or change of our common stock, consolidation, merger, combination, sale, conveyance or statutory share exchange had such notes been converted into our common stock immediately prior to such reclassification, change, consolidation, merger, combination, sale, conveyance or statutory share exchange. We may not become a party to any such transaction unless its terms are consistent with the foregoing.

If a taxable distribution to holders of our common stock or a transaction occurs that results in any adjustment of the conversion price, the holders of the notes may, in certain circumstances, be deemed to have received a distribution subject to United States federal income tax as a dividend. In certain other circumstances, the absence of such an adjustment may result in a taxable dividend to the holders of common stock. See "Material United States Federal Income Tax Considerations."

We may from time to time, to the extent permitted by law, reduce the conversion price applicable to the notes by any amount for any period of at least 20 days if our board of directors determines in good faith that the reduction is in the best interests of Veeco. In that case, we will give at least 15 days' notice of such reduction. We may make such reduction in the conversion price, in addition to those set forth above, as our board of directors deems advisable to avoid or diminish any income tax to holders of our common stock resulting from any dividend or distribution of stock or rights to acquire stock or from any event treated as such for income tax purposes. See "Material United States Federal Income Tax Considerations."

OPTIONAL REDEMPTION

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There is no sinking fund for the notes. On or after December 21, 2004, we will be entitled to redeem some or all of the notes on at least 20 but not more than 60 days' notice to the holders, at the redemption price set forth below, together with accrued and unpaid interest to, but not including, the redemption date. However, if a redemption date is any date after a record date but on or prior to the related interest payment date, the semiannual payment of interest becoming due on such date will be payable to the holder of record as of the relevant record date and the redemption price will not include such interest payment.

The table below sets forth redemption prices of a note per \$1,000 principal amount if redeemed during the periods described below:

| PERIOD | REDEMPTION PRICE |
|--|---------------------|
| December 21, 2004 through December 20, 2005..... | 102.36% |
| December 21, 2005 through December 20, 2006..... | 101.77% |
| December 21, 2006 through December 20, 2007..... | 101.18% |
| Thereafter..... | 100.59% |

If we redeem some but not all of the notes, the trustee will select the notes to be redeemed in principal amounts of \$1,000 or whole multiples of \$1,000 by lot, on a pro rata basis or in accordance with any other method the trustee considers fair and appropriate. If any notes are to be redeemed in part only, a new note or notes in principal amount equal to the unredeemed principal portion thereof will be issued. If a portion of a holder's notes is selected for partial redemption and the holder converts a portion of its notes, the converted portion will be deemed to be taken from the portion selected for redemption.

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REPURCHASE AT OPTION OF HOLDERS UPON A CHANGE IN CONTROL

If a change in control occurs, each holder of notes will have the right to require us to repurchase all of such holder's notes not previously called for redemption, or any portion of those notes in principal amounts of \$1,000 or whole multiples of \$1,000, on the date that is 45 business days after the date we give notice of the change in control at a repurchase price equal to 100% of the principal amount of the notes to be repurchased together with interest accrued and unpaid to, but excluding, the repurchase date; provided that, if such repurchase date occurs between the close of business on any regular record date and the opening of business on the interest payment date to which it relates, then the interest payable on such interest payment date will be paid to the holder of record of the notes on the relevant record date.

Instead of paying the repurchase price in cash, we may pay the repurchase price in common stock if we so elect in the notice referred to below. The number of shares of common stock a holder will receive will equal the repurchase price divided by 95% of the average of the closing sales prices of our common stock for the five consecutive trading days immediately preceding and including the third trading day prior to the repurchase date. However, we may not pay in common stock unless we satisfy certain conditions prior to the repurchase date as provided in the indenture. The common stock used to pay the repurchase price may be the common stock of the successor or purchasing corporation in the change

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in control.

Within 30 business days after the change in control, we are required to give notice to all holders of record of notes, as provided in the indenture, of the occurrence of the change in control and of their resulting repurchase right. We must also deliver a copy of our notice to the trustee. In order to exercise the repurchase right, a holder of notes must deliver, on or before the 30th day after the date of our notice of the change in control, written notice to the trustee of the holder's exercise of its repurchase right, together with the notes with respect to which the right is being exercised.

Under the indenture, a "change in control" of Veeco will be deemed to have occurred at such time after the original issuance of the notes when the following has occurred:

- the acquisition, as evidenced by the filing with the Commission of an executed report on Schedule 13D, by any person, including any syndicate or group deemed to be a "person" under Section 13(d)(3) of the Exchange Act, of beneficial ownership (determined in accordance with Rule 13d-3 under the Exchange Act), directly or indirectly, through a purchase, merger or other acquisition transaction or series of transactions, of shares of our capital stock entitling that person to exercise 50% or more of the total voting power of all shares of our capital stock entitled to vote generally in elections of directors, other than any acquisition by us, any of our subsidiaries or any of our employee benefit plans,
- our consolidation or merger with or into any other person, any merger of another person into us, or any conveyance, transfer, sale, lease or other disposition of all or substantially all of our properties and assets to another person, other than:
 - any transaction (A) that does not result in any reclassification, conversion, exchange or cancellation of outstanding shares of our capital stock or (B) pursuant to which holders of our capital stock immediately prior to the transaction are entitled to exercise, directly or indirectly, 50% or more of the total voting power of all shares of our capital stock entitled to vote generally in the election of directors of the continuing or surviving person immediately after the transaction, or
 - any merger solely for the purpose of changing our jurisdiction of incorporation and resulting in a reclassification, conversion or exchange of outstanding shares of common stock solely into shares of common stock of the surviving entity,

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- during any consecutive two-year period, individuals who at the beginning of that two-year period constituted our board of directors (together with any new directors whose election to our board of directors, or whose nomination for election by our shareholders, was approved by a vote of a majority of the directors who were either directors at the beginning of such period or whose election or whose nomination for election was approved by the board of directors or a nominating committee thereof, the majority of the members of which meet the above criteria) cease for any reason to constitute a majority of our board of directors then in office, or
- we are liquidated or dissolved or our shareholders pass a resolution approving a plan of liquidation or dissolution.

Notwithstanding anything to the contrary set forth above, none of the

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foregoing events shall constitute a change in control if they occur in connection with a merger, consolidation, sale of all or substantially all of the assets of Veeco (whether or not followed by a liquidation or dissolution of Veeco) or similar business combination transaction, if all of the consideration received by holders of our common stock immediately prior to consummation of the transaction (excluding cash payments for fractional shares and for shares held by holders exercising statutory dissenters' rights) consists of common stock traded on a United States national securities exchange or quoted on the Nasdaq National Market, or which will be so traded or quoted when issued or exchanged in connection with such business combination transaction, and as a result of such transaction the notes become convertible solely into such common stock.

Rule 13e-4 under the Exchange Act requires the dissemination of information to security holders if an issuer tender offer occurs and may apply if the repurchase option becomes available to holders of the notes. We will comply with this rule to the extent applicable at that time.

To the extent permitted by applicable law, we may at any time purchase notes in the open market or by tender at any price or by private agreement. Any note so purchased by us may, to the extent permitted by applicable law, be reissued or resold or may be surrendered to the trustee for cancellation. Any notes surrendered to the trustee may not be reissued or resold and will be canceled.

Our ability to repurchase notes upon the occurrence of a change in control is subject to important limitations. The occurrence of a change in control could cause an event of default under, or be prohibited or limited by, the terms of existing or future Senior Indebtedness. As a result, any repurchase of the notes would, absent a waiver, be prohibited under the subordination provisions of the indenture until the Senior Indebtedness is paid in full in cash. Further, we cannot assure you that we would have the financial resources, or would be able to arrange financing, to pay the repurchase price for all the notes that might be delivered by holders of notes seeking to exercise the repurchase right. Any failure by us to repurchase the notes when required following a change in control would result in an event of default under the indenture, whether or not such repurchase is permitted by the subordination provisions of the indenture. Any such default may, in turn, cause a default under existing or future Senior Indebtedness. See "--Subordination of Notes" below.

SUBORDINATION OF NOTES

The payment of the principal of, premium, if any, and interest on the notes is subordinated in right of payment, as set forth in the indenture, to the prior payment in full, in cash, of all Senior Indebtedness, whether outstanding on the date of the indenture or incurred after that date. The notes also are effectively subordinated to all indebtedness and other liabilities, including trade payables and lease obligations, of our subsidiaries.

In the event of any acceleration of the notes because of an event of default, the holders of any Senior Indebtedness then outstanding would be entitled to payment in full, in cash or other payment satisfactory to the holders of Senior Indebtedness, of all obligations with respect to such Senior

Indebtedness before the holders of notes are entitled to receive any payment or other distribution, except with respect to the U.S. government securities pledged as security for the notes as described above in "--Security." We are required under the indenture to promptly notify holders of Senior Indebtedness if payment of the notes is accelerated because of an event of default.

In the event of any insolvency or bankruptcy case or proceeding, or any receivership, liquidation, reorganization or other similar case or proceeding in

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connection therewith, relating to Veeco or to its assets, or any liquidation, dissolution or other winding-up of Veeco, whether voluntary or involuntary, or any assignment for the benefit of creditors or other marshaling of assets or liabilities of Veeco, except in connection with the consolidation or merger of Veeco or its liquidation or dissolution following the conveyance, transfer or lease of its properties and assets substantially upon the terms and conditions described under "--Consolidation, Mergers and Sales of Assets" below, the holders of Senior Indebtedness will be entitled to receive the payment in full in cash of all Senior Indebtedness, or provision must be made for such payment in full in cash, before the holders of notes will be entitled to receive any payment or distribution of any kind or character, other than with respect to the U.S. government securities pledged as security for the notes as set forth in "--Security" above or any payment or distribution in the form of equity securities or subordinated securities of Veeco or any successor obligor that, in the case of any such subordinated securities, are subordinated in right of payment to all Senior Indebtedness that may at the time be outstanding to at least the same extent as the notes are so subordinated on account of principal of, or premium, if any, or interest on the notes. We refer to our equity securities and such subordinated securities as "Permitted Junior Securities." Any payment or distribution of assets of Veeco of any kind or character, whether in cash, property or securities other than a payment or distribution in the form of Permitted Junior Securities, by set-off or otherwise, to which the holders of the notes or the trustee would be entitled but for the provisions of the indenture relating to subordination will be paid by the liquidating trustee or agent or other person making such payment or distribution directly to the holders of Senior Indebtedness or their representatives ratably according to the aggregate amounts remaining unpaid on account of the Senior Indebtedness to the extent necessary to make payment in full in cash of all Senior Indebtedness remaining unpaid, after giving effect to any current payment or distribution to the holders of such Senior Indebtedness.

Upon the occurrence of any Payment Default on any Designated Senior Indebtedness and until such Payment Default has been cured or waived in writing or ceases to exist or such Designated Senior Indebtedness has been discharged or paid in full in cash, then, except as set forth above with respect to the U.S. government securities pledged to secure the notes, no payment or distribution of any of our assets of any kind or character, whether in cash, property or securities other than Permitted Junior Securities, may be made by or on behalf of us on account of principal of, premium, if any, or interest on the notes or on account of the purchase, redemption or other acquisition of notes. A "Payment Default" means a default in payment, whether at scheduled maturity, upon scheduled installment, by acceleration or otherwise, of principal of, or premium, if any, or interest on Designated Senior Indebtedness beyond any applicable grace period.

Upon the occurrence of any default or event of default with respect to Designated Senior Indebtedness, other than any Payment Default pursuant to which the maturity thereof may be accelerated, and receipt by the trustee with respect to the notes of written notice thereof from the trustee or other representative of holders of Designated Senior Indebtedness, which we refer to as a "Non-Payment Default," no payment or distribution of any assets of Veeco of any kind or character, whether in cash, property or securities other than Permitted Junior Securities, may be made by or on behalf of Veeco on account of principal of, premium, if any, or interest on the notes or on account of the purchase, redemption or other acquisition of notes for the period specified below, which we refer to as a "Payment Blockage Period."

The Payment Blockage Period will commence upon the date of receipt by the trustee of written notice from the trustee or such other representative of the holders of the Designated Senior Indebtedness in respect of which the

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Non-Payment Default exists and shall end on the earliest of:

- (1) 179 days thereafter; PROVIDED, that any Designated Senior Indebtedness as to which notice was given has not theretofore been accelerated,
- (2) the date on which such Non-Payment Default is cured, waived or ceases to exist,
- (3) the date on which such Designated Senior Indebtedness is discharged or paid in full in cash, and
- (4) the date on which such Payment Blockage Period has been terminated by written notice to the trustee or Veeco from the trustee or such other representative initiating such Payment Blockage Period,

after which we will resume making any and all required payments in respect of the notes, including any missed payments unless a Payment Default then exists. In any event, not more than one Payment Blockage Period may be commenced during any period of 365 consecutive days. No Non-Payment Default that existed or was continuing on the date of the commencement of any Payment Blockage Period will be, or can be made, the basis for the commencement of a subsequent Payment Blockage Period, unless such Non-Payment Default has been cured or waived for a period of not less than 90 consecutive days subsequent to the commencement of such Payment Blockage Period.

In the event that, notwithstanding the subordination and payment blockage provisions, any payment or distribution is received by the trustee or any holder of the notes which is prohibited by such provisions, then and in such event such payment must be paid over and delivered by such trustee or holder to the trustee or any other representative of holders of Senior Indebtedness, as their interests may appear, for application to Senior Indebtedness. After all Senior Indebtedness is paid in full in cash and until the notes are paid in full, holders of the notes will be subrogated equally and ratably with all other indebtedness that is equal in right of payment to the notes to the rights of holders of Senior Indebtedness to receive distributions applicable to Senior Indebtedness to the extent that distributions otherwise payable to the holders of the notes have been applied to the payment of Senior Indebtedness. See "--Events of Default" below.

By reason of this subordination, in the event of liquidation, receivership, reorganization or insolvency of Veeco, holders of Senior Indebtedness may receive more, ratably, and holders of the notes may receive less, ratably, than our other creditors.

The notes are also subordinated by operation of law to all indebtedness and other liabilities, including trade payables, of our subsidiaries.

We are obligated to pay reasonable compensation to the trustee and to indemnify the trustee against certain losses, liabilities or expenses incurred by the trustee in connection with its duties relating to the notes. The trustee's claims for these payments will generally be senior to those of holders of notes in respect of funds collected or held by the trustee.

"Indebtedness" means, with respect to any person, without duplication:

- (1) all indebtedness, obligations and other liabilities, contingent or otherwise, of such person for borrowed money, and whether or not the recourse of the obligee is to the whole of the assets of the person or only a portion of the assets, including overdrafts, foreign exchange contracts, currency exchange agreements, interest rate protection agreements, all obligations, contingent or otherwise, including reimbursement obligations, of such person in connection with any letters

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of credit, bank guarantees or bankers' acceptances issued under letter of credit facilities, acceptance facilities or other similar facilities, any loans or advances from banks,

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whether or not evidenced by notes or similar instruments and all obligations incurred, assumed or guaranteed by the person in connection with the acquisition by it or by a subsidiary of any business, assets or property,

- (2) all obligations and other liabilities, contingent or otherwise, of such person evidenced by credit or loan agreements, bonds, debentures, notes or other written obligations, whether or not the recourse of the lender is to all of our assets or to only a portion thereof,
- (3) all obligations and liabilities, contingent or otherwise, in respect of leases required, in conformity with generally accepted accounting principles, to be accounted for as capitalized lease obligations on such person's balance sheet,
- (4) all obligations evidenced by a note or similar instrument given in connection with the acquisition of any businesses, properties or assets of any kind,
- (5) all obligations issued or assumed as the deferred purchase price of property or services, but excluding trade accounts payable and accrued liabilities arising in the ordinary course of business,
- (6) all obligations and other liabilities, contingent or otherwise, in respect of leases or related documents, including a purchase agreement, of the person in connection with the lease of real property or improvements thereon (or any personal property included as part of any such lease), which provides that the person is contractually obligated to purchase or cause a third party to purchase the leased property or pay an agreed upon residual value of the leased property to the lessor and thereby guarantees a residual value of leased property to the lessor (whether or not such lease transaction is characterized as an operating lease or a capitalized lease in accordance with generally accepted accounting principles),
- (7) all obligations, contingent or otherwise, with respect to an interest rate, currency or other swap, cap, floor or collar agreement, hedge agreement, forward contract or other similar instrument or agreement or foreign currency hedge, exchange, purchase or similar instrument or agreement,
- (8) pension plan obligations,
- (9) all direct or indirect guarantees or similar agreements, and obligations or liabilities, contingent or otherwise, to purchase or otherwise acquire or otherwise assure a creditor against loss in respect of indebtedness, obligations or liabilities of another person, including our subsidiaries, of the kind described in clauses (1) through (8) above,
- (10) any indebtedness or other obligations described in clauses (1) through (8) above secured by any mortgage, pledge, lien or other encumbrance existing on property owned or held by the person, regardless of whether the indebtedness or other obligation has been assumed by the person, and
- (11) any and all deferrals, renewals, extensions and refundings of, or amendments, modifications, supplements to, any indebtedness, obligation

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or liability of the kind described in clauses (1) through (10).

"Senior Indebtedness" means all of our Indebtedness other than:

- Indebtedness or any other obligations of ours that by their terms rank equal or junior in right of payment to the notes,
- Indebtedness evidenced by the notes,
- Indebtedness that is subordinate to our general unsecured obligations by operation of law,

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- accounts payable or other liabilities owed or owing by us to trade creditors including guarantees thereof or instruments evidencing such liabilities,
- amounts owed by us for compensation to employees or for services rendered to us,
- Indebtedness to any subsidiary or any other affiliate of ours or any of such affiliate's subsidiaries except if it is pledged as security for any Senior Indebtedness,
- Indebtedness evidenced by any guarantee of any Indebtedness ranking equal or junior in right of payment to the notes, and
- Indebtedness which, when incurred and without respect to any election under Section 1111(b) of Title 11 of the United States Code, is without recourse to us.

"Designated Senior Indebtedness" means our current bank credit agreement and revolving credit facility and any other Senior Indebtedness in which the governing instrument or agreement expressly provides that the Senior Indebtedness shall be "Designated Senior Indebtedness" for purposes of the indenture. The governing instrument or agreement may place limitations and conditions on the right of Senior Indebtedness to exercise the rights of Designated Senior Indebtedness.

The notes are exclusively obligations of Veeco. We conduct a substantial portion of our operations through our subsidiaries. As a result, our cash flow and our ability to service our debt, including the notes, depend upon the earnings of our subsidiaries. In addition, we depend on the distribution of earnings, loans or other payments by our subsidiaries to us.

The notes will be effectively subordinated to all liabilities, including trade payables and lease obligations, if any, of our subsidiaries. Any right by us to receive the assets of any of our subsidiaries upon the liquidation or reorganization thereof, and the consequent right of the holders of the notes to participate in these assets, will be effectively subordinated to the claims of that subsidiary's creditors including trade creditors, except to the extent that we are recognized as a creditor of such subsidiary, in which case our claims would still be subordinate to any security interests in the assets of such subsidiary and any indebtedness of such subsidiary senior to that held by us.

Our subsidiaries are separate and distinct legal entities and have no obligations, contingent or otherwise, to pay any amounts due pursuant to the notes or to make any funds available therefor, whether by dividends, loans or other payments. In addition, the payment of dividends and the making of loans and advances to us by our subsidiaries may be subject to statutory, contractual or other restrictions and are dependent upon the earnings or financial condition

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of those subsidiaries and subject to various business considerations. As a result, we may be unable to gain access to the cash flow or assets of our subsidiaries.

As of December 31, 2001, excluding intercompany indebtedness, we had no Senior Indebtedness outstanding and our subsidiaries had liabilities of approximately \$82.0 million, including approximately \$19.0 million of indebtedness for borrowed money. We can, however, borrow up to \$100 million under our revolving credit facility (less the face amount of any letters of credit outstanding under that facility). Although no borrowings under this facility were outstanding as of December 31, 2001 or are outstanding under this facility as of the date of this prospectus, any future amounts we borrow under this facility would be senior indebtedness. The indenture does not limit the amount of additional indebtedness, including Senior Indebtedness, which we can create, incur, assume or guarantee, nor does the indenture limit the amount of indebtedness or other liabilities that our subsidiaries can create, incur, assume or guarantee.

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EVENTS OF DEFAULT

Each of the following will constitute an "event of default" under the indenture:

- (1) our failure to pay when due the principal or premium, if any, on any of the notes at maturity, upon redemption or exercise of a repurchase right or otherwise, whether or not such payment is prohibited by the subordination provisions of the indenture,
- (2) our failure to pay when due an installment of interest, including liquidated damages, if any, on any of the notes that continues for 30 days after the date when due, whether or not such payment is prohibited by the subordination provisions of the indenture; provided that a failure to make any of the first six scheduled interest payments on the notes on the applicable interest payment dates will constitute an event of default with no grace or cure period,
- (3) our failure to deliver shares of our common stock, together with cash instead of fractional shares, when those shares of common stock or cash instead of fractional shares are required to be delivered upon conversion of a note, and that failure continues for ten days after such delivery date,
- (4) our failure to perform or observe any other term, covenant or agreement contained in the notes or the indenture for a period of 60 days after written notice of such failure, requiring us to remedy the same, has been given to us by the trustee or to us and the trustee by the holders of at least 25% in aggregate principal amount of the notes then outstanding,
- (5) our failure to make any payment by the end of the applicable grace period, if any, after the maturity of any Indebtedness (other than Excluded Indebtedness) in an aggregate amount in excess of \$10 million, or there is an acceleration of Indebtedness (other than Excluded Indebtedness) in an aggregate amount in excess of \$10 million because of a default with respect to such Indebtedness without such Indebtedness having been discharged or such acceleration having been cured, waived, recorded or annulled, in either case, for a period of 30 days after written notice to us by the trustee or to us and the trustee by the holders of at least 25% in aggregate principal amount of the notes then outstanding,

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- (6) certain events of bankruptcy, insolvency or reorganization of Veeco or that of any significant subsidiary, and
- (7) our filing of a voluntary petition seeking liquidation, reorganization arrangement, readjustment of debts or for any other relief under the U.S. federal bankruptcy code.

"Excluded Indebtedness" means: (a) Indebtedness of Veeco or a subsidiary of Veeco not in excess of \$10 million secured by a mortgage in effect when we or that subsidiary acquires a business that owns the underlying property subject to the mortgage, and the acquisition results in a default on that mortgage according to its terms and (b) Indebtedness that was existing on December 21, 2001 not in excess of \$8.5 million to the extent Veeco or a subsidiary of Veeco has established a cash collateral or similar account that is available to one or more holders of Senior Indebtedness to use to cure a default on such Indebtedness.

The indenture provides that the trustee shall, within 90 days after the occurrence of a default, give to the registered holders of the notes notice of all uncured defaults of which the trustee is aware, but the trustee shall be protected in withholding such notice if it determines in good faith that withholding the notice is in the best interests of the holders, except in the case of a default in the payment of the principal of, or premium, if any, or interest on, any of the notes when due or in the payment of any redemption or repurchase obligation.

If an event of default specified in clause (6) or clause (7) above occurs and is continuing, then the principal of all notes and the interest thereon shall automatically become immediately due and payable.

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If an event of default shall occur and be continuing, other than with respect to clause (6) or clause (7) above, the default not having been cured or waived as provided under "--Modification and Waiver" below, either the trustee or the holders of not less than 25% in aggregate principal amount of the notes then outstanding may declare the notes immediately due and payable at their principal amount together with accrued interest to the date of that declaration, and thereupon the trustee may, at its discretion, proceed to protect and enforce the rights of the holders of the notes by appropriate judicial proceedings. The notes may not be declared due and payable unless the trustee has given at least five days' prior notice to the holders of the Designated Senior Indebtedness. The declaration may be rescinded or annulled with the written consent of the holders of a majority in aggregate principal amount of the notes then outstanding upon the conditions provided in the indenture.

The indenture contains a provision entitling the trustee, subject to the duty of the trustee during default to act with the required standard of care, to be indemnified by the holders of notes before proceeding to exercise any right or power under the indenture at the request of such holders. The indenture provides that the holders of a majority in aggregate principal amount of the notes then outstanding through their written consent may direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred upon the trustee.

We are required to furnish annually to the trustee a statement as to the fulfillment of our obligations under the indenture.

CONSOLIDATION, MERGERS AND SALES OF ASSETS

We may, without the consent of the holders of notes, consolidate with, merge into, engage in a statutory share exchange or transfer all or substantially all

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of our assets to any corporation, limited liability company, partnership or trust organized under the laws of the United States or any of its political subdivisions provided that:

- we are the resulting or surviving corporation or, if not, the successor, transferee or lessee assumes all our obligations under the indenture and the notes,
- at the time of such transaction, no event of default, and no event which, after notice or lapse of time, would become an event of default, shall have occurred and be continuing, and
- an officers' certificate stating that the consolidation, merger, statutory share exchange or transfer complies with the provisions of the indenture and an opinion of counsel meeting the requirements of the indenture have each been delivered to the trustee.

MODIFICATION AND WAIVER

The indenture, including the terms and conditions of the notes, may be modified or amended by us and the trustee, without the consent of the holder of any note, for the purposes of, among other things:

- adding to our covenants for the benefit of the holders of notes,
- surrendering any right or power conferred upon us,
- providing for conversion rights of holders of notes if any reclassification or change of our common stock or any consolidation, merger, statutory share exchange or sale of all or substantially all of our assets occurs,
- reducing the conversion price; provided that that reduction will not adversely affect the interests of holders of notes in any material respect,
- complying with the requirements of the Commission in order to effect or maintain the qualification of the indenture under the Trust Indenture Act of 1939, as amended,

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- making any changes or modifications to the indenture necessary in connection with the registration of the notes under the Securities Act as contemplated by the registration rights agreement; provided that this action does not adversely affect the interests of the holders of the notes in any material respect,
- curing any ambiguity, omission, inconsistency or correcting or supplementing any defective provision contained in the indenture; provided that such modification or amendment does not, in the good faith opinion of our board of directors and the trustee, adversely affect the interests of the holders of the notes in any material respect, or
- adding or modifying any other provisions which we and the trustee may deem necessary or desirable and which will not adversely affect the interests of the holders of notes in any material respect.

Modification and amendments to the indenture or to the terms and conditions of the notes may also be made, and noncompliance by us may be waived, with the written consent of the holders of at least a majority in aggregate principal amount of the notes at the time outstanding or by the adoption of a resolution

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at a meeting of holders at which a quorum is present by at least a majority in aggregate principal amount of the notes represented at the meeting. However, no such modification, amendment or waiver may, without the written consent of the holder of each note affected:

- change the maturity of the principal of, or any installment of interest on, any note, including any payment of liquidated damages,
- reduce the principal amount of, or any premium, if any, or interest on (including the amount of liquidated damages), any note,
- reduce the interest rate or interest, including any liquidated damages, on any note,
- change the currency of payment of principal of, premium, if any, or interest of any note,
- impair the right to institute suit for the enforcement of any payment on or with respect to, or conversion of, any note,
- except as otherwise permitted or contemplated by provisions of the indenture concerning corporate reorganizations, adversely affect the repurchase option of holders upon a change in control or the conversion rights of holders of the notes,
- modify the provisions of the indenture relating to the pledge of securities as contemplated under "--Security" above in a manner that adversely affects the interests of the holders of notes,
- modify the subordination provisions of the notes in a manner adverse to the holders of notes, or
- reduce the percentage in aggregate principal amount of notes outstanding necessary to modify or amend the indenture or to waive any past default.

SATISFACTION AND DISCHARGE

We may discharge our obligations under the indenture while notes remain outstanding, subject to certain conditions, if:

- all outstanding notes will become due and payable at their scheduled maturity within one year, or
- all outstanding notes have been called for redemption within one year,

and, in either case, we have deposited with the trustee an amount sufficient to pay and discharge all outstanding notes on the date of their scheduled maturity or the scheduled date of redemption; provided that we shall remain obligated to issue shares upon conversion of the notes.

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GLOBAL NOTES; BOOK-ENTRY; FORM

The notes are evidenced by global notes. We have deposited the global notes with or on behalf of DTC and have registered the global notes in the name of Cede & Co., as DTC's nominee. Except as set forth below, a global note may be transferred, in whole or in part, only to another nominee of DTC or to a successor of DTC or its nominee.

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Notes that were held as beneficial interests in a global note with DTC will remain beneficial interests in a global note after a sale of notes under this prospectus.

A holder may hold its interest in a global note directly through DTC if such holder is a participant in DTC, or indirectly through organizations that are participants in DTC, which are referred to as "participants." Transfers between participants will be effected in the ordinary way in accordance with DTC rules and will be settled in clearing house funds. The laws of some states require that certain persons take physical delivery of securities in definitive form. As a result, the ability to transfer beneficial interests in the global note to such persons may be limited.

Persons who are not participants may beneficially own interests in a global note held by DTC only through participants, or certain banks, brokers, dealers, trust companies and other parties that clear through or maintain a custodial relationship with a participant, either directly or indirectly, which are referred to as "indirect participants." So long as Cede & Co., as the nominee of DTC, is the registered owner of a global note, Cede & Co., for all purposes, will be considered the sole holder of such global note. Except as provided below, owners of beneficial interests in a global note will:

- not be entitled to have certificates registered in their names,
- not receive physical delivery of certificates in definitive registered form, and
- not be considered holders of the global note.

We will pay interest on and the redemption price of a global note to Cede & Co., as the registered owner of the global note, by wire transfer of immediately available funds on each interest payment date or the redemption or repurchase date, as the case may be. Neither we, the trustee nor any paying agent will be responsible or liable:

- for the records relating to, or payments made on account of, beneficial ownership interests in a global note, or
- for maintaining, supervising or reviewing any records relating to the beneficial ownership interests.

We have been informed that DTC's practice is to credit participants' accounts on any payment date with payments in amounts proportionate to their respective beneficial interests in the principal amount represented by a global note as shown on the records of DTC, unless DTC has reason to believe that it will not receive payment on that payment date. Payments by participants to owners of beneficial interests in the principal amount represented by a global note held through participants will be the responsibility of the participants, as is now the case with securities held for the accounts of customers registered in "street name."

Because DTC can only act on behalf of participants, who in turn act on behalf of indirect participants, the ability of a person having a beneficial interest in the principal amount represented by the global note to pledge such interest to persons or entities that do not participate in the DTC system, or otherwise take actions in respect of such interest, may be affected by the lack of a physical certificate evidencing its interest.

Neither we, the trustee, registrar, paying agent nor the conversion agent have any responsibility for the performance by DTC or its participants or indirect participants of their respective obligations under

the rules and procedures governing their operations. DTC has advised us that it will take any action permitted to be taken by a holder of notes, including the presentation of notes for exchange, only at the direction of one or more participants to whose account with DTC interests in the global note are credited, and only in respect of the principal amount of the notes represented by the global note as to which the participant or participants has or have given such direction.

DTC has advised us that it is:

- a limited purpose trust company organized under the laws of the State of New York,
- a member of the Federal Reserve System,
- a "clearing corporation" within the meaning of the Uniform Commercial Code, and
- a "clearing agency" registered pursuant to the provisions of Section 17A of the Exchange Act.

DTC was created to hold securities for its participants and to facilitate the clearance and settlement of securities transactions between participants through electronic book-entry changes to the accounts of its participants. Participants include securities brokers, dealers, banks, trust companies, clearing corporations and other organizations. Some of the participants or their representatives, together with other entities, own DTC. Indirect access to the DTC system is available to others such as banks, brokers, dealers and trust companies that clear through or maintain a custodial relationship with a participant, either directly or indirectly.

DTC has agreed to the foregoing procedures to facilitate transfers of interests in a global note among participants. However, DTC is under no obligation to perform or continue to perform these procedures, and may discontinue these procedures at any time. If DTC is at any time unwilling or unable to continue as depository and a successor depository is not appointed by us within 90 days, we will issue notes in certificated form in exchange for global notes.

INFORMATION REGARDING THE TRUSTEE AND TRANSFER AGENT

State Street Bank and Trust Company, N.A., as trustee under the indenture, has been appointed by us as collateral agent, paying agent, conversion agent, registrar and custodian with regard to the notes. American Stock Transfer & Trust Company is the transfer agent and registrar for our common stock. The trustee, the transfer agent or their affiliates may from time to time in the future provide banking and other services to us in the ordinary course of their business.

REGISTRATION RIGHTS

As required under our registration rights agreement with the noteholders, we have, at our expense, filed with the Commission a shelf registration statement on Form S-3, of which this prospectus is a part, covering resales by holders of all notes and the common stock issuable upon conversion of the notes. The former holders of Applied Epi common stock whose shares are offered by this prospectus are parties to a separate registration rights agreement, and they do not have the benefit of the covenants and the payment obligations we describe below.

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References in this section to the "registration rights agreement" and the rights of holders under the "registration rights agreement" refer only to the registration rights agreement with the holders of the notes and the common stock issuable upon conversion of the notes. We have summarized portions of that registration rights agreement below.

We will use our best efforts to:

- cause the registration statement to become effective as promptly as is practicable, but in no event later than June 19, 2002, and

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- keep the registration statement effective until the earlier of (A) January 3, 2004; and (B) the sale pursuant to the registration statement of all notes and shares issuable upon conversion thereof registered thereunder.

We are permitted to suspend the use of this prospectus under certain circumstances relating to pending corporate developments, public filings with the Commission and similar events. If we suspend the use of the prospectus for a period in excess of 45 days in any three-month period or in excess of an aggregate of 120 days in any 12-month period, we will be required to pay additional interest on the notes as liquidated damages as described below. We may establish regular suspension periods corresponding to our fiscal quarters. If we do so, we will give notice of the scheduled suspensions to the trustee, to be forwarded to the holders of the notes, and we will request the trustee to give periodic notice of the suspension to the holders. If:

- (1) on June 20, 2002, the registration statement is not declared effective,
- (2) except when we suspend the use of the prospectus as set forth in the first two sentences of this paragraph, the registration statement ceases to be effective or fails to be usable without being succeeded within five business days by a post-effective amendment or a report filed with the Commission pursuant to the Exchange Act that cures the failure of the registration statement to be effective or usable, or
- (3) we have suspended the use of this prospectus as described in the first two sentences of this paragraph longer than the period permitted by such sentences,

each of which we refer to as a "registration default," additional interest as liquidated damages will accrue on the notes, from and including the day following the registration default to but excluding the day on which the registration default has been cured. Concurrent registration defaults will be deemed to be a single registration default. Liquidated damages will be paid semiannually in arrears, with the first semiannual payment due on the first interest payment date, as applicable, following the date on which such liquidated damages begin to accrue, and will accrue, in addition to the stated interest rate on the notes, at a rate equal to:

- 0.25% per annum of the principal amount to and including the 90th day following the occurrence of the registration default, and
- 0.5% per annum of the principal amount from and after the 91st day following the occurrence of the registration default,

in each case so long as such registration default continues.

In no event will liquidated damages accrue at a rate per year exceeding 0.5%. If a holder has converted some or all of its notes into common stock, the

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holder of that common stock will be entitled to receive equivalent amounts based on the principal amount of the notes converted.

The following additional provisions apply to liquidated damages:

- A holder will not be entitled to liquidated damages on account of a registration default described in clause (1) above if it has not provided all registration information required under the registration rights agreement to us, at least five business days prior to the effectiveness of the shelf registration statement.
- Except as provided in the following bullet, a holder will not be entitled to liquidated damages on account of a registration default described in clauses (2) and (3) above with respect to any of its registrable securities that are not registered on the shelf registration statement during the period of a registration default described therein.

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- A "registration default" shall be deemed to have occurred and be continuing if and for so long as we do not file an amendment to the shelf registration statement after it has been declared effective or a supplement to the related prospectus to permit a holder to deliver such prospectus, as contemplated above, on the fifth day following our receipt of the holder's registration information, but the registration default shall be applicable only to the affected holder and no other holder shall be entitled to liquidated damages on account of such registration default.
- No liquidated damages will be payable to holders of notes or common stock purchased in transactions covered by the shelf registration statement or previously sold in transactions exempt from the registration requirements of the Securities Act in accordance with Rule 144.

No liquidated damages will be payable with respect to any of our common stock issued to former Applied Epi stockholders.

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MATERIAL UNITED STATES FEDERAL INCOME TAX CONSIDERATIONS

The following section discusses the material U.S. federal income tax consequences to holders of the notes or holders of our common stock (including common stock into which the notes may be converted). This discussion is for general information only and does not address all aspects of U.S. federal income taxation that may be relevant to you in light of your personal circumstances. This summary is based on the provisions of the Internal Revenue Code of 1986, as amended, or the Internal Revenue Code, applicable existing and proposed U.S. Treasury Regulations, and judicial authority and current administrative rulings and practice, all of which are subject to change, possibly on a retroactive basis, or to differing interpretation. This summary applies only to holders that hold the notes and our common stock (including common stock into which the notes may be converted) as capital assets within the meaning of Section 1221 of the Internal Revenue Code, which generally means that such securities are held for investment. It does not address tax consequences applicable to those holders that may be subject to special tax rules, such as:

- financial institutions,
- regulated investment companies,
- tax-exempt organizations,

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- expatriates,
- persons subject to the alternative minimum tax provisions of the Internal Revenue Code,
- pension funds,
- insurance companies,
- dealers in securities or foreign currencies,
- persons that will hold notes or common stock as a position in a hedging transaction, straddle, conversion transaction, constructive sale, integrated transaction or other risk reduction transaction for tax purposes,
- persons who hold notes through a partnership or other pass-through entity, or
- persons that have a primary form of currency other than the U.S. dollar, except as disclosed below under "Non-U.S. Holders."

We have not sought any ruling from the Internal Revenue Service, or IRS, with respect to the statements we make and the conclusions we reach in the following summary, and we cannot assure you that the IRS will agree with our statements and conclusions. Moreover, this discussion does not address the effect of any applicable state, local or foreign tax laws. INVESTORS CONSIDERING THE PURCHASE OF NOTES OR THE SHARES OF OUR COMMON STOCK (INCLUDING COMMON STOCK ISSUABLE UPON CONVERSION OF THE NOTES) SHOULD CONSULT THEIR OWN TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME, GIFT AND ESTATE TAX LAWS TO THEIR PARTICULAR SITUATIONS, AS WELL AS ANY TAX CONSEQUENCES ARISING UNDER THE LAWS OF ANY STATE, LOCAL OR FOREIGN TAXING JURISDICTION OR UNDER ANY APPLICABLE TAX TREATY.

For purposes of this discussion, the term "U.S. holder" means a beneficial owner of a note or our common stock that is for U.S. federal income tax purposes, (1) a citizen or resident of the U.S., (2) a corporation, partnership or other entity created or organized in or under the laws of the U.S., (3) an estate, the income of which is subject to U.S. federal income taxation regardless of its source, or (4) a trust if (A) its administration is subject to the primary supervision of a court within the U.S. and one or more U.S. persons have authority to control all of its substantial decisions, or (B) it was in existence on August 20, 1996, and has elected to continue to be treated as a U.S. trust. For U.S. federal income tax purposes, income earned through a foreign or domestic partnership or similar entity is generally attributed to its owners. The term "non-U.S. holder" means a holder of a note or our common stock that is not a U.S. holder for United States federal income tax purposes.

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U.S. HOLDERS

The following is a summary of the material U.S. federal income tax consequences resulting from the ownership and disposition of the notes and our common stock by U.S. holders.

PAYMENT OF INTEREST

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STATED INTEREST

Any interest we pay on a note generally will be includable in your income as ordinary income at the time the time you receive or accrue the interest, in accordance with your method of accounting for U.S. federal income tax purposes.

REPURCHASE AT OPTION OF HOLDERS UPON CHANGE IN CONTROL

You may require us to redeem any and all of your notes if a change in control occurs, as that term is defined in "Description of the Notes--Repurchase at Option of Holders Upon a Change in Control." If we are required to repurchase your notes upon the occurrence of a change in control and we opt to pay the repurchase price in our common stock, we must issue you a number of shares of our common stock equal to the principal amount of the notes you submit to us for repurchase, plus accrued and unpaid interest up to but excluding the repurchase date, divided by 95% of the average of the closing sale price of our common stock measured over a five day period. We are treating the possibility of repurchasing all or any portion of your notes in exchange for our common stock upon the happening of a change in control as a remote and incidental contingency for U.S. federal income tax purposes, within the meaning of applicable Treasury Regulations. Accordingly, we believe that the possibility of repurchasing all or any portion of your notes in exchange for our common stock upon the happening of a change in control will not affect the yield to maturity on the notes, and therefore you will be taxable at the time repurchase payments, if any, are received or accrued by you in accordance with your method of accounting. Our determination that there is a remote likelihood that we will repurchase all or any portion of your notes in exchange for our common stock upon the happening of a change in control is binding on you unless you explicitly disclose in the manner required by applicable Treasury Regulations that your determination is different from ours. Our determination is not, however, binding on the IRS.

SALE, EXCHANGE OR REDEMPTION OF THE NOTES

Except as set forth below under "--Conversion of the Notes" and "--Market Discount," upon the sale, exchange or redemption of a note, including the repurchase of a note for cash pursuant to the exercise of a repurchase right in the event of a change in control, you generally will recognize capital gain or loss equal to the difference between the amount realized on the sale, exchange or redemption and your adjusted tax basis in that note. For these purposes, the amount realized on the sale, exchange or redemption of a note does not include any amount attributable to accrued but unpaid interest, which will be taxable as such unless previously taken into account. Subject to the market discount and amortizable premium rules discussed below, your adjusted tax basis in a note generally will be the U.S. dollar value of the purchase price of that note on the date of purchase, increased by any market discount previously included in income by you and reduced by any amortized premium. Gain or loss so recognized will generally be capital gain or loss, and will be long-term capital gain or loss if, at the time of the sale, exchange or redemption, you held the note for more than one year. In general, the maximum federal tax rate for noncorporate taxpayers on long-term capital gain is 20% with respect to capital assets (including the notes and common stock) and 18% if such capital assets are held for more than five years. Capital gain on assets having a holding period of one year or less at the time of their disposition is taxed as short-term capital gain at a current maximum federal rate of 38.6% in the hands of noncorporate taxpayers. However, under recently enacted tax legislation, the maximum federal tax

rate for short-term capital gains will be reduced, over the next four years,

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from 38.6% to 35% by January 1, 2006. For individual taxpayers, the deductibility of capital losses is subject to limitations. For corporate taxpayers, both capital gains and ordinary income are subject to a maximum regular federal tax rate of 35%.

CONSTRUCTIVE DIVIDENDS ON NOTES

We may adjust the conversion price of the notes under certain circumstances. See "Description of the Notes--Conversion Rights." Section 305 of the Internal Revenue Code treats certain actual or constructive distributions of stock with respect to stock or convertible securities as a distribution that is taxable as a dividend, to the extent of our current or accumulated earnings and profits. Under applicable Treasury Regulations, an adjustment of the conversion price may, under certain circumstances, be treated as a constructive dividend to the extent it increases your proportional interest as a holder of a note in our fully diluted common stock, whether or not you ever convert the note into our common stock. Generally, your tax basis in a note will be increased by the amount of any constructive dividend. Similarly, if we fail to adjust the conversion price of the notes to reflect a stock dividend or similar event, it could in some circumstances give rise to constructive dividend income to U.S. holders of common stock.

CONVERSION OF THE NOTES

You generally will not recognize any income, gain or loss upon conversion of a note into our common stock, and although not free from doubt, you generally should not recognize any income, gain or loss if we repurchase a note in the event of a change in control for common stock, except with respect to cash received in lieu of a fractional share of common stock, except to the extent that the common stock issued upon conversion is treated as attributable to accrued interest on the note, which will be treated as interest for federal income tax purposes, and except with respect to market discount, as described below under "--Market Discount." Your adjusted tax basis in the common stock received on conversion or repurchase of a note will be the same as your adjusted tax basis in the note at the time of conversion or repurchase, reduced by any basis allocable to a fractional share for which you received cash. The holding period for the common stock received on conversion or repurchase will generally include the holding period of the note converted or repurchased. However, your adjusted tax basis in shares of common stock attributable to accrued interest generally will equal the amount of accrued interest you include in income and the holding period will begin on the day following the date of conversion or repurchase.

You should treat cash received in lieu of a fractional share of common stock upon conversion or repurchase of a note as a payment in exchange for a fractional share of common stock. Your receipt of cash in lieu of a fractional share of common stock generally will result in capital gain or loss measured by the difference between the cash you received for the fractional share and your adjusted tax basis in the fractional share. The fair market value of the shares of common stock you receive which is attributable to accrued interest will be taxable as ordinary income.

DIVIDENDS ON COMMON STOCK

If we make distributions on our common stock, those distributions will generally be treated as a dividend, subject to tax as ordinary income, to the

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extent of our current or accumulated earnings and profits as of the year of distribution, then as a tax-free return of capital to the extent of your adjusted tax basis in the common stock and thereafter as gain from the sale or exchange of that stock.

In general, a dividend distribution to a corporate U.S. holder may qualify for a deduction equal to 70% of the dividends received deduction if the U.S. holder owns less than 20% of the voting power and value of our stock, other than any non-voting, non-convertible, non-participating preferred stock. A

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corporate U.S. holder that owns 20% or more of the voting power and value of our stock, other than any non-voting, non-convertible, non-participating preferred stock, generally will qualify for a deduction equal to 80% of the dividends received.

SALE OF COMMON STOCK

Upon the sale or exchange of our common stock, you generally will recognize capital gain or loss equal to the difference between (i) the amount of cash and the fair market value of any property you receive upon the sale or exchange and (ii) your adjusted tax basis in the common stock. That capital gain or loss will be long-term if your holding period is more than one year and will be short-term if your holding period is equal to or less than one year. In the case of certain noncorporate taxpayers, including individuals, long-term capital gains are taxed at a maximum federal rate of 20%, which decreases to 18% if such capital assets are held for more than five years, and short-term capital gains are taxed at a current maximum federal rate of 38.6%. However, under recently enacted tax legislation, the maximum federal tax rate for short-term capital gains will be reduced, over the next four years, from 38.6% to 35% by January 1, 2006. Corporate taxpayers are subject to a maximum regular federal tax rate of 35% on all capital gains and ordinary income. Your adjusted tax basis and holding period in our common stock received upon conversion of a note are determined as discussed above under "Description of the Notes--Conversion Rights." Your adjusted tax basis in our common stock that you acquire other than upon conversion of a note generally will be the U.S. dollar value of the purchase price of such stock on the date of purchase.

MARKET DISCOUNT

Your resale of the notes may be affected by the impact on a purchaser of the market discount provisions of the Internal Revenue Code. For this purpose, the market discount on a note generally will equal the amount, if any, by which the stated redemption price at maturity of the note immediately after its acquisition, other than at original issue, exceeds the U.S. holder's adjusted tax basis in the note. Subject to a limited exception, these provisions generally require a U.S. holder who acquires a note at a market discount to treat as ordinary income any gain recognized on the disposition of that note to the extent of the accrued market discount on that note at the time of maturity or disposition, unless the U.S. holder elects to include accrued market discount in income over the life of the note.

This election to include market discount in income over the life of the note, once made, applies to all market discount obligations acquired on or after the first taxable year to which the election applies and may not be revoked without the consent of the IRS. In general, market discount will be treated as accruing on a straightline basis over the remaining term of the note at the time of acquisition, or, at the election of the U.S. holder, under a constant yield method. If this latter election is made, it will apply only to the note with respect to which it is made, and may not be revoked. A U.S. holder who acquires a note at a market discount and who does not elect to include accrued market

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discount in income over the life of the note may be required to defer the deduction of a portion of the interest on any indebtedness incurred or maintained to purchase or carry the note until maturity or until the note is disposed of in a taxable transaction. If a U.S. holder acquires a note with market discount and receives common stock upon conversion of the note, the amount of accrued market discount not previously included in income with respect to the converted note through the date of conversion will be treated as ordinary income when the holder disposes of the common stock.

AMORTIZABLE PREMIUM

If you purchase a note at a premium over its stated principal amount, plus accrued interest, you generally may elect to amortize that premium, referred to as Section 171 premium, from the purchase date to the note's maturity date under a constant-yield method that reflects semiannual compounding based on the note's payment period, with a corresponding decrease in adjusted tax basis. Amortizable

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premium, however, will not include any premium attributable to a note's conversion feature. The premium attributable to the conversion feature is the excess, if any, of the note's purchase price over what the note's fair market value would be if there were no conversion feature. Amortized Section 171 premium is treated as an offset to interest income on a note and not as a separate deduction. Your election to amortize premium on a constant yield method, once made, applies to all debt obligations held or subsequently acquired by you on or after the first day of the first taxable year to which the election applies and may not be revoked without the consent of the IRS.

BACKUP WITHHOLDING AND INFORMATION REPORTING

If you hold notes or common stock, you may be subject to backup withholding at a current rate of 30.0% with respect to certain reportable payments, including interest payments, dividend payments and, under certain circumstances, principal payments on the notes. This rate will be reduced over the next four years in accordance with recently enacted tax legislation. These backup withholding rules apply if you, among other things, (i) fail to furnish a social security number or other taxpayer identification number certified under penalties of perjury within a reasonable time after the request therefor, (ii) furnish an incorrect taxpayer identification number, (iii) fail to report properly interest or dividends, or (iv) under certain circumstances, fail to provide a certified statement, signed under penalties of perjury, that the taxpayer identification number furnished is the correct number and that you are not subject to backup withholding. If you do not provide us with your correct taxpayer identification number, you may also be subject to penalties imposed by the IRS. Any amount withheld from a payment to you under the backup withholding rules is creditable against your federal income tax liability. Backup withholding will not apply, however, with respect to payments made to certain U.S. holders, including corporations and tax-exempt organizations; provided that their exemption from backup withholding is properly established. We will report to U.S. holders of notes and common stock and to the IRS the amount of any reportable payments for each calendar year and the amount of tax withheld, if any, with respect to those payments.

NON-U.S. HOLDERS

The following discussion is a summary of the principal U.S. federal income and estate tax consequences resulting from the ownership of the notes or our

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common stock by non-U.S. holders.

PAYMENT OF INTEREST

Generally, your interest income that is not effectively connected with a U.S. trade or business will be subject to a withholding tax at a 30% rate, or lower rate specified by an applicable income tax treaty. However, interest income you earn on the notes may qualify for an exemption, referred to as the portfolio interest exemption, and as a result should not be subject to U.S. federal income tax or withholding, subject to the discussion below of backup withholding. Interest we pay to you on the notes generally should qualify for the portfolio interest exemption if:

- (1) the interest is not effectively connected with the conduct of a trade or business within the U.S. by you,
- (2) you do not actually or constructively own 10% or more of the total voting power of all classes of our stock entitled to vote,
- (3) you are not a controlled foreign corporation that is related to us through stock ownership. For this purpose, you would be deemed to own constructively the common stock into which it could be converted,
- (4) you, under penalty or perjury, certify to us or our agent you are not a U.S. person and provide your name and address, or otherwise satisfy the applicable identification requirements, and
- (5) you are not a bank receiving interest pursuant to a loan agreement entered into in the ordinary course of your trade or business.

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If you satisfy certain requirements, the certification described above may be provided by a securities clearing organization, a bank, or other financial institution that holds customers' securities in the ordinary course of its trade or business.

Recently revised Treasury Regulations have modified the certification and identification requirements. These regulations now require foreign partnerships and certain foreign trusts to provide additional documentation which (i) certifies that the individual partners, beneficiaries, or owners of the partnership or trust are not U.S. holders, and (ii) provides the individual partners', beneficiaries' or owners' names and addresses.

If you are not exempt from tax under these rules, you will be subject to U.S. federal income tax withholding at a rate of 30% on payments of interest, unless the interest is effectively connected with the conduct of a U.S. trade or business by you or a lower treaty rate applies and, in either case, you provide us with proper certification as to your exemption from withholding. If the interest is effectively connected to the conduct of a U.S. trade or business, it will be subject to the U.S. federal income tax on net income that applies to U.S. persons generally, and with respect to corporate holders and under certain circumstances, the branch profits tax, which is generally imposed at a 30% rate. Non-U.S. holders should consult applicable income tax treaties, which may provide different rules. Even though effectively connected interest is subject to income tax, and may be subject to the branch profits tax, it is not subject to withholding tax if the holder delivers a properly executed IRS Form W-8ECI to us or to our agent.

CONVERSION OF THE NOTES

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You generally will not be subject to U.S. federal income tax on the conversion of a note into shares of our common stock. To the extent you receive cash in lieu of a fractional share of common stock on conversion, that cash may give rise to gain that would be subject to the rules described below with respect to the sale or exchange of a note or common stock. See "--Gain on Disposition of the Notes and Common Stock."

CONSTRUCTIVE DIVIDENDS ON THE NOTES

The conversion price of the notes may adjust in certain circumstances. See "Description of the Notes--Conversion Rights." An adjustment could potentially give rise to a deemed distribution to you if you hold notes for the reasons described under "--U.S. Holders--Constructive Dividends on Notes" above. In that case, the deemed distribution would be subject to the rules below regarding withholding of U.S. federal tax on dividends in respect of common stock. See "--Dividends" below.

DIVIDENDS

Subject to the discussion below of backup withholding, dividends, if any, paid on our common stock to you generally will be subject to a 30% U.S. federal withholding tax, subject to reduction if you are eligible for the benefits of certain income tax treaties. Dividends for this purpose may include dividends as discussed in "--U.S. Holders--Constructive Dividends on Notes" above. Under recently revised Treasury Regulations you will be required to satisfy certain certification requirements to claim treaty benefits.

Except to the extent otherwise provided under an applicable tax treaty, you generally will be taxed in the same manner as a U.S. holder on dividends paid, or deemed paid, that are effectively connected with the conduct of a trade or business in the U.S. by you, and if required by a tax treaty, is attributable to a permanent establishment maintained in the U.S. If you are a foreign corporation, you may also be subject to a U.S. branch profits tax on that effectively connected income at a 30% rate or a lower rate as may be specified by an applicable income tax treaty.

GAIN ON DISPOSITION OF THE NOTES AND COMMON STOCK

You generally will not be subject to U.S. federal income tax or withholding tax on gain realized on the sale, exchange or redemption of a note, or the sale or exchange of common stock, unless:

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- (1) if you are an individual, you are present in the U.S. for 183 days or more in the year of the sale, exchange or redemption and certain other requirements are met, or
- (2) the gain is effectively connected with the conduct of a U.S. trade or business of yours.

However, if we were to become a U.S. real property holding corporation, or USRPHC, you could be subject to federal income tax withholding with respect to gain realized on the disposition of notes or shares of common stock. In that case, any withholding tax withheld pursuant to the rules applicable to dispositions of U.S. real property interests would be creditable against your U.S. federal income tax liability and could entitle you to a refund upon

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furnishing required information to the IRS. We do not believe that we are a USRPHC or will become a USRPHC in the future.

BACKUP WITHHOLDING AND INFORMATION REPORTING

We must report annually to the IRS and to each non-U.S. holder the amount of any interest or dividends paid to that non-U.S. holder, and tax withheld, if any, with respect to those payments. Copies of these information returns may also be made available under the provisions of a specific treaty or agreement to the tax authorities of the country in which the non-U.S. holder resides or is incorporated.

U.S. backup withholding and information reporting will not apply to payments of interest on the notes by us or our agent to a non-U.S. holder if you satisfy the certification or identification requirements described in "--Non-U.S. Holders--Payment of Interest," above, unless the payor knows or has reason to know that you are not entitled to an exemption from information reporting or backup withholding tax. The payment of the proceeds on the disposition of notes or shares of common stock to or through the U.S. office of a U.S. or foreign broker will be subject to information reporting and backup withholding unless the owner provides the certification described above or otherwise establishes an exemption. The proceeds of the disposition by you of notes or shares of common stock effected outside the U.S. to or through a foreign office of a broker generally will not be subject to backup withholding or information reporting. However, if the broker is a U.S. person or has certain connections to the U.S., information reporting requirements, but not backup withholding, will apply unless the broker has documentary evidence in its files of your non-U.S. status and has no actual knowledge, or reason to know, to the contrary or unless the holder otherwise establishes an exemption.

THE COMPANY

Generally, under Section 279 of the Internal Revenue Code, an interest deduction in excess of \$5.0 million per year is not permitted with respect to certain "corporate acquisition indebtedness." Corporate acquisition indebtedness includes any indebtedness that is:

- issued to provide consideration for the direct or indirect acquisition of stock or assets of another corporation,
- subordinated to the claims of trade creditors of the issuing corporation generally, or expressly subordinated in right of payment to the payment of any substantial amount of unsecured indebtedness, whether outstanding or subsequently issued, of the issuing corporation,
- convertible directly or indirectly into the stock of the issuing corporation, and
- issued by a corporation that has a debt to equity ratio that exceeds 2 to 1.

Our ability to deduct all of the interest payable on the notes will depend on the application of the foregoing tests to us. The availability of an interest deduction with respect to the notes was not determinative in our issuance of the notes to the initial purchasers.

Under Section 163(1) of the Internal Revenue Code, no deduction is permitted for interest paid or accrued on any indebtedness of a corporation that is "payable in equity" of the issuer or a related party. Debt is treated as debt

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payable in equity of the issuer if the debt is part of an arrangement designed to result in payment of the instrument with or by reference to the equity. Such arrangements could include debt instruments that are convertible at the holder's option if it is substantially certain that the option will be exercised. The legislative history indicates that it is not expected this provision

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will affect debt with a conversion feature where the conversion price is significantly higher than the market price of the stock on the date of the debt issuance. Accordingly, we do not believe that our interest deduction with respect to interest payments on the notes will be adversely affected by these rules.

SELLING SECURITYHOLDERS

We originally sold the notes to Merrill Lynch, Pierce, Fenner and Smith Incorporated, Salomon Smith Barney Inc. and Thomas Weisel Partners LLC, as initial purchasers, in December 2001, in a private placement that was exempt from the registration requirements of the Securities Act. The notes were resold by the initial purchasers to persons reasonably believed by the initial purchasers to be "qualified institutional buyers," as defined in Rule 144A under the Securities Act, in transactions exempt from the registration requirements of the Securities Act. Selling securityholders who may use this prospectus from time to time to offer or sell any or all of their notes and shares of our common stock issuable upon conversion of the notes include the initial purchasers' transferees, pledgees, donees and their successors.

On September 17, 2001, we completed a merger with Applied Epi, Inc., in which Applied Epi's stockholders received, in addition to certain cash payments, approximately 4.0 million shares of our common stock. Also, in connection with the Applied Epi merger, certain warrants and options to purchase Applied Epi common stock were assumed by Veeco and converted into options and warrants to purchase Veeco common stock. Pursuant to the registration rights agreement we entered into in connection with the Applied Epi merger, we have included in this prospectus the shares of our common stock received in the Applied Epi merger by certain former stockholders of Applied Epi and shares of our common stock issuable upon the exercise of certain warrants we assumed in the Applied Epi merger. Our references in this prospectus to the "selling securityholders" include these former Applied Epi stockholders and warrant holders. Generally, the selling securityholders who are former Applied Epi stockholders and warrant holders may use this prospectus for the sale of their common stock only until September 17, 2002.

The following table sets forth information with respect to the selling securityholders and the respective principal amounts of notes and shares of our common stock beneficially owned by each selling securityholder that may be offered under this prospectus. The information is based on information that has been provided to us by or on behalf of the selling securityholders after we issued the notes in December 2001. Unless otherwise indicated below, none of the selling securityholders has, or within the past three years has had, any position, office or other material relationship with us or any of our predecessors or affiliates. Because the selling securityholders may from time to time use this prospectus to offer all or some portion of the notes or the common stock offered hereby, we cannot provide an estimate as to the amount or percentage of any such type of security that will be held by any selling securityholder upon termination of any particular offering or sale under this prospectus. In addition, the selling securityholders identified below may have sold, transferred or otherwise disposed of all or a portion of any such securities since the date on which they provided us information regarding their

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holdings, in transactions exempt from the registration requirements of the Securities Act.

For the purposes of the following table, the number and percentage of shares of our common stock beneficially owned has been calculated based on 29,043,674 shares issued and outstanding as of April 23, 2002 and has been determined in accordance with Rule 13d-3 of the Securities Exchange Act of 1934, and such information is not necessarily indicative of beneficial ownership for any other purpose. Under Rule 13d-3, beneficial ownership includes any shares as to which a selling securityholder has sole or shared voting power or investment power and also any shares which that selling securityholder has the right to acquire within 60 days of the date of this prospectus through the exercise of any stock option, warrant or other rights.

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| SELLING SECURITYHOLDER(1) | PRINCIPAL AMOUNT OF NOTES(1) | | NUMBER OF SHARES COMMON STOCK(1) (| |
|---|--|---------------------------------------|--|-------|
| | BENEFICIALLY OWNED PRIOR TO THE OFFERING AND OFFERED HEREBY | PERCENTAGE OF NOTES OUTSTANDING | BENEFICIALLY OWNED PRIOR TO THE OFFERING | OFFER |
| ----- | | | | |
| HOLDERS OF CONVERTIBLE NOTES OR SHARES ISSUABLE UPON CONVERSION THEREOF | | | | |
| ----- | | | | |
| 1976 Distribution Trust FBO A.R. Lauder/ Zinterhofer..... | 9,000 | * | 233 | |
| 1976 Distribution Trust FBO Jane A. Lauder..... | 17,000 | * | 441 | |
| 2000 Revocable Trust FBO A.R. Lauder/ Zinterhofer..... | 8,000 | * | 207 | |
| Advent Convertible Master Caymen LP..... | 3,593,000 | 1.6% | 93,300 | |
| AIG DKR Soundshore Opportunity Holding Fund Ltd..... | 2,700,000 | 1.2% | 70,111 | |
| AIG DKR Soundshore Strategic Holding Fund Ltd..... | 1,500,000 | * | 38,950 | |
| Allentown City Firefighters Pension Plan..... | 30,000 | * | 779 | |
| Allentown City Officers & Employee Pension Fund..... | 11,000 | * | 285 | |
| Allentown City Police Pension Plan..... | 57,000 | * | 1,480 | |
| Alpha U.S. Sub Fund 4, LLC..... | 426,000 | * | 11,062 | |
| Alpine Associates..... | 13,150,000 | 6.0% | 341,469 | 3 |
| Alpine Partners, LP..... | 1,760,000 | * | 45,702 | |
| Amaranth LLC..... | 35,150,000 | 16.0% | 912,749 | 9 |
| American Motorist Insurance Company..... | 688,000 | * | 17,865 | |
| American Samoa Government..... | 22,000 | * | 571 | |
| Arapahoe County Colorado..... | 67,000 | * | 1,739 | |
| Arb Minnesota Power & Light..... | 115,000 | * | 2,986 | |
| AXP Bond Fund, Inc..... | 5,500,000 | 2.5% | 142,820 | 1 |
| AXP Variable Portfolio-Bond Fund, a series of AXP Variable Portfolio | | | | |

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| | | | | |
|--|-----------|------|---------|---|
| Income Series, Inc..... | 2,200,000 | 1.0% | 57,128 | |
| AXP Variable Portfolio-Managed Fund, a series of AXP Variable Portfolio Managed Series, Inc..... | 1,200,000 | * | 31,160 | |
| BP Amoco PLC, Master Trust..... | 938,000 | * | 24,357 | |
| British Virgin Islands Social Security Board..... | 96,000 | * | 2,492 | |
| Calamos Market Neutral Fund--Calamos Investment Trust..... | 4,000,000 | 1.8% | 103,869 | 1 |
| Chillon New Era International, LP..... | 652,734 | * | 16,949 | |
| Chillon New Era Partners, LP..... | 347,266 | * | 9,017 | |
| Chrysler Corporation Master Retirement Trust..... | 3,020,000 | 1.4% | 78,421 | |
| City of New Orleans..... | 276,000 | * | 7,166 | |
| City University of New York..... | 166,000 | * | 4,310 | |
| Coastal Convertibles Ltd..... | 500,000 | * | 12,983 | |
| Convertible Securities Fund..... | 110,000 | * | 2,856 | |
| Delta Air Lines Master Trust..... | 785,000 | * | 20,384 | |
| Delta Pilots D&S Trust..... | 385,000 | * | 9,997 | |

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| SELLING SECURITYHOLDER(1) | PRINCIPAL AMOUNT OF NOTES(1) | | NUMBER OF SHARES COMMON STOCK(1) (OFFERED) | |
|---|---|---------------------------------|--|---------|
| | BENEFICIALLY OWNED PRIOR TO THE OFFERING AND OFFERED HEREBY | PERCENTAGE OF NOTES OUTSTANDING | BENEFICIALLY OWNED PRIOR TO THE OFFERING | OFFERED |
| ----- | | | | |
| HOLDERS OF CONVERTIBLE NOTES OR SHARES ISSUABLE UPON CONVERSION THEREOF | | | | |
| ----- | | | | |
| Deutsche Banc Alex Brown Inc..... | 1,114,000 | * | 28,927 | |
| Estate of James Campbell..... | 141,000 | * | 3,661 | |
| Fidelity Commonwealth Trust: Fidelity Mid-Cap Stock Fund..... | 6,400,000 | 2.9% | 166,190 | 1 |
| First Union Securities..... | 6,350,000 | 2.9% | 164,892 | 1 |
| Grace Brothers Management, LLC..... | 3,000,000 | 1.4% | 77,901 | |
| Graco Brothers, Ltd..... | 1,000,000 | * | 25,967 | |
| Grady Hospital Foundation..... | 145,000 | * | 3,765 | |
| HFR Convertible Arbitrage Account..... | 374,000 | * | 9,711 | |
| Highbridge International LLC..... | 7,000,000 | 3.2% | 181,770 | 1 |
| Hotel Union & Hotel Industry of Hawaii..... | 239,000 | * | 6,206 | |
| Income Portfolio, a series of IDS Life Series Fund, Inc..... | 100,000 | * | 2,596 | |
| Independence Blue Cross..... | 307,000 | * | 7,971 | |
| James Campbell Corporation..... | 188,000 | * | 4,881 | |
| Jefferies & Company..... | 5,000 | * | 129 | |
| Lyxor..... | 267,000 | * | 6,933 | |
| Man Convertible Bond Master Fund, Ltd..... | 4,879,000 | 2.2% | 126,694 | 1 |
| Merrill Lynch Insurance Group..... | 338,000 | * | 8,776 | |

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| | | | | |
|---|-----------|------|---------|---|
| Merrill, Lynch, Pierce, Fenner and Smith Inc..... | 3,623,000 | 1.6% | 94,079 | |
| Microsoft Corporation..... | 1,315,000 | * | 34,146 | |
| Minnesota Power and Light..... | 115,000 | * | 2,986 | |
| Motion Picture Industry Health Plan-- Active Member Fund..... | 180,000 | * | 4,674 | |
| Motion Picture Industry Health Plan-- Retiree Member Fund..... | 110,000 | * | 2,856 | |
| Municipal Employees..... | 249,000 | * | 6,465 | |
| Nations Convertible Securities Fund..... | 3,890,000 | 1.8% | 101,012 | 1 |
| New Orleans Firefighters Pension/Relief Fund..... | 150,000 | * | 3,895 | |
| Normura Securities International, Inc..... | 3,000,000 | 1.4% | 81,190 | |
| Occidental Petroleum Corporation..... | 280,000 | * | 7,270 | |
| OCM Convertible Trust..... | 1,700,000 | * | 44,144 | |
| Ohio Bureau of Workers Compensation..... | 196,000 | * | 5,089 | |
| Onex Industrial Partners Limited..... | 1,000,000 | * | 25,967 | |
| Partner Reinsurance Company Ltd..... | 725,000 | * | 18,826 | |
| Policeman and Fireman Retirement System of the City of Detroit..... | 681,000 | * | 17,683 | |
| Pro-mutual..... | 816,000 | * | 21,189 | |
| Qwest Occupational Health Trust..... | 165,000 | * | 4,284 | |
| RAM Trading Ltd..... | 9,600,000 | 4.4% | 249,285 | 2 |
| St. Thomas Trading, Ltd..... | 8,507,000 | 3.9% | 220,903 | 2 |

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| SELLING SECURITYHOLDER(1) | PRINCIPAL AMOUNT OF NOTES(1) | | NUMBER OF SHARES COMMON STOCK(1) (OFFERED) | |
|---|---|---------------------------------|--|---------|
| | BENEFICIALLY OWNED PRIOR TO THE OFFERING AND OFFERED HEREBY | PERCENTAGE OF NOTES OUTSTANDING | BENEFICIALLY OWNED PRIOR TO THE OFFERING | OFFERED |
| ----- | | | | |
| HOLDERS OF CONVERTIBLE NOTES OR SHARES ISSUABLE UPON CONVERSION THEREOF | | | | |
| ----- | | | | |
| SG Hambros Trust Company LTD as Trustee of the LYXOR Master Fund..... | 500,000 | * | 12,983 | |
| Shell Pension Trust..... | 434,000 | * | 11,269 | |
| Silverado Arbitrage Trading, Ltd..... | 500,000 | * | 12,983 | |
| Silvercreek Limited Partnership..... | 1,000,000 | * | 25,967 | |
| Spinner Global Technology Fund..... | 2,000,000 | * | 221,934 | |
| State Employees' Retirement Fund of the State of Delaware..... | 1,135,000 | * | 29,472 | |
| State of Connecticut Combined Investment Funds..... | 2,360,000 | 1.1% | 61,282 | |
| Sunrise Partners LLC..... | 20,350,000 | 9.3% | 528,434 | 5 |
| TD Securities (USA) Inc..... | 1,000,000 | * | 25,967 | |
| The Grable Foundation..... | 163,000 | * | 4,232 | |
| Thomas Weisel Partners LLC..... | 1,000,000 | * | 25,967 | |
| Total Return Portfolio, a series of | | | | |

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| | | | | |
|--|---------------|-------|-------------|-----|
| Growth and Income Trust..... | 1,000,000 | * | 25,967 | |
| Tribeca Investments LLC..... | 9,200,000 | 4.2% | 238,898 | 2 |
| Trustmark Insurance Company..... | 374,000 | * | 9,711 | |
| Vanguard Convertible Securities Fund, Inc..... | 4,100,000 | 1.9% | 106,465 | 1 |
| Viacom Inc. Pension Plan Master Trust... | 24,000 | * | 623 | |
| Wolverine Trading LP..... | 500,000 | * | 12,983 | |
| Zurich Institutional Benchmarks Master Fund Ltd..... | 1,193,000 | * | 30,978 | |
| Any other selling securityholder of notes or future transferee from any such holder (3)..... | 25,539,000 | 11.6% | 663,178 (4) | 6 |
| Subtotal..... | \$220,000,000 | 100% | 5,886,044 | 5,7 |
| FORMER APPLIED EPI STOCKHOLDERS | | | | |
| Chorus L.P./Paul Colombo(5)(8)..... | -- | -- | 3,808,398 | 3,8 |
| Adriana I. Akhtar..... | -- | -- | 8,283 | |
| Jane Benik..... | -- | -- | 490 | |
| Marlin A. Braun (7)..... | -- | -- | 7,078 | |
| Claire Colombo..... | -- | -- | 490 | |
| Roger M. Colombo..... | -- | -- | 490 | |
| Virginia Colombo..... | -- | -- | 490 | |
| Robert J. Doppelhammer (7)..... | -- | -- | 4,070 | |
| Patricia Dougherty..... | -- | -- | 490 | |
| Brett D. Heffes..... | -- | -- | 57,316 | |
| Frank C. Kraemer (6)(7)..... | -- | -- | 87,053 | |
| Angelina Lawton..... | -- | -- | 8,283 | |

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| SELLING SECURITYHOLDER(1) | PRINCIPAL AMOUNT OF NOTES(1) | | NUMBER OF SHARES OF STOCK(1)(2) | |
|--|---|---------------------------------|--|---------|
| | BENEFICIALLY OWNED PRIOR TO THE OFFERING AND OFFERED HEREBY | PERCENTAGE OF NOTES OUTSTANDING | BENEFICIALLY OWNED PRIOR TO THE OFFERING | OFFERED |
| FORMER APPLIED EPI STOCKHOLDERS | | | | |
| Blake Nixon..... | -- | -- | 4,167 | |
| Mark Rahn..... | -- | -- | 8,283 | |
| Noel P. Rahn (6)(8)..... | -- | -- | 45,493 | |
| Noel P. Rahn, Jr..... | -- | -- | 8,283 | |
| David G. Reamer (6)(7)..... | -- | -- | 158,072 | |
| Thomas Steven Sagissor..... | -- | -- | 8,285 | |
| Subtotal..... | -- | -- | 4,215,514 | 4,0 |
| Convertible Note Holders and Former Applied Epi Holders Combined..... | \$220,000,000 | 100% | 10,101,560 | 9,7 |

* Less than 1%.

- (1) Information concerning the selling securityholders may change from time to time. Any such changed information will be set forth in supplements to this prospectus if and when necessary. The amount of notes and the number of shares of our common stock issuable upon conversion of the notes indicated may be in excess of the total amount registered under the shelf registration statement of which this prospectus forms a part, due to sales or transfers by selling securityholders of such notes or shares in transactions exempt from the registration requirements of the Securities Act after the date on which they provided us information regarding their holdings of notes and such shares of common stock.
- (2) For purposes of presenting the number of shares of our common stock beneficially owned by holders of notes, we assume a conversion price under the notes of \$38.51 per share of our common stock, and a cash payment in lieu of the issuance of any fractional share interest. However, the conversion price is subject to adjustment as described under "Description of the Notes--Conversion Rights." As a result, the number of shares of common stock issuable upon conversion of the notes, and as a consequence, the number of shares beneficially owned by the holders of notes, may increase or decrease in the future.
- (3) We are unable to provide the names of certain selling securityholders who hold notes and/or shares of our common stock issuable upon conversion of the notes at this time, because these selling securityholders have not provided us with information and/or their notes are evidenced by a global note that has been deposited with DTC and registered in the name of Cede & Co., as DTC's nominee. Information concerning any such selling securityholders who are not listed in the above table will be set forth in prospectus supplements from time to time, if and when required.
- (4) Assumes that any other holder of notes or any future transferee from any such holder does not beneficially own any shares of our common stock other than the shares issuable upon conversion of the notes at the initial conversion rate.
- (5) Chorus L.P., a limited partnership controlled by Mr. Paul Colombo, founder and a former stockholder of Applied Epi, is the registered holder of 3,440,344 shares of our common stock, representing approximately 11.8% of our outstanding common stock. These shares may be deemed

to be beneficially owned by Mr. Colombo. Mr. Colombo also owns directly warrants to acquire 161,429 shares of our common stock as well as 206,625 shares of our common stock which he has deposited in escrow as security for certain indemnity claims that Veeco may have in connection with the Applied Epi merger. Such escrowed shares are not expected to be distributed to Mr. Colombo from the escrow until at least June 30, 2003, and under the terms of the related escrow agreement some or all of such shares may be held in escrow for a longer period if and to the extent Veeco has any pending claims for indemnification as of that date. The aggregate 3,808,398 shares

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of our common stock referred to in the preceding sentences which may be deemed to be beneficially owned by Mr. Colombo, and which are being offered hereby, represents approximately 13.1% of our outstanding common stock. Mr. Colombo also acts as representative for Messrs. Reamer, Kraemer and Rahn under the Applied Epi escrow agreement. Accordingly, an aggregate of 39,375 shares of our common stock which Messrs. Reamer, Kraemer and Rahn have deposited in escrow as security for indemnity claims that Veeco may have under the Applied Epi merger agreement are represented by a certificate issued in Mr. Colombo's name in his capacity as their representative. The number of shares presented in the above table for Mr. Colombo and Chorus L.P. does not include such shares of Messrs. Reamer, Kraemer and Rahn.

- (6) Shares beneficially owned include 15,628, 15,580 and 8,167 shares of our common stock which may be deemed to be beneficially owned by Messrs. Reamer, Kraemer and Rahn, respectively. Such shares are being held in escrow as security for certain indemnity claims that Veeco may have in connection with the Applied Epi merger, as described in note (5) above. Such escrowed shares are not expected to be distributed to Messrs. Reamer, Kraemer and Rahn from the escrow until at least June 30, 2003, by which time such selling securityholders will no longer be permitted to use this prospectus to offer or sell the shares of our common stock held by them.
- (7) Such selling securityholder is a former stockholder of Applied Epi and was prior to the closing of the Applied Epi merger, and is currently, an employee of Applied Epi, Inc. From and after the closing of the Applied Epi merger, Applied Epi, Inc. has been a wholly-owned subsidiary of Veeco.
- (8) Such selling securityholder is a former stockholder of Applied Epi and was prior to the closing of the Applied Epi merger an employee and/or director of Applied Epi, Inc. From and after the closing of the Applied Epi merger, Applied Epi, Inc. has been a wholly-owned subsidiary of Veeco.

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PLAN OF DISTRIBUTION

We will not receive any of the proceeds of the sale of the notes, our common stock issuable upon conversion of the notes or the other shares of our common stock offered by this prospectus. The notes and common stock offered by this prospectus may be sold from time to time to purchasers:

- directly by the selling securityholders, or
- through underwriters, broker-dealers or agents who may receive compensation in the form of discounts, concessions or commissions from the selling securityholders or the purchasers of the notes or the common stock offered by this prospectus.

The aggregate proceeds to the selling securityholders from the sale of the notes or shares of common stock offered by this prospectus will be the purchase price paid for such securities, less discounts and commissions, if any. Each of the selling securityholders reserves the right to accept and, together with their agents from time to time, reject, in whole or in part any proposed purchase of notes or common stock to be made directly or through agents.

The selling securityholders and any such broker-dealers or agents who participate in the distribution of the notes or common stock offered by this prospectus may be deemed to be "underwriters" within the meaning of Section 2(11) of the Securities Act. As a result, any profits on the sale of such securities by selling securityholders and any discounts, commissions or concessions received by any such broker-dealers or agents might be deemed to be

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underwriting discounts and commissions under the Securities Act. Selling securityholders who are deemed to be underwriters may be subject to certain statutory liabilities, including, but not limited to, those under Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Exchange Act. Selling securityholders who are deemed to be underwriters will also be subject to the prospectus delivery requirements of the Securities Act.

If the notes or common stock are sold through underwriters or broker-dealers, the selling securityholders will be responsible for underwriting discounts or commissions or agent's commissions.

The notes and the common stock may be sold in one or more transactions at:

- fixed prices,
- prevailing market prices at the time of sale or prices related to prevailing market prices at the time of sale,
- varying prices determined at the time of sale, or
- negotiated prices.

These sales may be effected in transactions:

- on any national securities exchange or quotation service on which the common stock may be listed or quoted at the time of the sale, including the Nasdaq National Market,
- in the over-the-counter market,
- in transactions otherwise than on such exchanges or services or in the over-the-counter market, or
- through the writing of options.

These transactions may include block transactions or crosses. Crosses are transactions in which the same broker acts as an agent on both sides of the trade. In no event may any such method of distribution take the form of an underwritten offering without the prior agreement of Veeco and an undertaking from the relevant selling securityholder(s) to pay certain expenses relating to such offering.

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In connection with sales of the notes and common stock offered by this prospectus or otherwise, the selling securityholders may enter into hedging transactions with broker-dealers. These broker-dealers may in turn engage in short sales of the notes and common stock in the course of hedging their positions. The selling securityholders may also sell the notes and common stock short and deliver notes and common stock to close out short positions, or loan or pledge notes and common stock to broker-dealers that in turn may sell the notes and common stock.

To our knowledge, there are currently no plans, arrangements or understandings between any selling securityholders and any underwriter, broker-dealer or agent regarding the sale of the notes or common stock offered hereby. Selling securityholders might not sell any or all of the notes or the common stock offered by them using this prospectus. Any selling securityholder might instead transfer, devise or gift any such securities by other means not described in this prospectus. In addition, any such securities covered by this prospectus that qualify for sale pursuant to Rule 144 or Rule 144A of the Securities Act may be sold under Rule 144 or Rule 144A rather than pursuant to

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this prospectus.

Our common stock trades on the Nasdaq National Market under the symbol "VECO." The notes are currently designated for trading on the PORTAL market. Notes sold by means of this prospectus will not be eligible for trading on the PORTAL market. We do not intend to list the notes on any national or other securities exchange or on the NASDAQ National Market. No assurance can be given as to the development of liquidity or any trading market for the notes. See "Risk Factors--An active trading market may not develop for the notes."

The selling securityholders and any other person participating in a distribution of securities offered by this prospectus will be subject to the Exchange Act. The Exchange Act rules include, without limitation, Regulation M, which may limit the timing of purchases and sales of any of the notes and common stock by the selling securityholders and any other such person. In addition, Regulation M of the Exchange Act may restrict the ability of any person engaged in the distribution of the notes and common stock to engage in market-making activities with respect to the particular notes and common stock being distributed for a period of up to five business days prior to the commencement of such distribution. This may affect the marketability of the notes and common stock and the ability of any person or entity to engage in market-making activities with respect to the notes and common stock.

To the extent required, the specific notes or shares of common stock to be sold, the names of the selling securityholders, the respective purchase prices and public offering prices, the names of any agent, dealer or underwriter, and any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment, to the shelf registration statement of which this prospectus forms a part.

In order to comply with the securities laws of some states, if applicable, the notes and shares of common stock offered by this prospectus may be sold in these jurisdictions only through registered or licensed brokers or dealers. In addition, in some states, the notes and shares of common stock offered by this prospectus may not be sold unless they have been registered or qualified for sale or an exemption from registration or qualification requirements is available and is complied with.

Pursuant to the registration rights agreements filed as exhibits to this registration statement, each of Veeco and the selling securityholders will be indemnified by the other against certain liabilities, including certain liabilities under the Securities Act, or will be entitled to contribution in connection with these liabilities.

Subject to certain exceptions, we have agreed to pay substantially all of the expenses incidental to the registration, offering and sale of the notes and underlying common stock to the public other than commissions, fees and discounts of underwriters, brokers, dealers and agents.

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With the exception of Mr. Paul Colombo and certain entities controlled by him, selling securityholders who are former stockholders of Applied Epi may offer common stock pursuant to this prospectus only until September 17, 2002.

We may suspend the use of this prospectus for any period and at any time, including, without limitation, in the event of pending corporate developments, public filings with the Commission, and similar events.

LEGAL MATTERS

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The validity of the issuance of the notes offered hereby, the shares of common stock issuable upon conversion thereof and the other shares of common stock offered hereby will be passed upon for us by Kaye Scholer LLP, New York, New York.

EXPERTS

The consolidated financial statements and schedule of Veeco Instruments Inc. as of December 31, 2001, 2000 and 1999, and for each of the three years in the period ended December 31, 2001, incorporated by reference in this prospectus, have been audited by Ernst & Young LLP, independent auditors, as stated in their report incorporated by reference herein which, is based in part on the report of PricewaterhouseCoopers LLP, independent auditors. The consolidated financial statements referred to above are incorporated by reference herein in reliance on such reports given on the authority of such firms as experts in accounting and auditing.

The consolidated financial statements of Applied Epi, Inc. and subsidiaries as of and for the years ended December 31, 2000 and 1999, incorporated in this prospectus by reference to Veeco's Amendment No. 3 to Current Report on Form 8-K/A filed with the Commission on November 30, 2001, have been audited by Deloitte & Touche LLP, independent auditors, as stated in their report which is so incorporated herein by reference, and has been incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We are a reporting company and file annual, quarterly and current reports, proxy statements and other information with the Commission. You may read and copy all or any portion of any materials we file with the Commission at the Commission's public reference room at Room 1024, Judiciary Plaza, 450 Fifth Street, N.W., Washington, D.C. 20549. You may request copies of these documents upon payment of a duplicating fee by writing to the Commission. Please call the Commission at 1-800-SEC-0330 for further information on the operation of its public reference room. Our filings are also available to you on the Commission's Web site. The address of this site is [HTTP://WWW.SEC.GOV](http://www.sec.gov). Our filings are also available at the offices of the Nasdaq National Market, 1730 K Street, N.W., Washington, D.C. 20006-1500.

We are incorporating by reference in this prospectus the information that we file with the Commission referred to below and therefore refer you to those documents. The information we incorporate by reference is an important part of this prospectus. We incorporate by reference the documents listed below and any future filings made by us with the Commission under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act until this offering is complete.

- Annual Report on Form 10-K for the year ended December 31, 2001 and documents (or portions thereof) expressly incorporated by reference therein,

- Definitive Proxy Statement on Schedule 14A filed on April 9, 2002,

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- The description of our common stock which is contained in our Registration Statement on Form S-1 filed with the Commission on June 27, 1995, and any amendments or reports filed for the purpose of updating such description, and
- Registration Statement on Form 8-A12G and amendments thereto filed on March 15, 2001 and September 21, 2001 which contains a description of certain preferred share purchase rights associated with our common stock, and any amendments or reports filed for the purpose of updating such description.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address: Investor Relations, Veeco Instruments Inc., 100 Sunnyside Boulevard, Woodbury, New York 11797, (516) 677-0200.

Any statement contained in a document that is incorporated by reference will be modified or superseded for all purposes to the extent that a statement contained in this prospectus (or in any other document that is subsequently filed with the Commission and incorporated by reference) modifies or is contrary to that previous statement. Any statement so modified or superseded will not be deemed a part of this prospectus except as so modified or superseded.

This prospectus is part of a registration statement we filed with the Commission.

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PART II INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.

The following table sets forth the fees and expenses in connection with the issuance and distribution of the securities being registered hereunder. Except for the SEC registration fee, all amounts are estimates.

| | |
|--------------------------------------|-----------|
| SEC registration fee..... | \$ 31,710 |
| Accounting fees and expenses..... | \$ 75,000 |
| Legal fees and expenses..... | \$250,000 |
| Printing and engraving expenses..... | \$150,000 |
| Miscellaneous expenses..... | \$193,290 |
| | ----- |
| TOTAL..... | \$700,000 |
| | ===== |

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Section 145 of the Delaware General Corporation Law ("DGCL") provides that a Delaware corporation may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that he or she is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys'

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fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action, suit or proceeding if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. Section 145 further provides that a Delaware corporation similarly may indemnify any such person serving in any such capacity who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor, against expenses (including attorneys' fees) actually and reasonably incurred in connection with the defense or settlement of such action or suit if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Delaware Court of Chancery or such other court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Delaware Court of Chancery or such other court shall deem proper.

Article 10 of Veeco's certificate of incorporation entitles officers and directors of Veeco to indemnification to the fullest extent permitted by Section 145 of the DGCL, as the same may be supplemented from time to time.

Section 102(b)(7) of the DGCL permits a corporation to include in its certificate of incorporation a provision eliminating or limiting the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director; provided, that such provision shall not eliminate or limit the liability of a director (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which

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involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the DGCL or (iv) for any transaction from which the director derived an improper personal benefit.

Veeco's certificate of incorporation provides that its directors shall not be liable to Veeco or its stockholders for monetary damages for breach of fiduciary duty as a director except to the extent that exculpation from liabilities is not permitted under the DGCL as in effect at the time such liability is determined. Veeco's certificate of incorporation further provides that Veeco will indemnify its directors and officers to the fullest extent permitted by the DGCL.

These indemnification provisions may be sufficiently broad to permit indemnification of Veeco's officers, directors, and other corporate agents for liabilities (including reimbursement of expenses incurred) arising under the Securities Act of 1933.

Reference is made to Veeco's certificate of incorporation, as amended and filed as an exhibit to Veeco's Quarterly Report on Form 10-Q for the quarter ended June 30, 1997, Veeco's Quarterly Report on Form 10-Q for the quarter ended June 30, 2000 and the Veeco's Annual Report on Form 10-K for the year ended December 31, 2000, each of which is incorporated herein by reference.

ITEM 16. EXHIBITS.

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Exhibits:

| EXHIBIT NUMBER | DESCRIPTION |
|-------------------|--|
| 3.1 | Amended and Restated Certificate of Incorporation of Veeco dated December 1, 1994, as amended June 2, 1997 and July 25, 1997(1) |
| 3.2 | Amendment to Certificate of Incorporation of Veeco dated May 29, 1998(2) |
| 3.3 | Amendment to Certificate of Incorporation of Veeco dated May 5, 2000(3) |
| 3.4 | Certificate of Designation, Preferences and Rights of Series A Junior Participating Preferred Stock of Veeco(4) |
| 3.5 | Third Amended and Restated Bylaws of Veeco(5) |
| 4.1 | Indenture between Veeco and State Street Bank and Trust Company, N.A., as trustee, dated December 21, 2001(6) |
| 5.1 | Opinion of Kaye Scholer LLP(7) |
| 10.1 | Collateral Pledge and Security Agreement among Veeco, State Street Bank and Trust Company, N.A., as trustee, State Street Bank and Trust Company, N.A., as collateral agent, and State Street Bank and Trust Company, as securities intermediary, dated as of December 21, 2001(6) |
| 10.2 | Registration Rights Agreement among Veeco and Merrill Lynch, Pierce, Fenner and Smith Incorporated, Smith Barney Inc. and Thomas Weisel Partners LLC, as the initial purchasers of Veeco's 4 1/8% Convertible Subordinated Notes due 2008, dated as of December 21, 2001(6) |
| 10.3 | Supplement No. 1 to Collateral Pledge and Security Agreement among Veeco, State Street Bank and Trust Company, N.A., as trustee, State Street Bank and Trust Company, N.A., as collateral agent, and State Street Bank and Trust Company, as securities intermediary, dated as of January 3, 2002(6) |

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| EXHIBIT NUMBER | DESCRIPTION |
|-------------------|---|
| 10.4 | Registration Rights Agreement among Veeco and the Company Stockholders (defined therein), dated as of September 17, |

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2001(6)

- 12.1 Statement Regarding Computation of Ratios of Earnings to Fixed Charges(7)
- 23.1 Consent of Kaye Scholer LLP (contained in Exhibit 5.1)(7)
- 23.2 Consent of Ernst & Young LLP, Independent Auditors(7)
- 23.3 Consent of Deloitte & Touche LLP, Independent Auditors(7)
- 23.4 Consent of PricewaterhouseCoopers LLP, Independent Auditors(7)
- 24.1 Power of Attorney(6)
- 25 Statement of Eligibility of the Trustee on Form T-1(6)

- (1) Incorporated by reference to Exhibit 3.1 to Veeco's Quarterly Report on Form 10-Q for the quarter ended June 30, 1997.
- (2) Incorporated by reference to Exhibit 3.2 to Veeco's Annual Report on Form 10-K for the year ended December 31, 2000.
- (3) Incorporated by reference to Exhibit 3.1 to Veeco's Quarterly Report on Form 10-Q for the quarter ended June 30, 2000.
- (4) Incorporated by reference to Exhibit 3.1 to Veeco's Quarterly Report on Form 10-Q for the quarter ended March 31, 2001.
- (5) Incorporated by reference to Exhibit 4.3 to Veeco's Registration Statement on Form S-8 filed November 7, 2000.
- (6) Previously filed as an Exhibit to Veeco's initial Registration Statement on Form S-3 filed March 13, 2002.
- (7) Filed herewith.

ITEM 17. UNDERTAKINGS.

Veeco hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of this Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the

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aggregate, represent a fundamental change in the information set forth in this Registration Statement. Notwithstanding the foregoing, any increase or decrease in the volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement; and

- (iii) To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement;

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PROVIDED, HOWEVER, that paragraphs (1)(i) and (1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by Veeco pursuant to Section 13 or Section 15(d) of the Exchange Act, that are incorporated by reference in this Registration Statement.

- (2) That, for the purposes of determining any liability under the Securities Act, each post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at the time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

Veeco hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of Veeco's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in this Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at the time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of Veeco pursuant to the indemnification provisions described herein, or otherwise, Veeco has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by Veeco of expenses incurred or paid by a director, officer or controlling person of Veeco in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, Veeco will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

Veeco hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Trust

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Indenture Act.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Amendment No. 1 to Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Woodbury, State of New York, on April 30, 2002.

VEECO INSTRUMENTS INC.

By: /s/ EDWARD H. BRAUN

Edward H. Braun
CHAIRMAN, CHIEF EXECUTIVE OFFICER AND
PRESIDENT

Pursuant to the requirements of the Securities Act of 1933, this Amendment No. 1 to Registration Statement has been signed as of April 30, 2002 by the following persons in the capacities indicated:

| SIGNATURE ----- | TITLE ----- |
|---|--|
| /s/ EDWARD H. BRAUN ----- Edward H. Braun | Director, Chairman, Chief Executive Officer and President (principal executive officer) |
| * ----- | |
| Richard A. D'Amore ----- | Director |
| * ----- | |
| Joel A. Elftmann ----- | Director |
| * ----- | |
| Heinz K. Fridrich ----- | Director |
| * ----- | |
| Douglas A. Kingsley ----- | Director |
| * ----- | |
| Dr. Paul R. Low ----- | Director |
| * ----- | |

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- 4.1 Indenture between Veeco and State Street Bank and Trust Company, N.A., as trustee, dated December 21, 2001(6)
- 5.1 Opinion of Kaye Scholer LLP(7)
- 10.1 Collateral Pledge and Security Agreement among Veeco, State Street Bank and Trust Company, N.A., as trustee, State Street Bank and Trust Company, N.A., as collateral agent, and State Street Bank and Trust Company, as securities intermediary, dated as of December 21, 2001(6)
- 10.2 Registration Rights Agreement among Veeco and Merrill Lynch, Pierce, Fenner and Smith Incorporated, Smith Barney Inc. and Thomas Weisel Partners LLC, as the initial purchasers of Veeco's 4 1/8% Convertible Subordinated Notes due 2008, dated as of December 21, 2001(6)
- 10.3 Supplement No. 1 to Collateral Pledge and Security Agreement among Veeco, State Street Bank and Trust Company, N.A., as trustee, State Street Bank and Trust Company, N.A., as collateral agent, and State Street Bank and Trust Company, as securities intermediary, dated as of January 3, 2002(6)
- 10.4 Registration Rights Agreement among Veeco and the Company Stockholders (defined therein), dated as of September 17, 2001(6)
- 12.1 Statement Regarding Computation of Ratios of Earnings to Fixed Charges(7)
- 23.1 Consent of Kaye Scholer LLP (contained in Exhibit 5.1)(7)
- 23.2 Consent of Ernst & Young LLP, Independent Auditors(7)
- 23.3 Consent of Deloitte & Touche LLP, Independent Auditors(7)
- 23.4 Consent of PricewaterhouseCoopers LLP, Independent Auditors(7)
- 24.1 Power of Attorney(6)
- 25 Statement of Eligibility of the Trustee on Form T-1(6)

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- (2) Incorporated by reference to Exhibit 3.2 to Veeco's Annual Report on Form 10-K for the year ended December 31, 2000.
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- (4) Incorporated by reference to Exhibit 3.1 to Veeco's Quarterly Report on Form 10-Q for the quarter ended March 31, 2001.
- (5) Incorporated by reference to Exhibit 4.3 to Veeco's Registration Statement

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on Form S-8 filed November 7, 2000.

(6) Previously filed as an exhibit to Veeco's initial Registration Statement on Form S-3 filed March 13, 2002.

(7) Filed herewith.